

Basin	Horizon	Kriging (Linear Interp)		Inverse Distance to Power		Minimum Curvature		Modified Shepard's Method		Natural Neighbour		Nearest Neighbour		Radial Basin Function		Triangulation (Linear Interp)		Moving Average		Local Polynomial	
		Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev
Inner	Surface	0.148	5.381	0.795	7.543	0.166	9.342	0.341	6.404	0.373	4.460	0.080	8.421	-0.308	21.696	0.217	4.459	-1.606	23.948	1.591	12.011
	Holocene Int	0.115	5.513	0.521	7.533	0.108	8.996	0.101	6.292	6.422	13.139	0.347	8.302	0.405	64.849	0.208	4.680	-1.658	23.899	1.586	11.403
	G/PG Interface	0.147	5.574	0.304	7.398	0.077	9.208	0.096	6.237	0.216	4.692	0.215	7.731	-0.315	38.672	0.203	5.113	-1.383	21.752	1.673	11.193
	Bedrock	-0.065	7.780	-0.544	10.188	-0.518	10.074	0.129	7.985	-0.643	7.003	-0.180	10.415	-0.685	22.481	-0.681	6.902	1.634	24.276	-2.317	14.082
Middle	Surface	0.122	5.498	0.801	8.098	0.134	9.897	0.435	5.999	0.408	4.988	0.067	9.811	-0.598	23.67	0.345	5.587	-1.789	21.900	1.498	12.098
	Holocene Int	0.098	5.332	0.634	8.456	0.105	8.213	0.114	6.001	5.221	11.945	0.387	9.765	0.376	71.897	0.303	4.987	-1.854	22.897	1.556	13.001
	G/PG Interface	0.169	5.781	0.299	8.398	0.104	9.346	0.088	6.567	0.111	5.091	0.211	8.931	-0.387	32.677	0.567	5.987	-1.765	23.876	1.603	10.998
	Bedrock	-0.076	6.987	-0.448	9.972	-0.678	11.087	0.469	8.532	-0.632	6.782	-0.204	11.678	-0.703	21.567	-0.456	7.032	1.345	21.478	-2.222	15.073
Outer	Surface	0.156	5.398	0.786	8.034	0.176	9.456	0.289	6.867	0.556	5.123	0.089	9.002	-0.445	26.643	0.311	4.898	-1.675	23.674	1.547	12.002
	Holocene Int	0.101	5.545	0.456	7.001	0.087	7.891	0.105	6.345	7.991	13.456	0.378	9.832	0.378	67.789	0.356	4.698	-1.798	22.111	1.497	12.768
	G/PG Interface	0.134	5.678	0.201	7.457	0.108	9.679	0.078	6.389	0.321	5.897	0.198	10.432	-0.378	43.734	0.689	6.023	-1.666	21.896	1.634	11.034
	Bedrock	-0.045	8.012	-6.045	9.986	-0.789	9.789	-0.156	7.765	-0.687	7.015	-0.163	13.001	-0.801	24.834	-0.389	7.091	1.456	22.134	-2.980	15.002
Total Times Methodology Ranked in the Top 3		21		0		10		11		9		5		0		12		0		0	

