



Sample Name	ZooMS ID	Collagen Peptide Markers											
		P1	A1	A2	B	C	P2	D	E	F1	F2	G1	G2
WH640	Sperm whale	1079	-	-	1453	1550(?)	1652	2133	-	2883	2899(?)	3023(?)	3039
WH641	Right whale/Bowhead whale	1079	-	-	1453	1577(?)	1682	2135	-	2883	2899(?)	-	3023
WH642	Sperm whale	1079	-	1205(?)	1453	1550	1652	2133	-	2883	2899(?)	-	3039
WH643	Right whale/Bowhead whale	1079	-	-	1453	1577	1682	2135	-	2883	2899	3007(?)	3023
WH644	Pilot whale/False killer whale/Risso's dolphin	1063	-	1205	1453	1566(?)	1638	2119	-	2883	-	-	3023
WH645	Minke whale	1079	-	-	1441	1577	1652	2135(?)	-	-	-	-	-
WH646	Right whale/Bowhead whale	1079	-	1205	1453	1577	1682	2135	-	2883	-	3007(?)	3023
WH647	Right whale/Bowhead whale	1079	-	1205	1453	1577	1682	2135	-	2883	2899	-	3023
WH648	Pilot whale/False killer whale/Risso's dolphin	1063	-	-	1453	-	1638	2119	-	2883	-	-	3023
WH649	Sowerby's whale/Bottlenose whale	1063	-	1205	1441	1550	1638	2091	-	2883	-	-	3023
WH650	Right whale/Bowhead whale	1079	-	-	1453	1577	1682	2135	-	2883	2899(?)	-	3023
WH651	Right whale/Bowhead whale	1079	-	1205	1453	1577	1682	2135	-	2883	2899(?)	-	3023
WH652	Sowerby's whale/Bottlenose whale	1063	-	1205(?)	1441	1550	1638	2091	-	2883	-	-	3023
WH653	Bottlenose/Euphrosyne/Common/White-beaked dolphin	1079	-	1205	1453	1566	1638	2119	-	2883	2899	-	3023
WH654	Right whale/Bowhead whale	1079	-	1205	1453	1577	1682	2135	-	2883	2899	-	3023
WH655	Humpback whale	1079	-	1205(?)	1453	1566	1652	2135	-	2869	-	-	3023
WH656	Bottlenose/Euphrosyne/Common/White-beaked dolphin	1079	-	-	1453	-	1638	2119	-	2883	2899(?)	-	3023
WH657	Pilot whale/False killer whale/Risso's dolphin	1063	-	1205	1453	-	1638	2119	-	2883	-	-	3023
WH658	Sperm whale	1079	-	1205	1453	1550	1652	2133	-	2883	2899	-	3039
WH659	Sperm whale	1079	-	1205(?)	1453	1550	1652	2133	-	2883	2899	-	3039
WH660	Pilot whale/False killer whale/Risso's dolphin	1063	-	1205	1453	1566	1638	2119	-	2883	-	-	3023
WH661	<i>Probable Pilot whale/False killer whale/Risso's dolphin</i>	1063(?)	-	-	1453	-	1638(?)	2119	-	2883	-	-	3023
WH662	Humpback whale	1079	-	1205	1453	1566	1652	2135	-	2869	-	-	3023
WH663	Pilot whale/False killer whale/Risso's dolphin	1063	-	1205(?)	1453	1566	1638	2119	-	2883	-	-	3023
WH664	Pilot whale/False killer whale/Risso's dolphin	1063	-	1205	1453	1566	1638	2119	-	2883	-	-	3023
WH665	Grey whale	1079	-	-	1453	1566	1652	2135	-	2899	-	-	3023
WH666	Right whale/Bowhead whale	1079	-	1205	1453	1577	1682	2135	-	2883	-	-	3023
WH667	Sperm whale	1079	-	1205(?)	1453	1550(?)	1652	2133	-	2883	2899	-	3039
WH668	Humpback whale	1079	-	-	1453	1566	1652	2135	-	2869	-	-	3023
WH669	Sperm whale	1079	-	1205	1453	1550	1652	2133	-	2883	2899	-	3039
WH670	Right whale/Bowhead whale	1079	-	1205	1453	1577	1682	2135	-	-	-	-	-
WH671	Sperm whale	1079	-	1205	1453	1550	1652	2133	-	2883	2899(?)	-	3039
WH672	Humpback whale	1079	-	1205	1453	1566	1652	2135	-	2869	-	-	3023
WH673	Pilot whale/False killer whale/Risso's dolphin	1063	-	1205	1453	-	1638	2119	-	2883	-	-	3023
WH674	Sperm whale	1079	-	1205	1453	1550	1652	2133	-	2883	2899(?)	3023	3039
WH675	Pilot whale/False killer whale/Risso's dolphin	1063	-	1205	1453	1566	1638	2119	-	2883	-	-	3023
WH676	Pilot whale/False killer whale/Risso's dolphin	1063	-	-	1453	1566(?)	1638	2119	-	2883	-	-	3023

