GSA DATA REPOSITORY 2015143

Supplemental Information for

Mid-Cretaceous High Arctic stratigraphy, climate and Oceanic Anoxic Events

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U-PB ANALYTICAL METHODS AND RESULTS

Analytical Methods

Bentonite samples consisted of unconsolidated, clay rich material. Heavy mineral concentrates were prepared by decanting fines and then passing the remainder over a Wilfley^{TM} table, followed by density separation in heavy liquids (methylene iodide), and finally sorting by magnetic susceptibility using a Frantz^{TM} isodynamic separator.

Thermal Ionisation Analyses

All zircon fractions were prepared using the annealing and chemical leaching technique (CA-TIMS) modified from that described by Mattinson (2005). Samples were annealed at 1000° C for 48 hours and then leached for 10-20 hours, in HF-HNO_3 at 180° C in Savillex 3 mL PFA capsules within a Parr digestion vessel. Isotopic and U-Pb compositional data were determined by isotope dilution thermal ionization mass spectrometry at the Geochronology laboratory, Geological Survey of Canada. Sample dissolution and chemical methods are slightly modified from Parrish et al. (1987). Individual crystals were selected under binocular microscope to avoid inclusions and other imperfections, spiked with a mixed ^{205}Pb-^{233}U-^{235}U tracer solution calibrated

to ±0.1% against the JMM gravimetric solution, and dissolved in high-pressure bombs in HF-HNO_3. Data reduction and error propagation follow methods outlined in Roddick (1987). U and Pb isotopic ratios were measured using a Triton mass spectrometer operated in either static multi-collection mode (U) or using a secondary electron multiplier and ion counting system (Pb). A Pb mass fractionation correction of 0.12 ± 0.04%/amu was applied as determined by replicate analyses of the NBS981 standard. U fractionation was corrected using the ^{233}U-^{235}U double spike and was typically in the range of 0.12%/amu. Deadtime (20 ns) for the ion counting system was determined by replicate analyses of the NBS982 solution. The $^{206}Pb/^{238}U$ ages were corrected for initial ^{230}Th disequilibrium using the formulation of Schärer (1984), the model Th/U ratio of the zircon determined from the measured $^{208}/^{206}Pb$ ratio and an assumed Th/U ratio of the magma of 4. As zircon from each of the samples had similar Th/U ratios the shift in age was similar for all analyses. This resulted in small increases of the age: approximately 0.083 Ma for sample AH2011-C69 and 0.063 Ma for sample AH2011-C49

Accuracy of the method was monitored by repeated analyses of the Temora2 zircon standard (Black et al. 2004). Thirteen analyses over the course of the analytical session gave a weighted mean age of 417.25 ± 0.25 Ma.

U-Pb Results and Age Interpretation

Sample AH2011-C49

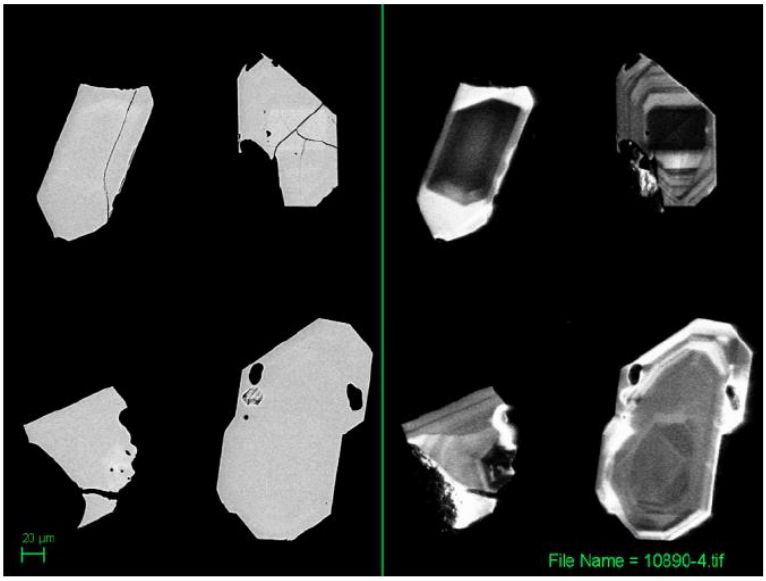
Zircon recovery was good and the grains consisted of euhedral to fractured prismatic crystals, many contain glass and apatite inclusions (Figure DR1-1). No grains with obvious mechanical rounding were observed. BSE SEM images of selected grains reveal oscillatory-zoned grains typically with darker higher uranium cores and brighter lower uranium rims (Figure DR1-2).

SHRIMP analyses of both the brighter and darker material could not resolve an age difference at the 1% level. Analysed grains were not imaged prior to analysis. Seven of eight analyses yield overlapping concordant ages (Figure DR1-3) with a ^{230}Th corrected weighted mean age of 111.58 ± 0.27/0.29 (MSWD = 1.7, probability = 0.13). The analysis excluded from the weighted mean has an older and relatively less precise age of 113 Ma, possibly indicating some inheritance in the population.

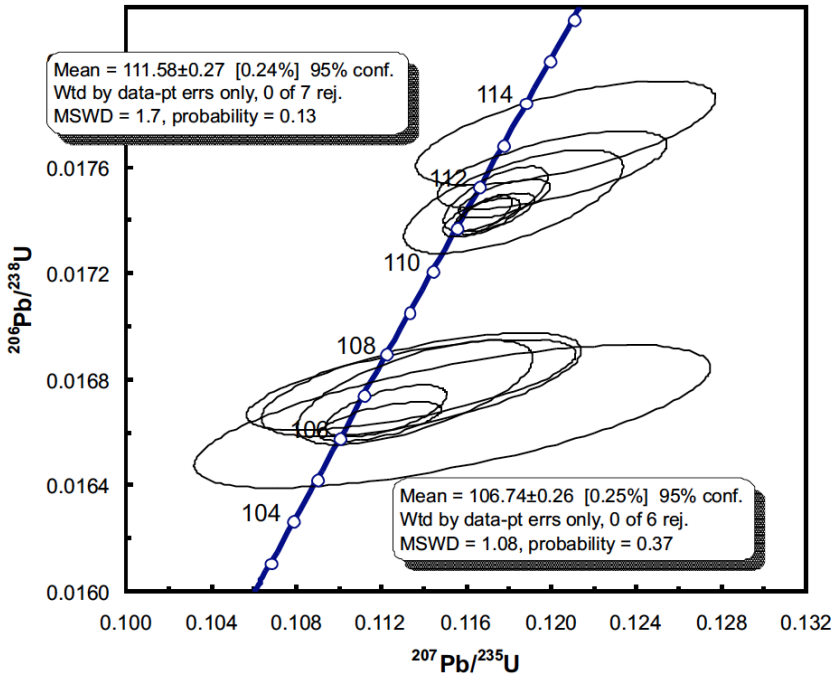
Sample AH2011-C69

Only a small number of zircon (<20 grains) were recovered from the bentonite. For the most part the zircon form euhedral prismatic crystals typical of volcanic-derived material (Figure DR1-4). Owing to the small number of grains recovered the grains were not imaged prior to analysis. Six single crystal CA-TIMS analyses yield overlapping concordant analyses (Figure DR3-3) that give a ^{230}Th corrected weighted mean age of 106.74±0.26/0.28 Ma (MSWD = 1.08; POF = 37%, latter error includes spike calibration uncertainty), interpreted as the age of the bentonite horizon.

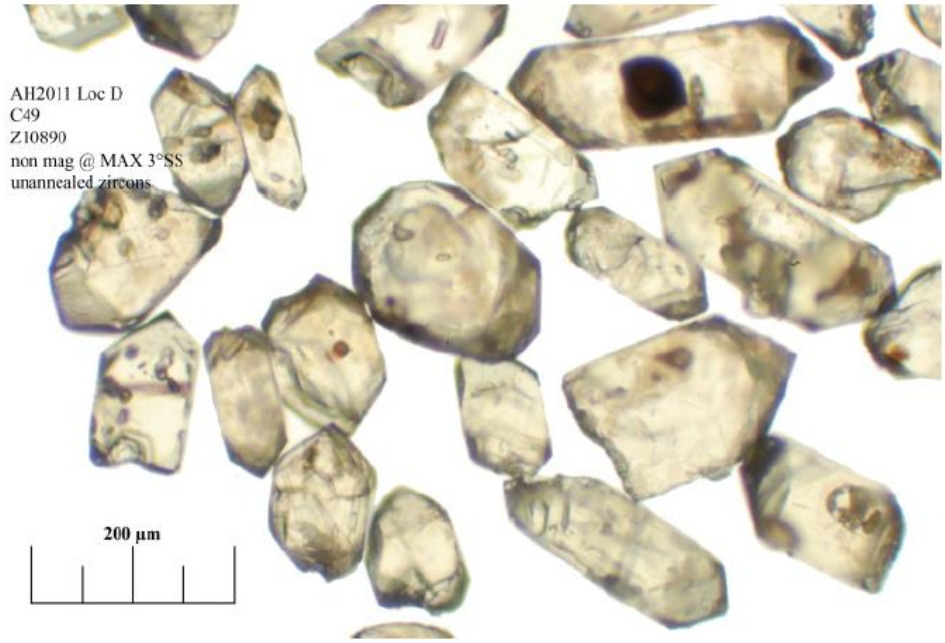
Supplementary Figure DR1-1: Transmitted light photograph of typical zircon grains recovered from sample AH2011-C49.



Supplementary Figure DR1-2: BSE images of polished zircon grains on left and cathodoluminescent image of same grains on right.



Supplementary Figure DR1-3: U-Pb Concordia diagram showing results for both samples.



Supplementary Figure DR1-4: Transmitted light photograph of typical zircon grains recovered from sample AH2011-C69.

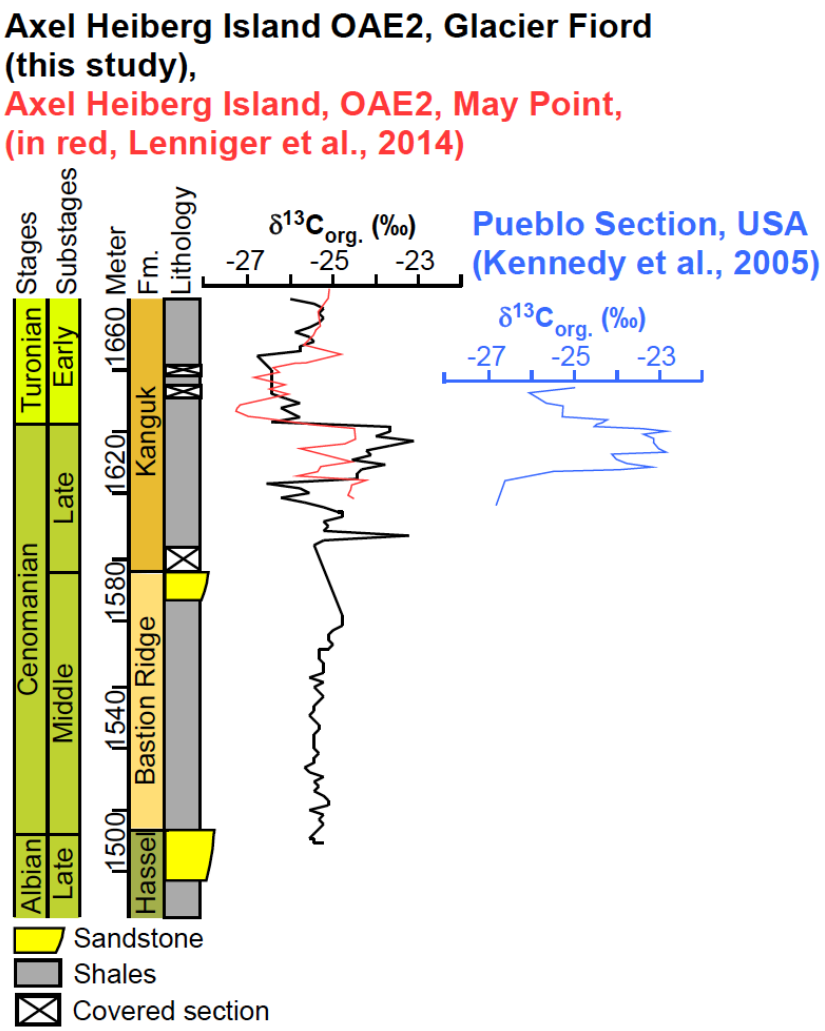
DATA SOURCE AND AGE MODELS

Composite carbon isotope stratigraphy and mid-Cretaceous events

The global significance of carbon isotope stratigraphy as a correlative tool has been shown over the last three decades starting with the pioneering work of Scholle and Arthur (1980). In particular, the mid-Cretaceous is marked by pronounced positive and negative fluctuations of >1 ‰ that are recognized in hemipelagic and pelagic environments, platform carbonates, shallow waters, as well as in terrestrial organic deposits in low latitudes (e.g., Herrle et al., 2004). Following the approach of Jarvis et al. (2006), who developed a calibrated carbon isotope reference curve for the Cenomanian – Campanian based on sections of the English Chalk using the age assignments of Ogg et al. (2004), we extended this record to the Barremian by adding published high-resolution carbon isotope records from SE France (Herrle et al., 2004; Gale et al.,

2011) and Italy (Erba et al., 1999). For the Barremian to Albian interval sections of SE France (Aptian – Albian) and Italy (Barremian) are best suited because of the completeness of the sedimentary succession, relatively high sedimentation rates, excellent biostratigraphical age control, and the detailed occurrence of regional and global black shale events. Biostratigraphic datum levels of ammonites and calcareous nannofossils, stages, and zones have been used to determine ages using Gradstein et al. (2012), as well as to combine the three different sections from England, SE France and Italy. Ages were then assigned to samples assuming a constant sedimentation rate between age datum levels (Table DR2). Furthermore, our composite curve (Table DR3) is directly linked to major palaeoceanographic and palaeoclimate events such as OAE1a, OAE1b, OAE1d, and OAE2 as described in detail by Erba et al. (1999), Herrle et al. (2004), Jarvis et al. (2006), and Gale et al. (2011) in the original sections. Our High Arctic carbon isotope record combined with U/Pb geochronology enables us to correlate our Arctic sedimentary succession to the newly combined and age calibrated carbon isotope reference curve of the mid-Cretaceous (Fig. 2 main text). A total of 9 corresponding segments (intervals (a to i) of similar organic and inorganic carbon isotope fluctuations) are proposed to be correlative with the low latitude composite $\delta^{13}C$ reference curve and merged with the available biostratigraphic data based on benthic foraminifera (Schröder-Adams et al., 2014) and new U/Pb ages from the same section (Fig. 2 main text). A detailed carbon isotope record of OAE2 is shown Fig. DR5. Stable carbon isotope and TOC results of Axel Heiberg Island are shown in Table DR4.

Carbon isotope values for the composite carbon isotope stratigraphy and carbon isotope and TOC values of Axel Heiberg Island are also available on data publisher for Earth and Environmental Science (http://www.pangaea.de).



Supplementary Figure DR1-5: Detailed section of the positive $\delta^{13}C_{org.}$ excursion of the Oceanic Anoxic Event 2 on Axel Heiberg, Island, Glacier Fiord correlated with $\delta^{13}C_{org.}$ profiles from May Point (eastern part of Axel Heiberg Island, Canada, Lenniger et al., 2014) and the Pueblo Section (Colorado, USA) as reproduced in Kennedy et al. (2005). Note the similar amplitude of the s$\delta^{13}C_{org.}$ excursion of about 3‰ associated with the OAE2 at all shown sections.

Supplementary Table DR2: Key biostratigraphic datum levels, stages and zones used to constrain the composite carbon isotope record.

See attached Excel document

Supplementary Table DR3: Composite carbon isotope values and important stratigraphic marker.

See attached Excel document

Supplementary Table DR4: Stable carbon isotope and TOC results of Axel Heiberg Island.

See attached Excel document

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Supplementary Table DR2: Key biostratigraphic datum levels, stages and zones used to constrain the composite carbon isotope record.

European localities	Carbon isotope records	Datum level	This study	Jarvis et al. (2006)	Gradstein et al. (2012)	Comments
England (English Chalk)	Jarvis et al. (2006)	Turonian/Coniacian boundary	89.77	none	89.77	
England (English Chalk)	Jarvis et al. (2006)	Middle Turonian (*Collignoniceras woollgari*)	92.90	92.13	92.90	
England (English Chalk)	Jarvis et al. (2006)	*Mammites nodosoides* Zone	93.35	92.70	93.35	
England (English Chalk)	Jarvis et al. (2006)	Lower Turonian (*Watinoceras devonense*)	93.90	93.55	93.90	
England (English Chalk)	Jarvis et al. (2006)	*Neocardioceras juddii* Zone	94.15	93.64	94.15	
England (English Chalk)	Jarvis et al. (2006)	*Mammites geslinianum* Zone	94.50	93.99	none	Intervall has been interpolated using the age model of Jarvis et al. (2006).
England (English Chalk)	Jarvis et al. (2006)	Upper Cenomanian (*Calyoceras guerangeri*)	95.22	94.71	none	Intervall has been interpolated using the age model of Jarvis et al. (2006).
England (English Chalk)	Jarvis et al. (2006)	*Acanthoceras jukes-brownei* Zone	95.44	94.93	none	Intervall has been interpolated using the age model of Jarvis et al. (2006).
England (English Chalk)	Jarvis et al. (2006)	Middle/late Cenomanian	96.50	none	95.50	
England (English Chalk)	Jarvis et al. (2006)	*Acanthoceras rhotomagense* Zone (ex *Cunningtoniceras inerme*)	96.23	95.72	none	Intervall has been interpolated using the age model of Jarvis et al. (2006).
England (English Chalk)	Jarvis et al. (2006)	Middle Cenomanian (*Cunningtoniceras inerme*)	96.35	95.84	none	Intervall has been interpolated using the age model of Jarvis et al. (2006).
England (English Chalk)	Jarvis et al. (2006)	*Mantelliceras dixoni* Zone	98.25	97.74	none	Intervall has been interpolated using the age model of Jarvis et al. (2006).
England (English Chalk)	Jarvis et al. (2006)	Lower Cenomanian *(Mantelliceras mantelli*)	100.25	99.60	100.25	
SE France (Vocontian Basir	Gale et al. (2011)	Albian/Cenomanian Boundary (*Mantelliceras mantelli*)	100.25	none	100.25	boundary is about 0.2 Ma below
SE France (Vocontian Basir	Gale et al. (2011)	Albian Cenomanian boundary	100.50	none	100.50	
SE France (Vocontian Basir	Gale et al. (2011)	Upper Albian (*Arrhapdoceras briacensis*)	100.91	none	100.91	
SE France (Vocontian Basir	Gale et al. (2011)	Upper Albian (*Mortoniceras perinflatum*)	101.41	none	101.41	
SE France (Vocontian Basir	Gale et al. (2011)	Upper Albian (*Mortoniceras rostratum*)	101.72	none	101.72	
SE France (Vocontian Basir	Gale et al. (2011)	Upper Albian (*Mortoniceras fallax*)	103.13	none	103.13	
SE France (Vocontian Basir	Gale et al. (2011)	Upper Albian (*Mortoniceras inflatum*)	103.94	none	103.94	This interval is marked by an hiatus of up to 2 Ma (see Gale et al., 2011 for further discussoion) and has been interpolated using the Gradstein et al. (2012) timescale.
SE France (Vocontian Basir	Gale et al. (2011)	Upper Albian (*Mortoniceras priceri*)	106.98	none	106.98	
SE France (Vocontian Basir	Gale et al. (2011)	Upper Albian (*Diploceras cristatum*)	107.59	none	107.59	
SE France (Vocontian Basir	Herrle et al. (2004)	Lower Albian (*Leymeriella tardefurcata*)	111.27	none	111.27	
SE France (Vocontian Basir	Herrle et al. (2004)	Aptian/Albian boundary	113.00	none	113.00	
SE France (Vocontian Basir	Herrle et al. (2004)	base NC8A (FO *Praediscosphaera columnata,* subcircular)	113.00	none	113.00	
SE France (Vocontian Basir	Herrle et al. (2004)	base of *Hypacanthoplites jacobi*	115.64	none	115.64	
SE France (Vocontian Basir	Herrle et al. (2004)	base of *Acanthohoplites nolani*	116.83	none	116.83	
SE France (Vocontian Basir	Herrle et al. (2004)	base of *Parahoplites nutfieldinesis /P. melchioris*	118.02	none	118.02	
SE France (Vocontian Basir	Herrle et al. (2004)	base of *Epicheloniceras martinoides*	122.98	none	122.98	
SE France (Vocontian Basir	Herrle et al. (2004)	base NC7A (FO *Eprolithus floralis*)	123.85	none	123.85	
Italy (Cismon core)	Erba et al. (1999)	Barremian/Aptian boundary	126.30	none	126.30	
Italy (Cismon core)	Erba et al. (1999)	base CM0	126.30	none	126.30	
Italy (Cismon core)	Erba et al. (1999)	base CM2	128.65	none	128.65	

Isotope curve connection points between cabon isotope records

1. Erba et al. (1999) to Herrle et al. (2004) based on FO of *Eprolithus floralis* in the Vocontian Basin and Cismon core).