Ranking	
1st	
2nd	
3rd	

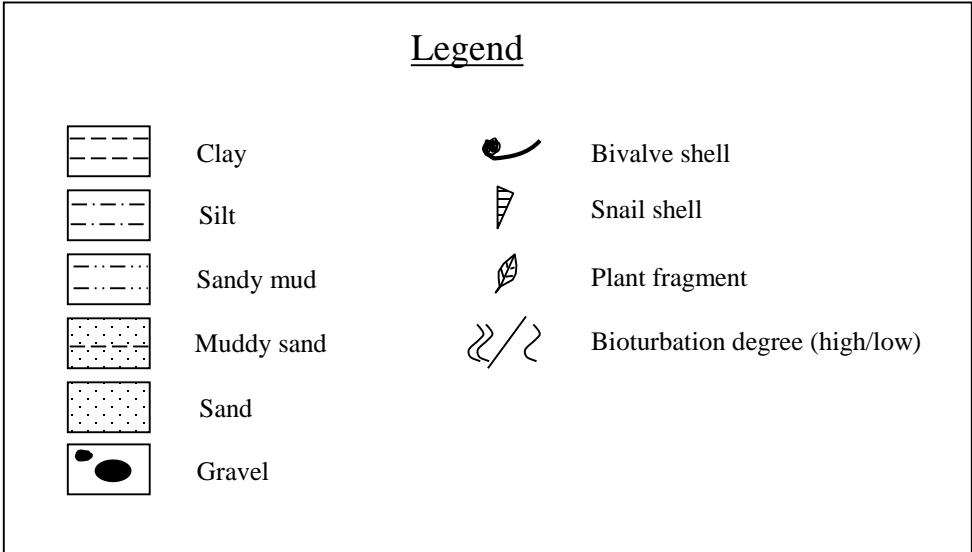
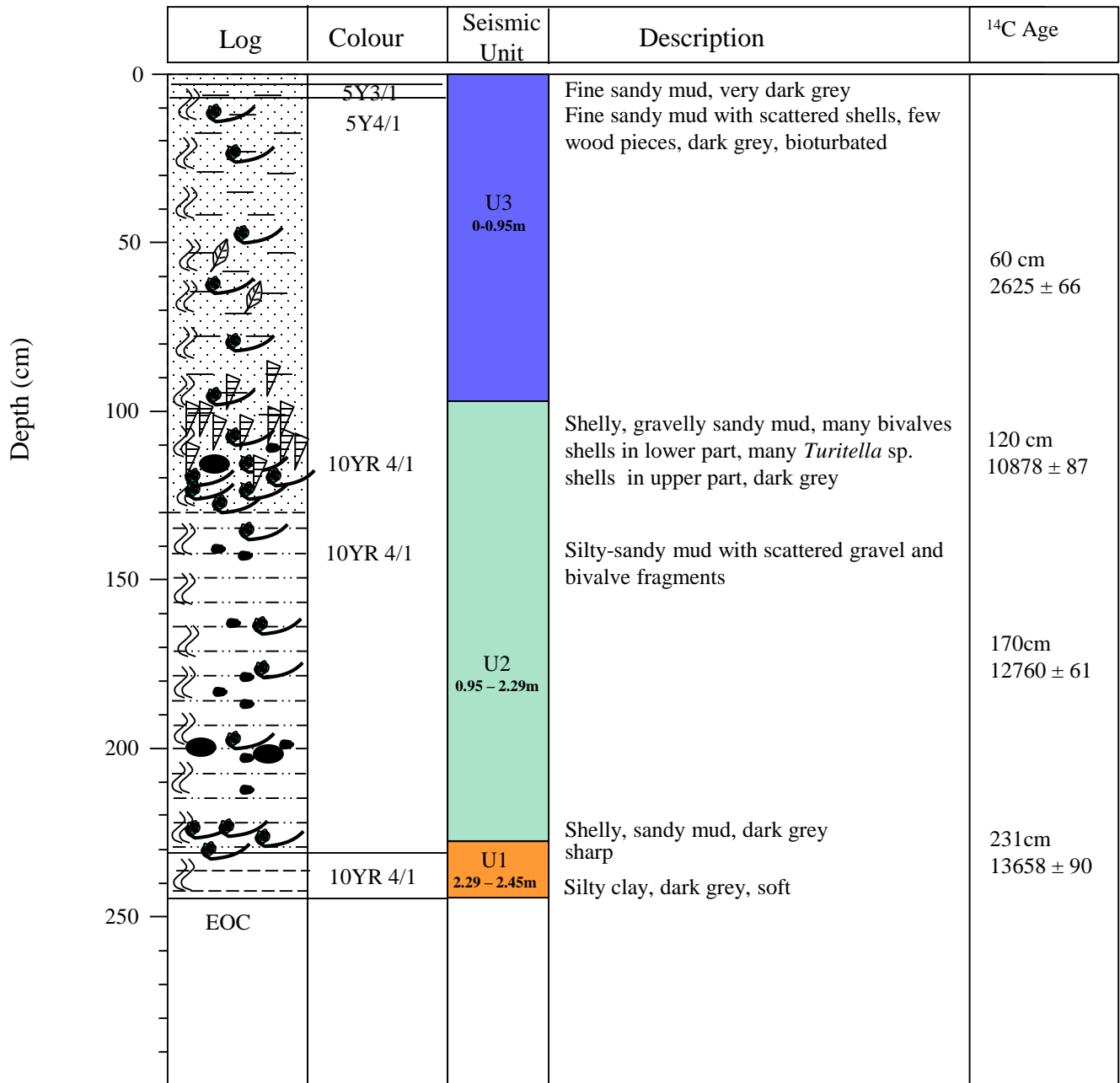
Supplementary Table.1: Cross validation results (Residual Z_{mean} & $Z_{\text{st.dev}}$) for the three basins of Loch Sunart.

