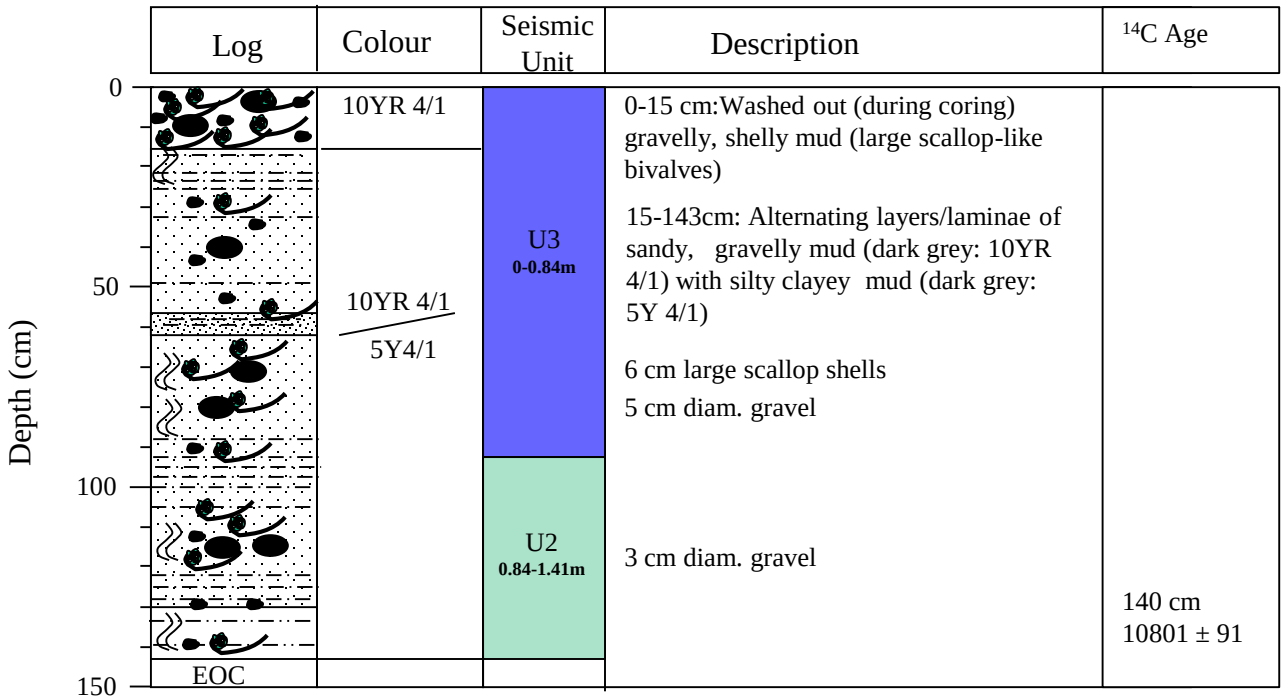
Basin	Horizon	Kriging (Linear Interp)		Inverse Distance to Power		Minimum Curvature		Modified Shepard's Method		Natural Neighbour		Nearest Neighbour		Radial Basin Function		Triangulation (Linear Interp)		Moving Average		Local Polynomial	
		Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	Z Mean	Z St.dev	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	

