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## Data Repository Item

4   **Testing the Limits of Paleozoic Chronostratigraphic Correlation...**

5   Bradley D. Cramer et al.

6

### 7   **New Localities**

8   The island of Gotland, Sweden, has been studied in detail for well over a century, and as a result  
9   hundreds of localities have now been described in the literature. New localities on Gotland are  
10   described following the system developed in Laufeld (1974), and a compilation of described  
11   localities is available in the ‘Lexicon Gotland’, a record of all published Gotland localities  
12   maintained at Lund University, Sweden, by L. Jeppsson. Unpublished localities included in this  
13   investigation are described below following Laufeld (1974).

14

15   **Allhageviken 1**, 638575 164075, 5400m WSW of Västerhejde church. Top. map 66A Visby.  
16   Geol. map Aa 183 Visby/Lummelunda.

17   Shore exposure at the base of the cliff, 2000m NE of Stavklint. Sampling of brachiopods  
18   (*Oglupes visbyensis*) from the reference point ca. 120m northward, from 0.6m below to the  
19   *Phaulactis* layer.

20   Lower Visby Formation/*Phaulactis* layer, Ireviken Event.

21

22   **Gutevägen 5**, 639200 164790, 1700m SW of Visby cathedral. Top. map 66A Visby. Geol. map  
23   Aa 183 Visby/Lummelunda.

24   Vertical wall behind a small car park directly E of Gutevägen with a 6m thick sequence of  
25   bedded crinoidal limestones followed by 3m biostromal limestone.

26   Högklint Formation, early Sheinwoodian A-period.

27

28   **Hällarna 4**, 639210 165365, 3800m WSW of Hejdeby church. Top. map 66A Visby. Geol.  
29   map Aa 183 Visby/Lummelunda.

30   Southeastern wall of abandoned, partly water-filled quarry, directly SSE of Hällarna 6.  
31   Brachiopod sample from coarse bioclastic packstones alternating with fine biotectritical  
32   grainstones in the lowest 3m of the wall.

33   Slite Group, late Sheinwoodian H-period.

34

35   **Hällarna 5**, 639290 165348, 4000m W of Hejdeby church. Top. map 66A Visby. Geol. map Aa  
36   183 Visby/Lummelunda.

37   Large quarry S of road 147 ("Asfaltverk" in topographical map), base of wall at the NE side of  
38   the active quarry with a small, marly and stromatoporoid-rich biostrome.

39   Slite Group, early Sheinwoodian A-period.

40

41   **Hällarna 6**, 639270 165330, 4200m W of Hejdeby church. Top. map 66A Visby. Geol. map Aa  
42   183 Visby/Lummelunda.

43   Large quarry S of road 147 ("Asfaltverk" in topographical map), wall at western side of the  
44   active quarry near crusher with stromatopore-rich biostromal limestones.

45   Slite Group, early Sheinwoodian A-period.

46

47   **Hallbro Slott 13**, 638610 164170, 4500m W of Västerhejde church. Top. map 66A Visby.  
48   Geol. map Aa 183 Visby/Lummelunda.

49   Low hill in the Tofta military training area. Surface exposure of small biostromal reefs and  
50   bedded limestones on steep, ca. 5m high western slope to Allhagemyr. The surface is strongly  
51   rutted by military vehicles.

- 52 Slite Group, early Sheinwoodian A-period.
- 53
- 54 **Hoburgsmyr 1**, 641600 168035, 4800m W of Rute church. Top. map 66D Slite. Geol. Map Aa
- 55 171 Kappelshamn.
- 56 Abandoned quarry directly E but separate from the big Storugns quarry. Thickly bedded
- 57 limestones of a shoal facies with few brachiopods on bedding surfaces.
- 58 Slite Group, early Sheinwoodian A-period.
- 59
- 60 **Högklint 4**, 638869 164325, 3600m NW of Västerhejde church. Top. map 66A Visby. Geol.
- 61 map Aa 183 Visby/Lummelunda.
- 62 Small shore exposure among erratic boulders directly NW of the vertical cliff of Högklint with
- 63 fossil assemblage of *Phaulactis* layer on a bedding plane of micritic limestone.
- 64 *Phaulactis* layer, Upper Visby Formation, Ireviken Event.
- 65
- 66 **Lundsklint 2**, 640900 165585, 2100m WNW of Lummelunda church. Top. map 66C Tingstäde.
- 67 Geol. map Aa 183 Visby/Lummelunda.
- 68 Basal part of cliff directly below the massive reef complex of Lundsklint, 460m N of Lusklint 1.
- 69 Lower Visby Formation, Zone of *Pt. amorphognathoides*, late Telychian H-period.
- 70
- 71 **Nyrevsudde 1**, 638132 163786, 4000m WNW Tofta church. Top. map 66a Visby. Geol. map
- 72 Aa 160 Klinthamn.
- 73 Several meters high cliff, ca. 200m NNE of Nyrevsudde, with loosely scattered specimens of
- 74 *Phaulactis* sp. from sea level to ca. 2m a.s.l. in marl/limestone alternation of distal shelf facies.
- 75 (Locality named "Nyrevsudde" in Munnecke et al. 2003)
- 76 *Phaulactis* layer, Upper Visby Formation, Ireviken Event.

77

78   **Palisadgatan 1**, 639257 164800, 1340m SSW of Visby cathedral. Top. map 66A Visby. Geol.  
79   map Aa 183 Visby/Lummelunda.  
80   Temporary excavation (house construction site) into the slope E of Palisadgatan. At the base (ca.  
81   20m a.s.l.) thinly bedded sparitic limestone with marl intercalations.  
82   Högklin Formation, upper *K. ranuliformis* zone, early Sheinwoodian A-period.

83

84   **Palisadgatan 2**, 639257 164806, 1300m SSW of Visby cathedral. Top. map 66A Visby. Geol.  
85   map Aa 183 Visby/Lummelunda.  
86   Above Palisadgatan runs a subparallel footpath ("Ravinstigen") along the slope. Near  
87   Palisadgatan x it cuts through massive biostromal reef limestone.  
88   Högklin Formation, early Sheinwoodian A-period.

89

90   **Raukudd 1**, 641810 167825, 4500m SW of Fleringe church. Top. map 66D Slite. Geol. map Aa  
91   171 Kappelshamn.  
92   Shore exposure at the eastside of Kappelshamnsvik opposite to the village of Kapellshamn.  
93   Tofta Formation, early Sheinwoodian A-period.

94

95   **Stora Home 1**, 638235 164300, 2900m NNE of Tofta church. Top. map 66A Visby. Geol. map  
96   Aa 160 Klintehamn.  
97   Exposure in the dry road ditch W of road 140 which cuts through a biostromal *Coenites*-coral-  
98   reef.  
99   Hangvar Formation, early Sheinwoodian A-period.

100

101   **Svarthäll 1**, 641740 166675, 4600m WNW of Hangvar church. Top. map 66C

- 102 Tingstäde. Geol. map Aa 171 Kappelshamn.
- 103 High inland cliff near the shore NNE of Irevik, at the end of the road which runs from the farm  
104 Ire along the cliff towards N down to the beach. Sample from the basal part of thickly bedded,  
105 coarse bioclastic limestones.
- 106 Högklint Formation, early Sheinwoodian A-period.
- 107
- 108 **Svarven 2**, 642540 168008, 5600m NNW of Fleringe church. Top. map 66D Slite. Geol. map  
109 Aa 171 Kappelshamn.
- 110 Low sloping shore cliff, ca. 200m S of the high vertical cliff of Svarven 1 with thinly bedded,  
111 fine grained sparitic limestones alternating with fossiliferous bioclastic marls.
- 112 Tofta Formation, early Sheinwoodian A-period.
- 113
- 114 **Tofta 2**, 637924 164257, 1150m SE of Tofta church. Top. map 66A Visby. Geol. map Aa 160  
115 Klintehamn.
- 116 Exposure in a small brook, 50m E of the sharp bend at the end of the field road that runs from  
117 Tofta church ca. 1km towards SE. Sampling of brachiopods 0-35m N of the small bridge  
118 crossing the brook.
- 119 Hangvar Formation, early Sheinwoodian A-period.
- 120
- 121 **Valve 4**, 637365 164020, 2950m NNW of Västergarn church. Top. map 56C Klintehamn. Geol.  
122 map Aa 160 Klintehamn.
- 123 Small exposure in ditch beside the N-S running field road where the way to the single house at  
124 Valve branches off.
- 125 Hangvar Formation, early Sheinwoodian A-period.
- 126

127   **Västerhejde 4**, 638610 164645, 600m SSE of Västerhejde church. Top. map 66a Visby. Geol.  
128   map Aa 183 Visby/Lummelunda.

129   Exposure on the southeastern side of the military track, 150m SW of the cross-roads between the  
130   road from Sion to Västerhejde and the military track.

131   Hangvar Formation, early Sheinwoodian A-period.

132

133   **Ygne 5**, 638690 164148, 4600m W of Västerhejde church. Top. map 66A Visby. Geol. map Aa  
134   183 Visby/Lummelunda.

135   Massive reef complex in the upper part of a high and steep coastal cliff. Access is possible from  
136   the road that runs parallel to the coast through the Tofta military training area: Ca. 400m SE from  
137   the northern boundary of the training area a shallow valley leads to the northern side of the reef;  
138   a narrow path runs from here along the vertical wall of reef limestone to the south.

139   Högklint Formation, early Sheinwoodian A-period.

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#### 143   **REFERENCES CITED**