Core no.: GC009, Loch Sunart: 56 40.324'N 05 52.025'W, Depth: 107 m

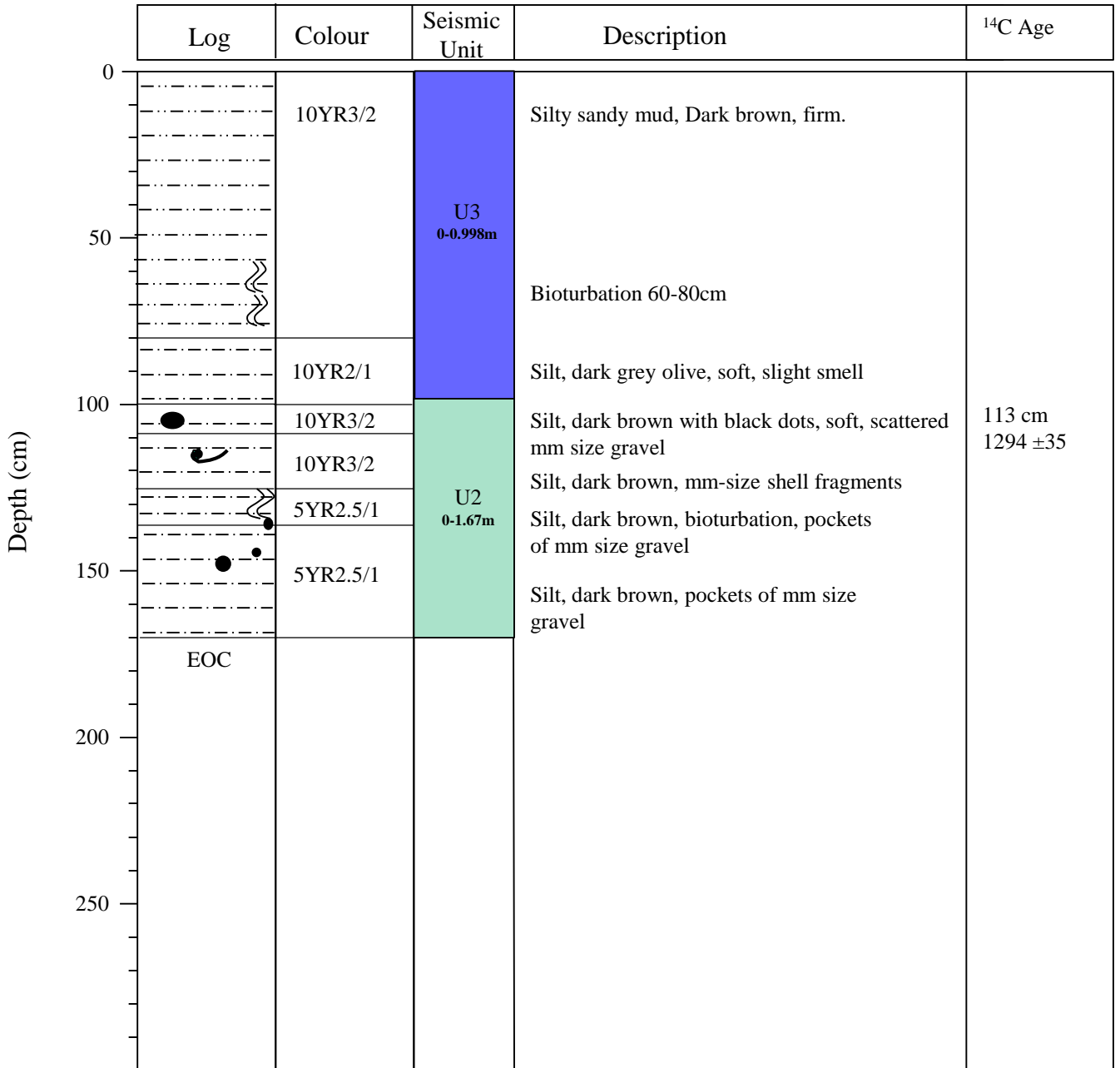
Log	Colour	Seismic Unit	Description	¹⁴ C Age
	10YR 4/1		0-15 cm: Washed out (during coring) gravelly, shelly mud (large scallop-like bivalves)	140 cm 10801 ± 91
	10YR 4/1 5Y4/1			
EOC				