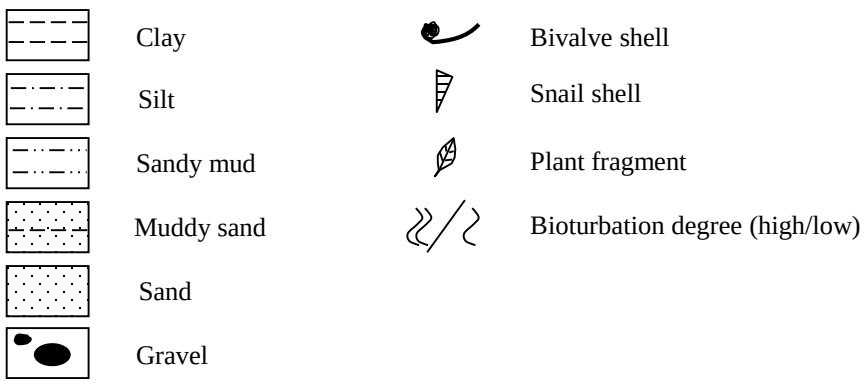
Ranking	
1st	
2nd	
3rd	

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

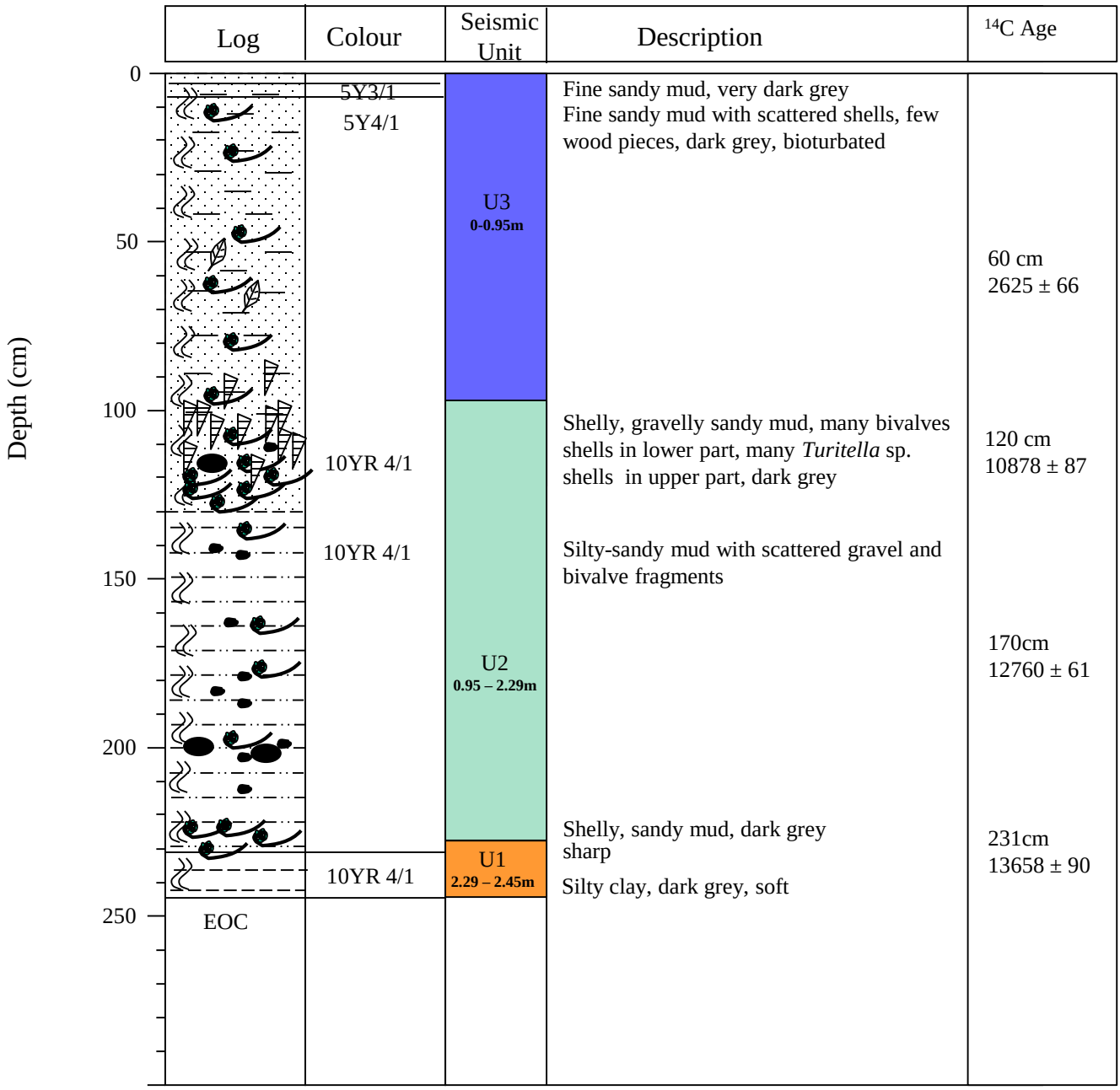
Core no.: GC009, **Loch Sunart:** 56 40.324'N 05 52.025'W, **Depth:**107 m