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153 Sheinwoodian (Llandovery-Wenlock, Silurian) of the Banwy River section, Wales:  
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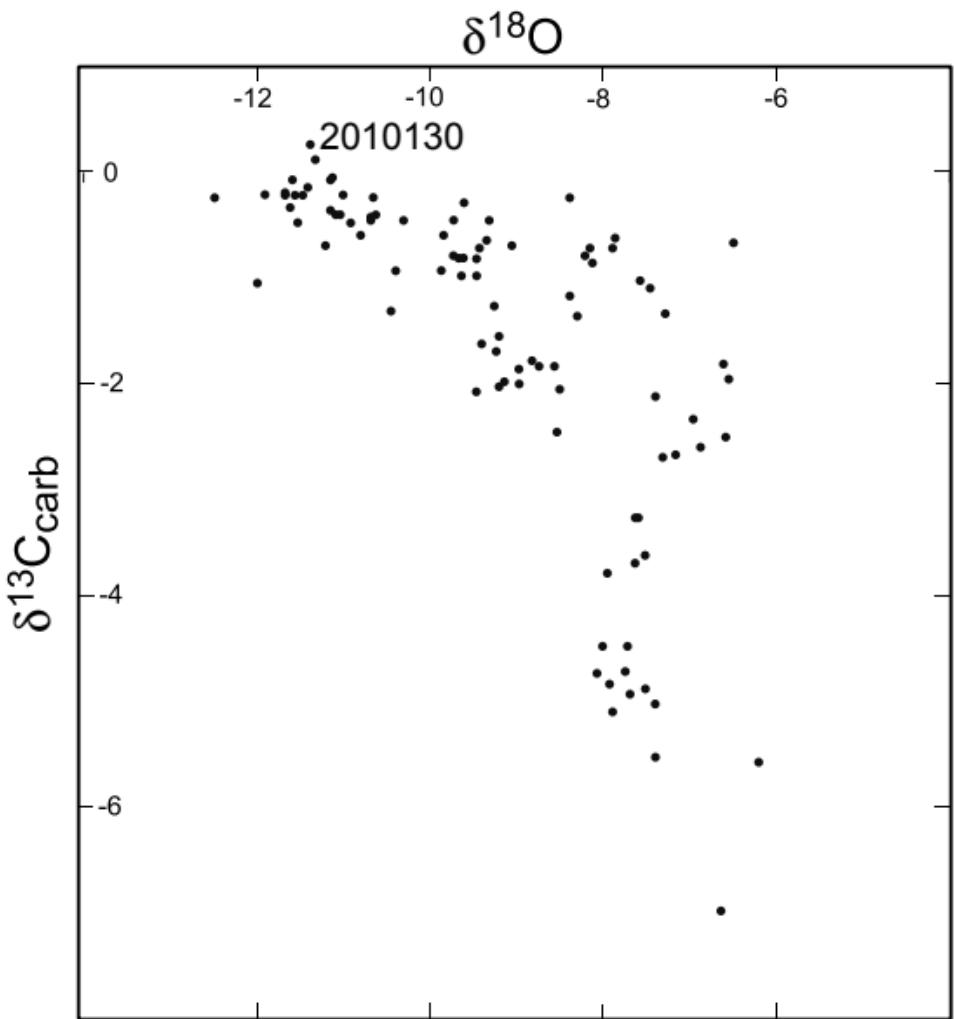
158 **FIGURE CAPTIONS**

159 **Figure DR1.** C-O isotope crossplot as a test for diagenetic overprinting of the primary marine  
160  $\delta^{13}\text{C}_{\text{carb}}$  signal (cf. Banner and Hanson, 1990; Algeo et al., 1992). A diagenetic influence would  
161 be shown by a positive correlation between carbon and oxygen isotopes and create a trend from  
162 bottom-left to upper-right. The data from the Banwy River section do not show such a trend,  
163 which supports the conclusion that the  $\delta^{13}\text{C}_{\text{carb}}$  data were not affected by meteoric diagenesis.

164

165 **Figure DR2.** Distal fragment of a *Monograptus* that is either *M. riccartonensis* or *M. firmus*  
166 from the Högklint Formation. The incomplete specimen does not allow positive identification to  
167 the species level. Dorso-ventral width of the specimen is 1.5-1.6 cm.

168



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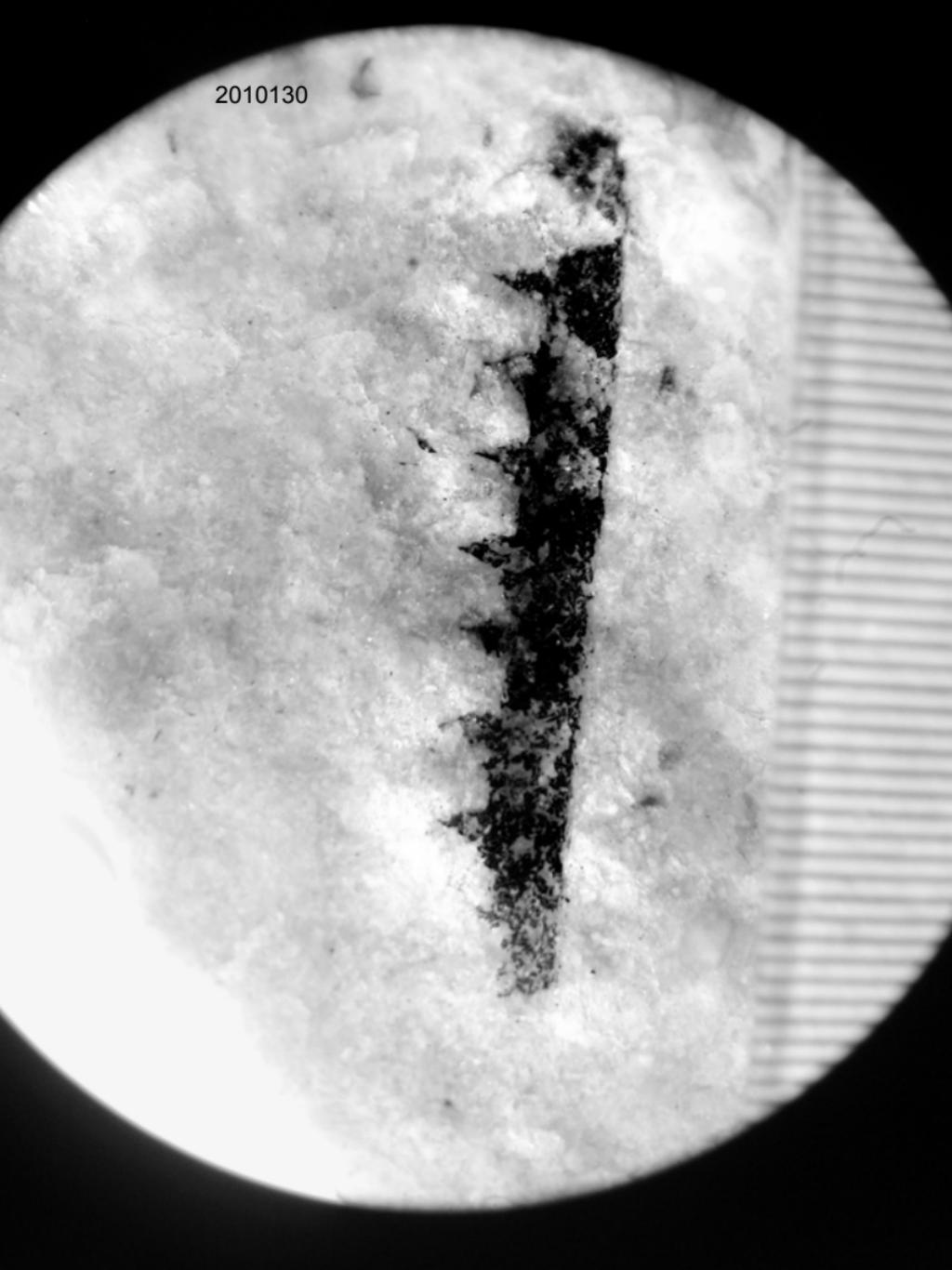


