

Table DR1 Analytical data from Horse Spring Range drillcore, SE Lennard Shelf, northern Canning Basin

Supplementary Data Table for George, Chow and Trinajstic : Oxic facies and the Late Devonian extinction, Canning Basin, Australia

Depth metres	Al %	Cr ppm	Fe %	Mn ppm	Ti %	V ppm	Zn ppm	Co ppm	Cu ppm	Ni ppm	Pb ppm	U ppm	Al Al+Fe+Mn	Fe/Ti
173.55	3.39	60	2.17	260	0.16	34	23	8	38	32	10	1.20	0.61	13.56
183.55	3.13	50	1.79	262	0.16	46	26	12	94	154	10	3.70	0.63	11.19
195.55	2.54	40	1.34	238	0.14	34	23	6	9	18	8	1.40	0.65	9.57
201.05	1.80	35	0.98	340	0.09	24	17	4	5	8	5	0.90	0.64	10.89
207	1.54	25	0.92	226	0.07	30	17	4	5	8	5	0.80	0.62	13.14
214.4	4.81	75	3.20	334	0.23	50	48	12	14	24	16	2.00	0.60	13.91
216.8	4.81	65	3.16	346	0.22	50	45	12	11	22	18	1.60	0.60	14.36
219.05	4.56	50	2.88	325	0.22	36	45	12	22	26	14	1.50	0.61	13.09
221.28	4.68	30	2.84	340	0.23	38	38	10	20	22	13	1.30	0.62	12.35
223.3	3.00	45	1.04	319	0.14	36	23	6	17	18	7	1.50	0.74	7.43
225.1	3.75	50	2.25	339	0.18	34	32	10	16	20	12	1.20	0.62	12.50
227.73	4.77	55	2.85	369	0.23	48	45	12	16	18	15	1.40	0.62	12.39
228.5	3.94	45	2.06	299	0.18	36	40	10	22	28	11	1.20	0.65	11.44
229.7	5.29	60	3.68	335	0.24	46	50	14	27	40	17	1.30	0.59	15.33
231.83	3.16	35	1.87	323	0.15	30	27	8	13	10	11	1.80	0.62	12.47
234.55	3.49	25	1.89	402	0.17	34	32	8	11	12	12	1.80	0.64	11.12
236.88	4.61	50	2.91	311	0.23	72	42	10	14	24	19	1.80	0.61	12.65
239.71	4.79	40	2.76	355	0.24	68	43	12	14	22	14	1.60	0.63	11.50
241.2	5.81	70	3.56	314	0.26	50	58	14	20	24	19	1.80	0.62	13.69
243.15	6.27	100	4.21	406	0.29	60	65	16	18	26	20	1.60	0.60	14.52
246.22	5.48	65	3.44	378	0.25	82	55	14	15	22	16	2.20	0.61	13.76
247.57	6.35	70	4.42	389	0.28	76	70	18	23	32	22	2.80	0.59	15.79
248.16	6.06	55	4.22	379	0.26	72	57	16	17	26	22	2.50	0.59	16.23
250.45	7.79	75	5.58	400	0.30	110	75	20	20	36	24	2.90	0.58	18.60
253.73	8.48	95	5.61	297	0.31	92	80	22	19	36	23	3.30	0.60	18.10
255.1	8.67	95	3.25	279	0.31	116	82	40	392	46	15	7.80	0.73	10.48
256.65	8.77	85	3.66	318	0.33	84	77	22	128	32	10	6.80	0.70	11.09
258.6	7.39	75	3.41	337	0.27	84	74	28	101	36	18	4.10	0.68	12.63
265.95	4.88	70	3.17	353	0.24	54	48	14	19	22	14	2.20	0.60	13.21
267.89	3.97	80	2.42	352	0.20	54	36	10	17	12	12	2.20	0.62	12.10
268.92	4.17	60	2.90	380	0.23	46	40	12	12	14	14	1.60	0.59	12.61
270.8	3.21	55	2.05	382	0.19	46	30	8	10	10	10	1.40	0.61	10.79
272.8	3.99	70	2.63	313	0.25	52	38	10	11	10	14	2.10	0.60	10.52
275.15	4.07	55	2.48	420	0.21	46	39	10	11	10	14	1.90	0.62	11.81
277.63	3.35	65	1.91	578	0.19	38	32	8	15	18	12	2.00	0.63	10.05
284.3	7.99	65	6.28	669	0.34	84	88	12	14	14	17	1.00	0.56	18.47
285	6.93	75	5.12	542	0.32	70	74	20	28	32	31	2.00	0.57	16.00
289.5	7.55	85	2.51	331	0.35	1140	113	50	2030	42	40	89.10	0.75	7.17
289.7	7.08	60	2.40	416	0.36	142	97	48	277	34	12	10.70	0.74	6.67
291.90A	5.44	40	2.22	1300	0.22	56	61	22	20	24	11	2.40	0.70	10.09
291.90B	7.54	75	2.62	407	0.36	408	97	74	1190	46	37	51.70	0.74	7.28
293	7.32	60	3.07	615	0.31	112	76	60	377	36	16	12.40	0.70	9.90
296.15	6.47	45	4.69	580	0.30	62	67	22	21	24	23	2.00	0.58	15.63
298.32	7.40	65	3.44	489	0.29	444	88	174	1640	62	54	42.10	0.68	11.86
300.25	6.13	45	4.26	882	0.30	74	62	22	25	22	19	2.00	0.59	14.20

METHODS

TOC: 81 samples were broken and ground using an agate mortar and pestle or ring and puck mill and was done by the ALS Laboratory Group in Saskatoon, Canada. Total carbon was determined by combustion and thermal conductivity detection using a LECO apparatus and the inorganic carbon was determined by weight loss after the dissolution of carbonate components by hydrochloric acid. Organic carbon was calculated as the difference between the total carbon and inorganic carbon values. Detection limit 0.1%; values below this taken as 0.

Carbon isotopes: 51 samples of early cemented or micritic material were preferentially sampled, following petrographic examination, using a hand-held drill and binocular microscope. Carbon isotope analyses were done at the Environmental Isotope Laboratory at the University of Waterloo. Analytical precision of these measurements is $\pm 0.2 \text{ ‰}$ for $\delta^{13}\text{C}$.

Trace element analysis: 45 samples of siltstone, calcareous siltstone or silty limestone were selected, with 0.3 g of powdered sample digested with a mixture of acids including hydrofluoric, nitric, hydrochloric and perchloric acids at Ultra Trace Analytical Laboratories in Perth. Al, Cr, Fe, Mn, Ti, V and Zn were determined by Inductive Coupled Plasma (ICP) Optical Emission Spectrometry and Co, Cu, Ni, Pb and U were determined by Inductive Coupled Plasma (ICP) Mass Spectrometry. Detection limits (ppm): Al and Fe (100); Ti (20); Cr (5); Zn, Ni and V (2); Mn, Co, Cu and Pb (1); U (0.1).