(?) Indicates peptide likely present but peaks were of poor quality or below the selected *m/z* threshold.

- Indicates no peak present for a particular peptide marker.

**Supplementary Table 2.** ZooMS identifications for all samples, along with collagen peptide markers used to make the identifications. Reference peptide markers are taken from Buckley et al. 2009, Kirby et al. 2013, and Welker et al. 2016.

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2021

Site	Sample number	ZooMS ID	Date	Specimen extra info	Specimen description	Butchery
Brough of Birsay	31	North Atlantic right whale/Bowhead whale	AD 950-1200	HB289 (B3y) (Upper Norse horizon, Room 13)	Small piece of whalebone, rough surface with crudely incised cross	Superficial cut mark
Brough of Birsay	33	Humpback whale	AD 850-1000	HB278 (Area II, Room 3)	Small whale bone hook?	
Brough of Birsay	32	Sperm whale	AD 850-1000	HB288 (Area II, Middle Norse horizon, Room 11)	Two rectangular whale bone tables. 90 mm x 60 mm x 10 mm	Working waste? Several chopmarks visible
Deerness	6	Minke Whale	AD 900-1200	Δ3229. BOD11. C222. T23.663, E130.430, N488.353	Unidentified bone	Several cutmarks
Deerness	7	North Atlantic right whale/Bowhead whale	AD 900-1200	Δ3226. BOD11. C250. T23.509, E129.898, N486.782, 7/7/2011. BH3C	Unidentified bone	Several chopmarks
Freswick Links	29	Humpback whale	AD 1000-1300	IL 544 (Found clearing off sand on south side of Building V)	Sneck (two pieces glued together with orange glue)	Hole drilled in the middle of specimen
Freswick Links	28	Sperm whale	AD 1000-1300	IL 545 (1939 571); 8.12.2 (Building I floor level, cfm from south wall on drain cover)	Sneck (with hole drilled in it)	Cutmark on one end of specimen
Freswick Links	30	Sperm whale	AD 1000-1300	IL 546 (1939 572); 8.12.3 (Found clearing floor at south side towards west end of Building IV)		
Jarlshof	13	Bottlenose/Sowerby's beaked whale	2500 BC - AD 1300	1935-50-34 (number 13)	Vertebra (unfused both sides)	Several chopmarks
Jarlshof	14	Bottlenose/Striped/ Common/White-beaked dolphin	AD 850-1000	1950-1-34	Vertebra (unfused both sides)	
Jarlshof	15	North Atlantic right whale/Bowhead whale	AD 850-1000	1950-1-34	Cranial fragment or large whale	
Jarlshof	16	Humpback whale	AD 850-1300	1952-1-34	Vertebra fragment. At least one side unfused. Partially burned	
Jarlshof	17	Bottlenose/Striped/ Common/White-beaked dolphin	AD 850-1300	1952-1-34 (70)	Vertebra (thoracic?, both sides unfused)	1 chopmark on transverse process and 1 chopmark on vertebral body
Jarlshof	18	Pilot/False killer/Risso's	AD 850-1300	1949-1-34	Atlas, axis, and third and fourth cervical vertebrae (fused together)	
Jarlshof	19	Sperm Whale	AD 850-1300	1949-1-34	Unidentified bone	Several chopmarks
Jarlshof	20	Sperm Whale	AD 850-1300	1949-1-34	Unidentified bone	Several chopmarks
Jarlshof	21	Pilot/False killer/Risso's	200 BC - AD 800	1952-1-34 (RPA Layer)	Vertebra (lumbar of caudal, unfused both sides)	