TABLE DR1: BANWY RIVER - WALES

L & C '96 #	meter	graptolite zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{13}\text{C}_{\text{org}}$	$\delta^{18}\text{O}$	TOC (%)	Formation	L & C '96 #	meter	graptolite zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{13}\text{C}_{\text{org}}$	$\delta^{18}\text{O}$	TOC (%)	Formation	Member
c+82	245	???	-1.36	-28.96	-7.23	0.54	Nant-ysgollon Shales	c+33	196	<i>M. riccartonensis</i>	-2.47	-8.49				Nant-ysgollon Shales
c+81	244	???	-0.88	-8.09			Nant-ysgollon Shales	c+32	195	<i>M. riccartonensis</i>	-2.15	-7.36				Nant-ysgollon Shales
c+80	243	2010130	-1.13	-29.00	-7.43	0.63	Nant-ysgollon Shales	c+31	194	<i>M. riccartonensis</i>	-1.06	-11.97				Nant-ysgollon Shales
c+79	242	( <i>M. flexilis</i> )	-0.68	-6.47			Nant-ysgollon Shales	c+30	193	<i>M. riccartonensis</i>	-0.75	-27.55	-9.39	0.70		Nant-ysgollon Shales
c+78	241	???	-0.61	-27.97	-10.77	0.69	Nant-ysgollon Shales	c+23	186	<i>M. firmus</i>	-0.72	-28.33	-9.03	0.85		Nant-ysgollon Shales
c+77	240	???	-0.73	-7.87			Nant-ysgollon Shales	c+17	180	<i>M. firmus</i>	-0.48	-28.63	-9.29	0.65		Nant-ysgollon Shales
c+76	239	???	-0.65	-7.84			Nant-ysgollon Shales	c+16.5	179.5	<i>M. firmus</i>	-0.96	-28.09	-9.84	0.54		Nant-ysgollon Shales
c+75	238	???	-0.25	-27.82	-10.98	0.64	Nant-ysgollon Shales	c+16	179	<i>C. murchisoni</i>	-0.84	-26.86	-9.63	0.62		Nant-ysgollon Shales
c+74	237	???	-0.10	-11.12			Nant-ysgollon Shales	c+15	178	<i>C. murchisoni</i>	-1.00	-28.18	-9.60	0.68		Nant-ysgollon Shales
c+73	236	???	-0.07	-11.08			Nant-ysgollon Shales	c+14.5	177.5	<i>C. murchisoni</i>	-0.80	-27.70	-9.68	0.53		Nant-ysgollon Shales
c+72	235	???	-0.24	-11.52			Nant-ysgollon Shales	c+13	176	<i>C. murchisoni</i>	-1.65	-28.03	-9.36	0.43		Nant-ysgollon Shales
c+71	234	???	-0.50	-11.49			Nant-ysgollon Shales	c+12.25	175.25	(X) <i>C. murchisoni</i>	-1.57	-28.29	-9.16	0.26		Nant-ysgollon Shales
c+70	233	???	-0.42	-27.45	-11.00	0.74	Nant-ysgollon Shales	c+11.75	174.75	(X) <i>C. murchisoni</i>	-1.30	-28.44	-9.23	0.22		Nant-ysgollon Shales
c+69	232	???	-0.24	-11.45			Nant-ysgollon Shales	c+7	170	<i>C. murchisoni</i>	-1.72		-9.20			Nant-ysgollon Shales
c+68	231	???	0.24	-11.35			Nant-ysgollon Shales	c+6.5	169.5	<i>C. murchisoni</i>	-1.89	-28.78	-8.93	0.44		Nant-ysgollon Shales
c+67	230	???	-0.27	-12.47			Nant-ysgollon Shales	c+6	169	<i>C. murchisoni</i>	-2.05		-9.17			Nant-ysgollon Shales
c+66	229	???	-0.22	-11.63			Nant-ysgollon Shales	c+5.5	168.5	<i>C. murchisoni</i>	-2.09		-9.42			Nant-ysgollon Shales
c+65	228	???	0.09	-27.83	-11.28	0.78	Nant-ysgollon Shales	c+5	168	(9) <i>C. murchisoni</i>	-1.82		-8.78			Nant-ysgollon Shales
c+64	227	???	-0.08	-11.55			Nant-ysgollon Shales	c+4.5	167.5	<i>C. centrifugus</i>	-2.00		-9.11			Nant-ysgollon Shales
c+63	226	???	-0.23	-11.66			Nant-ysgollon Shales	c+4	167	<i>C. centrifugus</i>	-2.03		-8.93			Nant-ysgollon Shales
c+62	225	???	-0.24	-27.98	-11.87	0.6	Nant-ysgollon Shales	c+3	166	<i>C. centrifugus</i>	-1.83		-6.59			Nant-ysgollon Shales
c+61	224	???	-0.17	-11.37			Nant-ysgollon Shales	c+2	165	<i>C. centrifugus</i>	-1.85	-28.96	-8.71	0.32		Nant-ysgollon Shales
c+60	223	???	-0.47	-28.22	-10.65	0.66	Nant-ysgollon Shales	c+0.5 upper	163.75	<i>C. centrifugus</i>	-2.08		-8.47			Nant-ysgollon Shales
c+59	222	( <i>C. rigidus</i> )	-0.35	-11.59			Nant-ysgollon Shales	c+0.5 lower	163.25	<i>C. centrifugus</i>	-1.99		-6.53			Nant-ysgollon Shales
c+58	221	???	-0.45	-27.44	-10.66	0.63	Nant-ysgollon Shales	c-1	163	<i>C. centrifugus</i>	-2.68		-7.13			Nant-ysgollon Shales
c+57	220	???	-1.04	-7.54			Nant-ysgollon Shales	c-1.5 upper	162.75	<i>C. centrifugus</i>	-2.37		-6.94			Nant-ysgollon Shales
c+56	219	???	-0.62	-9.82			Nant-ysgollon Shales	c-1.5 lower	161.25	<i>C. centrifugus</i>	-2.53		-6.55			Nant-ysgollon Shales
c+55	218	???	-0.67	-27.66	-9.30	0.66	Nant-ysgollon Shales	c-2	161	<i>C. centrifugus</i>	-2.72	-28.82	-7.28	0.28		Nant-ysgollon Shales
c+54	217	???	-0.84	-9.59			Nant-ysgollon Shales	c-7	156	<i>C. centrifugus</i>	-2.62	-28.23	-6.85	0.37		Nant-ysgollon Shales
c+53	216	???	-1.00	-9.44			Nant-ysgollon Shales	c-14	150	<i>C. centrifugus</i>	-3.29	-29.21	-7.58	0.32		Nant-ysgollon Shales
c+52	215	???	-1.19	-8.35			Nant-ysgollon Shales	c-16	148.5	<i>C. centrifugus</i>	-3.29	-28.71	-7.60	0.32		Nant-ysgollon Shales
c+51	214	???	-1.37	-8.26			Nant-ysgollon Shales	c-19	146	<i>C. insectus</i>	-3.80	-28.99	-7.92	0.39		Nant-ysgollon Shales
c+50	213	???	-0.74	-27.23	-8.13	0.77	Nant-ysgollon Shales	c-21.5	143.5	<i>C. insectus</i>	-3.63	-29.08	-7.47	0.43		Nant-ysgollon Shales
c+49	212	???	-0.83	-9.44			Nant-ysgollon Shales	c-24	141	<i>C. insectus</i>	-3.72	-28.95	-7.61	0.33		Nant-ysgollon Shales
c+48	211	???	-0.62	-9.80			Nant-ysgollon Shales	x+23.5	140	<i>C. insectus</i>	-4.49	-28.85	-7.98	0.24		Nant-ysgollon Shales
c+47	210	<i>M. riccartonensis</i>	-0.30	-9.57			Nant-ysgollon Shales	x+23	139.5	<i>C. insectus</i>	-4.77		-8.04			Nant-ysgollon Shales
c+46	209	<i>M. riccartonensis</i>	-0.25	-8.34			Nant-ysgollon Shales	x+18	136	<i>C. insectus</i>	-4.50	-28.70	-7.67	0.24		Nant-ysgollon Shales
c+45	208	<i>M. riccartonensis</i>	-0.48	-27.49	-9.68	0.87	Nant-ysgollon Shales	x+15.5	133	<i>C. insectus</i>	-4.74		-7.72			Nant-ysgollon Shales
c+44	207	<i>M. riccartonensis</i>	-0.47	-10.29			Nant-ysgollon Shales	x+14	132.5	<i>C. insectus</i>	-4.87	-28.56	-7.88	0.34		Nant-ysgollon Shales
c+43	206	<i>M. riccartonensis</i>	-0.82	-8.17			Nant-ysgollon Shales	x+12	131.5	<i>C. insectus</i>	-5.13		-7.85			Nant-ysgollon Shales
c+42	205	<i>M. riccartonensis</i>	-0.50	-10.89			Nant-ysgollon Shales	x+8.5	129	<i>C. lapw./insect.</i>	-5.05	-28.67	-7.37	0.12		Nant-ysgollon Shales
c+41	204	<i>M. riccartonensis</i>	-0.38	-11.11			Nant-ysgollon Shales	x+8	128.5	<i>C. lapworthi</i>	-4.94	-29.13	-7.64	0.46		Nant-ysgollon Shales
c+40	203	<i>M. riccartonensis</i>	-0.25	-27.84	-10.63	0.61	Nant-ysgollon Shales	x+5	126.5	<i>C. lapworthi</i>	-4.91	-29.37	-7.47	0.23		Nant-ysgollon Shales
c+39	202	<i>M. riccartonensis</i>	-0.42	-11.07			Nant-ysgollon Shales	s+27	120.5	<i>C. lapworthi</i>	-5.55	-27.85	-7.37	0.05		Tarannon Shales
c+38	201	<i>M. riccartonensis</i>	-0.72	-11.19			Nant-ysgollon Shales	s+14	111.5	<i>O. spiralis</i>	-5.60	-30.08	-6.16	0.33		Tarannon Shales
c+37	200	<i>M. riccartonensis</i>	-0.42	-10.60			Nant-ysgollon Shales	s+12	110	<i>O. spiralis</i>	-7.00	-29.88	-6.62	0.23		Tarannon Shales
c+36	199	<i>M. riccartonensis</i>	-0.94	-10.37			Nant-ysgollon Shales									
c+35	198	<i>M. riccartonensis</i>	-1.32	-27.81	-10.43	0.66	Nant-ysgollon Shales									
c+34	197	<i>M. riccartonensis</i>	-1.86	-8.53			Nant-ysgollon Shales									

(9) Base of the Wenlock Series defined by the FAD of *C. murchisoni*(X) Onset of the early Sheinwoodian (Ireviken) excursion (defined here by the  $\delta^{13}\text{C}_{\text{org}}$  data of Loydell and Frýda, 2007)

TABLE DR2: AIZPUTE-41 CORE - LATVIA

core meter	conodont zone	graptolite zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation
910.00	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	2.49	-4.80	Riga
910.50	<i>Pt. pennatus procerus</i> S.Z. 2010130	<i>M. riccartonensis</i>	2.33	-4.96	Riga
911.00	<i>Pt. pennatus procerus</i> S.Z.	<i>M. riccartonensis</i>	2.07	-4.96	Riga
911.55	<i>Pt. pennatus procerus</i> S.Z.	<i>M. firmus</i>	1.91	-4.86	Riga
912.00	<i>Pt. pennatus procerus</i> S.Z.	<i>M. firmus</i>	2.05	-5.05	Riga
912.85	<i>Pt. pennatus procerus</i> S.Z.	<i>M. firmus</i>	1.99	-5.01	Riga
913.20	<i>Pt. pennatus procerus</i> S.Z.	???	1.79	-4.84	Riga
914.20	<i>Pt. am. amorphognathoides</i> Z.G.	???	1.57	-4.94	Riga
914.30	<i>Pt. am. amorphognathoides</i> Z.G.	???	1.40	-4.82	Riga
914.80	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.34	-4.97	Riga
915.70	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.16	-4.87	Riga
916.10	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.26	-5.01	Riga
916.50	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.16	-4.92	Riga
917.45	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.28	-4.89	Riga
917.80	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.20	-4.80	Riga
919.70	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.22	-5.10	Riga
920.05	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.17	-5.08	Riga
923.95	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.14	-5.28	Riga
924.30	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.18	-5.49	Riga
925.25	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.20	-4.95	Riga
925.60	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.22	-5.19	Riga
926.40	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	1.09	-5.26	Riga
927.15	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	0.60	-5.38	Riga
928.30	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	0.51	-5.37	Riga
929.55	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	0.40	-5.49	Jurmala
929.85	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	0.76	-5.52	Jurmala
930.30	<i>Pt. am. amorphognathoides</i> Z.G.	???	0.15	-5.54	Jurmala
930.80	<i>Pt. am. amorphognathoides</i> Z.G.	???	0.37	-5.47	Jurmala
931.20	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.43	-5.22	Jurmala
932.00	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	-0.16	-5.77	Jurmala
932.30	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.17	-4.98	Jurmala
932.65	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.15	-5.05	Jurmala
933.15	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.13	-5.17	Jurmala
933.70	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.24	-5.50	Jurmala
934.20	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.18	-5.19	Jurmala
935.10	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.16	-5.18	Jurmala
935.65	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.33	-5.01	Jurmala
935.70	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.21	-5.12	Jurmala
936.15	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.32	-5.49	Jurmala
936.95	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.03	-4.55	Jurmala
937.60	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. lapworthi</i>	0.19	-5.06	Jurmala
938.15	???	<i>C. lapworthi</i>	0.23	-5.13	Jurmala
938.75	???	<i>C. lapworthi</i>	0.01	-5.57	Jurmala
939.20	???	<i>C. lapworthi</i>	-0.17	-5.27	Jurmala
939.45	???	<i>C. lapworthi</i>	0.05	-5.19	Jurmala
939.80	???	<i>C. lapworthi</i>	0.04	-5.57	Jurmala
940.30	<i>Pt. celloni</i> S.Z.	???	0.06	-5.26	Jurmala
940.80	<i>Pt. celloni</i> S.Z.	???	-0.05	-5.52	Jurmala
940.90	<i>Pt. celloni</i> S.Z.	???	0.27	-5.69	Jurmala
940.95	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	0.26	-5.68	Jurmala
941.60	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	-0.12	-5.47	Jurmala
941.80	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	-0.06	-5.63	Jurmala
943.00	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	0.15	-5.85	Jurmala
944.00	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	-0.04	-5.80	Jurmala
945.00	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	-0.10	-6.11	Jurmala
946.30	<i>Pt. am. angulatus</i>	<i>O. spiralis</i>	-0.03	-6.17	Jurmala
947.50	<i>Pt. am. angulatus</i>	<i>O. spiralis</i>	0.02	-6.29	Jurmala
949.90	<i>Pt. am. angulatus</i>	<i>O. spiralis</i>	0.26	-6.42	Jurmala
951.15	<i>Pt. am. angulatus</i>	???	-0.28	-6.84	Jurmala

(g) Base of the Wenlock Series defined by the FAD of *C. murchisoni*

(X) Onset of the early Sheinwoodian (Ireviken) excursion

(1) Datum 1 of the Ireviken Event defined by the appearance of *Kockelella ranuliformis*(3) Datum 3 of the Ireviken Event defined by the LAD of *Panderodus* sp. nov. N(6) Datum 6 of the Ireviken Event defined by the LAD of *Pt. pennatus procerus*