2. Herrle et al. (2004) to Gale et al. (2011) based on Niveau Leenhard in the Vocontian Basin.

3. Gale et al. (2011) to Jarvis et al. (2006) based on FO of *Mantelliceras mantelli.*

Supplementary Table DR3: Composite carbon isotope values and important stratigraphic marker.

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
89.770	432.00	89.27	1.95	(Navigation Event	Jarvis et al. (2006)	90.274	465.90	89.77	2.09		Jarvis et al. (2006)
89.776	432.40	89.28	2.01		Jarvis et al. (2006)	90.290	467.00	89.79	2.07		Jarvis et al. (2006)
89.779	432.60	89.28	1.98		Jarvis et al. (2006)	90.304	467.90	89.80	2.06		Jarvis et al. (2006)
89.783	432.90	89.28	2.16		Jarvis et al. (2006)	90.319	468.90	89.82	2.34		Jarvis et al. (2006)
89.788	433.20	89.29	2.09		Jarvis et al. (2006)	90.334	469.90	89.83	1.97		Jarvis et al. (2006)
89.798	433.90	89.30	2.06		Jarvis et al. (2006)	90.335	149.00	89.84	1.64	top Bridgewick Event, bas	Jarvis et al. (2006)
89.813	434.90	89.31	2.05		Jarvis et al. (2006)	90.364	148.20	89.86	1.64		Jarvis et al. (2006)
89.828	435.90	89.33	2.18		Jarvis et al. (2006)	90.403	147.10	89.90	1.69		Jarvis et al. (2006)
89.844	437.00	89.34	2.27		Jarvis et al. (2006)	90.439	146.10	89.94	1.69		Jarvis et al. (2006)
89.858	437.90	89.36	2.25		Jarvis et al. (2006)	90.475	145.10	89.98	1.72		Jarvis et al. (2006)
89.874	439.00	89.37	2.35		Jarvis et al. (2006)	90.515	144.00	90.01	1.77		Jarvis et al. (2006)
89.887	439.90	89.39	2.16		Jarvis et al. (2006)	90.551	143.00	90.05	1.89		Jarvis et al. (2006)
89.902	440.90	89.40	2.18	base Coniacian (89	Jarvis et al. (2006)	90.590	141.90	90.09	1.72		Jarvis et al. (2006)
89.917	441.90	89.42	2.46		Jarvis et al. (2006)	90.630	140.80	90.13	1.67		Jarvis et al. (2006)
89.932	442.90	89.43	2.40		Jarvis et al. (2006)	90.673	139.60	90.17	1.75		Jarvis et al. (2006)
89.947	443.90	89.45	2.31		Jarvis et al. (2006)	90.716	138.40	90.22	1.89		Jarvis et al. (2006)
89.963	445.00	89.46	2.46		Jarvis et al. (2006)	90.763	137.10	90.26	1.85		Jarvis et al. (2006)
89.977	445.90	89.48	2.50		Jarvis et al. (2006)	90.810	135.80	90.31	1.71		Jarvis et al. (2006)
89.992	446.90	89.49	2.55		Jarvis et al. (2006)	90.849	134.70	90.35	1.77		Jarvis et al. (2006)
90.006	447.90	89.51	2.51		Jarvis et al. (2006)	90.860	134.40	90.36	1.84	base S. neptuni Zone	Jarvis et al. (2006)
90.021	448.90	89.52	2.51		Jarvis et al. (2006)	90.889	133.60	90.39	1.91		Jarvis et al. (2006)
90.036	449.90	89.54	2.52		Jarvis et al. (2006)	90.921	132.70	90.42	1.73		Jarvis et al. (2006)
90.053	451.00	89.55	2.71		Jarvis et al. (2006)	90.961	131.60	90.46	1.76		Jarvis et al. (2006)
90.067	452.00	89.57	2.66		Jarvis et al. (2006)	91.000	130.50	90.50	1.84		Jarvis et al. (2006)
90.081	452.90	89.58	2.56		Jarvis et al. (2006)	91.036	129.50	90.54	1.91		Jarvis et al. (2006)
90.097	454.00	89.60	2.58		Jarvis et al. (2006)	91.076	128.40	90.58	2.13		Jarvis et al. (2006)
90.110	454.90	89.61	2.50		Jarvis et al. (2006)	91.112	127.40	90.61	2.51		Jarvis et al. (2006)
90.125	455.90	89.63	2.48		Jarvis et al. (2006)	91.151	126.30	90.65	2.47		Jarvis et al. (2006)
90.142	457.00	89.64	2.61		Jarvis et al. (2006)	91.184	125.40	90.68	2.19		Jarvis et al. (2006)
90.155	457.90	89.66	2.33		Jarvis et al. (2006)	91.223	124.30	90.72	2.15		Jarvis et al. (2006)
90.170	458.90	89.67	2.33		Jarvis et al. (2006)	91.256	123.40	90.76	2.14		Jarvis et al. (2006)
90.185	459.90	89.68	2.25		Jarvis et al. (2006)	91.288	122.50	90.79	2.28		Jarvis et al. (2006)
90.201	461.00	89.70	2.45		Jarvis et al. (2006)	91.327	121.40	90.83	2.13		Jarvis et al. (2006)
90.215	461.90	89.71	2.24		Jarvis et al. (2006)	91.363	120.40	90.86	2.18		Jarvis et al. (2006)
90.229	462.90	89.73	2.09		Jarvis et al. (2006)	91.399	119.40	90.90	2.13	base Late Turonian (91.4 M	Jarvis et al. (2006)
90.244	463.90	89.74	2.14		Jarvis et al. (2006)	91.439	118.30	90.94	2.12		Jarvis et al. (2006)
90.261	465.00	89.76	2.11		Jarvis et al. (2006)	91.471	117.40	90.97	2.07		Jarvis et al. (2006)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
91.511	116.30	91.01	2.13		Jarvis et al. (2006)	93.015	102.30	92.28	2.88		Jarvis et al. (2006)
91.543	115.40	91.04	2.24		Jarvis et al. (2006)	93.035	101.40	92.30	3.07		Jarvis et al. (2006)
91.579	114.40	91.08	2.16		Jarvis et al. (2006)	93.057	100.40	92.33	3.14		Jarvis et al. (2006)
91.612	113.50	91.11	2.39		Jarvis et al. (2006)	93.077	99.50	92.35	3.27		Jarvis et al. (2006)
91.647	112.50	91.15	2.41		Jarvis et al. (2006)	93.102	98.40	92.39	3.20		Jarvis et al. (2006)
91.687	111.40	91.19	2.37		Jarvis et al. (2006)	93.126	97.30	92.42	3.09		Jarvis et al. (2006)
91.719	110.50	91.22	2.26		Jarvis et al. (2006)	93.146	96.40	92.44	3.16		Jarvis et al. (2006)
91.752	109.60	91.25	2.40		Jarvis et al. (2006)	93.170	95.30	92.47	3.18		Jarvis et al. (2006)
91.791	108.50	91.29	2.41		Jarvis et al. (2006)	93.190	94.40	92.50	3.28		Jarvis et al. (2006)
91.820	107.70	91.32	2.45		Jarvis et al. (2006)	93.210	93.50	92.52	3.31		Jarvis et al. (2006)
91.856	106.70	91.36	2.48		Jarvis et al. (2006)	93.234	92.45	92.55	3.14		Jarvis et al. (2006)
91.888	105.80	91.39	2.48		Jarvis et al. (2006)	93.255	91.50	92.58	3.20		Jarvis et al. (2006)
91.914	105.10	91.41	2.61		Jarvis et al. (2006)	93.281	90.30	92.61	3.19		Jarvis et al. (2006)
91.946	104.20	91.45	2.75		Jarvis et al. (2006)	93.301	89.40	92.64	3.25		Jarvis et al. (2006)
91.978	103.30	91.48	2.64		Jarvis et al. (2006)	93.316	88.75	92.66	3.32		Jarvis et al. (2006)
92.014	102.30	91.51	2.80		Jarvis et al. (2006)	93.331	88.05	92.68	3.22		Jarvis et al. (2006)
92.047	101.40	91.55	2.99		Jarvis et al. (2006)	93.350	87.20	92.70	3.57	base M. nodosoides Zone	Jarvis et al. (2006)
92.083	100.40	91.58	2.72		Jarvis et al. (2006)	93.371	86.25	92.81	3.53		Jarvis et al. (2006)
92.119	99.40	91.62	3.04		Jarvis et al. (2006)	93.443	24.00	92.88	3.68		Jarvis et al. (2006)
92.162	98.20	91.66	3.06		Jarvis et al. (2006)	93.452	23.82	92.89	3.77		Jarvis et al. (2006)
92.205	97.00	91.70	2.96		Jarvis et al. (2006)	93.461	23.65	92.91	3.82		Jarvis et al. (2006)
92.248	95.80	91.75	2.94	Round Down Mar	Jarvis et al. (2006)	93.470	23.47	92.92	3.81		Jarvis et al. (2006)
92.268	120.40	91.77	3.13		Jarvis et al. (2006)	93.479	23.30	92.93	3.93		Jarvis et al. (2006)
92.296	119.40	91.80	3.09		Jarvis et al. (2006)	93.489	23.12	92.95	3.97		Jarvis et al. (2006)
92.327	118.30	91.83	3.04		Jarvis et al. (2006)	93.493	23.04	92.95	3.94		Jarvis et al. (2006)
92.355	117.30	91.85	2.93		Jarvis et al. (2006)	93.498	22.95	92.96	3.97		Jarvis et al. (2006)
92.389	116.10	91.89	3.08		Jarvis et al. (2006)	93.502	22.86	92.97	3.95		Jarvis et al. (2006)
92.414	115.20	91.91	2.93		Jarvis et al. (2006)	93.507	22.77	92.97	3.90		Jarvis et al. (2006)
92.442	114.20	91.94	3.04		Jarvis et al. (2006)	93.511	22.69	92.98	3.87		Jarvis et al. (2006)
92.470	113.20	91.97	2.98		Jarvis et al. (2006)	93.516	22.60	92.99	3.81		Jarvis et al. (2006)
92.596	108.70	92.10	2.88		Jarvis et al. (2006)	93.520	22.51	92.99	3.80		Jarvis et al. (2006)
92.624	107.70	92.12	2.97		Jarvis et al. (2006)	93.525	22.42	93.00	3.80		Jarvis et al. (2006)
92.900	107.50	92.13	2.87	base C.woollgari Z	Jarvis et al. (2006)	93.530	22.34	93.01	3.72		Jarvis et al. (2006)
92.920	106.60	92.16	2.76		Jarvis et al. (2006)	93.534	22.25	93.01	3.73		Jarvis et al. (2006)
92.935	105.90	92.17	2.86	Lulworth Marl (ba	Jarvis et al. (2006)	93.539	22.16	93.02	3.82		Jarvis et al. (2006)
92.944	105.50	92.19	2.95		Jarvis et al. (2006)	93.543	22.07	93.03	3.74		Jarvis et al. (2006)
92.967	104.50	92.21	3.00		Jarvis et al. (2006)	93.548	21.99	93.03	3.73		Jarvis et al. (2006)
92.991	103.40	92.25	2.95	base Middle Turon	Jarvis et al. (2006)	93.557	21.81	93.05	3.71		Jarvis et al. (2006)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
93.561	21.72	93.05	3.67		Jarvis et al. (2006)	93.734	18.39	93.31	4.47		Jarvis et al. (2006)
93.566	21.64	93.06	3.76		Jarvis et al. (2006)	93.739	18.31	93.31	4.37		Jarvis et al. (2006)
93.570	21.55	93.07	3.80		Jarvis et al. (2006)	93.743	18.22	93.32	4.43		Jarvis et al. (2006)
93.575	21.46	93.07	3.76		Jarvis et al. (2006)	93.748	18.13	93.32	4.40		Jarvis et al. (2006)
93.580	21.37	93.08	3.81		Jarvis et al. (2006)	93.753	18.04	93.33	4.35		Jarvis et al. (2006)
93.584	21.28	93.09	3.82		Jarvis et al. (2006)	93.757	17.96	93.34	4.31		Jarvis et al. (2006)
93.589	21.20	93.09	3.83		Jarvis et al. (2006)	93.762	17.87	93.34	4.33		Jarvis et al. (2006)
93.593	21.11	93.10	3.87		Jarvis et al. (2006)	93.766	17.78	93.35	4.41		Jarvis et al. (2006)
93.598	21.02	93.11	3.87		Jarvis et al. (2006)	93.771	17.69	93.36	4.37		Jarvis et al. (2006)
93.602	20.93	93.11	3.93		Jarvis et al. (2006)	93.775	17.61	93.36	4.39		Jarvis et al. (2006)
93.607	20.85	93.12	3.92		Jarvis et al. (2006)	93.780	17.52	93.37	4.40		Jarvis et al. (2006)
93.611	20.76	93.13	3.93		Jarvis et al. (2006)	93.784	17.43	93.38	4.34		Jarvis et al. (2006)
93.616	20.67	93.13	3.86		Jarvis et al. (2006)	93.789	17.34	93.38	4.45		Jarvis et al. (2006)
93.621	20.58	93.14	3.70		Jarvis et al. (2006)	93.794	17.26	93.39	4.51		Jarvis et al. (2006)
93.625	20.50	93.15	3.61		Jarvis et al. (2006)	93.798	17.17	93.40	4.66		Jarvis et al. (2006)
93.630	20.41	93.15	3.61		Jarvis et al. (2006)	93.803	17.08	93.40	4.55		Jarvis et al. (2006)
93.634	20.32	93.16	3.68		Jarvis et al. (2006)	93.807	16.99	93.41	4.73		Jarvis et al. (2006)
93.639	20.23	93.17	3.73		Jarvis et al. (2006)	93.812	16.91	93.42	4.88		Jarvis et al. (2006)
93.643	20.15	93.17	3.64		Jarvis et al. (2006)	93.816	16.82	93.42	5.03	CTBE c	Jarvis et al. (2006)
93.648	20.06	93.18	3.67		Jarvis et al. (2006)	93.821	16.73	93.43	5.07	CTBE c	Jarvis et al. (2006)
93.652	19.97	93.19	3.72		Jarvis et al. (2006)	93.825	16.64	93.44	4.42		Jarvis et al. (2006)
93.657	19.88	93.19	3.78		Jarvis et al. (2006)	93.830	16.55	93.44	4.63		Jarvis et al. (2006)
93.662	19.80	93.20	4.00	base F. catinus (H	Jarvis et al. (2006)	93.835	16.47	93.45	4.71		Jarvis et al. (2006)
93.666	19.71	93.21	3.86		Jarvis et al. (2006)	93.839	16.38	93.46	4.79		Jarvis et al. (2006)
93.671	19.62	93.21	3.81		Jarvis et al. (2006)	93.844	16.29	93.46	4.91		Jarvis et al. (2006)
93.675	19.53	93.22	3.80		Jarvis et al. (2006)	93.848	16.20	93.47	4.66		Jarvis et al. (2006)
93.680	19.45	93.23	3.87		Jarvis et al. (2006)	93.853	16.12	93.48	4.61		Jarvis et al. (2006)
93.684	19.36	93.23	3.77		Jarvis et al. (2006)	93.857	16.03	93.48	4.56		Jarvis et al. (2006)
93.689	19.27	93.24	3.97		Jarvis et al. (2006)	93.862	15.94	93.49	4.60		Jarvis et al. (2006)
93.693	19.18	93.25	4.00		Jarvis et al. (2006)	93.866	15.85	93.50	4.58		Jarvis et al. (2006)
93.698	19.09	93.25	4.11		Jarvis et al. (2006)	93.871	15.77	93.50	4.65		Jarvis et al. (2006)
93.703	19.01	93.26	4.21		Jarvis et al. (2006)	93.876	15.68	93.51	4.58		Jarvis et al. (2006)
93.707	18.92	93.27	4.07		Jarvis et al. (2006)	93.880	15.59	93.52	4.53		Jarvis et al. (2006)
93.712	18.83	93.27	4.16		Jarvis et al. (2006)	93.885	15.50	93.52	4.57		Jarvis et al. (2006)
93.716	18.74	93.28	4.12		Jarvis et al. (2006)	93.889	15.42	93.53	4.57		Jarvis et al. (2006)
93.721	18.66	93.29	4.32		Jarvis et al. (2006)	93.894	15.33	93.54	4.77		Jarvis et al. (2006)
93.725	18.57	93.29	4.43		Jarvis et al. (2006)	93.898	15.24	93.54	4.59		Jarvis et al. (2006)
93.730	18.48	93.30	4.46		Jarvis et al. (2006)	93.903	15.15	93.55	4.88	base Turonian, base W. de	Jarvis et al. (2006)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
93.909	15.07	93.55	4.65		Jarvis et al. (2006)	94.156	11.65	93.65	4.84		Jarvis et al. (2006)
93.916	14.98	93.55	4.58		Jarvis et al. (2006)	94.160	11.56	93.65	4.64		Jarvis et al. (2006)
93.922	14.89	93.56	4.62		Jarvis et al. (2006)	94.163	11.47	93.65	4.83		Jarvis et al. (2006)
93.929	14.80	93.56	4.97		Jarvis et al. (2006)	94.170	11.30	93.66	4.87		Jarvis et al. (2006)
93.935	14.72	93.56	5.12		Jarvis et al. (2006)	94.173	11.21	93.66	4.90		Jarvis et al. (2006)
93.942	14.63	93.56	5.04		Jarvis et al. (2006)	94.176	11.12	93.67	4.45		Jarvis et al. (2006)
93.948	14.54	93.57	4.69		Jarvis et al. (2006)	94.179	11.04	93.67	4.76		Jarvis et al. (2006)
93.955	14.45	93.57	4.55		Jarvis et al. (2006)	94.183	10.95	93.67	4.84		Jarvis et al. (2006)
93.961	14.36	93.57	4.58		Jarvis et al. (2006)	94.186	10.86	93.68	5.09		Jarvis et al. (2006)
93.968	14.28	93.57	4.61		Jarvis et al. (2006)	94.189	10.77	93.68	5.05		Jarvis et al. (2006)
93.974	14.19	93.58	4.53		Jarvis et al. (2006)	93.968	14.28	93.57	4.61		Jarvis et al. (2006)
93.981	14.10	93.58	4.77		Jarvis et al. (2006)	93.974	14.19	93.58	4.53		Jarvis et al. (2006)
93.987	14.01	93.58	4.46		Jarvis et al. (2006)	93.981	14.10	93.58	4.77		Jarvis et al. (2006)
93.994	13.93	93.58	4.66		Jarvis et al. (2006)	93.987	14.01	93.58	4.46		Jarvis et al. (2006)
94.000	13.84	93.59	4.61		Jarvis et al. (2006)	93.994	13.93	93.58	4.66		Jarvis et al. (2006)
94.007	13.75	93.59	4.75		Jarvis et al. (2006)	94.000	13.84	93.59	4.61		Jarvis et al. (2006)
94.013	13.66	93.59	4.84		Jarvis et al. (2006)	94.007	13.75	93.59	4.75		Jarvis et al. (2006)
94.020	13.58	93.59	4.74		Jarvis et al. (2006)	94.013	13.66	93.59	4.84		Jarvis et al. (2006)
94.026	13.49	93.59	4.51		Jarvis et al. (2006)	94.020	13.58	93.59	4.74		Jarvis et al. (2006)
94.033	13.40	93.60	4.53		Jarvis et al. (2006)	94.026	13.49	93.59	4.51		Jarvis et al. (2006)
94.039	13.31	93.60	4.75		Jarvis et al. (2006)	94.033	13.40	93.60	4.53		Jarvis et al. (2006)
94.046	13.23	93.60	4.71		Jarvis et al. (2006)	94.039	13.31	93.60	4.75		Jarvis et al. (2006)
94.052	13.14	93.60	4.88		Jarvis et al. (2006)	94.046	13.23	93.60	4.71		Jarvis et al. (2006)
94.059	13.05	93.61	4.56		Jarvis et al. (2006)	94.052	13.14	93.60	4.88		Jarvis et al. (2006)
94.065	12.96	93.61	4.91		Jarvis et al. (2006)	94.059	13.05	93.61	4.56		Jarvis et al. (2006)
94.072	12.88	93.61	4.77		Jarvis et al. (2006)	94.065	12.96	93.61	4.91		Jarvis et al. (2006)
94.085	12.70	93.62	4.78		Jarvis et al. (2006)	94.072	12.88	93.61	4.77		Jarvis et al. (2006)
94.091	12.61	93.62	4.90		Jarvis et al. (2006)	94.085	12.70	93.62	4.78		Jarvis et al. (2006)
94.098	12.53	93.62	4.77		Jarvis et al. (2006)	94.091	12.61	93.62	4.90		Jarvis et al. (2006)
94.104	12.44	93.62	4.56		Jarvis et al. (2006)	94.098	12.53	93.62	4.77		Jarvis et al. (2006)
94.111	12.35	93.63	4.99		Jarvis et al. (2006)	94.104	12.44	93.62	4.56		Jarvis et al. (2006)
94.117	12.26	93.63	4.70		Jarvis et al. (2006)	94.111	12.35	93.63	4.99		Jarvis et al. (2006)
94.124	12.18	93.63	4.88		Jarvis et al. (2006)	94.117	12.26	93.63	4.70		Jarvis et al. (2006)
94.130	12.09	93.63	4.90		Jarvis et al. (2006)	94.124	12.18	93.63	4.88		Jarvis et al. (2006)
94.137	12.00	93.64	4.84		Jarvis et al. (2006)	94.130	12.09	93.63	4.90		Jarvis et al. (2006)
94.143	11.91	93.64	4.79		Jarvis et al. (2006)	94.137	12.00	93.64	4.84		Jarvis et al. (2006)
