



A whale jaw bone is loaded into a shipping container at Research Casting International in Trenton, Ont. The bones are being buried in compost so that bacteria can break down the tissues and make the work of cleaning them easier.



AARON HARRIS/TORONTO STAR

Eight dump trucks of manure needed

WHALE from A1

Lollipop first came to the world's attention when her 100-tonne carcass drifted ashore in Trout River, N.L., bloated with gas. Thinking she might explode, townsfolk panicked. She did not explode, and the ROM struck a deal with the federal government to remove the whale and keep her skeleton for display. Over seven impossibly gory days in May, a team of workers stripped the blubber and guts away — a process known as flensing — and loaded the bones into an Ontario-bound tractor trailer.

In early June, the bones arrived at the Trenton headquarters of Research Casting International (RCI), a museum technical services company contracted by the ROM to prepare the whale.

So did the bones of another dead blue whale from Rocky Harbour, N.L., which will go on display at Memorial University.

Then there was a long delay.

"They are still waiting on poop," the ROM's media relations staff informed me in mid-September.

"It's going to be really cool. These whales are going to come alive."

MARK ENGSTROM
DEPUTY DIRECTOR,
ROYAL ONTARIO MUSEUM

It took an entire dairy farm of Holsteins three months to produce a sufficient amount of manure to bury the bones — eight triaxle dump-truck loads. In the meantime, RCI staff turned a shipping container into a modified compost bin. Using a heavy-duty "rescue saw" equipped with a steel-abrasive blade, they cut a series of vents in the top of the shipping container. Then they cut holes along the side of the container so that weeping tile (porous pipes) could be threaded through the structure.

Last Thursday, with all the ingredients on hand, the RCI staffers got to work building a kind of foul trifle cake: a layer of whale bones, a layer of manure, a layer of whale bones, a layer of manure. The lower jawbones, each weighing a ton, were

carefully lifted with heavy machinery and eased into the container, on top of which was piled — surprise — another layer of manure.

The bones of Lollipop and those of the Rocky Harbour whale will actually be mixed together in three shipping containers during the composting process, but the bones are labelled so they can be identified, and reassembled into the correct skeleton, later.

The whole contraption works just like your compost heap at home. Micro-organisms in the manure break down organic matter remaining on the whales' bones. But the process needs oxygen, and unlike a backyard compost, this one can't be stirred, at least not easily. The weeping tile and the vents are there to circulate oxygen into the mixture's interior.

"If you keep getting oxygen in there, it's gonna go like a house on fire," said Engstrom with relish. (Readers might remember Engstrom from the cheerfully grease-slicked photo and TV opportunities he provided from the side of the whale carcass in May. "I said I wouldn't do this," he sighed

on Thursday, examining a smear of whale gunk on the sleeve of his jacket.)

"Fire" is not entirely a figure of speech. The aerobic process of decomposition, just like a human aerobics class, produces carbon dioxide and heat — so much heat, in this case, that the interior of the container will rise to over 70 degrees Celsius, melting the snow around it over the winter.

Come springtime, the bones will be taken out and inspected. Those that were relatively clean to begin with, like the rib bones, will probably be ready for the next stage by April. But other parts of the skeleton will need more time. The tough, fibrous flesh around the jaws, for example, may take a full year to be eaten away.

Next summer and fall, the bones will have to be degreased, so that the ROM's future exhibit on the glory of cetaceans doesn't drip putrid whale oil onto unsuspecting children below.

There is no really good way to degrease a whale skeleton. One method is to simmer the bones in a warm

bath for months on end. The water eventually replaces the grease in the bones — but the process takes years, potentially. This method also smells terrible, according to those who have tried it.

Engstrom says the current plan is to build a kind of giant dry-cleaning operation at the Trenton facilities. The bones would be treated with organic solvents, which then evaporate, and be recollected.

Even once the bones are prettied up and reassembled, the exhibit Engstrom is dreaming of will be years in the making.

The museum has already acquired a humpback, fin, minke, sperm, right and killer whale — and now Lollipop the blue whale, the collection's marquee specimen. But the museum still needs a bowhead whale, a grey whale, a narwhal and a beluga, not to mention the millions of dollars it will cost to mount a new permanent exhibition.

But Engstrom can't help himself. "It's going to be really cool," he said Thursday. "These whales are going to come alive."