TABLE DR3: GOTLAND BRACHIOPOD COMPOSITE - SWEDEN

meter <sup>†</sup>	locality	conodont zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	meter <sup>†</sup>	locality	conodont zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation
59.0	Oivide 1	Middle K. <i>walliseri</i>	-0.2	-4.8	Slite Group	5.4	Storbrut 1		3.8	-5.0	Upper Visby Fm.
55.5	Hällarna 4		0.0	-5.8	Slite Group	5.0	Storbrut 1		3.6	-5.1	Upper Visby Fm.
54.0 <sup>‡</sup>	Hoburgsmyr 2010130	Middle K. <i>walliseri</i>	0.2	-5.0	Slite Group	5.0 <sup>‡</sup>	Hallshuk 3		3.7	-4.5	Upper Visby Fm.
52.0 <sup>‡</sup>	Stora Myre 1	Middle K. <i>walliseri</i>	0.5 <sup>#</sup>	-4.8 <sup>#</sup>	Slite Group	5.0	Gnisvärd 1	Lower K. <i>ranuliformis</i>	3.7	-5.2	Upper Visby Fm.
49.0 <sup>‡</sup>	Hallbro Slot 13		1.0	-5.2	Slite Group	4.8	Storbrut 1		3.8	-4.8	Upper Visby Fm.
47.5	Hällarna 5		1.1	-5.0	Slite Group	3.9	Storbrut 1		3.5	-5.1	Upper Visby Fm.
47.0 <sup>‡</sup>	Oividekorset 1		1.4	-4.2	Slite Group	3.5	Storbrut 1	Lower K. <i>ranuliformis</i> §	3.4	-5.0	Upper Visby Fm.
46.0	Hällarna 6		1.5	-5.1	Slite Group	3.2	Storbrut 1		3.1	-4.9	Upper Visby Fm.
44.0 <sup>‡</sup>	Hällagrunn 1	?O. <i>sagitta rhenana</i> SZ5	2.5	-4.6	?Hangvar Fm.	3.0	Nyrevsudde 1		3.1	-5.1	Upper Visby Fm.
43.5	Valve 3	O. <i>sagitta rhenana</i> SZ4	2.7	-3.7	Hangvar Fm.	3.0	Storbrut 1		3.1	-5.0	Upper Visby Fm.
43.0 <sup>‡</sup>	Västerhejde 4		2.7	-4.3	Hangvar Fm.	3.0	Häftingsklin 5B	Lower K. <i>ranuliformis</i>	3.1	-5.1	Upper Visby Fm.
43.0 <sup>‡</sup>	Tofta 2		2.7	-3.7	Hangvar Fm.	3.0	Sigsarstrand 3		3.1	-5.1	Upper Visby Fm.
41.5	Valve 4		2.9	-3.8	Hangvar Fm.	2.5	Nyrevsudde 1		3.0	-4.9	Upper Visby Fm.
41.0 <sup>‡</sup>	Stora Home 1		3.0	-4.5	Hangvar Fm.	2.5	Häftingsklin 5B	Lower K. <i>ranuliformis</i>	3.0	-5.2	Upper Visby Fm.
40.0 <sup>‡</sup>	Stora Hästnäs 1		3.1	-4.0	Hangvar Fm.	2.4	Storbrut 1		2.8	-5.3	Upper Visby Fm.
38.0 <sup>‡</sup>	Oividekorset 3	O. <i>sagitta rhenana</i> SZ4	3.3	-4.2	Hangvar Fm.	2.3 <sup>‡</sup>	Storbrut 1		2.8	-5.1	Upper Visby Fm.
35.5	Östergårde 1	O. <i>sagitta rhenana</i> SZ4	3.7	-4.1	Hangvar Fm.	2.1 <sup>‡</sup>	Häftingsklin 5B	Upper Pt. <i>pen. procerus</i>	2.8	-5.4	Upper Visby Fm.
34.5	Tofta Södra 5	O. <i>sagitta rhenana</i> SZ4	3.8	-3.7	Hangvar Fm.	2.0	Nyrevsudde 1		2.7	-5.3	Upper Visby Fm.
30.0 <sup>‡</sup>	Nors Stenbrott 1		4.4	-4.2	Tofta Fm.	1.9 <sup>‡</sup>	Lickershamn	Upper Pt. <i>pen. procerus</i> §	2.7	-5.1	Upper Visby Fm.
30.0	Raukudd 1		4.3	-4.3	Tofta Fm.	1.4 <sup>‡</sup>	Nyrevsudde 1	Phaulactis "layer"	2.5	-5.0	Upper Visby Fm.
29.0	Langhammarhammar 1	O. <i>sagitta rhenana</i> SZ3	4.3	-4.9	Tofta Fm.	0.0	Ireviken 3	Phaulactis layer	1.9	-5.8	Upper Visby Fm.
28.0 <sup>‡</sup>	Langhammarhammar 1	O. <i>sagitta rhenana</i> SZ3	4.2	-4.6	Tofta Fm.	0.0	Nygardsbäcksprofilen 2	Phaulactis layer	1.9	-5.7	Upper Visby Fm.
28.0	Saxriv 1	O. <i>sagitta rhenana</i> SZ3	4.2	-4.6	Tofta Fm.	0.0	Högklint 4	Phaulactis layer	1.9	-5.6	Upper Visby Fm.
28.0	Bläse 1	O. <i>sagitta rhenana</i> SZ3	4.3	-4.6	Tofta Fm.	0.0	Allhage 1	Phaulactis layer	1.9	-5.5	Upper Visby Fm.
27.0	Svarven 2	O. <i>sagitta rhenana</i> SZ3 <sup>§</sup>	4.3	-4.6	Tofta Fm.	0.0	Allhagevik 1	Phaulactis layer	1.9	-5.5	Upper Visby Fm.
24.0	Häftingsklin 3		4.6 <sup>#</sup>	-4.6 <sup>#</sup>	Tofta Fm.	-0.1	Allhagevik 1		2.0	-5.6	Lower Visby Fm.
23.0	Tofta Södra 1	O. <i>sagitta rhenana</i> SZ2	4.6	-3.9	Tofta Fm.	-0.2	Häftingsklin 5B	Lower Pt. <i>pen. procerus</i>	1.9	-5.8	Lower Visby Fm.
19.0	Anserve 1	O. <i>sagitta rhenana</i>	4.5	-4.2	?Tofta Fm.	-0.3	Nygardsbäcksprofilen 2	Lower Pt. <i>pen. procerus</i>	1.7	-5.6	Lower Visby Fm.
18.0	Häftingsklin 3		5.1	-4.7	Högklint Fm.	-0.3	Ireviken 1		1.9	-5.5	Lower Visby Fm.
18.0	Ygne 5		5.4	-4.1	Högklint Fm.	-0.4	Allhagevik 1		1.9	-5.6	Lower Visby Fm.
18.0	Palisadgatan 2		5.4	-4.0	Högklint Fm.	-0.6	Häftingsklin 5B		1.9	-5.8	Lower Visby Fm.
18.0 <sup>‡</sup>	Stavskl 1		5.3	-4.5	Högklint Fm.	-0.6	Allhagevik 1		1.9	-5.8	Lower Visby Fm.
17.0 <sup>‡</sup>	Ireviken 3		5.1	-4.9	Högklint Fm.	-1.5	Nygardsbäcksprofilen 2	Lower Pt. <i>pen. procerus</i>	1.8	-5.3	Lower Visby Fm.
17.0	Häftingsklin 2		4.9	-4.7	Högklint Fm.	-1.7	Allhage 1		1.7	-5.5	Lower Visby Fm.
16.0	Gutevägen 5		4.8	-4.9	Högklint Fm.	-1.8	Buske 1	Lower Pt. <i>pen. procerus</i>	1.9	-5.5	Lower Visby Fm.
14.0	Palisadgatan 1	Upper K. <i>ranuliformis</i> §	4.3	-4.4	Högklint Fm.	-2.0	Nygardsbäcksprofilen 2	Lower Pt. <i>pen. procerus</i>	1.9	-5.6	Lower Visby Fm.
13.0	Häftingsklin 3		4.0	-4.7	Högklint Fm.	-2.6	Ygne 3	Lower Pt. <i>pen. procerus</i>	1.7	-5.4	Lower Visby Fm.
11.0	Northern Korpklint 1		4.5	-4.9	Högklint Fm.	-4.0	Stavskl 1	Lower Pt. <i>pen. procerus</i>	1.9	-5.4	Lower Visby Fm.
10.5	Svarthäll 1		4.4	-4.7	Högklint Fm.	-4.5	Häftingsklin 5B	Upper Ps. <i>bicornis</i>	2.0	-5.5	Lower Visby Fm.
10.0	Storbrut 1		4.9	-4.7	Högklint Fm.	-4.9	Sigsarstrand 3		2.0	-5.6	Lower Visby Fm.
10.0	Hallshuk 3		4.4	-4.8	Högklint Fm.	-5.3	Sigsarstrand 3		1.8	-5.7	Lower Visby Fm.
9.0	Ireviken 3		4.5	-5.0	Upper Visby Fm.	-7.5	Stavskl 1	Upper Ps. <i>bicornis</i>	2.0	-5.6	Lower Visby Fm.
8.0	Storbrut 1		4.5	-5.0	Upper Visby Fm.	-12.0	Lundskl 2	P. am. <i>amorphognathoides</i> §	1.4	-5.5	Lower Visby Fm.
6.8	Storbrut 1		4.1	-4.9	Upper Visby Fm.	-13.5	Ireviken 1	P. am. <i>amorphognathoides</i>	1.5	-5.4	Lower Visby Fm.
6.0	Stavskl 1		4.0	-4.8	Upper Visby Fm.	-18.0	Rönnklint 2	P. am. <i>amorphognathoides</i>	1.4	-5.5	Lower Visby Fm.

Note: Isotopic values are the average of ≥3 brachiopod samples unless marked with a #.