Legend			
	Clay		Bivalve shell
	Silt		Snail shell
	Sandy mud		Plant fragment
	Muddy sand		Bioturbation degree (high/low)
	Sand		
	Gravel		

Core no.: GC011, Loch Sunart: 56 39.591°N 05 58.178°W, Depth:91 m



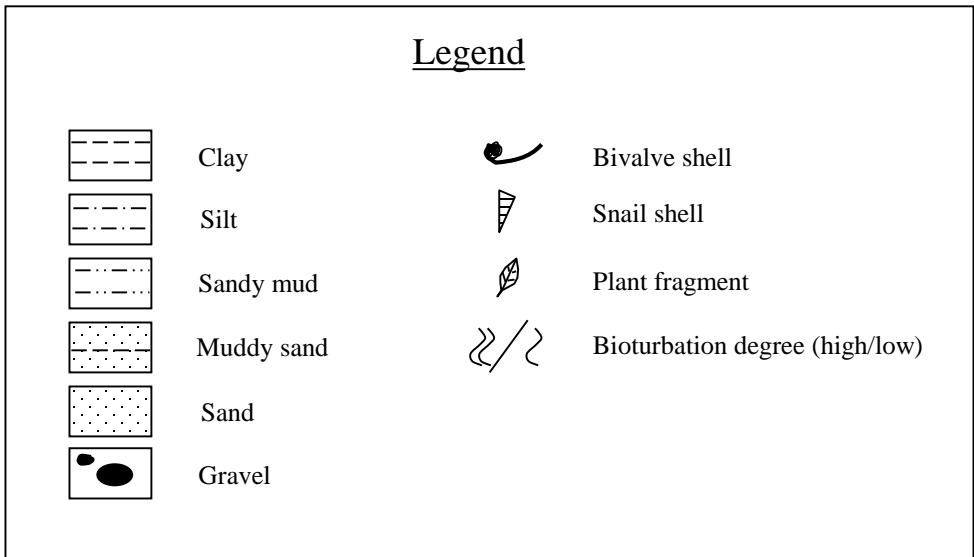
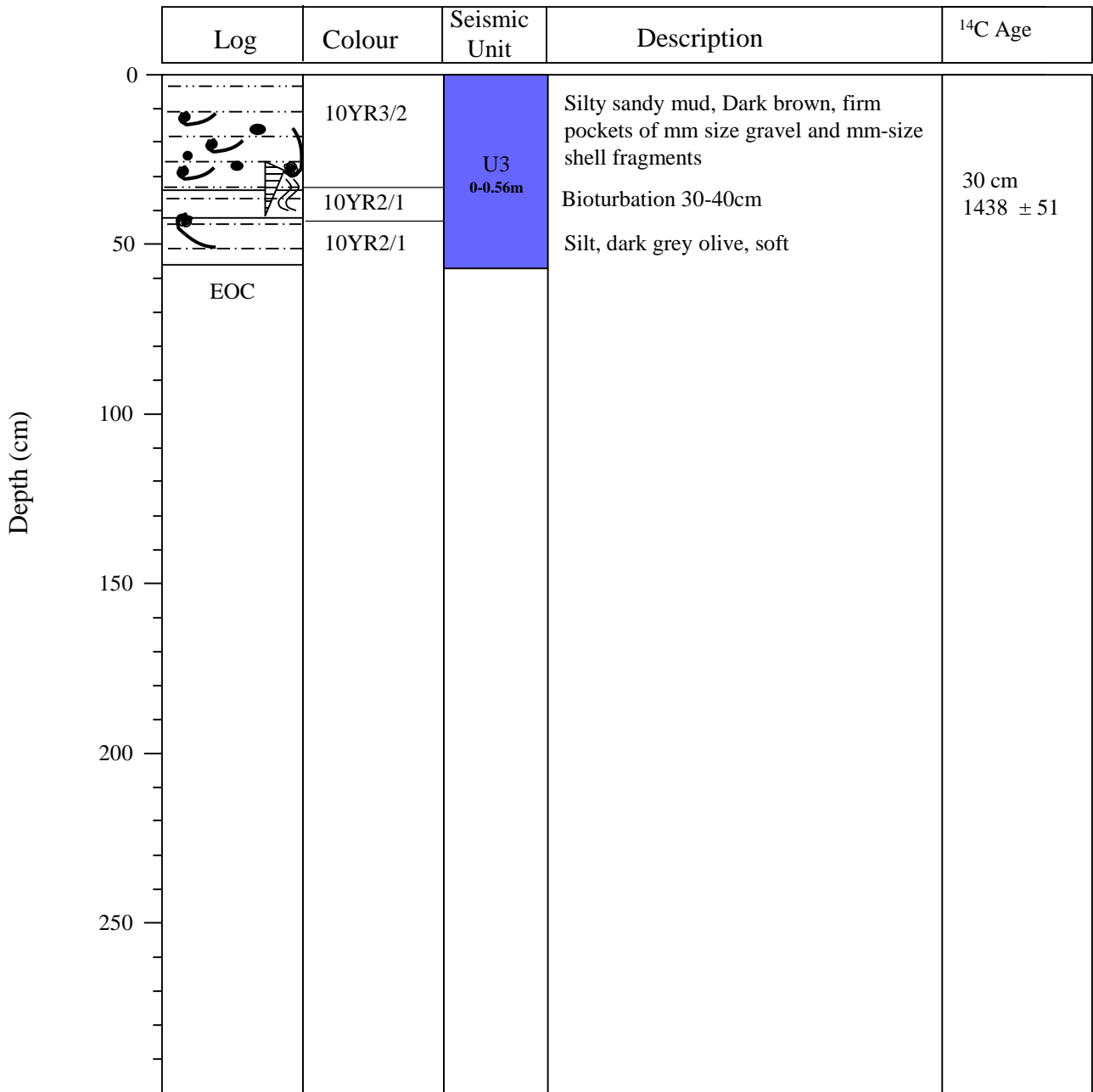
Core no.:GC013, **Loch Sunart:** 56 40.879'N 05 37.771'W, **Depth:**87 m