Legend



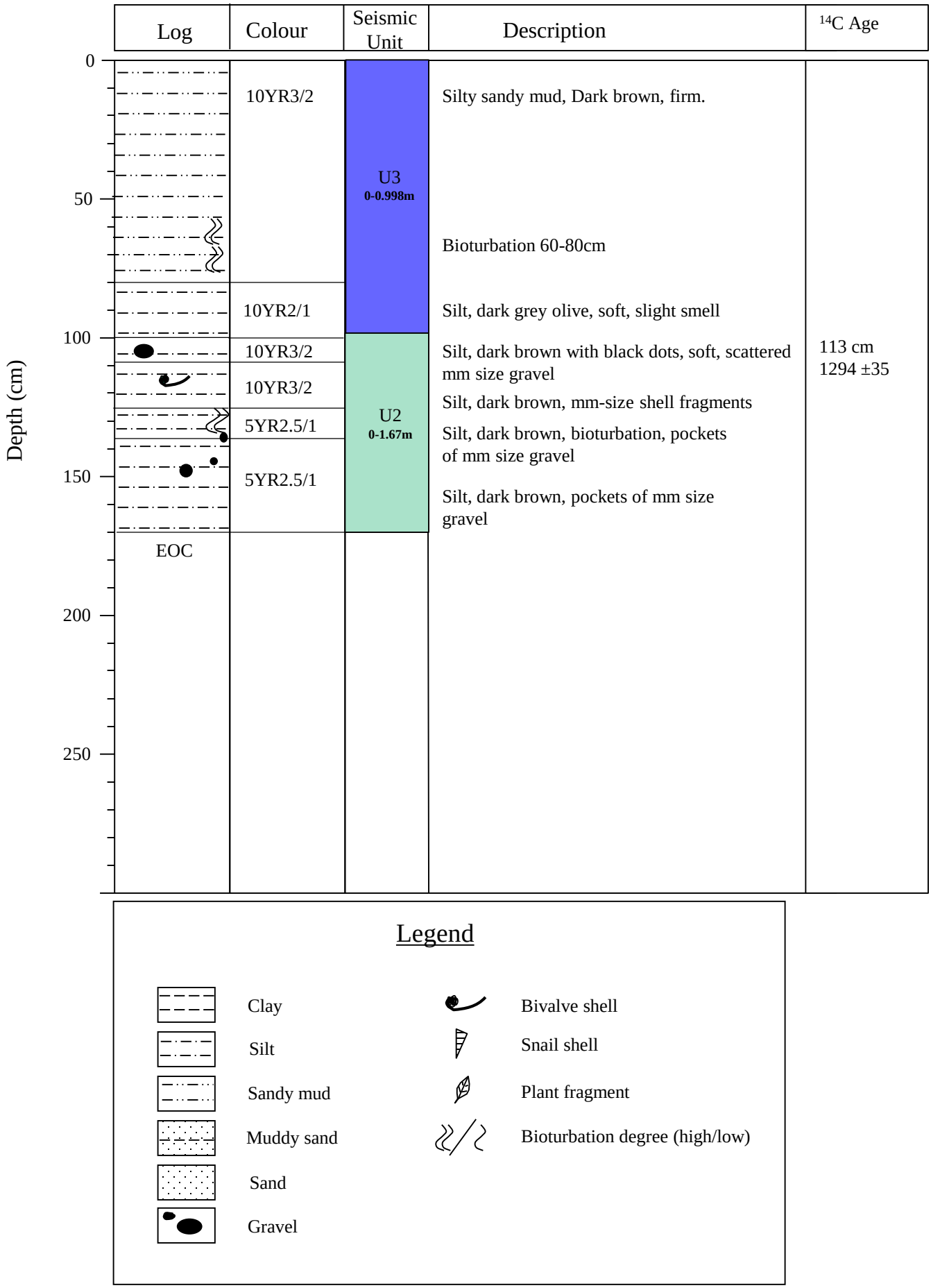
Core no.: GC011, **Loch Sunart:** 56 39.591'N 05 58.178'W, **Depth:**91 m