† meters above or below the Phaulactis layer

‡ stratigraphic height interpolated

(X) Onset of the early Sheinwoodian (Ireviken) excursion

Swedish Grid Reference Data for each locality is provided in Table DR10

§ biostratigraphy inferred from nearby samples or sections

# values from single brachiopod

(?) see figure 3 for datum point definitions from Gotland

(C) Base of the Wenlock Series defined by the LAD of Ozarkodina polinclinata polinclinata

Sample	meter <sup>†</sup>	locality	conodont zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Group/Formations
G92-349	63.0	Slitebrottet 2	Upper <i>K. walliseri</i>	-1.39	-5.84	Slite Gp.
G92-348	60.0	Slitebrottet 2	Upper <i>K. walliseri</i>	-0.75	-5.67	Slite Gp.
G91-82	58.0	Broskogs 1	Upper <i>K. walliseri</i>	0.63	-5.34	Slite Gp.
G92-319	44.0	Östergårde 2	Lower <i>K. walliseri</i>	3.83	-5.73	Slite Gp.
G93-976	43.5	Nymånetorp 1	<i>O. s. rhenana</i>	4.51	-6.00	Hangvar Fm.
G93-975	39.0	Nymånetorp 1	<i>O. s. rhenana</i>	4.77	-5.98	Hangvar Fm.
G02-105	31.5	Svarven 1	<i>O. s. rhenana</i>	4.83	-6.15	Tofta Fm.
G03-316	28.5	Svarven 1	<i>O. s. rhenana</i>	4.02	-6.89	Tofta Fm.
G02-107	27.5	Svarven 1	<i>O. s. rhenana</i>	4.13	-5.87	Tofta Fm.
G04-714	26.7	Västös 2	<i>O. s. rhenana</i>	4.24	-4.97	Tofta Fm.
G04-715	25.5	Västös 2	<i>O. s. rhenana</i>	4.03	-5.51	Tofta Fm.
G02-138	25.0	Västös 2	<i>O. s. rhenana</i>	4.50	-5.42	Tofta Fm.
G02-104	24.7	Svarven 1	<i>O. s. rhenana</i>	4.53	-5.35	Tofta Fm.
G03-301	19.0	Ansarve 1D	<i>O. s. rhenana</i>	4.72	-4.05	Tofta Fm.
G04-718	18.0	Västös 2	<i>O. s. rhenana</i>	4.17	-5.22	Högklint Fm.
G04-716	17.5	Västös 2	<i>O. s. rhenana</i>	5.06	-4.23	Högklint Fm.
G02-137	17.0	Västös 2	<i>O. s. rhenana</i>	4.22	-5.95	Högklint Fm.
G70-1	16.0	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	5.77	-4.34	Högklint Fm.
G70-2	15.5	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	5.56	-4.65	Högklint Fm.
G70-3	14.5	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	4.90	-5.35	Högklint Fm.
G70-4	14.0	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	5.08	-5.04	Högklint Fm.
G70-5	13.0	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	4.96	-4.74	Högklint Fm.
G70-6	12.5	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	4.53	-5.00	Högklint Fm.
G70-7	11.5	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	4.63	-4.70	Högklint Fm.
G70-8	11.0	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	4.57	-4.74	Högklint Fm.
G70-9	10.0	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	4.44	-4.66	Högklint Fm.
G70-21	9.5	Vattenfallsprofilen 1	Upper <i>K. ranuliformis</i>	4.54	-5.13	⑧ Högklint Fm.
G73-58	8.9	Lickershamn 2	Lower <i>K. ranuliformis</i>	4.91	-5.17	Upper Visby Fm.
G92-389	8.5	Lickershamn 2	Lower <i>K. ranuliformis</i>	4.41	-5.31	Upper Visby Fm.
G93-908	8.1	Lickershamn 2	Lower <i>K. ranuliformis</i>	4.68	-4.98	Upper Visby Fm.
G93-907	7.5	Lickershamn 2	Lower <i>K. ranuliformis</i>	4.41	-4.89	Upper Visby Fm.
G93-904	6.5	Lickershamn 2	Lower <i>K. ranuliformis</i>	4.45	-5.11	Upper Visby Fm.
G93-905	6.0	Lickershamn 2	Lower <i>K. ranuliformis</i>	3.89	-4.89	Upper Visby Fm.
G92-384	4.5	Lickershamn 2	Lower <i>K. ranuliformis</i>	3.38	-7.93	Upper Visby Fm.
G92-412	4.3	Lusklint 1	Lower <i>K. ranuliformis</i>	3.18	-5.82	Upper Visby Fm.
G92-413	4.0	Lusklint 1	Lower <i>K. ranuliformis</i>	3.68	-5.03	Upper Visby Fm.
G91-14	2.5	Lusklint 1	Lower <i>K. ranuliformis</i>	3.29	-4.85	⑥ Upper Visby Fm.
G91-98	1.5	Lusklint 1	Upper <i>Pt. p. procerus</i>	2.55	-5.16	Upper Visby Fm.
G92-395	0.0	Lusklint 1	Upper <i>Pt. p. procerus</i>	1.77	-5.60	④ X Upper Visby Fm.
G92-401	-0.2	Lusklint 1	Lower <i>Pt. p. procerus</i>	1.10	-4.89	Lower Visby Fm.
G92-371	-0.6	Lusklint 1	Lower <i>Pt. p. procerus</i>	1.28	-7.93	Lower Visby Fm.
G92-362	-1.1	Lusklint 1	Lower <i>Pt. p. procerus</i>	1.52	-5.82	③ Lower Visby Fm.
G91-66	-2.0	Lusklint 1	Upper <i>Ps. Bicornis</i>	1.83	-5.03	② Lower Visby Fm.
G91-62	-2.8	Lusklint 1	Lower <i>Ps. Bicornis</i>	1.29	-4.85	Lower Visby Fm.
G92-353	-3.6	Lusklint 1	Lower <i>Ps. Bicornis</i>	0.85	-5.69	① Lower Visby Fm.
G92-357	-3.9	Lusklint 1	<i>P. am. amorphognathoides</i>	1.15	-5.47	Lower Visby Fm.
G92-321	-4.9	Lusklint 1	<i>P. am. amorphognathoides</i>	0.93	-5.43	Lower Visby Fm.
G89-713	-6.0	Lusklint 1	<i>P. am. amorphognathoides</i>	1.04	-5.55	Lower Visby Fm.
G89-711	-6.9	Lusklint 1	<i>P. am. amorphognathoides</i>	1.64	-5.36	Lower Visby Fm.
G89-709	-8.2	Lusklint 1	<i>P. am. amorphognathoides</i>	1.57	-5.51	Lower Visby Fm.
G89-707	-9.4	Lusklint 1	<i>P. am. amorphognathoides</i>	1.68	-5.40	Lower Visby Fm.
G89-705	-10.7	Lusklint 1	<i>P. am. amorphognathoides</i>	1.56	-5.41	Lower Visby Fm.
G89-703	-11.9	Lusklint 1	<i>P. am. amorphognathoides</i>	1.48	-5.22	Lower Visby Fm.
G89-701	-13.1	Lusklint 1	<i>P. am. amorphognathoides</i>	1.57	-5.24	Lower Visby Fm.
G89-715	-14.0	Lusklint 1	<i>P. am. amorphognathoides</i>	1.59	-5.32	Lower Visby Fm.

<sup>†</sup>Samples from all localities other than Lusklint 1 have had the stratigraphic height interpolated (see text)

Swedish Grid Reference Data for each locality is provided in Table DR10

(X) Onset of the early Sheinwoodian (Ireviken) excursion

(?) see figure 3 for datum point definitions from Gotland

(C) Base of the Wenlock Series defined by the LAD of *Ozarkodina polinclinata polinclinata*

TABLE DR5: OHESAARE CORE - ESTONIA

core meter	conodont zone	graptolite zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	Member	core meter	conodont zone	graptolite zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	Member
288.50	Upper <i>K. walliseri</i> S.Z.	???	0.51	-5.66	Jamaja		331.28	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.71	-5.59	Riga	Tölla
290.50	Upper <i>K. walliseri</i> S.Z.	???	0.76	-5.11	Jamaja		331.40	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.51	-5.76	Riga	Tölla
292.70	Upper <i>K. walliseri</i> S.Z.	???	0.77	-5.78	Jaanī		331.60	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.74	-5.41	Riga	Tölla
294.34	Upper <i>K. walliseri</i> S.Z.	???	0.61	-5.48	Jaanī		331.64	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.40	-5.79	Riga	Tölla
294.96	Upper <i>K. walliseri</i> S.Z.	???	0.80	-5.54	Jaanī		331.75	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.54	-5.70	Riga	Tölla
295.13	Upper <i>K. walliseri</i> S.Z.	???	1.08	-5.80	Jaanī		331.97	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.80	-6.03	Riga	Tölla
295.48	Upper <i>K. walliseri</i> S.Z.	???	0.89	-5.60	Jaanī		332.31	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.50	-5.76	Riga	Tölla
296.00	Upper <i>K. walliseri</i> S.Z.	???	0.87	-5.61	Jaanī		332.50	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	4.00	-5.04	Riga	Tölla
296.50	Upper <i>K. walliseri</i> S.Z.	???	1.25	-5.28	Jaanī	Paramaja	332.78	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.28	-5.51	Riga	Tölla
297.13	Upper <i>K. walliseri</i> S.Z.	???	1.18	-6.14	Jaanī	Paramaja	333.00	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.79	-5.98	Riga	Tölla
298.20	Upper <i>K. walliseri</i> S.Z.	???	1.28	-5.85	Jaanī	Paramaja	333.36	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.46	-6.10	Riga	Tölla
301.22	Upper <i>K. walliseri</i> S.Z.	???	1.45	-5.77	Jaanī	Paramaja	333.50	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.71	-5.29	Riga	Tölla
301.98	<i>O. sagitta rhenana</i> S.Z.	???	1.76	-5.75	Jaanī	Paramaja	333.64	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.44	-5.58	Riga	Tölla
302.50	<i>O. sagitta rhenana</i> S.Z.	???	1.69	-5.36	Jaanī	Paramaja	334.00	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.22	-5.44	Riga	Tölla
308.50	<i>O. sagitta rhenana</i> S.Z.	???	2.67	-5.66	Jaanī	Paramaja	334.50	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.48	-5.45	Riga	Tölla
309.25	<i>O. sagitta rhenana</i> S.Z.	???	2.57	-5.47	Jaanī	Paramaja	334.53	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.37	-5.68	Riga	Tölla
310.35	<i>O. sagitta rhenana</i> S.Z.	???	2.72	-5.91	Jaanī	Paramaja	334.82	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.43	-5.85	Riga	Tölla
310.50	<i>O. sagitta rhenana</i> S.Z.	???	2.59	-4.93	Jaanī	Paramaja	334.90	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.44	-5.96	Riga	Tölla
311.28	<i>O. sagitta rhenana</i> S.Z.	???	2.36	-5.67	Jaanī	Paramaja	335.14	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.61	-5.89	Riga	Tölla
311.73	<i>O. sagitta rhenana</i> S.Z.	???	2.06	-5.80	Jaanī	Paramaja	335.50	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	1.67	-5.69	Riga	Tölla
312.50	<i>O. sagitta rhenana</i> S.Z.	???	2.85	-6.05	Jaanī	Paramaja	335.60	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.65	-5.60	Riga	Tölla
314.50	<i>O. sagitta rhenana</i> S.Z.	???	3.14	-6.09	Jaanī	Paramaja	336.05	<i>K. ranuliformis</i> S.Z.	<i>M. firmus</i>	3.32	-5.66	Riga	Tölla
316.50	<i>O. sagitta rhenana</i> S.Z.	???	3.71	-5.77	Jaanī	Paramaja	336.28	<i>K. ranuliformis</i> S.Z.	<i>M. firmus</i>	3.32	-5.68	Riga	Tölla
318.50	<i>O. sagitta rhenana</i> S.Z.	???	3.38	-5.43	Jaanī	Paramaja	336.50	<i>K. ranuliformis</i> S.Z.	<i>M. firmus</i>	3.51	-5.19	Riga	Tölla
320.50	<i>O. sagitta rhenana</i> S.Z.	???	3.56	-5.53	Riga	Tölla	337.00	<i>K. ranuliformis</i> S.Z.	<i>M. firmus</i>	2.87	-5.56	Riga	Tölla
322.50	<i>O. sagitta rhenana</i> S.Z.	???	3.92	-5.80	Riga	Tölla	337.12	<i>K. ranuliformis</i> S.Z.	<i>M. firmus</i>	3.32	-6.06	Riga	Tölla
322.60	<i>O. sagitta rhenana</i> S.Z.	???	3.46	-5.62	Riga	Tölla	337.30	<i>K. ranuliformis</i> S.Z.	<i>M. firmus</i>	3.11	-5.98	Riga	Tölla
324.17	<i>O. sagitta rhenana</i> S.Z.	???	3.61	-6.09	Riga	Tölla	337.50	<i>K. ranuliformis</i> S.Z.	<i>M. firmus</i>	3.05	-5.42	Riga	Tölla
324.50	<i>O. sagitta rhenana</i> S.Z.	???	3.65	-5.84	Riga	Tölla	337.60	<i>K. ranuliformis</i> S.Z.	???	3.07	-5.64	Riga	Tölla
326.50	<i>O. sagitta rhenana</i> S.Z.	???	3.80	-5.62	Riga	Tölla	337.88	<i>K. ranuliformis</i> S.Z.	???	3.16	-5.96	Riga	Tölla
327.38	<i>O. sagitta rhenana</i> S.Z.	???	3.81	-5.88	Riga	Tölla	338.00	<i>Pt. pennatus procerus</i> S.Z.	???	2.41	-6.17	Riga	Tölla
327.50	<i>O. sagitta rhenana</i> S.Z.	???	3.86	-6.14	Riga	Tölla	338.17	<i>Pt. pennatus procerus</i> S.Z.	<i>C. murchisoni</i>	2.70	-5.46	Riga	Tölla
327.86	<i>K. ranuliformis</i> S.Z.	???	3.67	-5.70	Riga	Tölla	338.48	<i>Pt. pennatus procerus</i> S.Z.	<i>C. murchisoni</i>	2.98	-6.00	Riga	Tölla
328.50	<i>K. ranuliformis</i> S.Z.	???	4.04	-6.18	Riga	Tölla	338.83	<i>Pt. pennatus procerus</i> S.Z.	<i>C. murchisoni</i>	2.65	-5.66	Riga	Tölla
328.85	<i>K. ranuliformis</i> S.Z.	???	3.45	-5.79	Riga	Tölla	339.06	<i>Pt. pennatus procerus</i> S.Z.	<i>C. murchisoni</i>	2.85	-5.84	Riga	Tölla
329.12	<i>K. ranuliformis</i> S.Z.	???	3.91	-5.90	Riga	Tölla	339.36	<i>Pt. pennatus procerus</i> S.Z.	<i>C. murchisoni</i>	2.69	-5.92	Riga	Tölla
329.33	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	4.01	-6.24	Riga	Tölla	339.64	<i>Pt. pennatus procerus</i> S.Z.	<i>C. murchisoni</i>	2.29	-5.63	Riga	Tölla
329.57	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	4.05	-6.16	Riga	Tölla	339.83	<i>Pt. pennatus procerus</i> S.Z.	<i>C. murchisoni</i>	2.40	-5.62	Riga	Tölla
330.50	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	4.22	-5.35	Riga	Tölla	340.00	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	2.26	-5.14	Riga	Tölla
330.72	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	4.21	-5.86	Riga	Tölla	340.16	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	2.46	-5.71	Riga	Tölla
331.00	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.86	-5.95	Riga	Tölla	340.35	<i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	2.23	-5.68	Riga	Tölla