94.150	11.82	93.64	4.77	base N. juddii Zon	Jarvis et al. (2006)	94.143	11.91	93.64	4.79		Jarvis et al. (2006)
94.153	11.74	93.64	4.89		Jarvis et al. (2006)	94.150	11.82	93.64	4.77	base N. juddii Zone (94.15	Jarvis et al. (2006)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
94.153	11.74	93.64	4.89		Jarvis et al. (2006)	94.285	8.23	93.77	4.36		Jarvis et al. (2006)
94.156	11.65	93.65	4.84		Jarvis et al. (2006)	94.288	8.15	93.78	4.41		Jarvis et al. (2006)
94.160	11.56	93.65	4.64		Jarvis et al. (2006)	94.292	8.06	93.78	4.27		Jarvis et al. (2006)
94.163	11.47	93.65	4.83		Jarvis et al. (2006)	94.295	7.97	93.78	4.20		Jarvis et al. (2006)
94.170	11.30	93.66	4.87		Jarvis et al. (2006)	94.298	7.88	93.79	4.24		Jarvis et al. (2006)
94.173	11.21	93.66	4.90		Jarvis et al. (2006)	94.302	7.80	93.79	4.12		Jarvis et al. (2006)
94.176	11.12	93.67	4.45		Jarvis et al. (2006)	94.305	7.71	93.79	4.11		Jarvis et al. (2006)
94.179	11.04	93.67	4.76		Jarvis et al. (2006)	94.308	7.62	93.80	4.18		Jarvis et al. (2006)
94.183	10.95	93.67	4.84		Jarvis et al. (2006)	94.312	7.53	93.80	4.12		Jarvis et al. (2006)
94.186	10.86	93.68	5.09		Jarvis et al. (2006)	94.315	7.45	93.80	4.20		Jarvis et al. (2006)
94.189	10.77	93.68	5.05		Jarvis et al. (2006)	94.318	7.36	93.81	4.15		Jarvis et al. (2006)
94.193	10.69	93.68	4.93		Jarvis et al. (2006)	94.322	7.27	93.81	4.17		Jarvis et al. (2006)
94.196	10.60	93.69	5.13	CTBE b	Jarvis et al. (2006)	94.325	7.18	93.81	4.14		Jarvis et al. (2006)
94.199	10.51	93.69	5.14	CTBE b	Jarvis et al. (2006)	94.328	7.09	93.82	4.24		Jarvis et al. (2006)
94.203	10.42	93.69	5.19	CTBE b	Jarvis et al. (2006)	94.331	7.01	93.82	4.29		Jarvis et al. (2006)
94.206	10.34	93.70	5.37	CTBE b	Jarvis et al. (2006)	94.335	6.92	93.82	4.34		Jarvis et al. (2006)
94.209	10.25	93.70	4.82		Jarvis et al. (2006)	94.338	6.83	93.83	4.44		Jarvis et al. (2006)
94.212	10.16	93.70	4.72		Jarvis et al. (2006)	94.341	6.74	93.83	4.43		Jarvis et al. (2006)
94.216	10.07	93.71	4.84		Jarvis et al. (2006)	94.345	6.66	93.83	4.51		Jarvis et al. (2006)
94.219	9.99	93.71	4.78		Jarvis et al. (2006)	94.348	6.57	93.84	4.50		Jarvis et al. (2006)
94.222	9.90	93.71	4.89		Jarvis et al. (2006)	94.351	6.48	93.84	4.67		Jarvis et al. (2006)
94.226	9.81	93.72	4.85		Jarvis et al. (2006)	94.355	6.39	93.84	4.76	CTBE a	Jarvis et al. (2006)
94.229	9.72	93.72	4.80		Jarvis et al. (2006)	94.358	6.31	93.85	4.66	CTBE a	Jarvis et al. (2006)
94.232	9.64	93.72	4.54		Jarvis et al. (2006)	94.361	6.22	93.85	4.74	CTBE a	Jarvis et al. (2006)
94.236	9.55	93.73	4.42		Jarvis et al. (2006)	94.364	6.13	93.85	4.72		Jarvis et al. (2006)
94.239	9.46	93.73	4.58		Jarvis et al. (2006)	94.368	6.04	93.86	4.69		Jarvis et al. (2006)
94.246	9.28	93.73	4.39		Jarvis et al. (2006)	94.371	5.96	93.86	4.60		Jarvis et al. (2006)
94.249	9.20	93.74	4.46		Jarvis et al. (2006)	94.374	5.87	93.86	4.61		Jarvis et al. (2006)
94.252	9.11	93.74	4.44		Jarvis et al. (2006)	94.378	5.78	93.87	4.58		Jarvis et al. (2006)
94.255	9.02	93.74	4.45		Jarvis et al. (2006)	94.381	5.69	93.87	4.45		Jarvis et al. (2006)
94.259	8.93	93.75	4.54		Jarvis et al. (2006)	94.384	5.61	93.87	4.50		Jarvis et al. (2006)
94.262	8.85	93.75	4.55		Jarvis et al. (2006)	94.388	5.52	93.88	4.35		Jarvis et al. (2006)
94.265	8.76	93.75	4.31		Jarvis et al. (2006)	94.391	5.43	93.88	4.26		Jarvis et al. (2006)
94.269	8.67	93.76	4.52		Jarvis et al. (2006)	94.394	5.34	93.88	4.32		Jarvis et al. (2006)
94.272	8.58	93.76	4.37		Jarvis et al. (2006)	94.397	5.26	93.89	4.29		Jarvis et al. (2006)
94.275	8.50	93.76	4.41		Jarvis et al. (2006)	94.401	5.17	93.89	4.23		Jarvis et al. (2006)
94.279	8.41	93.77	4.47		Jarvis et al. (2006)	94.404	5.08	93.89	4.08		Jarvis et al. (2006)
94.282	8.32	93.77	4.34		Jarvis et al. (2006)	94.407	4.99	93.90	4.06		Jarvis et al. (2006)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
94.411	4.91	93.90	3.93		Jarvis et al. (2006)	94.676	66.30	94.17	2.61		Jarvis et al. (2006)
94.414	4.82	93.90	3.78		Jarvis et al. (2006)	94.717	64.65	94.21	2.57		Jarvis et al. (2006)
94.417	4.73	93.90	3.57		Jarvis et al. (2006)	94.757	63.00	94.24	2.50		Jarvis et al. (2006)
94.421	4.64	93.91	3.49		Jarvis et al. (2006)	94.797	61.35	94.28	2.64		Jarvis et al. (2006)
94.424	4.55	93.91	3.47		Jarvis et al. (2006)	94.837	59.90	94.31	2.76		Jarvis et al. (2006)
94.427	4.47	93.91	3.54		Jarvis et al. (2006)	94.872	58.90	94.34	2.58		Jarvis et al. (2006)
94.431	4.38	93.92	3.49		Jarvis et al. (2006)	94.896	57.95	94.36	2.62		Jarvis et al. (2006)
94.434	4.29	93.92	3.50		Jarvis et al. (2006)	94.919	56.80	94.39	2.67		Jarvis et al. (2006)
94.437	4.20	93.92	3.55		Jarvis et al. (2006)	94.947	55.80	94.41	2.58		Jarvis et al. (2006)
94.440	4.12	93.93	3.41		Jarvis et al. (2006)	94.971	55.20	94.42	2.71		Jarvis et al. (2006)
94.444	4.03	93.93	3.38		Jarvis et al. (2006)	94.985	53.70	94.46	2.77		Jarvis et al. (2006)
94.447	3.94	93.93	3.36		Jarvis et al. (2006)	95.022	53.00	94.47	2.62		Jarvis et al. (2006)
94.450	3.85	93.94	3.29		Jarvis et al. (2006)	95.038	52.25	94.49	2.68		Jarvis et al. (2006)
94.454	3.77	93.94	3.30		Jarvis et al. (2006)	95.057	51.40	94.51	2.64		Jarvis et al. (2006)
94.457	3.68	93.94	3.30		Jarvis et al. (2006)	95.077	50.60	94.53	2.67		Jarvis et al. (2006)
94.460	3.59	93.95	3.35		Jarvis et al. (2006)	95.096	49.45	94.55	2.73		Jarvis et al. (2006)
94.464	3.50	93.95	3.36		Jarvis et al. (2006)	95.124	47.70	94.59	2.71		Jarvis et al. (2006)
94.467	3.42	93.95	3.36		Jarvis et al. (2006)	95.166	46.50	94.62	2.61		Jarvis et al. (2006)
94.470	3.33	93.96	3.33		Jarvis et al. (2006)	95.195	45.50	94.64	2.53		Jarvis et al. (2006)
94.473	3.24	93.96	3.32		Jarvis et al. (2006)	95.219	44.40	94.67	2.59		Jarvis et al. (2006)
94.477	3.15	93.96	3.24		Jarvis et al. (2006)	95.246	43.40	94.69	2.72		Jarvis et al. (2006)
94.480	3.07	93.97	3.22		Jarvis et al. (2006)	95.277	61.00	94.72	2.66		Jarvis et al. (2006)
94.483	2.98	93.97	3.08		Jarvis et al. (2006)	95.313	60.00	94.76	2.61		Jarvis et al. (2006)
94.487	2.89	93.97	3.11		Jarvis et al. (2006)	95.346	59.10	94.79	2.45		Jarvis et al. (2006)
94.490	2.80	93.98	3.06		Jarvis et al. (2006)	95.376	58.10	94.83	2.43		Jarvis et al. (2006)
94.493	2.72	93.98	2.97		Jarvis et al. (2006)	95.409	58.05	94.83	2.36		Jarvis et al. (2006)
94.497	2.63	93.98	2.81		Jarvis et al. (2006)	95.411	57.83	94.84	2.24		Jarvis et al. (2006)
94.500	2.54	93.99	2.82		Jarvis et al. (2006)	95.418	57.50	94.85	2.19		Jarvis et al. (2006)
94.503	2.45	93.99	2.76	base M. geslinianu	Jarvis et al. (2006)	95.429	57.30	94.85	2.32		Jarvis et al. (2006)
94.506	2.36	93.99	2.84		Jarvis et al. (2006)	95.436	57.20	94.86	2.22		Jarvis et al. (2006)
94.510	2.28	94.00	2.79		Jarvis et al. (2006)	95.439	57.08	94.86	2.32		Jarvis et al. (2006)
94.513	2.19	94.00	2.80		Jarvis et al. (2006)	95.443	56.98	94.87	2.30		Jarvis et al. (2006)
94.516	2.10	94.00	2.80		Jarvis et al. (2006)	95.446	56.85	94.87	2.50		Jarvis et al. (2006)
94.520	2.01	94.01	2.84		Jarvis et al. (2006)	95.451	56.70	94.88	2.49		Jarvis et al. (2006)
94.522	73.40	94.01	2.81		Jarvis et al. (2006)	95.456	56.60	94.88	2.39		Jarvis et al. (2006)
94.546	71.25	94.06	2.84		Jarvis et al. (2006)	95.459	56.50	94.88	2.45		Jarvis et al. (2006)
94.598	69.55	94.10	2.65		Jarvis et al. (2006)	95.462	56.37	94.89	2.45		Jarvis et al. (2006)
94.639	68.00	94.13	2.66		Jarvis et al. (2006)	95.467	56.25	94.89	2.36		Jarvis et al. (2006)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
95.471	56.15	94.90	2.51		Jarvis et al. (2006)	95.996	40.28	95.47	2.24		Jarvis et al. (2006)
95.474	55.93	94.90	2.47		Jarvis et al. (2006)	95.999	40.21	95.47	2.25		Jarvis et al. (2006)
95.481	55.84	94.91	2.49		Jarvis et al. (2006)	96.001	40.13	95.48	2.22		Jarvis et al. (2006)
95.484	55.76	94.91	2.40		Jarvis et al. (2006)	96.002	40.11	95.48	2.27		Jarvis et al. (2006)
95.487	55.53	94.92	2.33		Jarvis et al. (2006)	96.005	40.03	95.48	2.24		Jarvis et al. (2006)
95.495	55.37	94.92	2.49		Jarvis et al. (2006)	96.007	39.95	95.48	2.23		Jarvis et al. (2006)
95.500	55.20	94.93	2.33	base A. jukesbrow	Jarvis et al. (2006)	96.008	39.93	95.48	2.21		Jarvis et al. (2006)
95.503	55.12	94.93	2.38	base Late Cenoma	Jarvis et al. (2006)	96.010	39.88	95.48	2.20		Jarvis et al. (2006)
95.510	54.90	94.94	2.45		Jarvis et al. (2006)	96.010	39.86	95.49	2.16		Jarvis et al. (2006)
95.517	54.68	94.95	2.42		Jarvis et al. (2006)	96.012	39.81	95.49	2.15		Jarvis et al. (2006)
95.533	54.22	94.97	2.39		Jarvis et al. (2006)	96.015	39.71	95.49	2.14		Jarvis et al. (2006)
95.537	54.10	94.97	2.36		Jarvis et al. (2006)	96.021	39.53	95.50	2.17		Jarvis et al. (2006)
95.567	53.20	95.00	2.26		Jarvis et al. (2006)	96.024	39.45	95.50	2.24		Jarvis et al. (2006)
95.600	52.20	95.04	2.40		Jarvis et al. (2006)	96.025	39.42	95.50	2.33		Jarvis et al. (2006)
95.633	51.20	95.08	2.22		Jarvis et al. (2006)	96.027	39.34	95.50	2.26		Jarvis et al. (2006)
95.666	50.20	95.11	2.20		Jarvis et al. (2006)	96.034	39.13	95.51	2.26		Jarvis et al. (2006)
95.700	49.20	95.15	2.27		Jarvis et al. (2006)	96.037	39.05	95.51	2.25		Jarvis et al. (2006)
95.733	48.20	95.18	2.11		Jarvis et al. (2006)	96.040	38.97	95.52	2.24		Jarvis et al. (2006)
95.766	47.20	95.22	2.33		Jarvis et al. (2006)	96.045	38.81	95.52	2.26		Jarvis et al. (2006)
95.799	46.20	95.26	2.12		Jarvis et al. (2006)	96.048	38.73	95.53	2.25		Jarvis et al. (2006)
95.829	45.30	95.29	2.14		Jarvis et al. (2006)	96.051	38.64	95.53	2.18		Jarvis et al. (2006)
95.863	44.30	95.32	2.17		Jarvis et al. (2006)	96.053	38.58	95.53	2.20		Jarvis et al. (2006)
95.896	43.30	95.36	2.13		Jarvis et al. (2006)	96.058	38.41	95.54	2.20		Jarvis et al. (2006)
95.926	42.40	95.39	2.28		Jarvis et al. (2006)	96.061	38.33	95.54	2.20		Jarvis et al. (2006)
95.959	41.40	95.43	2.19		Jarvis et al. (2006)	96.064	38.25	95.54	2.20		Jarvis et al. (2006)
95.976	40.88	95.45	2.18		Jarvis et al. (2006)	96.066	38.17	95.55	2.17		Jarvis et al. (2006)
95.979	40.81	95.45	2.17		Jarvis et al. (2006)	96.069	38.08	95.55	2.26		Jarvis et al. (2006)
95.980	40.77	95.45	2.18		Jarvis et al. (2006)	96.072	37.99	95.55	2.20		Jarvis et al. (2006)
95.981	40.73	95.45	2.18		Jarvis et al. (2006)	96.075	37.90	95.56	2.26		Jarvis et al. (2006)
95.983	40.67	95.46	2.18		Jarvis et al. (2006)	96.078	37.82	95.56	2.32		Jarvis et al. (2006)
95.984	40.64	95.46	2.15		Jarvis et al. (2006)	96.084	37.65	95.56	2.30		Jarvis et al. (2006)
95.987	40.57	95.46	2.19		Jarvis et al. (2006)	96.085	37.60	95.57	2.29		Jarvis et al. (2006)
95.989	40.49	95.46	2.14		Jarvis et al. (2006)	96.089	37.50	95.57	2.27		Jarvis et al. (2006)
95.990	40.48	95.46	2.16		Jarvis et al. (2006)	96.094	37.35	95.58	2.26		Jarvis et al. (2006)
95.992	40.40	95.47	2.15		Jarvis et al. (2006)	96.097	37.25	95.58	2.36		Jarvis et al. (2006)
95.993	40.37	95.47	2.18		Jarvis et al. (2006)	96.099	37.18	95.58	2.31		Jarvis et al. (2006)
95.994	40.34	95.47	2.22		Jarvis et al. (2006)	96.102	37.10	95.58	2.30		Jarvis et al. (2006)
95.996	40.29	95.47	2.19		Jarvis et al. (2006)	96.107	36.95	95.59	2.34		Jarvis et al. (2006)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	δ^{13}C org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	δ^{13}C org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
96.110	36.85	95.59	2.33		Jarvis et al. (2006)	96.195	34.31	95.69	2.59		Jarvis et al. (2006)
96.113	36.78	95.60	2.34		Jarvis et al. (2006)	96.197	34.24	95.69	2.54		Jarvis et al. (2006)
96.115	36.70	95.60	2.37		Jarvis et al. (2006)	96.197	34.23	95.69	2.53		Jarvis et al. (2006)
96.120	36.55	95.60	2.36		Jarvis et al. (2006)	96.200	34.14	95.69	2.45		Jarvis et al. (2006)
96.124	36.45	95.61	2.32		Jarvis et al. (2006)	96.202	34.08	95.69	2.50		Jarvis et al. (2006)
96.126	36.38	95.61	2.31		Jarvis et al. (2006)	96.203	34.06	95.69	2.58		Jarvis et al. (2006)
96.129	36.29	95.61	2.33		Jarvis et al. (2006)	96.205	33.99	95.70	2.51		Jarvis et al. (2006)
96.135	36.12	95.62	2.34		Jarvis et al. (2006)	96.208	33.90	95.70	2.51		Jarvis et al. (2006)
96.137	36.05	95.62	2.35		Jarvis et al. (2006)	96.209	33.89	95.70	2.50		Jarvis et al. (2006)
96.140	35.97	95.63	2.33		Jarvis et al. (2006)	96.210	33.84	95.70	2.47		Jarvis et al. (2006)
96.144	35.85	95.63	2.31		Jarvis et al. (2006)	96.211	33.81	95.70	2.49		Jarvis et al. (2006)
96.146	35.77	95.63	2.41		Jarvis et al. (2006)	96.214	33.74	95.71	2.43		Jarvis et al. (2006)
96.149	35.68	95.64	2.41		Jarvis et al. (2006)	96.216	33.68	95.71	2.41		Jarvis et al. (2006)
96.152	35.60	95.64	2.40		Jarvis et al. (2006)	96.217	33.64	95.71	2.46		Jarvis et al. (2006)
96.153	35.58	95.64	2.34		Jarvis et al. (2006)	96.219	33.59	95.71	2.51		Jarvis et al. (2006)
96.155	35.52	95.64	2.34		Jarvis et al. (2006)	96.221	33.52	95.71	2.41		Jarvis et al. (2006)
96.157	35.44	95.64	2.44		Jarvis et al. (2006)	96.222	33.49	95.72	2.31		Jarvis et al. (2006)
96.157	35.43	95.65	2.43		Jarvis et al. (2006)	96.224	33.43	95.72	2.31		Jarvis et al. (2006)
96.160	35.35	95.65	2.37		Jarvis et al. (2006)	96.226	33.37	95.72	2.26		Jarvis et al. (2006)
96.161	35.32	95.65	2.42		Jarvis et al. (2006)	96.227	33.34	95.72	2.31		Jarvis et al. (2006)
96.163	35.27	95.65	2.51		Jarvis et al. (2006)	96.229	33.28	95.72	2.26		Jarvis et al. (2006)
96.165	35.20	95.65	2.50		Jarvis et al. (2006)	96.230	33.25	95.72	2.26	base A. rhotomagense (top	Jarvis et al. (2006)
96.165	35.19	95.65	2.52		Jarvis et al. (2006)	96.233	33.18	95.73	2.25		Jarvis et al. (2006)
96.168	35.12	95.66	2.53		Jarvis et al. (2006)	96.235	33.12	95.73	2.28		Jarvis et al. (2006)
96.169	35.07	95.66	2.62		Jarvis et al. (2006)	96.236	33.09	95.73	2.30		Jarvis et al. (2006)
96.170	35.04	95.66	2.70		Jarvis et al. (2006)	96.239	33.01	95.73	2.31		Jarvis et al. (2006)
96.173	34.95	95.66	2.72		Jarvis et al. (2006)	96.241	32.95	95.73	2.29		Jarvis et al. (2006)
96.176	34.86	95.67	2.83		Jarvis et al. (2006)	96.242	32.92	95.74	2.32		Jarvis et al. (2006)
96.177	34.85	95.67	2.92		Jarvis et al. (2006)	96.244	32.88	95.74	2.29		Jarvis et al. (2006)
96.179	34.79	95.67	2.90		Jarvis et al. (2006)	96.247	32.80	95.74	2.30		Jarvis et al. (2006)
96.180	34.76	95.67	3.05		Jarvis et al. (2006)	96.248	32.76	95.74	2.32		Jarvis et al. (2006)
96.181	34.71	95.67	3.10		Jarvis et al. (2006)	96.250	32.72	95.74	2.32		Jarvis et al. (2006)
96.184	34.64	95.67	3.08		Jarvis et al. (2006)	96.251	32.68	95.74	2.20		Jarvis et al. (2006)
96.184	34.62	95.67	2.98		Jarvis et al. (2006)	96.254	32.62	95.75	2.27		Jarvis et al. (2006)
96.187	34.55	95.68	2.91		Jarvis et al. (2006)	96.257	32.54	95.75	2.26		Jarvis et al. (2006)
96.188	34.50	95.68	2.97		Jarvis et al. (2006)	96.260	32.46	95.75	2.27		Jarvis et al. (2006)
96.189	34.47	95.68	2.82		Jarvis et al. (2006)	96.262	32.39	95.76	2.35		Jarvis et al. (2006)
96.192	34.39	95.68	2.70		Jarvis et al. (2006)	96.264	32.34	95.76	2.39		Jarvis et al. (2006)