Legend

	Clay		Bivalve shell
	Silt		Snail shell
	Sandy mud		Plant fragment
	Muddy sand		Bioturbation degree (high/low)
	Sand		
	Gravel		

Core no.: GC016, Loch Sunart: 56 40.857N 05 38.540W, Depth: 58m



Core no.: GC020, Loch Sunart: 56 42.257'N 05 45.080'W, Depth: 105 m

Log	Colour	Seismic Unit	Description	¹⁴ C Age
	5Y4/1	U3 0-1.15m	Sany shelly mud, dark grey olive, many bivalves sharp	9 cm 357 ± 44
	10YR4/1		Sandy silty mud, scattered gravel (max. 7 cm diam., dark greyish brown, few bivalves, bioturbated	19 cm 2864 ± 57
	10YR4/1	U2 1.15-2.38m	Silty mud, dark greyish brown, bioturbated	126cm 13160 ± 90
	10YR4/1		Sandy shelly, gravelly mud, dark grey olive, many bivalves	
EOC				

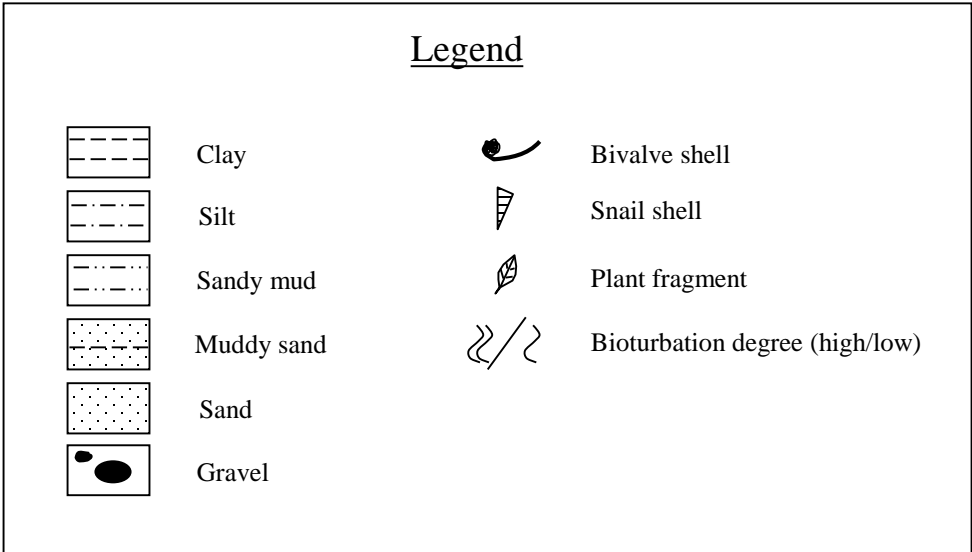
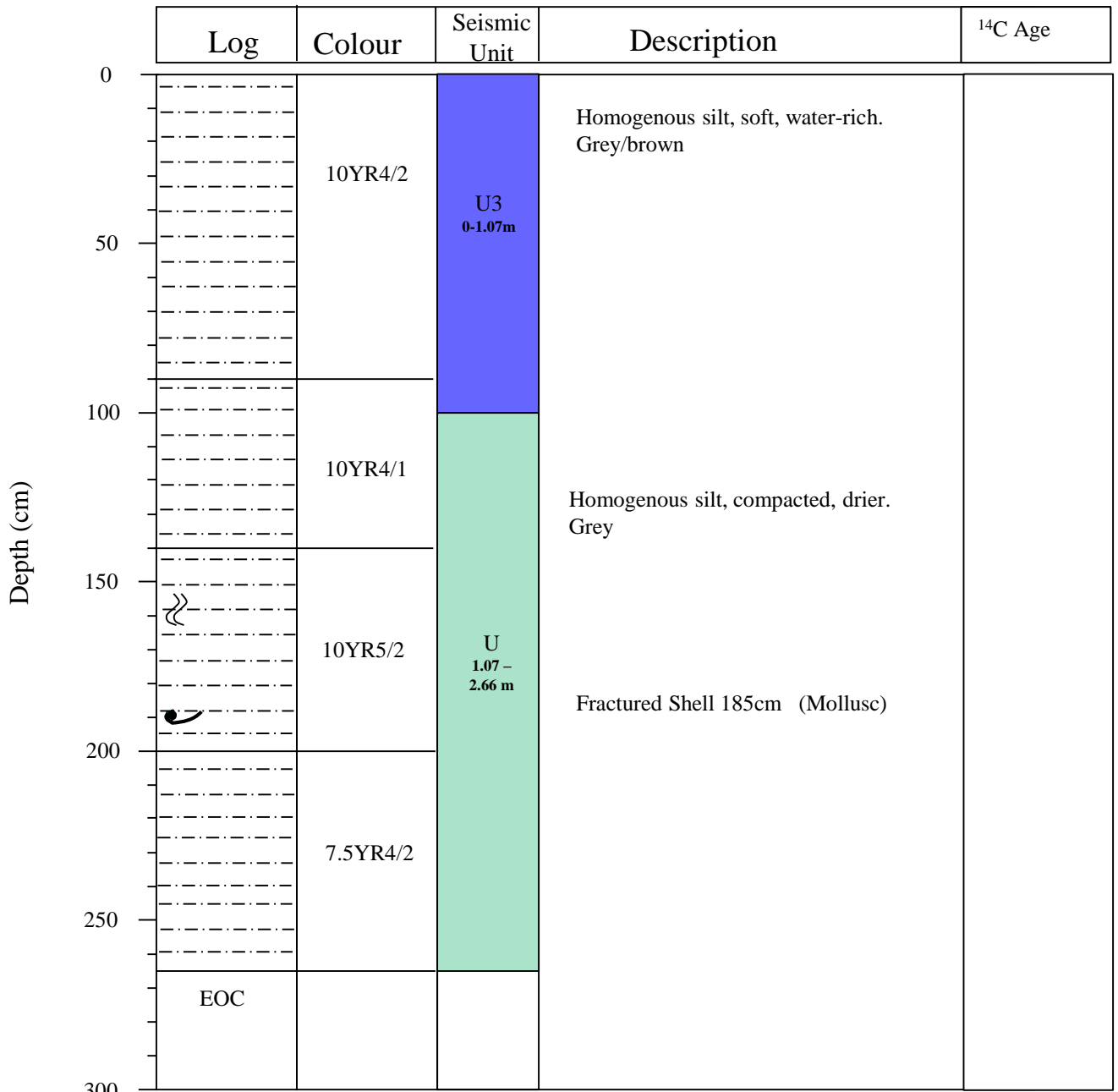
Depth (cm) is indicated on the left side of the log diagram, ranging from 0 to 250 cm.