(3) Datum 3 of the Ireviken Event defined by the LAD of *Panderodus* sp. nov. N(6) Datum 6 of the Ireviken Event defined by the LAD of *Pt. pennatus procerus*

(X) Onset of the early Sheinwoodian (Ireviken) excursion (see Fig. 7)

TABLE DR6: OHESAARE CORE - ESTONIA (CONTINUED)

core meter	conodont zone	graptolite zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	Member
340.50	Pt. am. amorphognathoides Z.G.	C. murchisoni	1.85	-5.80	Rīga	Tölla
340.75	Pt. am. amorphognathoides Z.G.	C. murchisoni	1.71	-5.75	Rīga	Tölla
341.08	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.28	-5.86	Rīga	Tölla
341.30	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.21	-5.85	Rīga	Tölla
341.53	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.50	-6.02	Rīga	Tölla
341.67	Pt. am. amorphognathoides Z.G.	C. murchisoni	1.85	-5.70	Rīga	Tölla
341.88	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.12	-5.59	Rīga	Tölla
341.98	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.16	-5.73	Rīga	Tölla
342.00	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.50	-5.83	Rīga	Tölla
342.30	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.05	-5.66	Rīga	Tölla
342.48	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.11	-5.56	Rīga	Tölla
342.49	Pt. am. amorphognathoides Z.G.	C. murchisoni	3.40	-6.52	Rīga	Tölla
342.50	Pt. am. amorphognathoides Z.G.	C. murchisoni	3.62	-6.35	Rīga	Tölla
343.05	Pt. am. amorphognathoides Z.G.	C. murchisoni	1.72	-5.56	Rīga	Tölla
343.12	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.19	-6.05	Rīga	Tölla
343.46	Pt. am. amorphognathoides Z.G.	C. murchisoni	1.95	-5.71	Rīga	Tölla
343.56	Pt. am. amorphognathoides Z.G.	C. murchisoni	2.16	-5.64	Rīga	Tölla
343.75	Pt. am. amorphognathoides Z.G.	<u>C. murchisoni</u>	2.18	-6.17	Rīga	Tölla
343.95	Pt. am. amorphognathoides Z.G.	???	2.13	-5.98	Rīga	Tölla
344.00	Pt. am. amorphognathoides Z.G.	???	1.70	-5.12	Rīga	Tölla
344.08	Pt. am. amorphognathoides Z.G.	???	1.59	-5.65	Velise	
344.30	Pt. am. amorphognathoides Z.G.	???	1.55	-5.65	Velise	
344.62	Pt. am. amorphognathoides Z.G.	???	2.01	-5.89	Velise	
345.13	Pt. am. amorphognathoides Z.G.	???	2.28	-6.00	Velise	
345.90	Pt. am. amorphognathoides Z.G.	???	0.45	-5.12	Velise	
345.90	Pt. am. amorphognathoides Z.G.	???	-0.49	-4.61	Velise	
346.22	Pt. am. amorphognathoides Z.G.	???	1.99	-6.06	Velise	
347.30	Pt. am. amorphognathoides Z.G.	???	3.03	-3.87	Velise	
348.00	Pt. am. amorphognathoides Z.G.	???	2.04	-5.77	Velise	
348.80	Pt. am. amorphognathoides Z.G.	???	1.64	-6.22	Velise	
350.00	Pt. am. amorphognathoides Z.G.	???	1.89	-5.93	Velise	
351.77	Pt. am. amorphognathoides Z.G.	???	1.10	-6.64	Velise	
352.00	Pt. am. amorphognathoides Z.G.	???	-0.45	-4.57	Velise	
352.40	Pt. am. amorphognathoides Z.G.	???	1.56	-6.48	Velise	
353.20	Pt. am. amorphognathoides Z.G.	C. lapworthi	0.67	-5.54	Velise	
354.00	Pt. am. amorphognathoides Z.G.	C. lapworthi	0.80	-5.79	Velise	
354.80	Pt. am. amorphognathoides Z.G.	C. lapworthi	2.17	-6.01	Velise	
356.00	Pt. am. amorphognathoides Z.G.	C. lapworthi	1.36	-5.34	Velise	
357.37	Pt. am. amorphognathoides Z.G.	C. lapworthi	1.00	-5.96	Velise	
358.00	Pt. am. amorphognathoides Z.G.	<u>C. lapworthi</u>	1.47	-5.43	Velise	
359.00	Pt. am. amorphognathoides Z.G.	???	1.26	-5.97	Velise	
359.80	Pt. am. amorphognathoides Z.G.	???	1.36	-6.14	Velise	
360.10	Pt. am. amorphognathoides Z.G.	???	1.31	-5.46	Velise	
362.00	Pt. am. lithuanicus	O. spiralis	1.33	-5.11	Velise	
364.00	Pt. am. lithuanicus	O. spiralis	2.85	-3.32	Velise	

