

# Out of Ice and Time – PATOU, the Mummified Ice Seal

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An adult female ringed seal (*Phoca hispida*) was discovered in a traditional Iñupiaq *sig̃l̃uaq*, or ice cellar, during a 2016 summer archaeological excavation of the Walakpa site, south of Utqiag̃vik. A forensic necropsy was performed to learn the cause of death and to expand our understanding of the process of mummification in the Arctic. Findings are listed in the table below, while diagnostic tests on carbon dating, disease agents and stable isotopes are pending. The 5-6 year old female was likely harvested by a hunter with the copper bullet found in the head. Mummified specimens of pinnipeds are extremely rare and have only previously been reported from the Antarctic.



**Key Principles of Natural Mummification:  
Low temperature x Low humidity x Shelter**



Adult female Ringed Seal, ~126 cm length



Age determined at 5-6 years by claw rings



Visceral Plug



Lung Lobe



Copper bullet seen on x-ray

Parameters	Results	Organ weight (in % mean values) of 37 kg RS	Comment
Straight length (cm)	96-97.6		Head missing and body curved; estimated 30 cm longer. Average length 1.5 (m) (5 ft.)
Claw rings	5-6		Age determination by claws is useful only < 10 years of age in the ringed seal (RS)
Body weight (kg)	11.94		Average weight of adult ringed seal pending body condition ranged between 50-70 (kg) (110-150 lbs)
Heart (g)	55.3	7.3	Arctic bulb and auricle was very well preserved
Lung (g)	46-55	20.0	Paper thin appearance similar to a topographic 3D map; folds were arranged adjacent to pulmonary vessels and airways
Kidney (g)	25	4.5	Indiscriminate tissue mass at anatomical location

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