Upward: gradual more sand content

Legend

	Clay		Bivalve shell
	Silt		Snail shell
	Sandy mud		Plant fragment
	Muddy sand		Bioturbation degree (high/low)
	Sand		
	Gravel		











Core no.: GC022, **Loch Sunart:** 56 40.820 N' 05 48.297 W, **Depth:** 120 m



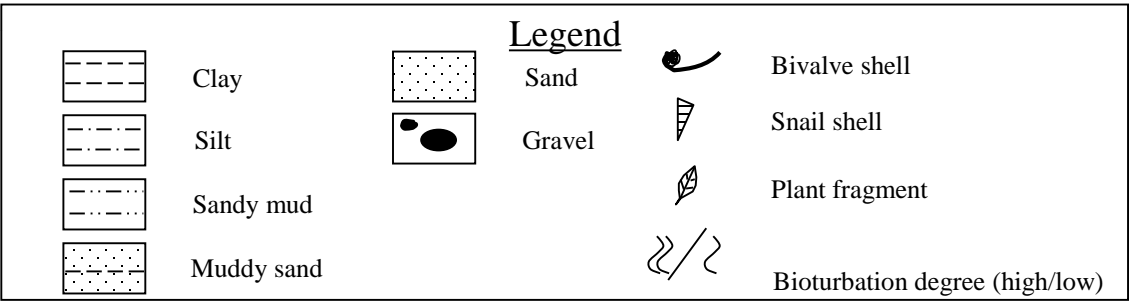
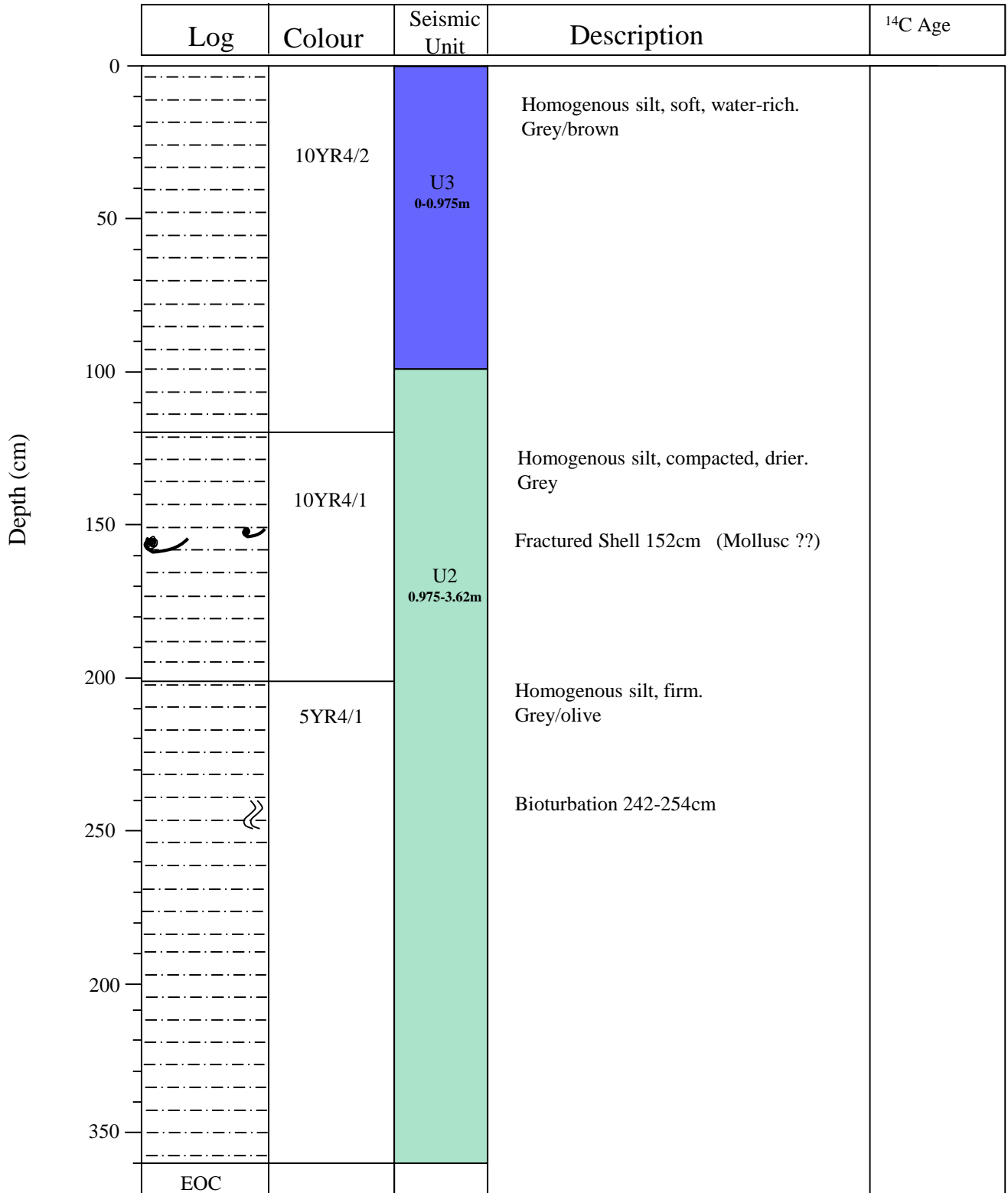
Core no.: GC023, Loch Sunart: 56 40.324'N 05 50.328'W, Depth: 110m