⑨ Base of the Wenlock Series defined by the FAD of C. murchisoni

TABLE DR7: VIKI CORE - ESTONIA

core meter	conodont zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	Member	core meter	conodont zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	Member
58.00	???	-1.03	-4.70	Jaagarahu		113.35	<i>Ps. bicornis</i> S.Z.	2.00	-4.27	Jaani	Mustjala
59.00	???	-0.10	-4.83	Jaagarahu		113.85	<i>Ps. bicornis</i> S.Z.	1.79	-4.76	Jaani	Mustjala
60.00	??? <b>2010130</b>	0.69	-2.24	Jaagarahu		114.00	<i>Pt. am. amorphognathoides</i>	1.86	-4.04	Jaani	Mustjala
60.00	???	0.71	-2.19	Jaagarahu		115.10	<i>Pt. am. amorphognathoides</i>	1.80	-3.27	Jaani	Mustjala
61.00	???	0.05	-4.02	Jaagarahu		116.00	<i>Pt. am. amorphognathoides</i>	1.79	-3.77	Jaani	Mustjala
62.00	???	-0.12	-3.57	Jaagarahu		118.00	<i>Pt. am. amorphognathoides</i>	1.71	-3.68	Jaani	Mustjala
63.00	Upper <i>K. walliseri</i> S.Z.	-0.13	-3.12	Jaagarahu		120.00	<i>Pt. am. amorphognathoides</i>	1.61	-4.00	Jaani	Mustjala
64.00	Upper <i>K. walliseri</i> S.Z.	0.12	-4.18	Jaagarahu		122.00	<i>Pt. am. amorphognathoides</i>	1.40	-4.37	Jaani	Mustjala
65.00	Upper <i>K. walliseri</i> S.Z.	-0.05	-2.60	Jaagarahu		124.00	<i>Pt. am. amorphognathoides</i>	1.35	-3.56	Jaani	Mustjala
66.00	Upper <i>K. walliseri</i> S.Z.	0.30	-1.62	Jaagarahu		126.00	<i>Pt. am. amorphognathoides</i>	1.13	-4.37	Jaani	Mustjala
67.00	Upper <i>K. walliseri</i> S.Z.	0.39	-1.92	Jaagarahu		128.00	<i>Pt. am. amorphognathoides</i>	1.20	-4.16	Jaani	Mustjala
68.00	Upper <i>K. walliseri</i> S.Z.	0.65	-1.94	Jaagarahu		130.00	<i>Pt. am. amorphognathoides</i>	1.21	-4.22	Jaani	Mustjala
69.00	Upper <i>K. walliseri</i> S.Z.	1.75	-2.90	Jaagarahu		132.00	<i>Pt. am. amorphognathoides</i>	1.24	-4.95	Jaani	Mustjala
70.00	Upper <i>K. walliseri</i> S.Z.	2.27	-3.01	Jaagarahu		134.00	<i>Pt. am. amorphognathoides</i>	1.37	-3.95	Jaani	Mustjala
70.80	Upper <i>K. walliseri</i> S.Z.	3.36	-2.66	Jaagarahu		136.00	<i>Pt. am. amorphognathoides</i>	1.28	-2.91	Velise	
72.00	<i>O. sagitta rhenana</i> S.Z.	4.10	-2.97	Jaagarahu		138.00	<i>Pt. am. amorphognathoides</i>	1.34	-3.59	Velise	
74.00	<i>O. sagitta rhenana</i> S.Z.	4.56	-2.73	Jaagarahu		140.00	<i>Pt. am. amorphognathoides</i>	1.40	-3.76	Velise	
76.00	<i>O. sagitta rhenana</i> S.Z.	4.59	-2.63	Jaagarahu		142.00	<i>Pt. am. amorphognathoides</i>	1.43	-3.62	Velise	
78.00	<i>O. sagitta rhenana</i> S.Z.	4.91	-3.10	Jaagarahu		144.00	<i>Pt. am. amorphognathoides</i>	1.67	-3.32	Velise	
80.00	<i>O. sagitta rhenana</i> S.Z.	5.12	-2.94	Jaagarahu		146.00	<i>Pt. am. amorphognathoides</i>	1.65	-4.14	Velise	
82.00	<i>O. sagitta rhenana</i> S.Z.	5.18	-3.02	Jaagarahu		148.00	<i>Pt. am. lithuanicus</i>	1.65	-3.38	Velise	
84.00	<i>O. sagitta rhenana</i> S.Z.	5.01	-3.14	Jaagarahu		150.00	<i>Pt. am. lithuanicus</i>	1.72	-3.28	Velise	
86.00	<i>O. sagitta rhenana</i> S.Z.	5.17	-3.52	Jaagarahu		152.00	<i>Pt. am. lithuanicus</i>	1.62	-4.03	Velise	
88.00	<i>O. sagitta rhenana</i> S.Z.	5.05	-2.51	Jaagarahu		154.00	<i>Pt. am. lennarti</i>	1.98	-4.13	Velise	
89.80	<i>O. sagitta rhenana</i> S.Z.	4.26	-4.54	Jaagarahu		156.00	<i>Pt. am. angulatus</i>	1.90	-4.54	Velise	
89.80	<i>O. sagitta rhenana</i> S.Z.	4.25	-4.43	Jaagarahu		157.70	<i>Pt. am. angulatus</i>	1.56	-4.15	Velise	
90.30	<i>O. sagitta rhenana</i> S.Z.	5.14	-2.62	Jaani	Ninase	158.00	<i>Pt. am. angulatus</i>	1.87	-3.96	Velise	
91.50	<i>O. sagitta rhenana</i> S.Z.	4.99	-2.55	Jaani	Ninase	160.00	<i>Pt. am. angulatus</i>	2.15	-4.95	Velise	
92.50	<i>O. sagitta rhenana</i> S.Z.	4.76	-4.03	Jaani	Ninase	161.50	<i>Pt. am. angulatus</i>	1.86	-4.30	Velise	
94.50	<i>O. sagitta rhenana</i> S.Z.	4.85	-3.79	Jaani	Ninase	162.00	<i>Pt. am. angulatus</i>	1.99	-4.92	Velise	
95.50	<i>O. sagitta rhenana</i> S.Z.	5.10	-3.43	Jaani	Ninase	164.00	<i>Pt. am. angulatus</i>	1.87	-4.82	Velise	
97.00	<i>K. ranuliformis</i> S.Z.	4.96	-3.32	Jaani	Mustjala	166.00	<i>Pt. am. angulatus</i>	1.91	-3.80	Velise	
99.00	<i>K. ranuliformis</i> S.Z.	4.05	-4.45	Jaani	Mustjala	168.00	<i>Pt. am. angulatus</i>	1.91	-3.61	Velise	
101.00	<i>K. ranuliformis</i> S.Z.	4.01	-3.54	Jaani	Mustjala	170.00	<i>Pt. eopennatus</i> ssp. nov. 2	1.93	-3.36	Velise	
103.00	<i>K. ranuliformis</i> S.Z.	4.14	-3.31	Jaani	Mustjala	172.00	<i>Pt. eopennatus</i> ssp. nov. 2	1.61	-4.87	Velise	
105.00	<i>K. ranuliformis</i> S.Z.	3.98	-3.44	Jaani	Mustjala	174.00	<i>Pt. eopennatus</i> ssp. nov. 2	1.36	-3.58	Velise	
106.00	<i>K. ranuliformis</i> S.Z.	4.04	-3.49	Jaani	Mustjala	176.00	<i>Pt. eopennatus</i> ssp. nov. 2	1.91	-3.84	Velise	
107.00	<i>K. ranuliformis</i> S.Z.	3.91	-3.30	Jaani	Mustjala	178.00	<i>Pt. eopennatus</i> ssp. nov. 2	2.25	-4.14	Velise	
108.00	<i>K. ranuliformis</i> S.Z.	3.73	-2.92	Jaani	Mustjala	180.00	<i>Pt. eopennatus</i> ssp. nov. 2	2.66	-5.31	Velise	
109.00	<i>K. ranuliformis</i> S.Z.	3.77	-3.30	Jaani	Mustjala						
110.00	<i>K. ranuliformis</i> S.Z.	3.39	-4.24	Jaani	Mustjala						
111.00	<i>K. ranuliformis</i> S.Z.	3.34	-3.60	Jaani	Mustjala						
111.65	⑥ <i>Pt. pennatus procerus</i> S.Z.	2.45	-3.76	Jaani	Mustjala						
112.00	<i>Pt. pennatus procerus</i> S.Z.	2.76	-3.96	Jaani	Mustjala						
112.15	<i>Pt. pennatus procerus</i> S.Z.	2.45	-3.95	Jaani	Mustjala						
112.50	<i>Pt. pennatus procerus</i> S.Z.	2.21	-3.43	Jaani	Mustjala						
112.90	③ <i>Pt. pennatus procerus</i> S.Z.	2.15	-3.97	Jaani	Mustjala						
113.00	③ <i>Ps. bicornis</i> S.Z.	2.28	-3.03	Jaani	Mustjala						

Datum 1 of the Ireviken Event defined by the LAD of *Nudibelodina sensitiva*

Base of the Wenlock Series defined by the LAD of *Ozarkodina polyclinata* (Linton and Anthon).

### Onset of the early Sheinwoodian (Ireviken) excursion

Datum 3 of the Ireviken Event defined by the LAD of *Pt. am. amorphognathoides*

and *Panderodus* sp. nov. N

TABLE DR8: RUHNU CORE- ESTONIA

core meter	conodont zone	graptolite zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	Member
378.3	<i>K. walliseri</i> Z.G.	???	0.60	-3.45	Jamaja	
387.5	???	???	1.14	-3.76	Jamaja	
392.0	<b>2010130</b>	???	1.88	-3.60	Jamaja	
396.9	???	???	2.62	-3.64	Jamaja	
400.8	???	???	3.04	-4.18	Jamaja	
404.1	???	???	3.52	-4.13	Jamaja	
405.6	???	???	3.59	-4.14	Jamaja	
408.6	???	???	2.98	-3.73	Jamaja	
413.6	???	???	3.50	-4.06	Jamaja	
414.9	???	???	3.70	-4.31	Jaani	Paramaja
417.7	???	???	4.14	-4.69	Jaani	Paramaja
420.1	???	???	4.14	-4.45	Jaani	Paramaja
423.5	???	???	4.19	-4.31	Jaani	Paramaja
425.6	???	???	4.61	-3.97	Jaani	Paramaja
427.6	???	???	4.60	-4.25	Jaani	Paramaja
429.6	???	???	4.41	-4.09	Jaani	Paramaja
431.5	???	???	4.37	-4.26	Jaani	Paramaja
435.5	<i>K. ranuliformis</i> S.Z.	???	4.06	-3.92	Jaani	Paramaja
437.5	<i>K. ranuliformis</i> S.Z.	???	4.13	-4.48	Jaani	Paramaja
439.8	<i>K. ranuliformis</i> S.Z.	???	4.34	-4.04	Jaani	Paramaja
440.3	<i>K. ranuliformis</i> S.Z.	???	4.55	-4.60	Riga	Tölla
442.0	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.92	-4.04	Riga	Tölla
444.0	<i>K. ranuliformis</i> S.Z.	<i>M. riccartonensis</i>	3.80	-3.99	Riga	Tölla
446.0	<b>(6)</b> <i>Pt. pennatus procerus</i> S.Z.	<i>M. riccartonensis</i>	3.87	-4.07	Riga	Tölla
448.0	<i>Pt. pennatus procerus</i> S.Z.	<i>M. firmus</i>	3.42	-3.97	Riga	Tölla
449.5	<b>(3)</b> <i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	3.65	-4.00	Riga	Tölla
451.5	<b>(X)</b> <i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	2.47	-4.03	Riga	Tölla
453.5	<b>(9)</b> <i>Pt. am. amorphognathoides</i> Z.G.	<i>C. murchisoni</i>	2.74	-4.08	Riga	Tölla
455.9	<i>Pt. am. amorphognathoides</i> Z.G.	???	2.00	-3.92	Riga	Tölla
457.5	<i>Pt. am. amorphognathoides</i> Z.G.	???	2.00	-4.50	Riga	Tölla
459.5	<i>Pt. am. amorphognathoides</i> Z.G.	???	2.08	-4.65	Velise	
461.5	<i>Pt. am. amorphognathoides</i> Z.G.	???	1.63	-3.74	Velise	
463.5	<i>Pt. am. amorphognathoides</i> Z.G.	???	1.54	-4.19	Velise	
465.5	<i>Pt. am. amorphognathoides</i> Z.G.	???	1.65	-4.36	Velise	
467.5	<i>Pt. am. amorphognathoides</i> Z.G.	???	1.57	-4.39	Velise	
469.5	<i>Pt. am. amorphognathoides</i> Z.G.	???	1.28	-4.17	Velise	
471.5	<i>Pt. am. amorphognathoides</i> Z.G.	<i>O. spiralis</i>	1.31	-0.05	Velise	
473.5	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	1.55	-4.25	Velise	
475.5	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	1.61	-4.23	Velise	
477.5	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	1.89	-4.56	Velise	
479.5	<i>Pt. celloni</i> S.Z.	<i>O. spiralis</i>	1.92	-4.75	Velise	
481.5	<i>Pt. am. lennarti</i>	<i>O. spiralis</i>	1.43	-4.75	Velise	

(9) Base of the Wenlock Series defined by the FAD of *C. murchisoni*

(X) Onset of the early Sheinwoodian (Ireviken) excursion

(3) Datum 3 of the Ireviken Event defined by the LAD of *Pt. am. amorphognathoides* and *Panderodus* sp. nov. N(6) Datum 6 of the Ireviken Event defined by the LAD of *Pt. pennatus procerus*