96.194	34.32	95.69	2.63		Jarvis et al. (2006)	96.268	32.23	95.76	2.42		Jarvis et al. (2006)
Age (Ma; Gradstein et al., 2012)	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**$\delta^{13}C$ org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**	**Age (Ma; Gradstein et al., 2012)**	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**$\delta^{13}C$ org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**
96.270	32.19	95.76	2.44		Jarvis et al. (2006)	96.342	30.26	95.83	1.85		Jarvis et al. (2006)
96.271	32.14	95.76	2.43		Jarvis et al. (2006)	96.343	30.22	95.83	1.96		Jarvis et al. (2006)
96.275	32.04	95.77	2.46		Jarvis et al. (2006)	96.344	30.19	95.83	1.89		Jarvis et al. (2006)
96.277	31.99	95.77	2.49		Jarvis et al. (2006)	96.347	30.11	95.84	1.97		Jarvis et al. (2006)
96.278	31.96	95.77	2.39		Jarvis et al. (2006)	96.350	30.04	95.84	1.93	base Middle Cenomanian	Jarvis et al. (2006)
96.281	31.89	95.77	2.46		Jarvis et al. (2006)	96.363	29.95	95.84	1.92		Jarvis et al. (2006)
96.283	31.82	95.78	2.36		Jarvis et al. (2006)	96.378	29.85	95.85	1.80		Jarvis et al. (2006)
96.284	31.80	95.78	2.37		Jarvis et al. (2006)	96.401	29.70	95.88	1.92		Jarvis et al. (2006)
96.286	31.75	95.78	2.41		Jarvis et al. (2006)	96.430	29.50	95.91	2.03		Jarvis et al. (2006)
96.287	31.72	95.78	2.38		Jarvis et al. (2006)	96.467	29.25	95.94	2.06		Jarvis et al. (2006)
96.289	31.66	95.78	2.35		Jarvis et al. (2006)	96.497	29.05	95.97	1.84		Jarvis et al. (2006)
96.292	31.59	95.78	2.30		Jarvis et al. (2006)	96.512	28.95	95.99	1.96		Jarvis et al. (2006)
96.294	31.55	95.79	2.37		Jarvis et al. (2006)	96.594	28.40	96.07	1.90		Jarvis et al. (2006)
96.296	31.48	95.79	2.33		Jarvis et al. (2006)	96.638	28.10	96.12	2.05		Jarvis et al. (2006)
96.298	31.42	95.79	2.29		Jarvis et al. (2006)	96.705	27.65	96.18	1.93		Jarvis et al. (2006)
96.300	31.39	95.79	2.32		Jarvis et al. (2006)	96.750	27.35	96.23	1.92		Jarvis et al. (2006)
96.302	31.33	95.79	2.21		Jarvis et al. (2006)	96.779	27.15	96.26	1.95		Jarvis et al. (2006)
96.304	31.26	95.80	2.20		Jarvis et al. (2006)	96.839	26.75	96.32	2.05		Jarvis et al. (2006)
96.305	31.24	95.80	2.19		Jarvis et al. (2006)	96.861	26.60	96.34	2.05		Jarvis et al. (2006)
96.307	31.18	95.80	2.29		Jarvis et al. (2006)	96.913	26.25	96.39	1.96		Jarvis et al. (2006)
96.309	31.15	95.80	2.14		Jarvis et al. (2006)	96.958	25.95	96.44	1.88		Jarvis et al. (2006)
96.311	31.09	95.80	2.16		Jarvis et al. (2006)	96.980	25.80	96.46	1.93		Jarvis et al. (2006)
96.313	31.02	95.80	2.07		Jarvis et al. (2006)	97.024	25.50	96.51	1.90		Jarvis et al. (2006)
96.314	31.00	95.81	2.03		Jarvis et al. (2006)	97.054	25.30	96.54	2.00		Jarvis et al. (2006)
96.317	30.92	95.81	2.15		Jarvis et al. (2006)	97.069	25.20	96.55	1.92		Jarvis et al. (2006)
96.319	30.86	95.81	2.13		Jarvis et al. (2006)	97.121	24.85	96.60	1.93		Jarvis et al. (2006)
96.320	30.83	95.81	2.02		Jarvis et al. (2006)	97.166	24.55	96.65	1.94		Jarvis et al. (2006)
96.323	30.76	95.81	2.02		Jarvis et al. (2006)	97.255	23.95	96.74	1.95		Jarvis et al. (2006)
96.324	30.74	95.81	2.11		Jarvis et al. (2006)	97.336	23.40	96.82	1.98		Jarvis et al. (2006)
96.326	30.69	95.82	2.03		Jarvis et al. (2006)	97.359	23.25	96.84	1.95		Jarvis et al. (2006)
96.329	30.61	95.82	2.06		Jarvis et al. (2006)	97.381	23.10	96.87	1.93		Jarvis et al. (2006)
96.329	30.60	95.82	2.06		Jarvis et al. (2006)	97.411	22.90	96.90	1.95		Jarvis et al. (2006)
96.332	30.52	95.82	2.05		Jarvis et al. (2006)	97.440	22.70	96.93	1.91		Jarvis et al. (2006)
96.335	30.45	95.83	2.03		Jarvis et al. (2006)	97.463	22.55	96.95	1.95		Jarvis et al. (2006)
96.336	30.42	95.83	1.98		Jarvis et al. (2006)	97.492	22.35	96.98	1.98		Jarvis et al. (2006)
96.339	30.34	95.83	2.04		Jarvis et al. (2006)	97.515	22.20	97.00	1.96		Jarvis et al. (2006)
96.341	30.29	95.83	2.09		Jarvis et al. (2006)	97.530	22.10	97.02	1.86		Jarvis et al. (2006)

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97.552	21.95	97.04	1.83		Jarvis et al. (2006)	99.403	10.10	98.81	1.81		Jarvis et al. (2006)
97.582	21.75	97.07	1.85		Jarvis et al. (2006)	99.419	10.00	98.83	1.87		Jarvis et al. (2006)
97.611	21.55	97.10	1.86		Jarvis et al. (2006)	99.427	9.95	98.84	1.88		Jarvis et al. (2006)
97.648	21.30	97.14	1.75		Jarvis et al. (2006)	99.452	9.80	98.86	1.91		Jarvis et al. (2006)
97.671	21.15	97.16	1.89		Jarvis et al. (2006)	99.468	9.70	98.87	1.94		Jarvis et al. (2006)
97.737	20.70	97.23	1.89		Jarvis et al. (2006)	99.492	9.55	98.90	1.97		Jarvis et al. (2006)
97.782	20.40	97.27	1.85		Jarvis et al. (2006)	99.500	9.50	98.90	2.03	LCE I	Jarvis et al. (2006)
97.849	19.95	97.34	1.83		Jarvis et al. (2006)	99.524	9.35	98.93	1.85		Jarvis et al. (2006)
97.923	19.45	97.41	1.83		Jarvis et al. (2006)	99.548	9.20	98.95	2.21		Jarvis et al. (2006)
98.020	18.80	97.51	1.86		Jarvis et al. (2006)	99.573	9.05	98.97	1.91		Jarvis et al. (2006)
98.087	18.35	97.58	1.89		Jarvis et al. (2006)	99.597	8.90	98.99	1.99		Jarvis et al. (2006)
98.176	17.75	97.67	1.88		Jarvis et al. (2006)	99.629	8.70	99.02	1.80		Jarvis et al. (2006)
98.250	17.25	97.74	1.85	base M. dixoni Zo	Jarvis et al. (2006)	99.677	8.40	99.07	1.83		Jarvis et al. (2006)
98.331	16.75	97.82	1.81		Jarvis et al. (2006)	99.710	8.20	99.10	1.81		Jarvis et al. (2006)
98.411	16.25	97.89	1.90		Jarvis et al. (2006)	99.750	7.95	99.14	1.81		Jarvis et al. (2006)
98.460	15.95	97.94	1.95		Jarvis et al. (2006)	99.790	7.70	99.17	1.64		Jarvis et al. (2006)
98.484	15.80	97.96	2.05	LCE III	Jarvis et al. (2006)	99.823	7.50	99.20	1.61		Jarvis et al. (2006)
98.508	15.65	97.98	1.82		Jarvis et al. (2006)	99.855	7.30	99.23	1.69		Jarvis et al. (2006)
98.532	15.50	98.00	1.84		Jarvis et al. (2006)	99.895	7.05	99.27	1.67		Jarvis et al. (2006)
98.605	15.05	98.07	1.76		Jarvis et al. (2006)	100.000	6.40	99.37	1.66		Jarvis et al. (2006)
98.677	14.60	98.14	1.78		Jarvis et al. (2006)	100.032	6.20	99.40	1.70		Jarvis et al. (2006)
98.742	14.20	98.20	1.70		Jarvis et al. (2006)	100.097	5.80	99.46	1.75		Jarvis et al. (2006)
98.758	14.10	98.21	1.86		Jarvis et al. (2006)	100.129	5.60	99.49	1.85		Jarvis et al. (2006)
98.806	13.80	98.26	1.75		Jarvis et al. (2006)	100.161	5.40	99.52	2.06		Jarvis et al. (2006)
98.863	13.45	98.31	1.69		Jarvis et al. (2006)	100.185	5.25	99.54	2.21		Jarvis et al. (2006)
98.895	13.25	98.34	1.76		Jarvis et al. (2006)	100.210	5.10	99.56	2.20		Jarvis et al. (2006)
98.968	12.80	98.41	1.68		Jarvis et al. (2006)	100.226	5.00	99.58	2.05		Jarvis et al. (2006)
99.000	12.60	98.44	1.94	LCE II	Jarvis et al. (2006)	100.250	31.41		1.64	base of M. mantelli (100.2	Gale et al. (2011)
99.016	12.50	98.45	1.81		Jarvis et al. (2006)	100.290	35.68		1.36		Gale et al. (2011)
99.048	12.30	98.48	1.82		Jarvis et al. (2006)	100.307	37.44		1.52		Gale et al. (2011)
99.089	12.05	98.52	1.77		Jarvis et al. (2006)	100.326	39.45		1.68		Gale et al. (2011)
99.105	11.95	98.54	1.84		Jarvis et al. (2006)	100.345	41.46		1.21		Gale et al. (2011)
99.177	11.50	98.60	1.66		Jarvis et al. (2006)	100.378	44.97		2.01		Gale et al. (2011)
99.226	11.20	98.65	1.73		Jarvis et al. (2006)	100.401	47.49		2.08		Gale et al. (2011)
99.274	10.90	98.69	1.68		Jarvis et al. (2006)	100.423	49.75		1.93		Gale et al. (2011)
99.355	10.40	98.77	1.77		Jarvis et al. (2006)	100.442	51.76		1.97		Gale et al. (2011)
99.371	10.30	98.78	1.91		Jarvis et al. (2006)	100.458	53.52		2.14		Gale et al. (2011)
99.387	10.20	98.80	1.75		Jarvis et al. (2006)	100.477	55.53		2.05		Gale et al. (2011)

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100.498	57.79		2.04	base Cenomanian	Gale et al. (2011)	101.129	132.91		2.31		Gale et al. (2011)
100.515	59.55		2.10		Gale et al. (2011)	101.137	134.17		2.07		Gale et al. (2011)
100.532	61.31		2.13		Gale et al. (2011)	101.153	136.43		2.10		Gale et al. (2011)
100.550	63.32		1.85		Gale et al. (2011)	101.163	137.94		1.71		Gale et al. (2011)
100.567	65.08		2.12		Gale et al. (2011)	101.172	139.20		2.22		Gale et al. (2011)
100.591	67.59		2.12		Gale et al. (2011)	101.191	141.96		2.20		Gale et al. (2011)
100.607	69.35		1.98		Gale et al. (2011)	101.204	143.72		2.37	base Niveau Breistroffer (	Gale et al. (2011)
100.626	71.36		1.85		Gale et al. (2011)	101.219	145.98		1.39		Gale et al. (2011)
100.643	73.12		1.45		Gale et al. (2011)	101.233	147.99		1.96		Gale et al. (2011)
100.664	75.38		1.41		Gale et al. (2011)	101.249	150.25		1.56		Gale et al. (2011)
100.688	77.89		1.44		Gale et al. (2011)	101.258	151.51		2.06		Gale et al. (2011)
100.707	79.90		1.81		Gale et al. (2011)	101.272	153.52		2.02		Gale et al. (2011)
100.721	81.41		2.27		Gale et al. (2011)	101.286	155.53		2.02		Gale et al. (2011)
100.742	83.67		2.13		Gale et al. (2011)	101.303	158.04		2.06		Gale et al. (2011)
100.759	85.43		2.15		Gale et al. (2011)	101.312	159.30		1.58		Gale et al. (2011)
100.778	87.44		2.05		Gale et al. (2011)	101.326	161.31		2.01		Gale et al. (2011)
100.796	89.45		2.06		Gale et al. (2011)	101.333	162.31		1.45		Gale et al. (2011)
100.818	91.71		2.15		Gale et al. (2011)	101.354	165.33		1.46		Gale et al. (2011)
100.834	93.47		2.04		Gale et al. (2011)	101.372	167.84		1.66		Gale et al. (2011)
100.853	95.48		2.13		Gale et al. (2011)	101.375	168.34		1.25	base Event 7	Gale et al. (2011)
100.867	96.98		2.02		Gale et al. (2011)	101.391	170.60		1.58		Gale et al. (2011)
100.893	99.75		2.03		Gale et al. (2011)	101.410	173.37		1.27	base M. perinflatum (101.4	Gale et al. (2011)
100.910	101.51		2.22	base A. briacensis	Gale et al. (2011)	101.449	175.38		1.59		Gale et al. (2011)
100.927	104.02		2.17		Gale et al. (2011)	101.497	177.89		1.78		Gale et al. (2011)
100.938	105.53		2.10		Gale et al. (2011)	101.517	178.89		1.78		Gale et al. (2011)
100.954	107.79		2.31		Gale et al. (2011)	101.560	181.16		1.67		Gale et al. (2011)
100.968	109.80		2.01		Gale et al. (2011)	101.604	183.42		1.49		Gale et al. (2011)
100.985	112.31		2.23		Gale et al. (2011)	101.628	184.67		1.83		Gale et al. (2011)
100.997	114.07		2.05		Gale et al. (2011)	101.667	186.68		1.95		Gale et al. (2011)
101.010	115.83		1.94		Gale et al. (2011)	101.720	189.45		1.82	base M. rostratum (101.72	Gale et al. (2011)
101.025	118.09		2.10		Gale et al. (2011)	101.776	191.46		1.94		Gale et al. (2011)
101.038	119.85		1.77		Gale et al. (2011)	101.833	193.47		1.50		Gale et al. (2011)
101.053	122.11		2.03		Gale et al. (2011)	101.889	195.48		1.96		Gale et al. (2011)
101.069	124.37		1.51		Gale et al. (2011)	101.924	196.73		1.57		Gale et al. (2011)
101.081	126.13		1.76		Gale et al. (2011)	101.974	198.49		1.66		Gale et al. (2011)
101.095	128.14		1.94		Gale et al. (2011)	102.009	199.75		1.40		Gale et al. (2011)
101.109	130.15		1.88		Gale et al. (2011)	102.051	201.26		1.91		Gale et al. (2011)
101.122	131.91		2.16		Gale et al. (2011)	102.108	203.27		1.35		Gale et al. (2011)

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102.164	205.28		1.87		Gale et al. (2011)	107.014	284.42		1.90		Gale et al. (2011)
102.249	208.29		1.88		Gale et al. (2011)	107.044	286.18		2.42		Gale et al. (2011)
102.312	210.55		1.92		Gale et al. (2011)	107.083	288.44		2.33		Gale et al. (2011)
102.376	212.81		1.94		Gale et al. (2011)	107.121	290.70		2.42	base Jassines Event	Gale et al. (2011)
102.446	215.33		1.42		Gale et al. (2011)	107.142	291.96		2.09		Gale et al. (2011)
102.481	216.58		2.07		Gale et al. (2011)	107.185	294.47		2.16		Gale et al. (2011)
102.531	218.34		1.78		Gale et al. (2011)	107.215	296.23		2.08		Gale et al. (2011)
102.594	220.60		1.83		Gale et al. (2011)	107.249	298.24		2.24		Gale et al. (2011)
102.637	222.11		1.27		Gale et al. (2011)	107.270	299.50		1.85		Gale et al. (2011)
102.693	224.12		1.08	base Event 6	Gale et al. (2011)	107.356	304.52		2.04		Gale et al. (2011)
102.770	226.88		1.64		Gale et al. (2011)	107.381	306.03		1.56		Gale et al. (2011)
102.813	228.39		1.70		Gale et al. (2011)	107.420	308.29		2.02		Gale et al. (2011)
102.883	230.90		1.98		Gale et al. (2011)	107.462	310.80		1.86		Gale et al. (2011)
102.940	232.91		1.90		Gale et al. (2011)	107.488	312.31		2.14		Gale et al. (2011)
102.996	234.92		1.81		Gale et al. (2011)	107.518	314.07		2.11		Gale et al. (2011)
103.130	239.70		2.24	base M. fallax (10	Gale et al. (2011)	107.556	316.33		1.98		Gale et al. (2011)
103.214	241.21		2.01		Gale et al. (2011)	107.590	318.34		1.50	base of C. cristatum (107.5	Gale et al. (2011)
103.312	242.96		1.84		Gale et al. (2011)	107.648	320.85		1.66		Gale et al. (2011)
103.423	244.97		1.74		Gale et al. (2011)	107.677	322.11		1.76		Gale et al. (2011)
103.535	246.98		1.44		Gale et al. (2011)	107.730	324.37		1.92	base Late Albian (107.7 M	Gale et al. (2011)
103.647	249.00		1.91		Gale et al. (2011)	107.776	326.38		1.62		Gale et al. (2011)
103.745	250.75		1.83		Gale et al. (2011)	107.823	328.39		1.81		Gale et al. (2011)
103.856	252.76		2.12		Gale et al. (2011)	107.869	330.40		1.73		Gale et al. (2011)
103.940	254.27		1.76	base M. inflatum (	Gale et al. (2011)	107.899	331.66		2.02		Gale et al. (2011)
103.994	254.77		2.10		Gale et al. (2011)	107.968	334.67		1.94		Gale et al. (2011)
104.212	256.78		1.93		Gale et al. (2011)	108.021	336.93		2.10		Gale et al. (2011)
104.429	258.79		2.11	Petite Verole	Gale et al. (2011)	108.056	338.44		2.06		Gale et al. (2011)
104.782	262.06		1.82		Gale et al. (2011)	108.085	339.70		1.76		Gale et al. (2011)
104.999	264.07		1.74		Gale et al. (2011)	108.120	341.21		1.78		Gale et al. (2011)
105.216	266.08		1.72		Gale et al. (2011)	108.149	342.46		1.88		Gale et al. (2011)
105.460	268.34		1.89		Gale et al. (2011)	108.178	343.72		1.21		Gale et al. (2011)
105.677	270.35		1.94		Gale et al. (2011)	108.230	345.98		2.17		Gale et al. (2011)
105.895	272.36		2.25		Gale et al. (2011)	108.300	349.00		1.53		Gale et al. (2011)
106.085	274.12		2.39		Gale et al. (2011)	108.329	350.25		1.76		Gale et al. (2011)
106.302	276.13		2.08		Gale et al. (2011)	108.364	351.76		1.43		Gale et al. (2011)
106.546	278.39		2.01		Gale et al. (2011)	108.394	353.02		1.50		Gale et al. (2011)
106.790	280.65		2.34		Gale et al. (2011)	108.428	354.52		1.77		Gale et al. (2011)
106.980	282.41		1.72	base M. priceri (10	Gale et al. (2011)	108.487	357.04		1.65		Gale et al. (2011)