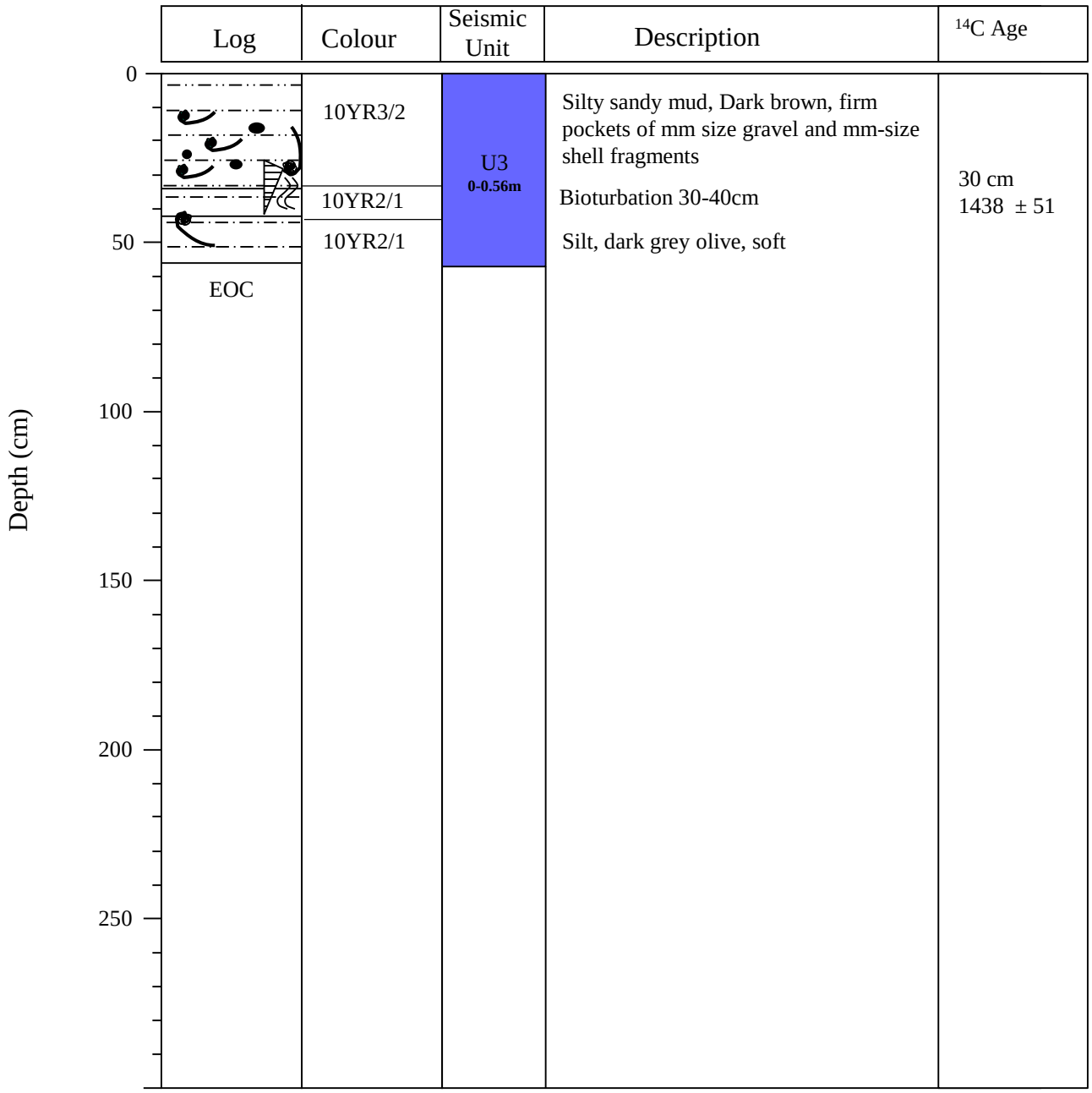
Legend

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

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



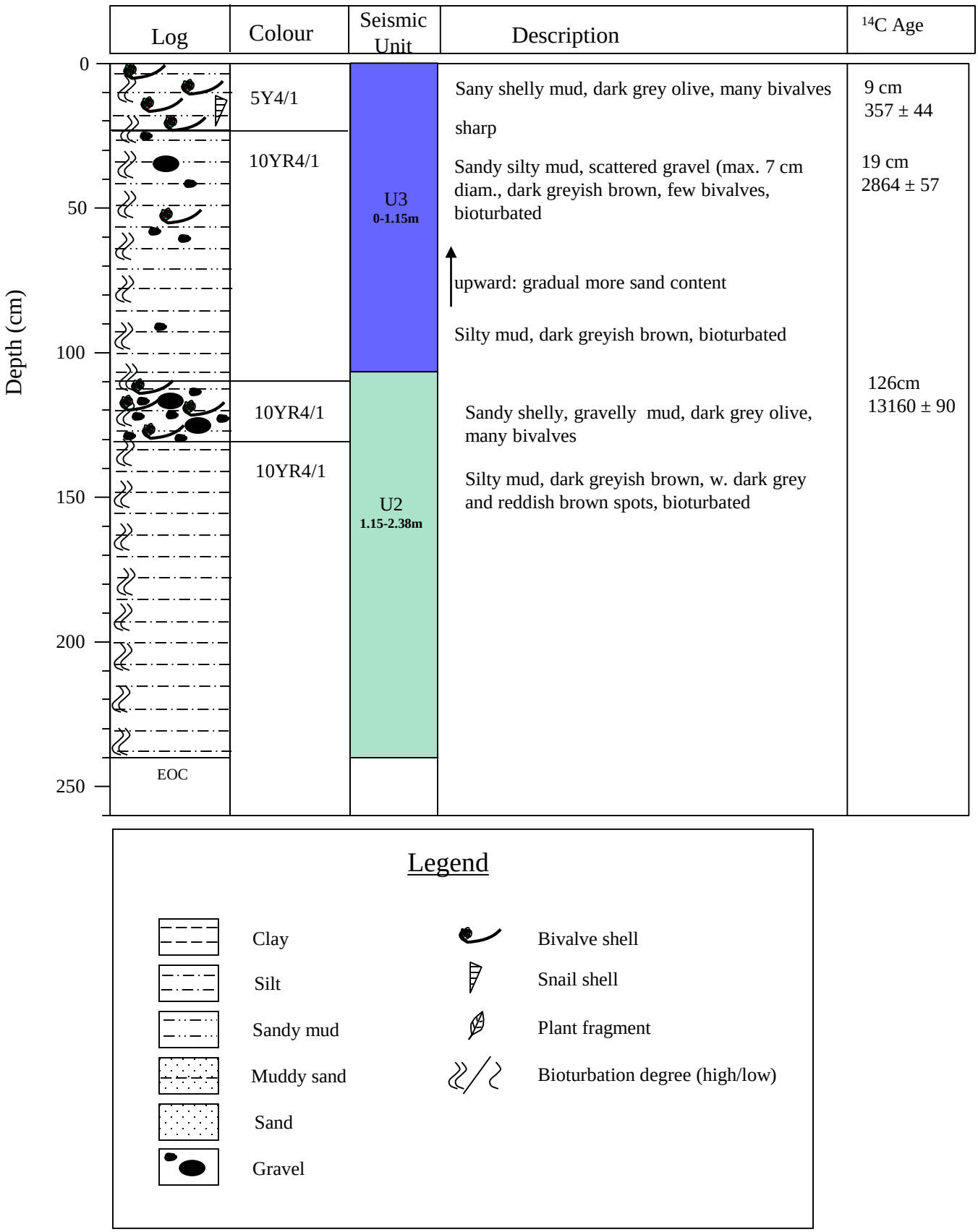
