



Expedition Day 4 Questions and Answers

- 1) What is a cold lab?
 - A lab where the ambient temperature is maintained below 0 C.
- 2) How cold is it?
 - It ranges from 0 C to -40 C.
- 3) Do you work in the lab all day?
 - No, it is too cold. We have equipment that allows us to look at samples while on the outside of the cold lab.
- 4) Can you explain brine and brine pores?
 - Brine is basically a salt solution, a brine pore is a small pocket in the ice that contains brine.
- 5) How do plants and animals live in the ice without freezing?
 - If they become totally encased they usually die, but if they are inside a brine pore where the liquid is not frozen they can survive.
- 6) Does the ice change in any way if the temperature goes from 0 F to -40 F?
 - Yes, the ice goes through many expansions and contractions as the temperature fluctuates.
- 7) What do you with the results of your research?
 - We analyze our data to make sure there are no mistakes, then we share it with other colleagues by submitting our results to a journal that everyone reads.
- 8) How heavy is the ice core?
 - It depends on the length and density of the ice, but any where from a few pounds to 10 pounds.
- 9) How many ice cores do you bring in a day and are they always the same size?
 - I have done as little as 3 all the way up to 50.
- 10) How many layers in a core?
 - It depends on the conditions under which the ice was formed.
- 11) Does new ice get to the bottom of the ice?
 - Yes, actually ice grows down from the bottom.
- 12) Approximately how many animals live in the bottom of one ice core?
 - There are about 1000 animals per milliliter.
- 13) Do you have pictures or slides of these animals?
 - Yes, there are some posted on the web site.
- 14) How many types and specimens of algae are there in a core?
 - It depends on the core, where it was taken and what time of year it was collected.
- 15) Are these living ice inhabitants ever used for anything such as dye, medicine, or fertilizer ?
 - I don't know of any industrial use.
- 16) Are peices of sea ice used for anything traditionally?
- 17) What happens if oil, gas or other contaminants are spilled on the ice?
 - There are big problems when contaminants get stuck beneath the ice because it saturates the layer where all the life is.
- 18) Do you use other transportation besides snowmachines? Which model do you use?

- We usually use snow machines, but sometimes we use ice breaking ships or helicopters. The machines used in Barrow are Skandics.
- 19) Is there now or was there any radioactive fallout from Russia in the ice?
- There is some evidence of pollutants that do move around the arctic, Russian fallout specifically I don't know.
- 20) Do you have ice worms?
- 21) What is the largest animal found living in the ice?
- Frozen beluga whales.
- 22) Do you ever find any large animals or fish frozen in the ice?
- Arctic cod have been found frozen in the ice.
- 23) How far below the ice is the ocean bottom?
- It depends on how close to shore the ice is and where you are on the ocean.
- 24) Is the sea floor rocky, sandy, mountainous, flat?
- Near Barrow it is normally either muddy or gravelly.
- 25) Does ice ever form from the bottom up?
- Ice grows down, but if it is close to the bottom it will freeze to the bottom.