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108.492	357.29		1.99		Gale et al. (2011)	109.750	411.56		1.98		Gale et al. (2011)
108.522	358.54		1.82		Gale et al. (2011)	109.779	412.81		2.17		Gale et al. (2011)
108.557	360.05		1.98		Gale et al. (2011)	109.797	413.57		2.26		Gale et al. (2011)
108.586	361.31		1.84		Gale et al. (2011)	109.843	415.58		2.35		Gale et al. (2011)
108.603	362.06		1.88		Gale et al. (2011)	109.878	417.09		2.61		Gale et al. (2011)
108.621	362.81		1.74		Gale et al. (2011)	109.907	418.34		1.92		Gale et al. (2011)
108.626	363.07		1.70		Gale et al. (2011)	109.936	419.60		1.82		Gale et al. (2011)
108.679	365.33		1.31		Gale et al. (2011)	109.948	420.10		2.01		Gale et al. (2011)
108.685	365.58		1.59		Gale et al. (2011)	109.971	421.11		2.16		Gale et al. (2011)
108.714	366.83		1.85		Gale et al. (2011)	110.006	422.61		2.27		Gale et al. (2011)
108.743	368.09		1.73		Gale et al. (2011)	110.041	424.12		2.21		Gale et al. (2011)
108.749	368.34		1.63		Gale et al. (2011)	110.059	424.87		1.92		Gale et al. (2011)
108.760	368.84		1.46		Gale et al. (2011)	110.094	426.38		1.76		Gale et al. (2011)
108.842	372.36		1.39		Gale et al. (2011)	110.134	428.14		1.93		Gale et al. (2011)
108.871	373.62		1.50		Gale et al. (2011)	110.158	429.15		2.19		Gale et al. (2011)
108.888	374.37		1.68		Gale et al. (2011)	110.181	430.15		1.92		Gale et al. (2011)
108.906	375.13		1.89		Gale et al. (2011)	110.199	430.90		2.00		Gale et al. (2011)
108.947	376.88		1.14		Gale et al. (2011)	110.257	433.42		2.09		Gale et al. (2011)
108.982	378.39		1.36		Gale et al. (2011)	110.257	433.43		2.00		Gale et al. (2011)
108.999	379.15		1.65		Gale et al. (2011)	110.257	433.44		1.65		Gale et al. (2011)
109.028	380.40		1.27		Gale et al. (2011)	110.286	434.67		1.91		Gale et al. (2011)
109.057	381.66		1.09	l'Arboudeyesse Ev	Gale et al. (2011)	110.309	435.68		1.81		Gale et al. (2011)
109.092	383.17		1.28		Gale et al. (2011)	110.356	437.69		1.80		Gale et al. (2011)
109.127	384.67		1.23		Gale et al. (2011)	110.356	437.69		1.86		Gale et al. (2011)
109.162	386.18		1.53		Gale et al. (2011)	110.385	438.94		2.16		Gale et al. (2011)
109.290	391.71		1.39		Gale et al. (2011)	110.414	440.20		1.92		Gale et al. (2011)
109.331	393.47		1.37		Gale et al. (2011)	110.449	441.71		2.61		Gale et al. (2011)
109.424	397.49		1.58		Gale et al. (2011)	110.484	443.22		2.15		Gale et al. (2011)
109.459	399.00		1.33		Gale et al. (2011)	110.525	444.97		1.96		Gale et al. (2011)
109.482	400.00		1.39		Gale et al. (2011)	110.525	444.98		1.74		Gale et al. (2011)
109.517	401.51		1.59		Gale et al. (2011)	110.577	447.24		2.14		Gale et al. (2011)
109.535	402.26		1.97		Gale et al. (2011)	110.594	447.99		1.08	base Niveau Leenhardt	Herrle et al. (2004)
109.564	403.52		1.65		Gale et al. (2011)	110.595	448.00		1.24		Herrle et al. (2004)
109.599	405.03		1.88		Gale et al. (2011)	110.618	449.00		1.44		Herrle et al. (2004)
109.616	405.78		1.91		Gale et al. (2011)	110.641	450.00		1.57		Herrle et al. (2004)
109.645	407.04		1.79		Gale et al. (2011)	110.664	451.01		1.62		Herrle et al. (2004)
109.686	408.79		1.80		Gale et al. (2011)	110.688	452.01		1.85		Herrle et al. (2004)
109.715	410.05		2.55		Gale et al. (2011)	110.728	453.77		1.95		Herrle et al. (2004)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
110.752	454.77		2.26		Herrle et al. (2004	111.318	288.75		2.60		Herrle et al. (2004)
110.769	455.53		1.75		Herrle et al. (2004	111.322	288.55		2.54		Herrle et al. (2004)
110.804	457.04		1.74		Herrle et al. (2004	111.332	288.15		2.40		Herrle et al. (2004)
110.827	458.04		2.16		Herrle et al. (2004	111.336	287.95		2.27		Herrle et al. (2004)
110.833	458.29		2.11		Herrle et al. (2004	111.341	287.75		2.25		Herrle et al. (2004)
110.856	459.30		1.98		Herrle et al. (2004	111.350	287.35		2.30		Herrle et al. (2004)
110.880	460.30		2.15		Herrle et al. (2004	111.355	287.15		2.40		Herrle et al. (2004)
110.903	461.31		2.30		Herrle et al. (2004	111.360	286.95		2.14		Herrle et al. (2004)
110.955	463.57		2.13		Herrle et al. (2004	111.364	286.75		1.86		Herrle et al. (2004)
110.973	464.32		1.71		Herrle et al. (2004	111.367	286.65		1.95		Herrle et al. (2004)
110.985	464.82		2.01		Herrle et al. (2004	111.368	286.57		2.27		Herrle et al. (2004)
111.066	468.34		2.12		Herrle et al. (2004	111.370	286.50		2.23		Herrle et al. (2004)
111.066	468.35		2.08		Herrle et al. (2004	111.374	286.35		1.99		Herrle et al. (2004)
111.089	469.35		1.82		Herrle et al. (2004	111.378	286.15		2.01		Herrle et al. (2004)
111.101	469.85		2.08		Herrle et al. (2004	111.383	285.95		2.32		Herrle et al. (2004)
111.136	471.36		1.84		Herrle et al. (2004	111.388	285.75		2.59		Herrle et al. (2004)
111.171	472.86		2.36		Herrle et al. (2004	111.392	285.55		2.46		Herrle et al. (2004)
111.183	473.37		2.43		Herrle et al. (2004	111.402	285.15		2.72		Herrle et al. (2004)
111.223	475.13		3.02		Herrle et al. (2004	111.407	284.90		2.47		Herrle et al. (2004)
111.270	290.78		0.94	base L. tardefurcat	Herrle et al. (2004	111.413	284.67		2.58		Herrle et al. (2004)
111.271	290.72		1.18		Herrle et al. (2004	111.419	284.42		2.71		Herrle et al. (2004)
111.272	290.69		1.50		Herrle et al. (2004	111.421	284.30		2.60		Herrle et al. (2004)
111.275	290.56		1.82		Herrle et al. (2004	111.430	283.92		2.06		Herrle et al. (2004)
111.277	290.50		1.98		Herrle et al. (2004	111.435	283.72		2.51		Herrle et al. (2004)
111.277	290.47		2.08		Herrle et al. (2004	111.440	283.52		2.64		Herrle et al. (2004)
111.278	290.42		2.43		Herrle et al. (2004	111.444	283.32		2.47		Herrle et al. (2004)
111.283	290.24		2.13		Herrle et al. (2004	111.450	283.07		2.29		Herrle et al. (2004)
111.284	290.20		2.39		Herrle et al. (2004	111.455	282.85		2.68		Herrle et al. (2004)
111.284	290.16		1.95		Herrle et al. (2004	111.460	282.65		2.50		Herrle et al. (2004)
111.287	290.07		1.79		Herrle et al. (2004	111.465	282.45		2.48		Herrle et al. (2004)
111.288	290.01		1.24	base Niveau Paqui	Herrle et al. (2004	111.469	282.25		2.92		Herrle et al. (2004)
111.288	289.99		1.28		Herrle et al. (2004	111.474	282.05		2.88		Herrle et al. (2004)
111.292	289.85		2.18		Herrle et al. (2004	111.479	281.85		2.67		Herrle et al. (2004)
111.294	289.75		2.52		Herrle et al. (2004	111.486	281.55		2.66		Herrle et al. (2004)
111.298	289.60		2.85		Herrle et al. (2004	111.486	281.52		2.25		Herrle et al. (2004)
111.301	289.47		2.20		Herrle et al. (2004	111.510	280.52		2.14		Herrle et al. (2004)
111.308	289.17		2.52		Herrle et al. (2004	111.531	279.62		1.86		Herrle et al. (2004)
111.313	288.95		2.75		Herrle et al. (2004	111.554	278.62		1.75		Herrle et al. (2004)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
111.581	277.47		2.21		Herrle et al. (2004	112.393	242.69		2.24		Herrle et al. (2004)
111.595	276.87		1.95		Herrle et al. (2004	112.396	242.57		2.59		Herrle et al. (2004)
111.628	275.43		1.74		Herrle et al. (2004	112.398	242.47		2.55		Herrle et al. (2004)
111.649	274.55		2.06		Herrle et al. (2004	112.400	242.39		2.37		Herrle et al. (2004)
111.667	273.78		2.11		Herrle et al. (2004	112.402	242.32		2.12		Herrle et al. (2004)
111.696	272.52		1.79		Herrle et al. (2004	112.403	242.27		2.48		Herrle et al. (2004)
111.723	271.40		1.52		Herrle et al. (2004	112.404	242.23		2.57		Herrle et al. (2004)
111.744	270.47		1.96		Herrle et al. (2004	112.404	242.20		2.67		Herrle et al. (2004)
111.762	269.72		2.32		Herrle et al. (2004	112.406	242.12		2.76		Herrle et al. (2004)
111.788	268.58		2.42		Herrle et al. (2004	112.408	242.07		2.61		Herrle et al. (2004)
111.814	267.48		2.43		Herrle et al. (2004	112.409	242.02		2.44		Herrle et al. (2004)
111.837	266.52		2.50		Herrle et al. (2004	112.411	241.92		2.18		Herrle et al. (2004)
111.860	265.52		2.41		Herrle et al. (2004	112.413	241.82		2.33		Herrle et al. (2004)
111.883	264.52		1.91		Herrle et al. (2004	112.416	241.72		2.24		Herrle et al. (2004)
111.906	263.53		2.07		Herrle et al. (2004	112.418	241.62		2.34		Herrle et al. (2004)
111.929	262.57		1.84		Herrle et al. (2004	112.420	241.54		2.20		Herrle et al. (2004)
111.953	261.52		1.78		Herrle et al. (2004	112.422	241.47		2.28		Herrle et al. (2004)
111.979	260.42		2.58		Herrle et al. (2004	112.423	241.40		2.15		Herrle et al. (2004)
112.000	259.52		2.52		Herrle et al. (2004	112.426	241.30		2.06		Herrle et al. (2004)
112.027	258.37		2.52		Herrle et al. (2004	112.428	241.20		2.00		Herrle et al. (2004)
112.048	257.47		2.71		Herrle et al. (2004	112.430	241.12		1.92		Herrle et al. (2004)
112.074	256.37		2.50		Herrle et al. (2004	112.431	241.07		1.65		Herrle et al. (2004)
112.097	255.37		2.78		Herrle et al. (2004	112.432	241.02		1.86		Herrle et al. (2004)
112.119	254.42		2.18		Herrle et al. (2004	112.433	240.97		1.87		Herrle et al. (2004)
112.141	253.49		2.72		Herrle et al. (2004	112.434	240.92		1.93		Herrle et al. (2004)
112.167	252.39		2.50		Herrle et al. (2004	112.436	240.87		1.87		Herrle et al. (2004)
112.189	251.42		2.18		Herrle et al. (2004	112.437	240.82		1.95		Herrle et al. (2004)
112.213	250.42		2.09		Herrle et al. (2004	112.438	240.77		1.87		Herrle et al. (2004)
112.237	249.37		3.05		Herrle et al. (2004	112.439	240.72		1.81		Herrle et al. (2004)
112.259	248.42		2.26		Herrle et al. (2004	112.440	240.67		1.83		Herrle et al. (2004)
112.279	247.57		2.49		Herrle et al. (2004	112.441	240.62		1.66		Herrle et al. (2004)
112.305	246.47		3.17		Herrle et al. (2004	112.443	240.57		2.09		Herrle et al. (2004)
112.323	245.67		2.89		Herrle et al. (2004	112.444	240.52		1.93		Herrle et al. (2004)
112.334	245.22		2.74		Herrle et al. (2004	112.445	240.47		2.45		Herrle et al. (2004)
112.354	244.37		3.00		Herrle et al. (2004	112.446	240.42		2.53	base Niveau Kilian	Herrle et al. (2004)
112.377	243.37		2.80		Herrle et al. (2004	112.447	240.37		2.49		Herrle et al. (2004)
112.385	243.02		2.65		Herrle et al. (2004	112.450	240.26		2.93		Herrle et al. (2004)
112.390	242.82		2.13		Herrle et al. (2004	112.452	240.15		3.07		Herrle et al. (2004)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
112.455	240.04		3.09		Herrle et al. (2004	112.517	237.37		2.55		Herrle et al. (2004)
112.458	239.93		2.91		Herrle et al. (2004	112.518	237.32		2.94		Herrle et al. (2004)
112.460	239.82		2.90		Herrle et al. (2004	112.520	237.27		3.13		Herrle et al. (2004)
112.462	239.72		3.13		Herrle et al. (2004	112.521	237.22		3.29		Herrle et al. (2004)
112.466	239.56		2.99		Herrle et al. (2004	112.523	237.14		2.91		Herrle et al. (2004)
112.470	239.40		2.90		Herrle et al. (2004	112.524	237.07		2.65		Herrle et al. (2004)
112.472	239.30		2.97		Herrle et al. (2004	112.526	237.01		2.85		Herrle et al. (2004)
112.474	239.23		2.90		Herrle et al. (2004	112.528	236.92		3.12		Herrle et al. (2004)
112.475	239.17		2.92		Herrle et al. (2004	112.529	236.88		3.07		Herrle et al. (2004)
112.476	239.12		3.26		Herrle et al. (2004	112.530	236.84		2.83		Herrle et al. (2004)
112.478	239.06		3.31		Herrle et al. (2004	112.536	236.57		2.30		Herrle et al. (2004)
112.479	239.01		3.12		Herrle et al. (2004	112.560	235.53		2.69		Herrle et al. (2004)
112.480	238.97		3.22		Herrle et al. (2004	112.582	234.61		1.74		Herrle et al. (2004)
112.482	238.89		2.84		Herrle et al. (2004	112.604	233.67		3.25		Herrle et al. (2004)
112.484	238.81		2.84		Herrle et al. (2004	112.628	232.61		2.82		Herrle et al. (2004)
112.486	238.72		3.15		Herrle et al. (2004	112.650	231.69		2.89		Herrle et al. (2004)
112.487	238.66		3.34		Herrle et al. (2004	112.675	230.60		2.90		Herrle et al. (2004)
112.489	238.60		2.97		Herrle et al. (2004	112.696	229.71		2.68		Herrle et al. (2004)
112.490	238.52		2.69		Herrle et al. (2004	112.724	228.52		2.35		Herrle et al. (2004)
112.492	238.46		2.63		Herrle et al. (2004	112.746	227.57		2.86		Herrle et al. (2004)
112.493	238.40		2.78		Herrle et al. (2004	112.768	226.62		3.10		Herrle et al. (2004)
112.494	238.36		2.99		Herrle et al. (2004	112.792	225.60		3.24		Herrle et al. (2004)
112.496	238.30		3.02		Herrle et al. (2004	112.814	224.68		3.36		Herrle et al. (2004)
112.497	238.24		2.63		Herrle et al. (2004	112.840	223.56		3.29		Herrle et al. (2004)
112.498	238.20		2.69		Herrle et al. (2004	112.862	222.60		3.29		Herrle et al. (2004)
112.500	238.12		2.36		Herrle et al. (2004	112.885	221.64		3.38		Herrle et al. (2004)
112.502	238.04		2.52		Herrle et al. (2004	112.909	220.61		2.96		Herrle et al. (2004)
112.503	238.00		2.64		Herrle et al. (2004	112.932	219.62		2.45		Herrle et al. (2004)
112.504	237.95		3.02		Herrle et al. (2004	112.954	218.67		3.21		Herrle et al. (2004)
112.505	237.90		3.12		Herrle et al. (2004	112.977	217.70		2.73		Herrle et al. (2004)
112.506	237.85		2.67		Herrle et al. (2004	113.000	216.70		3.45	base Albian, base P. colum	Herrle et al. (2004)
112.507	237.80		2.57		Herrle et al. (2004	113.069	215.55		2.60		Herrle et al. (2004)
112.508	237.75		2.35		Herrle et al. (2004	113.118	214.73		3.49		Herrle et al. (2004)
112.510	237.68		2.90		Herrle et al. (2004	113.178	213.73		2.91		Herrle et al. (2004)
112.511	237.62		3.00		Herrle et al. (2004	113.249	212.53		3.33		Herrle et al. (2004)
112.513	237.57		2.86		Herrle et al. (2004	113.309	211.53		2.83		Herrle et al. (2004)
112.514	237.51		2.61		Herrle et al. (2004	113.363	210.63		2.98		Herrle et al. (2004)
112.516	237.44		2.66		Herrle et al. (2004	113.423	209.63		3.39		Herrle et al. (2004)