Core no.: GC016, **Loch Sunart:** 56 40.857N 05 38.540W, **Depth:** 58m



Legend

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

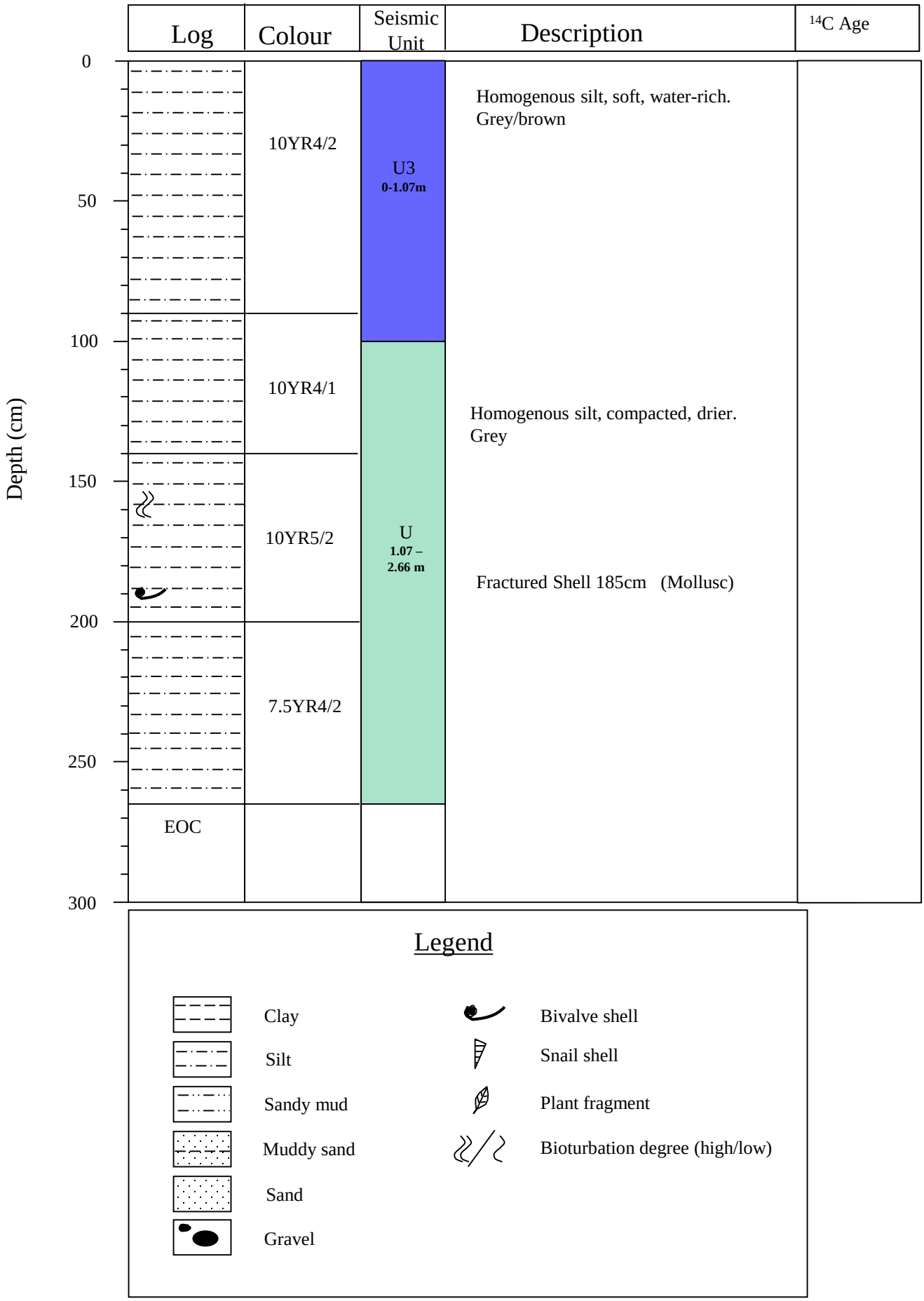
Core no.: GC020, **Loch Sunart:** 56 42.257'N 05 45.080'W, **Depth:**105 m