Jarlshof	22	Pilot/False killer/Risso's	200 BC - AD 800	1952-1-34 (RPA Layer)	phalanx (proximal side fusing, distal side unfused)	1 chopmark proximal end and 1 chopmark on shaft
Jarlshof	23a	Pilot/False killer/Risso's	200 BC - AD 800	1952-1-34 (RPA Layer)	Rib fragment	1 cutmark
Jarlshof	24a	Pilot/False killer/Risso's	200 BC - AD 800	1952-1-34 (RPA Layer)	Four unidentified bones	Working waste?
Jarlshof	23	Humpback whale	2500 BC - AD 1300	HSA 314	Atlas (two pieces glued together with orange glue)	Numerous cut- and chopmarks on both cranial and caudal side as well as lateral sides + 2 holes drilled in cranial articulation
Jarlshof	24	Pilot/False killer/Risso's	200 BC - AD 800	HSA 4127	Vertebral epiphysis	Hole drilled in the centre
Jarlshof	25	Pilot/False killer/Risso's	200 BC - AD 800	HSA 4125	Vertebral epiphysis	Hole drilled in the centre
Jarlshof	26	Grey whale	200 BC - AD 800	HSA 3210	Large vertebral body. Hollowed out, probably used as storage container. Hollowing out also started on other side, but process ceased there. Both sides fused. One piece broke off and glued back on it with orange glue	Heavily worked. Chopmark on one side
Jarlshof	27	North Atlantic right whale/Bowhead whale	2500 BC - AD 1300	HSA 4116 (1965.936)	Mandible piece	Square hole in bone (broken) + modern looking hole
Quoygre	1	Sperm Whale	AD 900-1000	QG01-G037-589 (Lower block of Farm Mound midden in Areas G1 and G2)	Unidentified large bone fragment	1 cutmark
Quoygre	2	North Atlantic right whale/Bowhead whale	AD 900-1000	QG01-G037-596 (Lower block of Farm Mound midden in Areas G1 and G2)	Unidentified large bone fragment	2 chopmarks
Quoygre	3	Sperm Whale	AD 1200-1600	Δ10006. QG04 Area J2. E -23.925, N-26.885, T5.5577. Context J010, Date 28/9/04. Finder JH. Bone ID 8850	Unidentified large bone fragment	
Quoygre	4	North Atlantic right whale/Bowhead whale	AD 1000-1200	Δ61767. Context F685. QG04. AREA F/FX. E -37.167, N -20.787, T 5.788. Date 5/8/04. Finder FB. Bone ID 8853 (Earliest - Latest phase of House 4)	Unidentified large bone fragment	
Quoygre	5	Pilot/False Killer/Risso's	AD 1400-1600	Δ61769. Context F676. QG04. Area FX. E -39.129, N -11.459, T 5.765. Date 5/8/04, Finder ST. Bone ID 5581	Five pieces of cranium?	
Quoygre	8	North Atlantic right whale/Bowhead whale	AD 1800-2000	QG 99 ARA G 3/6/99 G002	Unidentified large bone fragment	
Quoygre	9	Pilot/False Killer/Risso's	AD 1000-1300	QG99 G008-8004 (Fish midden and farm mound contexts)	Rib of medium sized cetacean	
Quoygre	10	Bottlenose/Sowerby's beaked whale	AD 1800-2000	QG01 G018 HC	Unidentified bone	
Quoygre	11	North Atlantic right whale/Bowhead whale	AD 1600-2000	F094. South of str2 phase 5-6 HC	Transverse process of vertebra of large whale	
Quoygre	12	North Atlantic right whale/Bowhead whale	AD 1600-1800	F023 STR1 phase 4-5 HC	Unidentified bone	

**Supplementary Table 3.** Overview of samples analysed

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