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113.483	208.63		3.37		Herrle et al. (2004	115.938	167.56		2.53		Herrle et al. (2004)
113.542	207.63		2.74		Herrle et al. (2004	115.982	166.82		3.01		Herrle et al. (2004)
113.608	206.53		2.74		Herrle et al. (2004	116.126	164.42		2.70		Herrle et al. (2004)
113.656	205.73		2.94		Herrle et al. (2004	116.193	163.31		2.33		Herrle et al. (2004)
113.725	204.57		3.16		Herrle et al. (2004	116.281	161.82		2.48		Herrle et al. (2004)
113.790	203.49		3.30		Herrle et al. (2004	116.326	161.08		2.22		Herrle et al. (2004)
113.840	202.65		3.24		Herrle et al. (2004	116.392	159.97		2.12		Herrle et al. (2004)
113.904	201.59		3.14		Herrle et al. (2004	116.448	159.05		2.27		Herrle et al. (2004)
113.961	200.63		3.15		Herrle et al. (2004	116.525	157.75		2.21		Herrle et al. (2004)
114.019	199.66		3.27	base Niveau Jacob	Herrle et al. (2004	116.592	156.64		2.84		Herrle et al. (2004)
114.078	198.67		3.10		Herrle et al. (2004	116.647	155.71		2.30		Herrle et al. (2004)
114.139	197.65		3.02		Herrle et al. (2004	116.702	154.79		2.53		Herrle et al. (2004)
114.189	196.81		2.70		Herrle et al. (2004	116.758	153.86		2.18		Herrle et al. (2004)
114.259	195.64		3.12		Herrle et al. (2004	116.824	152.75		2.60		Herrle et al. (2004)
114.316	194.69		3.47		Herrle et al. (2004	116.902	151.45		2.60		Herrle et al. (2004)
114.383	193.58		3.05		Herrle et al. (2004	116.979	150.16		3.00		Herrle et al. (2004)
114.435	192.71		1.98		Herrle et al. (2004	117.001	149.79		2.29		Herrle et al. (2004)
114.500	191.62		3.29		Herrle et al. (2004	117.068	148.68		2.87		Herrle et al. (2004)
114.558	190.65		2.30		Herrle et al. (2004	117.134	147.56		2.92		Herrle et al. (2004)
114.616	189.68		2.23		Herrle et al. (2004	117.201	146.45		2.90		Herrle et al. (2004)
114.677	188.65		2.16		Herrle et al. (2004	117.223	146.08		2.74		Herrle et al. (2004)
114.775	187.01		2.32		Herrle et al. (2004	117.311	144.60		2.92		Herrle et al. (2004)
114.875	185.34		2.15		Herrle et al. (2004	117.378	143.49		2.26		Herrle et al. (2004)
114.953	184.05		1.88	base Faisceau Fro	Herrle et al. (2004	117.422	142.75		1.96		Herrle et al. (2004)
115.008	183.12		1.98		Herrle et al. (2004	117.500	141.45		2.37		Herrle et al. (2004)
115.052	182.38		2.35		Herrle et al. (2004	117.577	140.16		2.77		Herrle et al. (2004)
115.108	181.45		2.39		Herrle et al. (2004	117.633	139.23		2.58		Herrle et al. (2004)
115.185	180.16		1.73		Herrle et al. (2004	117.699	138.12		2.66		Herrle et al. (2004)
115.229	179.42		1.99		Herrle et al. (2004	117.771	136.92		2.50		Herrle et al. (2004)
115.274	178.68		2.69		Herrle et al. (2004	117.827	135.97		3.12		Herrle et al. (2004)
115.407	176.45		2.82		Herrle et al. (2004	117.884	135.02		2.87		Herrle et al. (2004)
115.473	175.34		2.54		Herrle et al. (2004	117.954	133.86		2.71		Herrle et al. (2004)
115.540	174.23		2.91		Herrle et al. (2004	118.020	132.75		1.80	base P. melchioris/ P. nutfi	Herrle et al. (2004)
115.606	173.12		3.01		Herrle et al. (2004	118.070	131.75		2.11		Herrle et al. (2004)
115.717	171.27		2.18		Herrle et al. (2004	118.120	130.75		1.87	base Faisceau Nolan	Herrle et al. (2004)
115.761	170.53		2.93		Herrle et al. (2004	118.170	129.75		1.74		Herrle et al. (2004)
115.827	169.42		2.34		Herrle et al. (2004	118.220	128.75		1.16		Herrle et al. (2004)
115.861	168.86		2.66		Herrle et al. (2004	118.270	127.75		1.58		Herrle et al. (2004)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
118.320	126.75		2.11		Herrle et al. (2004	120.170	89.75		1.89		Herrle et al. (2004)
118.370	125.75		1.95		Herrle et al. (2004	120.220	88.75		2.09		Herrle et al. (2004)
118.420	124.75		2.09		Herrle et al. (2004	120.270	87.75		1.98		Herrle et al. (2004)
118.460	123.95		1.37		Herrle et al. (2004	120.294	87.28		1.91		Herrle et al. (2004)
118.470	123.75		1.51		Herrle et al. (2004	120.299	87.18		1.87		Herrle et al. (2004)
118.520	122.75		1.63		Herrle et al. (2004	120.304	87.08		1.79		Herrle et al. (2004)
118.570	121.75		1.51		Herrle et al. (2004	120.309	86.98		1.37	base Niveau Fallot 4	Herrle et al. (2004)
118.620	120.75		1.94		Herrle et al. (2004	120.314	86.88		1.41		Herrle et al. (2004)
118.670	119.75		1.38		Herrle et al. (2004	120.319	86.78		1.42		Herrle et al. (2004)
118.720	118.75		1.81		Herrle et al. (2004	120.324	86.68		1.70		Herrle et al. (2004)
118.770	117.75		1.65		Herrle et al. (2004	120.329	86.58		1.80		Herrle et al. (2004)
118.820	116.75		2.02		Herrle et al. (2004	120.334	86.48		1.91		Herrle et al. (2004)
118.870	115.75		2.03		Herrle et al. (2004	120.339	86.38		1.45		Herrle et al. (2004)
118.920	114.75		1.83		Herrle et al. (2004	120.344	86.28		1.39		Herrle et al. (2004)
118.970	113.75		1.80		Herrle et al. (2004	120.351	86.14		1.63		Herrle et al. (2004)
119.020	112.75		1.65		Herrle et al. (2004	120.356	86.04		1.83		Herrle et al. (2004)
119.070	111.75		1.29		Herrle et al. (2004	120.361	85.94		1.88		Herrle et al. (2004)
119.120	110.75		1.75		Herrle et al. (2004	120.366	85.84		1.86		Herrle et al. (2004)
119.170	109.75		1.98		Herrle et al. (2004	120.371	85.74		1.85		Herrle et al. (2004)
119.220	108.75		1.49		Herrle et al. (2004	120.376	85.64		1.99		Herrle et al. (2004)
119.270	107.75		1.34		Herrle et al. (2004	120.381	85.54		2.15		Herrle et al. (2004)
119.320	106.75		1.95		Herrle et al. (2004	120.386	85.44		2.29		Herrle et al. (2004)
119.370	105.75		1.89		Herrle et al. (2004	120.391	85.34		2.16		Herrle et al. (2004)
119.420	104.75		1.32		Herrle et al. (2004	120.396	85.24		2.14		Herrle et al. (2004)
119.470	103.75		2.17		Herrle et al. (2004	120.402	85.12		1.81		Herrle et al. (2004)
119.520	102.75		1.38		Herrle et al. (2004	120.407	85.02		1.85		Herrle et al. (2004)
119.570	101.75		2.07		Herrle et al. (2004	120.412	84.92		1.93		Herrle et al. (2004)
119.620	100.75		2.06		Herrle et al. (2004	120.417	84.82		1.92		Herrle et al. (2004)
119.670	99.75		1.36		Herrle et al. (2004	120.422	84.72		1.96		Herrle et al. (2004)
119.720	98.75		1.15		Herrle et al. (2004	120.426	84.64		1.84		Herrle et al. (2004)
119.770	97.75		1.52		Herrle et al. (2004	120.430	84.56		1.83		Herrle et al. (2004)
119.820	96.75		1.67		Herrle et al. (2004	120.434	84.48		1.86		Herrle et al. (2004)
119.870	95.75		1.71		Herrle et al. (2004	120.440	84.35		1.91		Herrle et al. (2004)
119.920	94.75		1.85		Herrle et al. (2004	120.445	84.25		1.91		Herrle et al. (2004)
119.970	93.75		1.77		Herrle et al. (2004	120.451	84.13		1.98		Herrle et al. (2004)
120.020	92.75		1.87		Herrle et al. (2004	120.456	84.03		1.79		Herrle et al. (2004)
120.070	91.75		1.95		Herrle et al. (2004	120.461	83.93		1.91		Herrle et al. (2004)
120.120	90.75		2.03		Herrle et al. (2004	120.463	83.89		1.95		Herrle et al. (2004)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
120.468	83.79		2.04		Herrle et al. (2004	120.640	80.36		2.45		Herrle et al. (2004)
120.472	83.72		1.99		Herrle et al. (2004	120.645	80.26		2.34		Herrle et al. (2004)
120.476	83.64		2.21		Herrle et al. (2004	120.650	80.16		2.28		Herrle et al. (2004)
120.480	83.56		2.17		Herrle et al. (2004	120.653	80.10		2.15		Herrle et al. (2004)
120.482	83.52		2.12		Herrle et al. (2004	120.658	80.00		2.07		Herrle et al. (2004)
120.487	83.42		2.19		Herrle et al. (2004	120.667	79.81		2.23		Herrle et al. (2004)
120.492	83.32		2.36		Herrle et al. (2004	120.680	79.56		2.22		Herrle et al. (2004)
120.493	83.29		2.42		Herrle et al. (2004	120.697	79.21		2.35		Herrle et al. (2004)
120.498	83.19		2.43		Herrle et al. (2004	120.711	78.94		2.24		Herrle et al. (2004)
120.503	83.09		2.31		Herrle et al. (2004	120.729	78.58		2.36		Herrle et al. (2004)
120.504	83.07		2.21		Herrle et al. (2004	120.735	78.45		2.39		Herrle et al. (2004)
120.509	82.97		2.24		Herrle et al. (2004	120.743	78.30		2.30		Herrle et al. (2004)
120.514	82.87		2.28		Herrle et al. (2004	120.748	78.20		2.27		Herrle et al. (2004)
120.521	82.74		2.44		Herrle et al. (2004	120.763	77.90		2.29		Herrle et al. (2004)
120.526	82.64		2.45		Herrle et al. (2004	120.783	77.49		2.43		Herrle et al. (2004)
120.531	82.54		2.44		Herrle et al. (2004	120.798	77.19		2.39		Herrle et al. (2004)
120.536	82.43		2.23		Herrle et al. (2004	120.817	76.82		2.42		Herrle et al. (2004)
120.541	82.33		2.03		Herrle et al. (2004	120.832	76.52		2.31		Herrle et al. (2004)
120.546	82.23		2.28		Herrle et al. (2004	120.847	76.22		2.40		Herrle et al. (2004)
120.551	82.13		2.32		Herrle et al. (2004	120.862	75.92		2.20		Herrle et al. (2004)
120.556	82.03		2.30		Herrle et al. (2004	120.875	75.65		2.24		Herrle et al. (2004)
120.561	81.93		2.23		Herrle et al. (2004	120.892	75.31		2.14		Herrle et al. (2004)
120.566	81.83		2.25		Herrle et al. (2004	120.909	74.98		2.35		Herrle et al. (2004)
120.571	81.73		2.34		Herrle et al. (2004	120.920	74.75		2.39		Herrle et al. (2004)
120.576	81.63		2.21		Herrle et al. (2004	120.970	73.75		2.41		Herrle et al. (2004)
120.581	81.53		2.12		Herrle et al. (2004	121.020	72.75		2.33		Herrle et al. (2004)
120.586	81.43		2.24		Herrle et al. (2004	121.070	71.75		2.11		Herrle et al. (2004)
120.591	81.33		2.30		Herrle et al. (2004	121.120	70.75		2.20		Herrle et al. (2004)
120.596	81.23		2.40		Herrle et al. (2004	121.170	69.75		2.32		Herrle et al. (2004)
120.601	81.13		2.33		Herrle et al. (2004	121.220	68.75		2.67		Herrle et al. (2004)
120.606	81.03		2.28		Herrle et al. (2004	121.270	67.75		2.37		Herrle et al. (2004)
120.611	80.93		2.23		Herrle et al. (2004	121.320	66.75		2.67		Herrle et al. (2004)
120.616	80.83		2.23		Herrle et al. (2004	121.370	65.75		2.29		Herrle et al. (2004)
120.621	80.74		2.44		Herrle et al. (2004	121.420	64.75		2.46		Herrle et al. (2004)
120.624	80.67		2.40		Herrle et al. (2004	121.470	63.75		2.39		Herrle et al. (2004)
120.628	80.60		2.38		Herrle et al. (2004	121.520	62.75		2.20		Herrle et al. (2004)
120.631	80.53		2.34		Herrle et al. (2004	121.570	61.75		2.28		Herrle et al. (2004)
120.635	80.46		2.35		Herrle et al. (2004	121.620	60.75		2.40		Herrle et al. (2004)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
121.670	59.75		2.45		Herrle et al. (2004	122.175	49.65		2.57		Herrle et al. (2004)
121.720	58.75		2.37		Herrle et al. (2004	122.180	49.55		2.75		Herrle et al. (2004)
121.765	57.85		2.21		Herrle et al. (2004	122.185	49.45		2.86		Herrle et al. (2004)
121.820	56.75		2.76		Herrle et al. (2004	122.190	49.35		2.75		Herrle et al. (2004)
121.865	55.85		2.84		Herrle et al. (2004	122.195	49.25		2.73		Herrle et al. (2004)
121.915	54.85		2.60		Herrle et al. (2004	122.200	49.15		2.73		Herrle et al. (2004)
122.005	53.05		2.72		Herrle et al. (2004	122.205	49.05		2.87		Herrle et al. (2004)
122.015	52.85		2.60		Herrle et al. (2004	122.210	48.95		3.13		Herrle et al. (2004)
122.020	52.75		2.62		Herrle et al. (2004	122.215	48.85		3.19		Herrle et al. (2004)
122.025	52.65		2.81		Herrle et al. (2004	122.220	48.75		3.07		Herrle et al. (2004)
122.030	52.55		2.77		Herrle et al. (2004	122.225	48.65		2.51		Herrle et al. (2004)
122.035	52.45		2.65		Herrle et al. (2004	122.230	48.55		2.55		Herrle et al. (2004)
122.040	52.35		2.65		Herrle et al. (2004	122.235	48.45		2.34		Herrle et al. (2004)
122.045	52.25		2.49		Herrle et al. (2004	122.240	48.35		2.45		Herrle et al. (2004)
122.050	52.15		2.56		Herrle et al. (2004	122.245	48.25		2.76		Herrle et al. (2004)
122.055	52.05		2.62		Herrle et al. (2004	122.250	48.15		2.92		Herrle et al. (2004)
122.060	51.95		2.83		Herrle et al. (2004	122.255	48.05		3.04		Herrle et al. (2004)
122.065	51.85		2.42		Herrle et al. (2004	122.260	47.95		3.14		Herrle et al. (2004)
122.070	51.75		2.68		Herrle et al. (2004	122.265	47.85		3.02		Herrle et al. (2004)
122.075	51.65		2.78		Herrle et al. (2004	122.270	47.75		2.97		Herrle et al. (2004)
122.080	51.55		2.57		Herrle et al. (2004	122.275	47.65		2.88		Herrle et al. (2004)
122.085	51.45		2.35		Herrle et al. (2004	122.280	47.55		3.12		Herrle et al. (2004)
122.090	51.35		2.40		Herrle et al. (2004	122.285	47.45		3.22		Herrle et al. (2004)
122.100	51.15		2.64		Herrle et al. (2004	122.290	47.35		3.11		Herrle et al. (2004)
122.105	51.05		2.52		Herrle et al. (2004	122.295	47.25		3.31		Herrle et al. (2004)
122.110	50.95		2.56		Herrle et al. (2004	122.300	47.15		3.22		Herrle et al. (2004)
122.115	50.85		2.31		Herrle et al. (2004	122.305	47.05		3.28		Herrle et al. (2004)
122.120	50.75		2.77		Herrle et al. (2004	122.310	46.95		3.18		Herrle et al. (2004)
122.125	50.65		2.67		Herrle et al. (2004	122.315	46.85		3.53		Herrle et al. (2004)
122.130	50.55		2.92		Herrle et al. (2004	122.320	46.75		3.30		Herrle et al. (2004)
122.135	50.45		2.69		Herrle et al. (2004	122.325	46.65		3.55		Herrle et al. (2004)
122.140	50.35		2.67		Herrle et al. (2004	122.330	46.55		3.28		Herrle et al. (2004)
122.145	50.25		2.62		Herrle et al. (2004	122.335	46.45		3.28		Herrle et al. (2004)
122.150	50.15		2.43		Herrle et al. (2004	122.340	46.35		3.29		Herrle et al. (2004)
122.155	50.05		2.21	base Niveau Noire	Herrle et al. (2004	122.345	46.25		3.62		Herrle et al. (2004)
122.160	49.95		2.29		Herrle et al. (2004	122.350	46.15		3.52		Herrle et al. (2004)
122.165	49.85		2.77		Herrle et al. (2004	122.355	46.05		3.40		Herrle et al. (2004)
122.170	49.75		2.68		Herrle et al. (2004	122.360	45.95		3.25		Herrle et al. (2004)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
122.365	45.85		3.39		Herrle et al. (2004	122.991	33.15		4.24		Herrle et al. (2004)
122.370	45.75		3.44		Herrle et al. (2004	123.019	32.15		3.68	base Late Aptian (123 Ma	Herrle et al. (2004)
122.375	45.65		3.50		Herrle et al. (2004	123.047	31.15		3.59		Herrle et al. (2004)
122.380	45.55		3.32		Herrle et al. (2004	123.075	30.15		3.64		Herrle et al. (2004)
122.385	45.45		3.24		Herrle et al. (2004	123.078	30.05		3.18		Herrle et al. (2004)
122.390	45.35		2.97		Herrle et al. (2004	123.106	29.05		3.29		Herrle et al. (2004)
122.395	45.25		3.20		Herrle et al. (2004	123.134	28.05		3.20		Herrle et al. (2004)
122.400	45.15		2.99		Herrle et al. (2004	123.162	27.04		3.43		Herrle et al. (2004)
122.405	45.05		3.24		Herrle et al. (2004	123.190	26.05		4.17		Herrle et al. (2004)
122.415	44.85		3.47		Herrle et al. (2004	123.217	25.05		4.17		Herrle et al. (2004)
122.420	44.75		3.27		Herrle et al. (2004	123.245	24.05		3.82		Herrle et al. (2004)
122.425	44.65		3.18		Herrle et al. (2004	123.273	23.05		4.33		Herrle et al. (2004)
122.435	44.45		3.06		Herrle et al. (2004	123.301	22.05		3.89		Herrle et al. (2004)
122.445	44.25		3.55		Herrle et al. (2004	123.329	21.05		3.65		Herrle et al. (2004)
122.450	44.15		3.43		Herrle et al. (2004	123.357	20.05		4.29		Herrle et al. (2004)
122.455	44.05		2.86		Herrle et al. (2004	123.385	19.05		3.81		Herrle et al. (2004)
122.460	43.95		2.81		Herrle et al. (2004	123.387	18.98		3.93		Herrle et al. (2004)
122.465	43.85		3.07		Herrle et al. (2004	123.395	18.71		4.19		Herrle et al. (2004)
122.470	43.75		3.45		Herrle et al. (2004	123.401	18.48		3.34		Herrle et al. (2004)
122.475	43.65		3.50		Herrle et al. (2004	123.403	18.41		2.79		Herrle et al. (2004)
122.480	43.55		3.45		Herrle et al. (2004	123.407	18.28		3.01		Herrle et al. (2004)
122.485	43.45		3.06		Herrle et al. (2004	123.411	18.14		3.24		Herrle et al. (2004)
122.490	43.35		3.17		Herrle et al. (2004	123.413	18.07		3.62		Herrle et al. (2004)
122.495	43.25		3.32		Herrle et al. (2004	123.416	17.93		4.08		Herrle et al. (2004)
122.545	42.25		3.09		Herrle et al. (2004	123.418	17.86		3.47		Herrle et al. (2004)
122.600	41.15		3.40		Herrle et al. (2004	123.422	17.72		3.08		Herrle et al. (2004)
122.645	40.25		3.94		Herrle et al. (2004	123.424	17.66		3.00		Herrle et al. (2004)
122.650	40.15		3.69		Herrle et al. (2004	123.426	17.59		2.77		Herrle et al. (2004)
122.700	39.15		3.86		Herrle et al. (2004	123.428	17.52		2.56		Herrle et al. (2004)
122.750	38.15		3.75		Herrle et al. (2004	123.432	17.38		3.01		Herrle et al. (2004)
122.800	37.15		3.93		Herrle et al. (2004	123.436	17.24		2.91		Herrle et al. (2004)
122.850	36.15		4.02		Herrle et al. (2004	123.438	17.17		2.67		Herrle et al. (2004)
122.900	35.15		4.06		Herrle et al. (2004	123.439	17.10		2.77		Herrle et al. (2004)
122.950	34.15		3.97		Herrle et al. (2004	123.441	17.03		2.85		Herrle et al. (2004)
122.975	33.65		4.01		Herrle et al. (2004	123.443	16.97		3.11	base Niveau Blanc	Herrle et al. (2004)
122.980	33.55		4.36	base Niveau Noire	Herrle et al. (2004	123.447	16.83		3.76		Herrle et al. (2004)
122.983	33.45		4.13		Herrle et al. (2004	123.470	16.00		3.21		Herrle et al. (2004)
122.986	33.35		4.22		Herrle et al. (2004	123.488	15.38		3.51		Herrle et al. (2004)