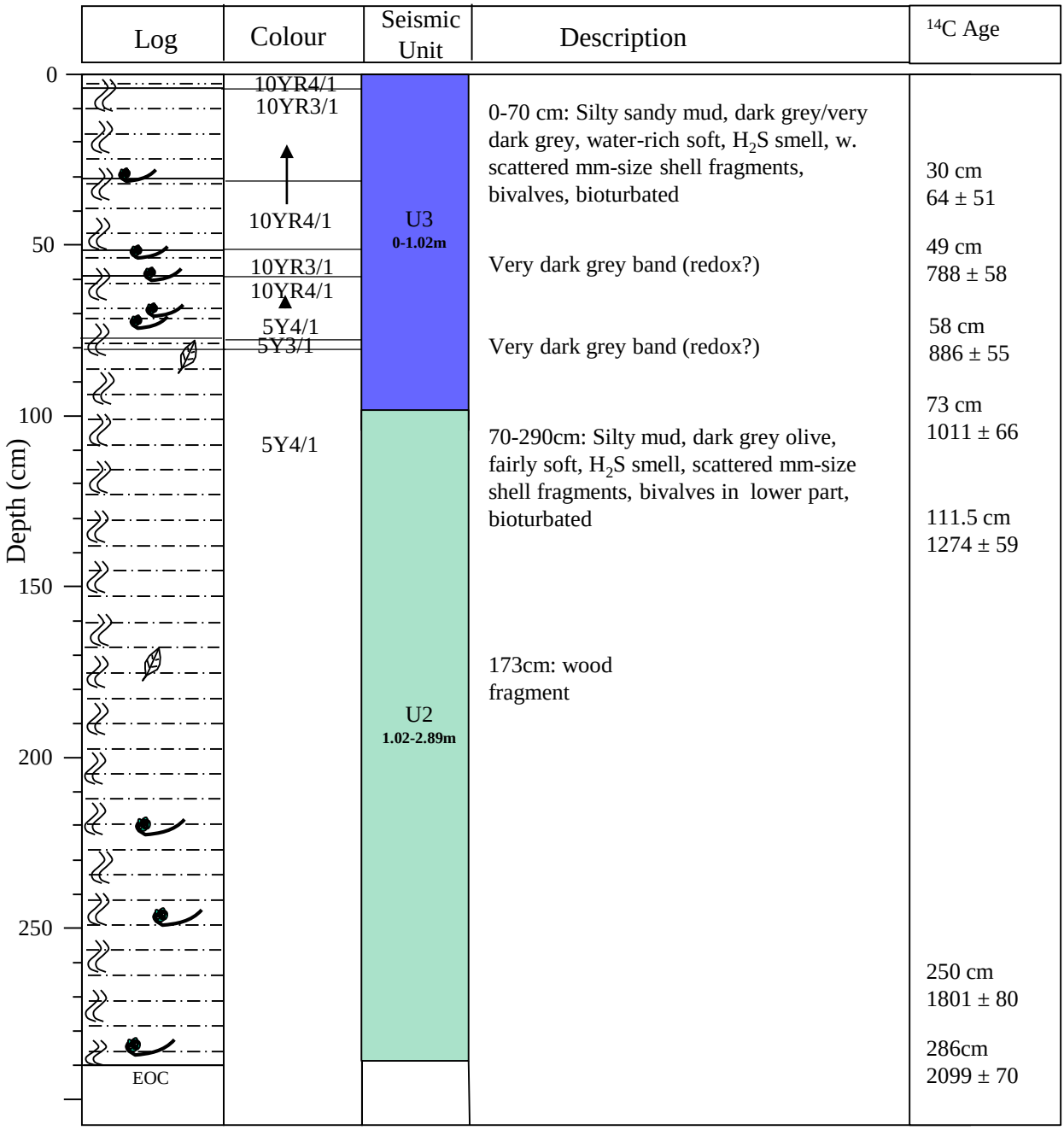
Legend

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

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