TABLE DR9: ROBERT MOSES POWER PLANT S-1 CORE - NEW YORK, USA

ft. downcore	meter	conodont zone	$\delta^{13}\text{C}_{\text{carb}}$	$\delta^{18}\text{O}$	Formation	Member
11.0	49.62	???	-2.89	-6.19	Eramosa	
12.0	49.32	???	-1.68	-6.48	Eramosa	
16.0	48.10	2010130	-1.23	-6.73	Eramosa	
20.0	46.88	???	-0.83	-7.42	Eramosa	
22.0	46.27	???	-0.64	-6.42	Eramosa	
24.0	45.66	???	0.09	-6.43	Eramosa	
25.0	45.35	???	0.20	-6.63	Eramosa	
27.0	44.74	???	0.70	-4.49	Eramosa	
29.0	44.14	???	0.64	-4.24	Eramosa	
31.0	43.53	???	1.10	-4.15	Eramosa	
32.0	43.22	???	1.21	-4.16	Eramosa	
33.0	42.92	???	1.30	-3.68	Goat Island	Vinemount
35.0	42.31	???	1.85	-4.73	Goat Island	Vinemount
37.0	41.70	???	2.12	-5.41	Goat Island	Vinemount
39.0	41.09	???	2.35	-5.55	Goat Island	Vinemount
41.0	40.48	???	2.13	-5.71	Goat Island	Vinemount
43.0	39.87	???	2.19	-4.40	Goat Island	Vinemount
44.0	39.56	???	2.34	-3.43	Goat Island	Vinemount
45.0	39.26	???	2.35	-4.11	Goat Island	N.F. and Ancaster
47.0	38.65	???	0.17	-6.42	Goat Island	N.F. and Ancaster
49.0	38.04	???	2.62	-3.52	Goat Island	N.F. and Ancaster
51.0	37.43	Lower K. walliseri	2.53	-5.00	Goat Island	N.F. and Ancaster
53.0	36.82	Lower K. walliseri	2.52	-4.64	Goat Island	N.F. and Ancaster
55.0	36.21	Lower K. walliseri	2.69	-3.41	Goat Island	N.F. and Ancaster
57.0	35.60	Lower K. walliseri	2.80	-5.45	Goat Island	N.F. and Ancaster
59.0	34.99	Lower K. walliseri	2.90	-5.94	Goat Island	N.F. and Ancaster
61.0	34.38	Lower K. walliseri	3.23	-5.39	Goat Island	N.F. and Ancaster
63.0	33.77	Lower K. walliseri	3.49	-5.92	Goat Island	N.F. and Ancaster
65.0	33.16	Lower K. walliseri	3.80	-5.61	Goat Island	N.F. and Ancaster
67.0	32.55	Lower K. walliseri	4.01	-5.37	Goat Island	N.F. and Ancaster
69.0	31.94	Lower K. walliseri	3.71	-4.02	Goat Island	N.F. and Ancaster
71.0	31.33	Lower K. walliseri	3.80	-3.99	Goat Island	N.F. and Ancaster
72.0	31.03	Lower K. walliseri	4.04	-4.82	Goat Island	N.F. and Ancaster
73.0	30.72	Lower K. walliseri	4.08	-4.66	Goat Island	N.F. and Ancaster
74.0	30.42	???	4.34	-4.88	Gasport	Pekin
75.0	30.11	???	4.54	-4.05	Gasport	Pekin
77.0	29.50	???	4.76	-5.99	Gasport	Pekin
79.0	28.90	???	4.77	-7.56	Gasport	Pekin
81.0	28.29	???	4.78	-7.43	Gasport	Pekin
83.0	27.68	???	4.79	-8.66	Gasport	Pekin
85.0	27.07	???	4.86	-8.48	Gasport	Pekin
87.0	26.46	???	4.80	-8.83	Gasport	Pekin
89.0	25.85	???	4.78	-8.42	Gasport	Gothic Hill
91.0	25.24	???	4.79	-6.74	Gasport	Gothic Hill
93.0	24.63	???	4.39	-8.10	Gasport	Gothic Hill
93.8	24.38	???	4.56	-6.98	Gasport	Gothic Hill
94.0	24.32	???	4.42	-7.59	DeCew	
96.0	23.71	???	5.11	-6.70	DeCew	
98.0	23.10	???	5.09	-5.75	DeCew	
100.0	22.49	???	4.61	-4.70	DeCew	
101.0	22.19	???	4.80	-5.07	DeCew	
102.0	21.88	O. sagitta rhenana	5.01	-4.90	Rochester	Burleigh Hill
104.0	21.28	O. sagitta rhenana	5.07	-4.29	Rochester	Burleigh Hill
106.0	20.67	O. sagitta rhenana	5.05	-4.45	Rochester	Burleigh Hill
108.0	20.06	O. sagitta rhenana	4.98	-3.66	Rochester	Burleigh Hill
110.0	19.45	O. sagitta rhenana	5.02	-3.58	Rochester	Burleigh Hill
112.0	18.84	O. sagitta rhenana	5.01	-4.47	Rochester	Burleigh Hill
114.0	18.23	O. sagitta rhenana	4.91	-5.40	Rochester	Burleigh Hill
116.0	17.62	O. sagitta rhenana	4.94	-5.20	Rochester	Burleigh Hill
118.0	17.01	O. sagitta rhenana	5.22	-5.06	Rochester	Burleigh Hill
120.0	16.40	O. sagitta rhenana	4.96	-5.53	Rochester	Burleigh Hill
122.0	15.79	O. sagitta rhenana	5.03	-5.20	Rochester	Burleigh Hill
124.0	15.18	O. sagitta rhenana	4.95	-5.42	Rochester	Burleigh Hill
126.0	14.57	O. sagitta rhenana	4.99	-4.76	Rochester	Burleigh Hill
128.0	13.96	O. sagitta rhenana	4.88	-5.34	Rochester	Burleigh Hill
130.0	13.35	O. sagitta rhenana	5.04	-4.52	Rochester	Lewiston
132.0	12.74	K. ranuliformis S.Z.	1.89	-4.09	Rochester	Lewiston
134.0	12.13	K. ranuliformis S.Z.	5.08	-5.26	Rochester	Lewiston
136.0	11.52	K. ranuliformis S.Z.	5.07	-5.74	Rochester	Lewiston
138.0	10.91	K. ranuliformis S.Z.	5.04	-5.82	Rochester	Lewiston
140.0	10.30	K. ranuliformis S.Z.	5.30	-5.43	Rochester	Lewiston
142.0	9.69	K. ranuliformis S.Z.	5.12	-7.10	Rochester	Lewiston
144.0	9.08	K. ranuliformis S.Z.	5.07	-7.05	Rochester	Lewiston
146.0	8.47	K. ranuliformis S.Z.	5.14	-6.12	Rochester	Lewiston
148.0	7.86	K. ranuliformis S.Z.	5.23	-5.83	Rochester	Lewiston
150.0	7.25	K. ranuliformis S.Z.	5.17	-5.93	Rochester	Lewiston
152.0	6.64	K. ranuliformis S.Z.	4.90	-6.69	Rochester	Lewiston
154.0	6.04	K. ranuliformis S.Z.	4.86	-5.87	Rochester	Lewiston
156.0	5.43	K. ranuliformis S.Z.	4.61	-6.60	Rochester	Lewiston
158.0	4.82	K. ranuliformis S.Z.	3.81	-7.59	Rochester	Lewiston
160.0	4.21	K. ranuliformis S.Z.	4.36	-5.53	Rochester	Lewiston
162.0	3.60	K. ranuliformis S.Z.	3.74	-6.36	Irondequoit	
164.0	2.99	K. ranuliformis S.Z.	4.79	-4.94	Irondequoit	
166.0	2.38	K. ranuliformis S.Z.	5.47	-3.35	Irondequoit	
167.0	2.07	K. ranuliformis S.Z.	5.55	-4.54	Irondequoit	
168.0	1.77	K. ranuliformis S.Z.	5.24	-4.08	Irondequoit	
169.0	1.46	K. ranuliformis S.Z.	4.68	-5.59	Irondequoit	
170.0	1.16	K. ranuliformis S.Z.	4.99	-4.50	Irondequoit	
171.0	0.85	K. ranuliformis S.Z.	5.18	-4.05	Irondequoit	
171.5	0.70	K. ranuliformis S.Z.	4.98	-4.85	Irondequoit	
172.0	0.55	(3) Pt. am. amorphognathoides	3.12	-5.36	Rockway	
173.0	0.24	Pt. am. amorphognathoides	3.61	-8.48	Rockway	
173.8	0.00	Pt. am. amorphognathoides	2.96	-4.75	Williamson(?)	
174.0	-0.06	Pt. am. amorphognathoides	3.24	-4.98	Williamson(?)	

(3) Datum 3 of the Ireviken Event defined by the LAD of *Pt. amorphognathoides amorphognathoides*(6) Datum 6 of the Ireviken Event defined by the LAD of *Pt. pennatus procerus*

(X) Onset of the early Sheinwoodian (Ireviken) excursion

TABLE DR10: GOTLAND LOCALITIES

SWEDISH GRID REFERENCE DATA

Locality	Swedish Grid Reference
Allhage 1	638680
Allhageviken 1	638575
Ansarve 1	637823
Ansarve 1D	637823
Ansarve 7	637822
Bläse 1	642427
Broskogs 1	642826
Buske 1	638865
Gnisvärd 1	637760
Gutevägen 5	639200
Häftingsklint 2	642117
Häftingsklint 3	642127
Häftingsklint 5B	641985
Hällagrund 1	642700
Hällarna 4	639210
Hällarna 5	639290
Hällarna 6	639270
Hallbro Slott 13	638610
Hallshuk 3	642560
Hoburgsmyr 1	641600
Högklint 4	638869
Ireviken 1	641659
Ireviken 3	641672
Korpklint 1	639704
Langhammarshammar 1	643534
Lickershamn 1	641473
Lickershamn 2	641460
Lundsklint 2	640900
Lusklint 1	640855
Nors Stenbrott 1	642580
Nygårdsbäcksprofilen 2	638885
Nymånetorp 1	641783
Nyrevsudde 1	638132
Oivide 1	637990
Oividekorset 1	637839
Oividekorset 3	637888
Östergårde 1	638023
Östergårde 2	637948
Palisadgatan 1	639257
Palisadgatan 2	639257
Raukudd 1	641810
Rönnklint 2	641179
Saxriv 1	642685
Sigsarvestrand 3	641860
Slitebrottet 2	640255
Stavsklint 1	638410
Stora Hästnäs 1	639675
Stora Home 1	638235
Stora Myre 1	640414
Storbrut 1	641004
Svarthäll 1	641740
Svarven 1	642571
Svarven 2	642540
Tofta 2	637924
Tofta Södra 1	637495
Tofta Södra 5	637317
Valve 3	637323
Valve 4	637365
Vattenfallsprofilen 1	639269
Västerhejde 4	638610
Västös 2	642191
Ygne 3	638794
Ygne 5	638690