122.988	33.25		4.26		Herrle et al. (2004	123.501	14.90		3.55		Herrle et al. (2004)
Age (Ma; Gradstein et al., 2012)	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**$\delta^{13}C$ org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**	**Age (Ma; Gradstein et al., 2012)**	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**$\delta^{13}C$ org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**
123.526	14.00		3.12		Herrle et al. (2004	124.142	18.99		3.46		Erba et al. (1999)
123.534	13.72		4.20		Herrle et al. (2004	124.186	19.2		3.48		Erba et al. (1999)
123.559	12.83		4.27		Herrle et al. (2004	124.230	19.41		2.97		Erba et al. (1999)
123.586	11.86		3.61		Herrle et al. (2004	124.257	19.54		3.09		Erba et al. (1999)
123.623	10.55		3.92		Herrle et al. (2004	124.286	19.68		3.23		Erba et al. (1999)
123.632	10.21		4.02		Herrle et al. (2004	124.343	19.95		2.65		Erba et al. (1999)
123.640	9.93		3.32		Herrle et al. (2004	124.345	19.96		2.69		Erba et al. (1999)
123.648	9.66		3.30		Herrle et al. (2004	124.391	20.18		2.66		Erba et al. (1999)
123.655	9.38		4.27		Herrle et al. (2004	124.403	20.24		2.71		Erba et al. (1999)
123.661	9.17		4.52		Herrle et al. (2004	124.441	20.42		2.71		Erba et al. (1999)
123.669	8.90		3.95		Herrle et al. (2004	124.482	20.62		2.74		Erba et al. (1999)
123.675	8.69		4.32		Herrle et al. (2004	124.512	20.76		2.85		Erba et al. (1999)
123.682	8.41		3.81		Herrle et al. (2004	124.528	20.84		2.86		Erba et al. (1999)
123.694	8.00		3.93		Herrle et al. (2004	124.566	21.02		2.88		Erba et al. (1999)
123.707	7.52		3.69		Herrle et al. (2004	124.603	21.2		2.97		Erba et al. (1999)
123.713	7.31		4.10		Herrle et al. (2004	124.635	21.35		2.79		Erba et al. (1999)
123.719	7.10		4.32		Herrle et al. (2004	124.683	21.58		2.89		Erba et al. (1999)
123.721	7.03		4.42		Herrle et al. (2004	124.704	21.68		2.85		Erba et al. (1999)
123.723	6.97		4.76		Herrle et al. (2004	124.770	22		2.90		Erba et al. (1999)
123.727	6.83		4.33		Herrle et al. (2004	124.795	22.12		2.90		Erba et al. (1999)
123.738	6.41		3.52		Herrle et al. (2004	124.827	22.27		2.85		Erba et al. (1999)
123.767	5.38		3.60		Herrle et al. (2004	124.887	22.56		2.31		Erba et al. (1999)
123.782	4.83		3.69		Herrle et al. (2004	124.889	22.57		2.29		Erba et al. (1999)
123.794	4.41		3.54		Herrle et al. (2004	124.916	22.7		2.16		Erba et al. (1999)
123.817	3.59		3.68		Herrle et al. (2004	124.950	22.86		2.04		Erba et al. (1999)
123.821	3.45		3.70		Herrle et al. (2004	124.981	23.01		2.19		Erba et al. (1999)
123.827	3.24		3.75		Herrle et al. (2004	125.019	23.19		1.97		Erba et al. (1999)
123.831	3.10		3.52		Herrle et al. (2004	125.081	23.49		1.81		Erba et al. (1999)
123.834	2.97		3.48		Herrle et al. (2004	125.096	23.56		2.23		Erba et al. (1999)
123.840	2.76		3.48		Herrle et al. (2004	125.117	23.66		2.63		Erba et al. (1999)
123.842	2.69		3.62		Herrle et al. (2004	125.152	23.83		2.95		Erba et al. (1999)
123.848	2.48		3.93		Herrle et al. (2004	125.181	23.97		2.90		Erba et al. (1999)
123.850	17.59		3.93	base NC7A FO E.	Erba et al. (1999)	125.282	24.45		2.85		Erba et al. (1999)
123.933	17.99		3.84		Erba et al. (1999)	125.334	24.7		2.84		Erba et al. (1999)
124.038	18.49		3.90		Erba et al. (1999)	125.390	24.97		2.71		Erba et al. (1999)
124.086	18.72		3.54		Erba et al. (1999)	125.457	25.29		2.66		Erba et al. (1999)
124.125	18.91		3.68		Erba et al. (1999)	125.501	25.5		2.84		Erba et al. (1999)

122.988	33.25		4.26		Herrle et al. (2004	123.501	14.90		3.55		Herrle et al. (2004)
Age (Ma; Gradstein et al., 2012)	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**$\delta^{13}C$ org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**	**Age (Ma; Gradstein et al., 2012)**	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**$\delta^{13}C$ org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**
125.609	26.02		2.83		Erba et al. (1999)	126.929	36.53		2.91		Erba et al. (1999)
125.651	26.22		2.75		Erba et al. (1999)	126.951	36.79		2.87		Erba et al. (1999)
125.711	26.51		2.89		Erba et al. (1999)	126.974	37.05		2.94		Erba et al. (1999)
125.755	26.72		2.80		Erba et al. (1999)	127.001	37.36		3.20		Erba et al. (1999)
125.812	26.99		2.76		Erba et al. (1999)	127.049	37.92		3.16		Erba et al. (1999)
125.899	27.41		2.82		Erba et al. (1999)	127.071	38.17		3.09		Erba et al. (1999)
125.937	27.59		2.71		Erba et al. (1999)	127.093	38.42		3.12		Erba et al. (1999)
126.025	28.01		2.72		Erba et al. (1999)	127.121	38.75		3.12		Erba et al. (1999)
126.083	28.29		2.70		Erba et al. (1999)	127.150	39.08		2.96		Erba et al. (1999)
126.135	28.54		2.65		Erba et al. (1999)	127.169	39.3		2.93		Erba et al. (1999)
126.214	28.92		2.47		Erba et al. (1999)	127.196	39.61		2.93		Erba et al. (1999)
126.300	29.29		2.31	base M0, 126.3	Erba et al. (1999)	127.228	39.98		3.01		Erba et al. (1999)
126.324	29.57		2.48		Erba et al. (1999)	127.251	40.25		2.98		Erba et al. (1999)
126.349	29.86		2.47		Erba et al. (1999)	127.271	40.48		2.98		Erba et al. (1999)
126.374	30.14		2.46		Erba et al. (1999)	127.293	40.73		2.95		Erba et al. (1999)
126.404	30.49		2.53		Erba et al. (1999)	127.316	40.99		2.95		Erba et al. (1999)
126.422	30.69		2.40		Erba et al. (1999)	127.345	41.33		2.88		Erba et al. (1999)
126.432	30.81		2.75		Erba et al. (1999)	127.376	41.68		2.95		Erba et al. (1999)
126.441	30.91		2.67		Erba et al. (1999)	127.409	42.06		2.93		Erba et al. (1999)
126.457	31.1		2.75		Erba et al. (1999)	127.432	42.33		3.01		Erba et al. (1999)
126.489	31.47		2.56		Erba et al. (1999)	127.457	42.62		3.11		Erba et al. (1999)
126.530	31.94		2.85		Erba et al. (1999)	127.474	42.81		2.98		Erba et al. (1999)
126.549	32.16		2.84		Erba et al. (1999)	127.499	43.1		3.10		Erba et al. (1999)
126.578	32.49		2.80		Erba et al. (1999)	127.521	43.35		3.34		Erba et al. (1999)
126.605	32.8		2.84		Erba et al. (1999)	127.535	43.52		3.04		Erba et al. (1999)
126.623	33.01		2.94		Erba et al. (1999)	127.555	43.75		3.20		Erba et al. (1999)
126.632	33.12		2.98		Erba et al. (1999)	127.581	44.05		2.72		Erba et al. (1999)
126.663	33.47		2.88		Erba et al. (1999)	127.613	44.41		3.24		Erba et al. (1999)
126.689	33.77		2.47		Erba et al. (1999)	127.643	44.76		3.03		Erba et al. (1999)
126.702	33.92		2.86		Erba et al. (1999)	127.660	44.96		2.83		Erba et al. (1999)
126.732	34.27		2.98		Erba et al. (1999)	127.695	45.36		2.79		Erba et al. (1999)
126.756	34.54		2.81		Erba et al. (1999)	127.720	45.65		3.00		Erba et al. (1999)
126.780	34.82		2.80		Erba et al. (1999)	127.751	46		1.94		Erba et al. (1999)
126.806	35.12		2.90		Erba et al. (1999)	127.771	46.23		2.72		Erba et al. (1999)
126.829	35.38		2.90		Erba et al. (1999)	127.795	46.51		2.55		Erba et al. (1999)
126.842	35.53		2.90		Erba et al. (1999)	127.817	46.77		2.66		Erba et al. (1999)
126.901	36.21		2.90		Erba et al. (1999)	127.844	47.07		2.64		Erba et al. (1999)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
127.866	47.33		2.70		Erba et al. (1999)	128.981	58.73		2.26		Erba et al. (1999)
127.885	47.55		2.51		Erba et al. (1999)	129.023	59.03		2.34		Erba et al. (1999)
127.909	47.83		2.78		Erba et al. (1999)	129.059	59.29		2.38		Erba et al. (1999)
127.932	48.09		2.59		Erba et al. (1999)	129.091	59.52		2.31		Erba et al. (1999)
127.948	48.27		2.58		Erba et al. (1999)	129.138	59.85		2.18		Erba et al. (1999)
128.002	48.89		2.43		Erba et al. (1999)	129.175	60.12		2.38		Erba et al. (1999)
128.028	49.2		2.42		Erba et al. (1999)	129.207	60.35		2.34		Erba et al. (1999)
128.057	49.53		2.34		Erba et al. (1999)	129.238	60.57		2.27		Erba et al. (1999)
128.083	49.83		2.49		Erba et al. (1999)	129.329	61.22		2.41		Erba et al. (1999)
128.105	50.08		2.54		Erba et al. (1999)	129.408	61.79		2.41	Early/Late Barremian 129.	Erba et al. (1999)
128.114	50.19		2.46		Erba et al. (1999)	129.453	62.11		2.38		Erba et al. (1999)
128.118	50.23		2.43		Erba et al. (1999)	129.473	62.25		2.37		Erba et al. (1999)
128.166	50.78		2.44		Erba et al. (1999)	129.590	63.09		2.24		Erba et al. (1999)
128.187	51.03		2.55		Erba et al. (1999)	129.679	63.73		2.02		Erba et al. (1999)
128.216	51.36		2.73		Erba et al. (1999)	129.730	64.09		1.78		Erba et al. (1999)
128.236	51.59		2.83		Erba et al. (1999)	129.758	64.29		1.99		Erba et al. (1999)
128.258	51.84		2.88		Erba et al. (1999)	129.793	64.54		2.21		Erba et al. (1999)
128.276	52.05		2.88		Erba et al. (1999)	129.821	64.74		2.11		Erba et al. (1999)
128.297	52.29		3.08		Erba et al. (1999)	129.889	65.23		1.90		Erba et al. (1999)
128.324	52.6		2.92		Erba et al. (1999)	129.916	65.42		1.88		Erba et al. (1999)
128.346	52.86		2.81		Erba et al. (1999)	129.977	65.86		1.85		Erba et al. (1999)
128.357	52.99		2.84		Erba et al. (1999)	130.065	66.49		1.80		Erba et al. (1999)
128.396	53.43		2.65		Erba et al. (1999)	130.093	66.69		1.85		Erba et al. (1999)
128.417	53.68		2.58		Erba et al. (1999)	130.135	66.99		1.83		Erba et al. (1999)
128.447	54.02		2.49		Erba et al. (1999)	130.173	67.26		1.93		Erba et al. (1999)
128.469	54.27		2.44		Erba et al. (1999)	130.201	67.46		1.94		Erba et al. (1999)
128.493	54.55		2.31		Erba et al. (1999)	130.238	67.73		1.88		Erba et al. (1999)
128.515	54.81		2.35		Erba et al. (1999)	130.258	67.87		1.99		Erba et al. (1999)
128.543	55.13		2.36		Erba et al. (1999)	130.290	68.1		1.96		Erba et al. (1999)
128.567	55.4		2.51		Erba et al. (1999)	130.361	68.61		1.94		Erba et al. (1999)
128.594	55.71		2.30		Erba et al. (1999)	130.388	68.8		1.85		Erba et al. (1999)
128.650	56.36		2.18	base M1 128.65 M	Erba et al. (1999)	130.421	69.04		1.86		Erba et al. (1999)
128.723	56.88		2.18		Erba et al. (1999)	130.462	69.33		1.84		Erba et al. (1999)
128.797	57.41		2.15		Erba et al. (1999)	130.494	69.56		1.84		Erba et al. (1999)
128.841	57.73		2.29		Erba et al. (1999)	130.525	69.78		1.83		Erba et al. (1999)
128.887	58.06		2.38		Erba et al. (1999)	130.586	70.22		1.63		Erba et al. (1999)
128.904	58.18		2.38		Erba et al. (1999)	130.600	70.32		1.80	base M3 130.6 Ma	Erba et al. (1999)
128.959	58.57		2.27		Erba et al. (1999)	130.628	70.45		1.91		Erba et al. (1999)

Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data	Age (Ma; Gradstein et al., 2012)	Depth/Height (m)	Age (Ma, Jarvis et al., 2006)	$\delta^{13}C$ org (‰ PDB)	Comments, marker species, and events	Source of carbon isotope data
130.661	70.6		2.01		Erba et al. (1999)	132.583	80.42		1.86		Erba et al. (1999)
130.681	70.69		1.93		Erba et al. (1999)	132.591	80.69		1.80		Erba et al. (1999)
130.709	70.82		1.75		Erba et al. (1999)	132.596	80.88		1.91		Erba et al. (1999)
130.734	70.93		1.79		Erba et al. (1999)	132.599	80.98		1.89		Erba et al. (1999)
130.795	71.21		1.81		Erba et al. (1999)	132.607	81.26		1.85		Erba et al. (1999)
130.839	71.41		1.85		Erba et al. (1999)	132.617	81.63		1.87		Erba et al. (1999)
130.950	71.92		1.82		Erba et al. (1999)	132.626	81.92		1.93		Erba et al. (1999)
131.040	72.33		1.75		Erba et al. (1999)	132.634	82.24		1.94		Erba et al. (1999)
131.075	72.49		1.65		Erba et al. (1999)	132.645	82.6		1.96		Erba et al. (1999)
131.228	73.19		1.68		Erba et al. (1999)	132.648	82.71		1.97		Erba et al. (1999)
131.248	73.28		1.67		Erba et al. (1999)	132.653	82.91		1.99		Erba et al. (1999)
131.294	73.49		1.64		Erba et al. (1999)	132.661	83.18		2.00		Erba et al. (1999)
131.362	73.8		1.63		Erba et al. (1999)	132.669	83.46		1.99		Erba et al. (1999)
131.416	74.05		1.64		Erba et al. (1999)	132.679	83.81		2.01		Erba et al. (1999)
131.464	74.27		1.67		Erba et al. (1999)	132.687	84.11		2.00		Erba et al. (1999)
131.532	74.58		1.80		Erba et al. (1999)	132.692	84.28		2.15		Erba et al. (1999)
131.672	75.22		1.77		Erba et al. (1999)	132.703	84.69		2.04		Erba et al. (1999)
131.729	75.48		1.70		Erba et al. (1999)	132.712	85.01		2.12		Erba et al. (1999)
131.751	75.58		1.66		Erba et al. (1999)	132.721	85.33		2.14		Erba et al. (1999)
131.830	75.94		1.73		Erba et al. (1999)	132.731	85.68		2.11		Erba et al. (1999)
131.876	76.15		1.70		Erba et al. (1999)	132.734	85.79		2.06		Erba et al. (1999)
131.926	76.38		1.74		Erba et al. (1999)	132.744	86.13		2.20		Erba et al. (1999)
131.985	76.65		1.65		Erba et al. (1999)	132.751	86.38		2.12		Erba et al. (1999)
132.025	76.83		1.71		Erba et al. (1999)	132.758	86.65		2.14		Erba et al. (1999)
132.055	76.97		1.73		Erba et al. (1999)	132.770	87.08		2.13		Erba et al. (1999)
132.104	77.19		1.80		Erba et al. (1999)	132.780	87.42		2.16		Erba et al. (1999)
132.141	77.36		1.74		Erba et al. (1999)	132.792	87.86		2.17		Erba et al. (1999)
132.160	77.45		1.70		Erba et al. (1999)	132.809	88.47		2.17		Erba et al. (1999)
132.233	77.78		1.69	early /Late Hauteri	Erba et al. (1999)	132.815	88.67		2.16		Erba et al. (1999)
132.294	78.06		1.70		Erba et al. (1999)	132.839	89.53		2.20		Erba et al. (1999)
132.320	78.18		1.67		Erba et al. (1999)	132.855	90.1		2.11		Erba et al. (1999)
132.342	78.28		1.77		Erba et al. (1999)	132.875	90.81		2.05		Erba et al. (1999)
132.408	78.58		1.76		Erba et al. (1999)	132.898	91.63		2.07		Erba et al. (1999)
132.489	78.95		1.74		Erba et al. (1999)	132.908	91.97		2.14		Erba et al. (1999)
132.550	79.23		1.86	base M7 132.55 M	Erba et al. (1999)	132.925	92.6		2.12		Erba et al. (1999)
132.558	79.52		1.88		Erba et al. (1999)	132.938	93.06		2.19		Erba et al. (1999)
132.566	79.8		1.89		Erba et al. (1999)	132.951	93.51		2.06		Erba et al. (1999)
132.573	80.06		1.87		Erba et al. (1999)	132.984	94.69		2.04		Erba et al. (1999)

132.579	80.27		1.87		Erba et al. (1999)	132.984	94.7		1.97		Erba et al. (1999)
Age (Ma; Gradstein et al., 2012)	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**δ^{13}C org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**	**Age (Ma; Gradstein et al., 2012)**	**Depth/Height (m)**	**Age (Ma, Jarvis et al., 2006)**	**δ^{13}C org (‰ PDB)**	**Comments, marker species, and events**	**Source of carbon isotope data**
133.000	95.26		2.13	base M8 133.0 Ma	Erba et al. (1999)	133.482	111.82		2.22		Erba et al. (1999)
133.009	95.58		2.12		Erba et al. (1999)	133.495	112.26		2.08		Erba et al. (1999)
133.015	95.76		2.13		Erba et al. (1999)	133.516	113.01		2.18		Erba et al. (1999)
133.045	96.82		1.99		Erba et al. (1999)	133.531	113.52		2.21		Erba et al. (1999)
133.051	97.02		2.02		Erba et al. (1999)	133.544	113.94		2.20		Erba et al. (1999)
133.066	97.53		2.00		Erba et al. (1999)	133.551	114.2		2.20		Erba et al. (1999)
133.072	97.72		2.04		Erba et al. (1999)	133.564	114.63		2.24		Erba et al. (1999)
133.080	98.02		2.00		Erba et al. (1999)	133.571	114.89		2.18		Erba et al. (1999)
133.090	98.37		1.99		Erba et al. (1999)	133.608	116.16		2.31		Erba et al. (1999)
133.095	98.51		2.06		Erba et al. (1999)						
133.106	98.91		2.02		Erba et al. (1999)						
133.117	99.29		2.10		Erba et al. (1999)						
133.143	100.18		2.07		Erba et al. (1999)						
133.150	100.42		2.07		Erba et al. (1999)						
133.170	101.09		2.08		Erba et al. (1999)						
133.187	101.7		2.09		Erba et al. (1999)						
133.231	103.21		2.09		Erba et al. (1999)						
133.240	103.5		2.12		Erba et al. (1999)						
133.257	104.08		2.07		Erba et al. (1999)						
133.266	104.41		2.13		Erba et al. (1999)						
133.275	104.7		2.09		Erba et al. (1999)						
133.282	104.94		2.24		Erba et al. (1999)						
133.287	105.12		2.25		Erba et al. (1999)						
133.296	105.42		2.27		Erba et al. (1999)						
133.300	105.57		2.26	Top M9 133.3 Ma	Erba et al. (1999)						
133.317	106.16		2.22		Erba et al. (1999)						
133.324	106.38		2.31		Erba et al. (1999)						
133.329	106.57		2.24		Erba et al. (1999)						
133.343	107.06		2.31		Erba et al. (1999)						
133.371	108.01		2.27		Erba et al. (1999)						
133.382	108.39		2.25		Erba et al. (1999)						
133.390	108.66		2.22		Erba et al. (1999)						
133.396	108.88		2.24		Erba et al. (1999)						
133.409	109.32		2.15		Erba et al. (1999)						
133.432	110.09		2.19		Erba et al. (1999)						
133.445	110.55		1.99		Erba et al. (1999)						
133.459	111.02		2.13		Erba et al. (1999)						

Supplementary Table DR4: Stable carbon isotope and TOC results of Axel Heiberg Island.