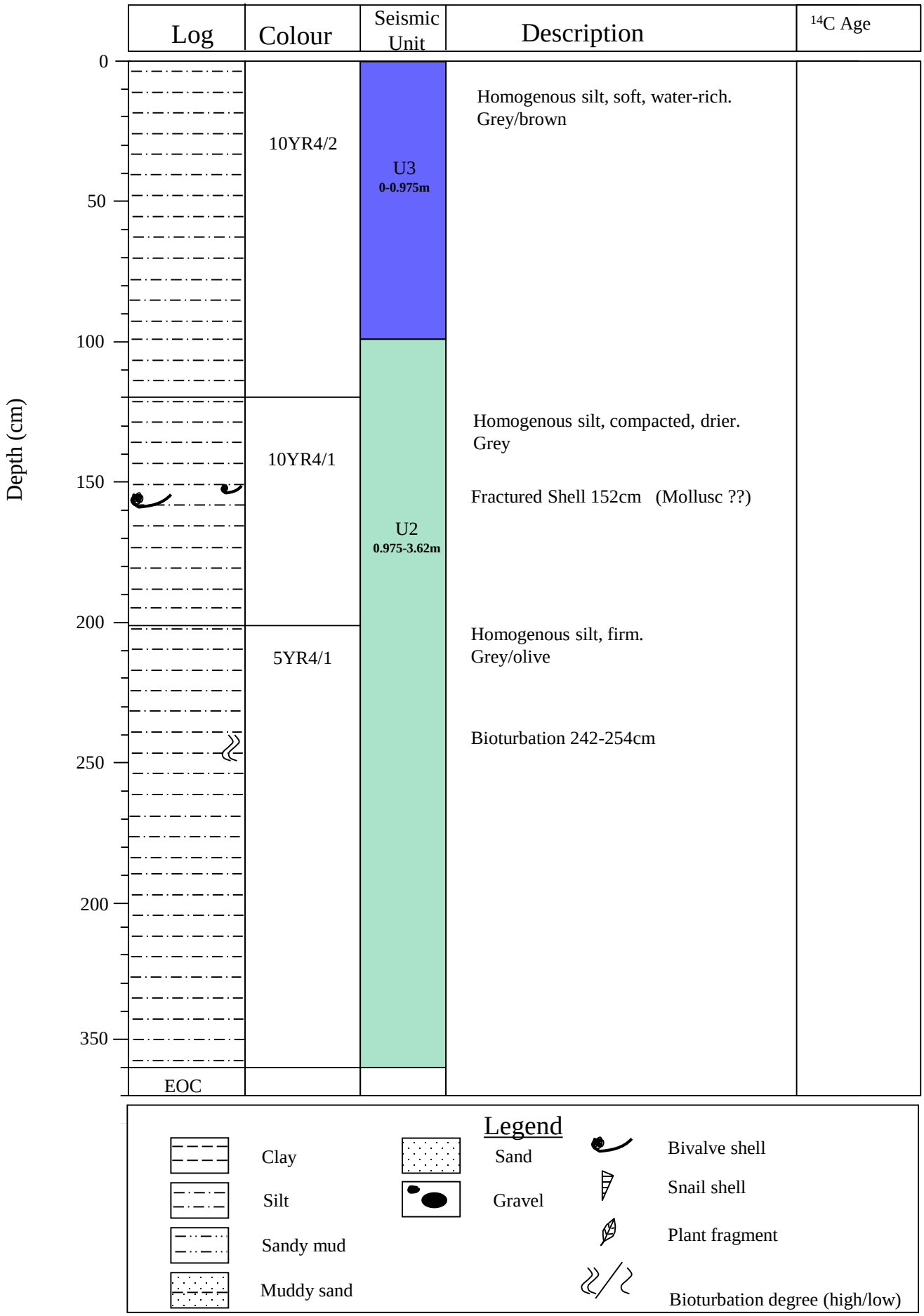
Core no.: GC023, **Loch Sunart:** 56 40.324'N 05 50.328'W, **Depth:**110m