Log	Colour	Seismic Unit	Description	¹⁴ C Age
Depth (cm) 0 50 100 150 200 250 EOC	10YR4/1 10YR3/1	U3 0-1.02m	0-70 cm: Silty sandy mud, dark grey/very dark grey, water-rich soft, H ₂ S smell, w. scattered mm-size shell fragments, bivalves, bioturbated Very dark grey band (redox?) Very dark grey band (redox?)	30 cm 64 ± 51
	10YR4/1			49 cm 788 ± 58
	10YR3/1 10YR4/1			58 cm 886 ± 55
	5Y4/1 5Y3/1			73 cm 1011 ± 66
	5Y4/1			111.5 cm 1274 ± 59
				173cm: wood fragment
		U2 1.02-2.89m		250 cm 1801 ± 80
				286cm 2099 ± 70

Legend

 Clay  Silt  Sandy mud  Muddy sand  Sand  Gravel	 Bivalve shell  Snail shell  Plant fragment  Bioturbation degree (high/low)
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Core no.: GC081, **Loch Sunart:** 56 40 139° N 05 51 797° W, **Depth:** 58 m



Core no.: GC-01, Loch Sunart: 56° 41.809'N 5° 42.299'W, Depth:42 m

Log	Colour	Seismic Unit	Description	¹⁴ C Age
EOC	10YR4/1	U3 0-0.2m	Silty sandy mud, dark grey/very dark grey water-rich, soft	

Depth (cm)

0

50

100

150











Legend

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px; text-align: center;"></td> <td>Clay</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Silt</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Sandy mud</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Muddy sand</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Sand</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Gravel</td> </tr> </table>		Clay		Silt		Sandy mud		Muddy sand		Sand		Gravel	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px; text-align: center;"></td> <td>Bivalve shell</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Snail shell</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Plant fragment</td> </tr> <tr> <td style="width: 30px; text-align: center;"></td> <td>Bioturbation degree (high/low)</td> </tr> </table>		Bivalve shell		Snail shell		Plant fragment		Bioturbation degree (high/low)
	Clay																				
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	Sand																				
	Gravel																				
	Bivalve shell																				
	Snail shell																				
	Plant fragment																				
	Bioturbation degree (high/low)																				

Core no.: MD04-2833 VIII, **Loch Sunart:**57 31.06N 08 23.17 ' W, **Depth:** 158 m

Log	Colour	Seismic Unit	Description	¹⁴ C Age	
1050	10YR4/2	U1 18- 19.35m	Dry, heavily compacted. Glacial origin Brown/grey	745 cm 17041 ± 312	
1100			Cracking		
			Sand, course grain		
1150			10YR4/2		Sand, course grain
			10YR4/2		Sandy mud, course grain
1200	EOC				
2000					
2050					
2100					

Legend

- | | | | |
|---|------------|---|--------------------------------|
|  | Clay |  | Bivalve shell |
|  | Silt |  | Snail shell |
|  | Sandy mud |  | Plant fragment |
|  | Muddy sand |  | Bioturbation degree (high/low) |
|  | Sand | | |
|  | Gravel | | |