Inhouse No.	depth (m)	TOC (%)	δ^{13}C org (‰ PDB)	Inhouse No.	depth (m)	TOC (%)	δ^{13}C org (‰ PDB)
AH418	1745.00	2.19	-24.55	AH351	1609.00	2.46	-25.25
AH417	1731.50	1.29	-24.51	AH350	1607.50	10.38	-23.23
AH416	1726.50	1.89	-24.68	AH349	1606.00	3.00	-25.18
AH415	1720.50	2.07	-24.71	AH348	1604.50	1.26	-25.41
AH414	1714.50	2.58	-25.05	AH347	1581.50	2.88	-24.78
AH413	1712.00	3.72	-25.08	AH346	1580.50	3.24	-24.81
AH412	1710.50	3.66	-25.10	AH345	1579.00	3.48	-24.78
AH411	1709.00	3.36	-25.18	AH344	1577.50	2.58	-24.98
AH410	1707.50	4.26	-25.17	AH343	1576.00	3.06	-25.06
AH409	1706.00	3.75	-25.09	AH342	1574.50	2.76	-25.06
AH408	1704.50	3.69	-25.16	AH341	1573.00	3.03	-25.04
AH406	1698.50	3.30	-25.27	AH340	1571.50	2.82	-25.10
AH405	1697.00	1.68	-25.12	AH339	1571.30	2.55	-25.28
AH404	1695.50	3.18	-25.11	AH338	1570.00	3.06	-25.29
AH403	1694.00	3.06	-25.16	AH337	1568.50	3.66	-25.38
AH402	1692.50	2.31	-25.35	AH336	1567.00	4.23	-25.21
AH401	1691.00	2.64	-25.24	AH335	1565.50	4.53	-25.21
AH400	1689.50	2.46	-25.35	AH334	1564.00	3.84	-25.18
AH399	1688.00	1.32	-25.30	AH333	1562.50	2.88	-25.54
AH398	1686.50	1.14	-25.53	AH332	1561.00	4.47	-25.24
AH397	1685.00	3.15	-26.10	AH331	1559.50	3.84	-25.46
AH396	1683.50	2.37	-25.81	AH330	1558.00	3.99	-25.30
AH395	1682.00	3.75	-26.05	AH329	1556.50	1.23	-25.25
AH394	1680.50	3.30	-25.47	AH328	1553.50	3.69	-25.47
AH393	1679.00	1.50	-25.22	AH327	1552.00	3.66	-25.44
AH392	1677.50	1.53	-25.36	AH326	1550.50	3.06	-25.54
AH391	1676.00	1.35	-25.27	AH325	1549.00	2.91	-25.45
AH390	1674.50	1.26	-25.37	AH324	1547.50	2.88	-25.29
AH389	1673.00	1.14	-25.53	AH323	1546.00	3.18	-25.35
AH388	1671.50	0.81	-25.84	AH322	1544.50	3.24	-25.41
AH387	1670.00	1.11	-25.50	AH321	1543.00	3.15	-25.44
AH386	1668.50	1.14	-25.48	AH320	1541.50	2.94	-25.42
AH385	1667.00	1.86	-25.75	AH319	1540.00	3.30	-25.45
AH384	1665.50	1.29	-25.76	AH318	1538.50	2.55	-25.37
AH383	1664.00	1.32	-26.82	AH317	1537.00	3.69	-25.49
AH382	1659.50	1.86	-26.47	AH316	1535.50	3.21	-25.49
AH381	1652.50	4.77	-26.39	AH315	1534.00	3.15	-25.65
AH380	1651.00	7.44	-26.08	AH314	1532.50	4.11	-25.54
AH379	1649.50	6.18	-25.79	AH313	1531.00	2.91	-25.27
AH378	1648.00	5.61	-26.21	AH312	1529.50	2.85	-25.40
AH377	1646.50	6.21	-26.03	AH311	1528.00	2.34	-25.35
AH376	1645.00	4.62	-25.72	AH310	1526.50	2.37	-25.43
AH375	1643.50	6.72	-26.47	AH309	1525.00	1.95	-25.22
AH374	1642.00	5.76	-23.61	AH308	1523.50	1.47	-25.10
AH373	1640.50	5.22	-23.61	AH307	1522.00	1.76	-25.06
AH372	1639.00	4.89	-23.95	AH306	1520.50	3.24	-25.51
AH371	1637.50	8.28	-23.11	AH305	1519.00	3.03	-25.22
AH370	1636.00	6.18	-23.71	AH304	1517.50	3.30	-25.38
AH369	1634.50	5.34	-24.20	AH303	1516.00	4.11	-25.18
AH368	1633.00	2.58	-24.13	AH302	1514.50	4.23	-25.33
AH367	1631.50	2.55	-24.59	AH301	1513.00	4.14	-25.43
AH366	1630.00	4.62	-23.80	AH300	1512.00	3.48	-25.55
AH365	1628.50	2.37	-24.35	AH299	1511.50	1.92	-25.41
AH364	1627.00	2.22	-24.49	AH298	1510.50	1.41	-25.43
AH363	1625.50	10.26	-24.39	AH297	1510.00	0.65	-25.18
AH362	1624.00	8.31	-26.54	AH296	1372.00	0.75	-24.50
AH361	1622.50	5.40	-25.75	AH295	1357.00	0.51	-24.69
AH360	1621.00	5.16	-25.53	AH294	1345.00	1.02	-24.75
AH359	1619.50	5.64	-26.24	AH293	1327.00	1.35	-25.31
AH358	1618.00	4.29	-25.68	AH292	1307.00	1.02	-24.68
AH357	1616.50	2.07	-25.19	AH291	1302.00	0.51	-24.93
AH356	1615.00	2.10	-24.87	AH290	1264.00	0.99	-25.25
AH355	1615.00	2.07	-24.79	AH289	1262.00	1.08	-24.97
AH354	1613.50	2.22	-24.80	AH288	1260.50	0.87	-25.24
AH353	1612.00	1.59	-25.27	AH287	1258.00	1.20	-24.89
AH352	1610.50	2.28	-25.13	AH286	1252.00	2.07	-25.24

Inhouse No.	depth (m)	TOC (%)	δ^{13}C org (‰ PDB)	Inhouse No.	depth (m)	TOC (%)	δ^{13}C org (‰ PDB)
AH285	1246.00	1.71	-25.36	AH218	722.00	5.07	-25.31
AH284	1244.00	1.65	-25.34	AH217	717.00	4.41	-25.47
AH283	1241.00	2.13	-25.40	AH216	712.00	4.47	-25.02
AH282	1238.00	1.98	-25.37	AH215	707.00	5.04	-25.07
AH281	1236.50	1.62	-25.48	AH214	702.00	5.25	-24.91
AH280	1235.00	1.68	-25.33	AH213	697.00	4.23	-25.11
AH279	1233.50	1.62	-25.51	AH212	692.00	4.26	-25.22
AH278	1232.00	1.94	-25.41	AH211	687.00	5.16	-24.90
AH277	1231.00	1.59	-25.35	AH210	682.00	4.32	-25.00
AH276	1230.50	1.84	-25.27	AH209	677.00	4.68	-24.61
AH275	1228.50	2.01	-25.36	AH208	672.00	3.42	-25.20
AH274	1227.75	1.71	-25.28	AH207	667.00	4.56	-25.94
AH273	1096.00	1.89	-25.31	AH206	662.00	3.12	-25.20
AH272	1092.00	1.98	-25.19	AH205	657.00	2.46	-25.19
AH271	1087.00	2.07	-25.12	AH204	652.00	2.31	-24.84
AH270	1082.00	1.92	-25.26	AH203	647.00	2.04	-23.90
AH269	1077.00	2.37	-25.50	AH202	642.00	2.07	-24.96
AH268	1062.00	2.13	-25.50	AH201	637.00	0.46	-23.85
AH267	1057.00	2.04	-25.31	AH200	632.00	4.38	-24.03
AH266	1052.00	2.34	-25.70	AH199	627.00	4.44	-24.52
AH265	1047.00	2.25	-25.79	AH198	622.00	6.36	-24.37
AH264	1042.00	2.34	-25.77	AH197	617.00	1.95	-24.23
AH263	1037.00	2.55	-25.73	AH196	612.00	2.13	-24.19
AH262	1032.00	2.34	-25.56	AH195	607.00	4.20	-24.58
AH261	1026.00	2.91	-25.45	AH194	602.00	3.81	-24.37
AH260	1021.00	2.76	-25.11	AH193	597.00	2.97	-24.46
AH259	1017.00	2.13	-25.07	AH192	592.00	2.37	-23.83
AH258	1012.00	2.55	-25.31	AH191	587.00	4.59	-24.04
AH257	1007.00	2.79	-25.26	AH190	582.00	4.11	-24.35
AH256	1002.00	4.41	-25.06	AH189	577.00	4.62	-24.27
AH255	997.00	4.53	-25.13	AH188	572.00	1.09	-23.94
AH254	992.00	4.05	-25.28	AH187	567.00	4.50	-24.20
AH253	989.00	4.26	-25.18	AH186	563.00	2.28	-24.43
AH252	986.00	3.30	-25.42	AH185	562.00	0.50	-23.65
AH251	981.00	4.62	-25.50	AH184	557.00	2.25	-23.49
AH250	976.00	4.38	-25.28	AH183	552.00	2.76	-23.51
AH249	954.00	4.41	-24.47	AH182	547.00	3.33	-23.55
AH248	949.00	4.38	-24.87	AH181	542.00	2.43	-23.83
AH247	894.00	1.32	-24.86	AH180	537.00	3.45	-23.98
AH246	891.50	3.30	-24.82	AH179	532.00	3.03	-24.15
AH245	862.00	4.62	-24.96	AH178	527.00	3.72	-23.91
AH244	857.00	5.40	-24.99	AH177	522.00	3.24	-23.85
AH243	852.00	5.16	-24.91	AH176	517.00	3.51	-23.80
AH242	847.00	4.26	-25.32	AH175	512.00	3.60	-23.95
AH241	842.00	4.80	-25.08	AH174	509.00	3.24	-24.01
AH240	837.00	4.44	-25.10	AH173	507.00	2.91	-24.03
AH239	832.00	4.62	-25.06	AH172	502.00	2.85	-24.08
AH238	827.00	5.43	-25.13	AH171	497.00	2.31	-24.15
AH237	822.00	6.03	-25.17	AH170	492.00	1.86	-23.87
AH236	817.00	4.23	-25.52	AH169	487.00	2.07	-23.85
AH235	812.00	5.37	-25.18	AH168	482.00	3.45	-24.10
AH234	807.00	3.45	-25.32	AH167	477.00	3.15	-24.15
AH233	802.00	3.99	-25.36	AH166	472.00	2.73	-23.87
AH232	797.00	4.20	-25.34	AH165	467.00	2.01	-24.10
AH231	792.00	4.17	-25.26	AH164	462.00	2.64	-23.84
AH230	787.00	4.17	-25.29	AHJC28	453.00	2.70	-23.62
AH229	782.00	4.71	-24.98	AHJC27	443.00	1.80	-23.64
AH228	777.00	4.14	-25.65	AHJC26	433.00	2.85	-23.13
AH227	772.00	4.20	-25.55	AHJC24	425.50	4.38	-23.10
AH226	767.00	3.78	-25.41	AHJC23	416.00	3.96	-23.65
AH225	761.00	4.83	-25.56	AH162	392.00	4.20	-23.50
AH224	750.00	5.82	-25.37	AH161	390.00	3.15	-23.56
AH223	747.00	5.40	-25.20	AH160	387.00	3.51	-23.58
AH222	742.00	4.95	-25.25	AH159	384.00	2.22	-23.28
AH221	737.00	4.59	-25.45	AH158	381.00	2.70	-22.96
AH220	732.00	4.32	-26.21	AH157	378.00	3.30	-23.13
AH219	727.00	4.68	-25.43	AH156	375.00	2.97	-22.98

Inhouse No.	depth (m)	TOC (%)	δ^{13}C org (‰ PDB)	Inhouse No.	depth (m)	TOC (%)	δ^{13}C org (‰ PDB)
AH155	372.00	3.48	-23.30	AH88	155.00	3.24	-24.39
AH154	369.00	3.63	-23.24	AH87	149.00	3.27	-24.23
AH153	366.00	3.84	-23.14	AH86	146.00	3.78	-24.24
AH152	363.00	4.11	-23.14	AH85	143.50	3.60	-23.96
AH151	360.00	3.75	-23.19	AH84	136.00	3.06	-24.00
AH150	357.50	3.87	-22.71	AH83	133.00	3.30	-24.02
AH149	346.00	3.75	-22.84	AH82	130.00	3.39	-23.97
AH148	343.00	3.33	-22.85	AH81	127.00	3.27	-23.88
AH147	340.00	2.58	-22.99	AH80	123.00	3.57	-23.84
AH146	337.00	2.67	-22.82	AH79	114.00	3.66	-24.12
AH145	334.00	3.15	-22.86	AH78	111.00	3.15	-24.16
AH144	331.00	2.37	-22.83	AH77	105.00	3.54	-23.82
AH143	328.00	3.51	-22.80	AH76	102.00	3.93	-23.60
AH142	325.00	3.18	-22.86	AH75	99.00	3.87	-23.69
AH141	322.00	2.82	-22.99	AH74	96.00	3.57	-23.75
AH140	319.00	3.84	-22.90	AH73	93.00	4.14	-23.75
AH139	316.00	2.73	-23.19	AH72	90.00	3.78	-23.79
AH138	313.00	2.34	-23.41	AH71	87.00	3.54	-23.75
AH137	310.00	1.26	-23.73	AH70	84.00	3.78	-23.93
AH136	307.00	3.21	-23.80	AH69	81.00	3.75	-23.61
AH135	304.00	3.09	-23.92	AH68	78.00	3.96	-23.76
AH134	301.00	3.00	-23.90	AH67	75.00	3.81	-23.71
AH133	298.00	3.27	-23.84	AH66	72.00	3.78	-23.68
AH132	295.00	3.27	-23.93	AH65	69.00	3.84	-23.68
AH131	292.00	3.66	-23.21	AH64	66.00	2.94	-24.26
AH130	289.00	3.63	-23.25	AH63	63.00	3.60	-23.83
AH129	286.00	4.02	-23.35	AH62	60.00	2.28	-24.23
AH128	283.00	4.17	-23.13	AH61	57.00	1.74	-23.91
AH127	269.00	3.75	-23.21	AH60	54.00	2.79	-24.11
AH126	266.00	3.81	-23.36	AH59	51.00	3.45	-23.94
AH125	263.00	3.69	-23.84	AH58	48.00	3.87	-23.84
AH124	260.00	2.67	-23.64	AH57	45.00	3.36	-23.61
AH123	257.00	4.26	-23.60	AH56	42.00	3.69	-23.77
AH122	254.00	3.63	-23.56	AH55	39.00	4.11	-23.77
AH121	251.00	2.70	-23.46	AH54	36.00	3.42	-23.84
AH120	248.00	3.18	-23.34	AH53	33.00	4.26	-23.81
AH119	245.00	3.60	-23.33	AH52	30.00	3.75	-23.71
AH118	242.00	3.42	-23.56	AH51	27.00	3.51	-23.74
AH117	239.00	2.73	-23.18	HA_8	24.00	3.42	-23.59
AH116	236.00	3.39	-23.17	HA_7	21.00	2.55	-24.29
AH115	233.00	4.48	-23.26	HA_6	18.00	2.73	-24.43
AH114	230.00	3.18	-23.43	HA_5	15.00	2.34	-23.99
AH113	227.00	3.52	-23.42	HA_4	12.00	3.99	-24.06
AH112	224.00	2.03	-23.54	HA_3	9.00	2.19	-23.50
AH111	221.00	1.74	-23.45	HA_2	6.00	3.60	-23.67
AH110	218.00	3.12	-23.44	HA_1	3.00	1.35	-23.19
AH109	215.00	2.17	-23.48	2011-GTA-B54	-9.75	1.83	-24.08
AH108	212.00	3.36	-23.71	2011-GTA-B53	-39.00	11.19	-23.49
AH107	209.00	3.30	-23.49	2011-GTA-B52	-58.50	0.91	-23.32
AH106	206.00	3.54	-23.62	2011-GTA-B51	-72.15	0.87	-22.64
AH105	204.50	2.82	-23.93	2011-GTA-B50	-90.35	1.89	-22.49
AH104	203.00	2.34	-23.89	2011-GTA-B49	-113.75	3.60	-21.88
AH103	200.00	1.65	-24.12	2011-GTA-B48	-124.80	3.66	-21.87
AH102	197.00	3.33	-24.09	2011-GTA-B47	-128.05	3.51	-21.37
AH101	194.00	3.15	-24.18	2011-GTA-B46	-141.05	1.95	-21.91
AH100	191.00	3.48	-23.94	2011-GTA-B45	-156.65	4.23	-22.15
AH99	188.00	3.57	-23.92	2011-GTA-B44	-164.45	2.40	-21.88
AH98	185.00	3.06	-23.93	2011-GTA-B43	-178.75	10.77	-22.14
AH97	182.00	2.70	-23.91	2011-GTA-B42	-182.00	8.67	-21.79
AH96	179.00	3.27	-24.09	2011-GTA-B41	-185.25	8.19	-21.88
AH95	176.00	3.48	-24.02		-188.50	4.83	-21.89
AH94	173.00	3.18	-24.03		-189.80	6.30	-21.86
AH93	170.00	3.99	-24.00		-191.10	7.83	-21.57
AH92	167.00	3.18	-24.42		-192.40	8.82	-21.91
AH91	164.00	3.36	-24.40		-193.70	6.03	-21.47
AH90	161.00	3.69	-24.63		-195.00	7.83	-21.91
AH89	158.00	3.06	-24.47		-196.30	7.59	-22.26

Inhouse No.	depth (m)	TOC (%)	$\delta^{13}C$ org (‰ PDB)				
	-197.60	5.70	-22.25				
	-198.90	5.91	-22.81				
	-218.40	1.92	-25.99				
	-219.70	2.91	-27.33				
	-221.00	1.53	-27.57				
	-222.30	6.45	-27.52				
	-223.60	3.21	-27.35				
	-224.90	2.73	-27.52				
	-226.20	2.70	-27.56				
	-227.50	2.79	-27.69				
	-228.80	3.12	-27.70				
	-230.10	1.26	-27.24				
	-231.40	1.41	-27.55				
	-232.70	2.67	-27.26				
	-234.00	3.18	-27.28				
	-235.30	2.07	-26.52				
	-249.60	1.50	-25.04				
	-250.90	1.44	-26.46				
	-252.20	2.22	-26.00				
	-253.50	3.81	-25.81				
	-254.80	3.99	-25.82				
2011-GTA-B1	-263.64	1.34	-24.80				
2011-GTA-B1	-266.50	3.45	-24.15				
2011-GTA-B1	-280.80	1.71	-23.61				
2011-GTA-B1	-288.60	4.74	-23.61				
2011-GTA-B2	-292.11	7.35	-23.79				
2011-GTA-B2	-293.15	6.93	-23.70				
2011-GTA-B2	-295.10	7.02	-23.70				
2011-GTA-B2	-297.05	7.23	-23.70				
2011-GTA-B2	-299.00	9.00	-23.71				
2011-GTA-B2	-300.95	6.36	-23.74				
2011-GTA-B2	-302.90	8.49	-23.82				
2011-GTA-B2	-324.35	1.83	-23.61				
2011-GTA-B2	-325.65	9.54	-24.07				
2011-GTA-B	-334.75	3.84	-24.73				
2011-GTA-B2	-336.44	1.71	-23.92				
2011-GTA-B	-345.15	5.91	-24.23				
2011-GTA-B	-347.75	2.25	-24.02				
2011-GTA-B	-356.85	2.07	-24.12				
2011-GTA-B	-369.20	0.87	-23.62				
2011-GTA-B	-370.50	1.26	-23.86				
2011-GTA-B	-383.50	2.73	-24.40				
2011-GTA-B	-462.15	2.04	-24.60				
011-GTA-B-1	-467.35	3.54	-24.77				
011-GTA-B-1	-492.44	2.34	-24.76				
2011-GTA-B9	-516.10	7.05	-25.43				
2011-GTA-B8	-523.64	3.84	-25.29				
2011-GTA-B7	-535.34	2.04	-24.87				
2011-GTA-B6	-540.54	6.81	-25.42				
2011-GTA-B5	-543.40	4.86	-24.04				
2011-GTA-B4	-550.16	4.35	-24.67				
2011-GTA-B2	-551.20	14.85	-25.51				
2011-GTA-B3	-551.20	22.74	-24.25				
2011-GTA-B	-606.45	2.13	-24.98				