Legend

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

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)

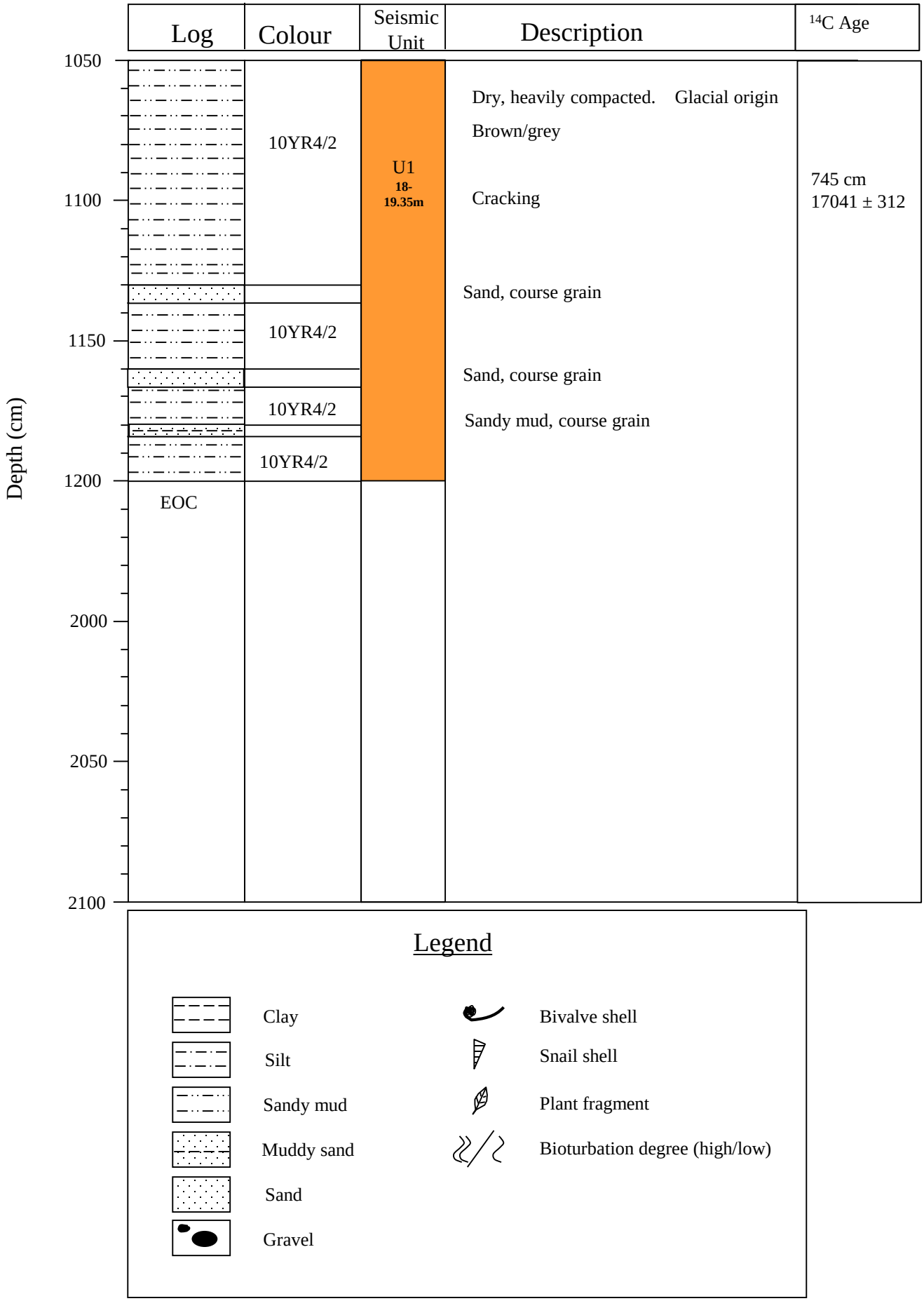
0

50

100

150

Legend

- Clay
- Silt
- Sandy mud
- Muddy sand
- 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