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Cyrus Harris is interviewed by Karen Brewster, Andy Mahoney, and Rebecca Rolph on the sea ice outside of Kotzebue, Alaska on March 28, 2016

Kotzebue, Alaska

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Andy Mahoney begins to drill an ice core from the sea ice. After a few minutes Mahoney pulls up the auger and pulls out the ice core. Mahoney talks about the thinness of the ice. He said they have a full core from top to bottom. He points out a layer in the middle of the core which could mean there are two pieces stuck on top of each other or it could mean that at the time that the ice grew there could have been a wind event that pushed a lot of frazzle ice up under the ice. He measures the seven centimeters of snow on top of the ice core. He measures the ice core and said it was 49 centimeters.

Mahoney asked Harris if this was open in the month of February. Harris affirms that it was open during the month of February. Mahoney said this was about a month's growth of ice. Harris points to an area several hundred feet away and said that area was open last week. Mahoney said that is real thin ice over there. Harris said he is curious how thin it is over there. Mahoney asked about measuring the water depth. He pointed out a bit of discoloration at the bottom of the ice. He said there is algae starting to grow at the bottom of the ice with the sun coming up and more light getting through the ice. Rebecca Rolph measure the water depth. It is three meters, 28 centimeters (10 feet, nine inches). He comments that they just moved a few hundred yards [from their other site] and it got a lot deeper. The other site was five feet deep.

Karen Brewster asked Harris if it was warm this February. Harris said it was a mild winter. Mahoney offered to hold the sound mike. Brewster repeats the question to Harris. He said it was a mild winter and they had east winds. The east winds would move out the ice. The ice piles a few hundred feet from them were created just the other day. They finally had some west winds which created the ice piles and is anchoring the ice they are standing on. He said the next time they have east winds there will be open water by the ice piles. He said the ice just a couple of hundred feet from them is young ice and also snow covered. He said this is probably as far out as he will take them.

Brewster asked when they were coming out there what he was looking for to tell the difference. Harris said you could see the difference where they left off from the state trail. He said there was a different color on the ice. He pointed out to the younger ice and said it was a little bit grayer which indicates it is thinner ice. He said as far as running on snow machine this is as far as he will take them out.

Brewster asked about crossing a crack [in the ice] and commented that it was a new crack. Harris said he felt safe crossing it because the ice out here was attached with land fast ice. He said it was young ice but it is attached to the bottom. He said there were also light west winds so there was a slim chance that they would drift off. If there had been east winds he would not have gone past the crack. Brewster

asked if the ice in the crack was pretty thin. Harris said it was and was probably open this morning or last night. He said the new ice in the crack was probably half an inch, but the ice around it was two feet. He said there was a big difference between the ice there and the ice they are standing on and it will be much thinner as they get further out. Harris asked if they want to go over to the newer ice. They walk over to the ice piles. Mahoney and Rolph talk indistinguishably while Brewster approaches with the camera. They stop on the newer ice. Harris tests the ice with a pole before venturing further out. They walk further out on the ice. Harris continues to test the ice. Wind is blowing so it is difficult to hear the conversation as they are walking. Harris turns around and tells everyone that he has found a seal hole in the ice. Harris said the seal went into the water when he was walking up to it. Mahoney stops to take photos of the seal hole. Harris said the area they are standing on was open water last week. They had some fairly cold weather at the end of the week so the area they are on is new ice.

Mahoney asks if there were ridges piled up if he would feel safe on this ice. Harris said yes. They are smaller ridges on the new ice. Rolph commented on the seal hole. Mahoney said they keep the hole open with their teeth. Harris said they keep it round with their body heat, too. Brewster said you can see the impression of the seal where he was on top of the ice. Harris indicated where the seal had been resting. Brewster asked if that was a natchiq hole. Harris said yes. Brewster asked if people hunt at breathing holes anymore. Harris said not so much. He talked about not using spears anymore. They use snow machines and rifles. He said he imagines that the next opening will be where the rough ice is. He said now there is open water closer to shore in one direction. Brewster asked if people ever used nets for seals. Harris said when he was helping with a study on seals they used nets, but not so much for hunting. He said he could imagine them using nets a long time ago. He said that would be at open water. At breathing holes they used a spear in the past. His nephew is the last one he knows of that got a seal at a breathing hole and that was about fifteen or twenty years ago. They were right in front of town on about two inches of ice. He said if it snows on the breathing hole it will take on a cone shape.

Brewster asked Mahoney if he was going to take a core. Mahoney said might as well. Mahoney drills into the ice.

Break in recording

The group returns to the snow machine. Mahoney has equipment in the water. Brewster asked if he was taking water temperature. Mahoney said he is taking temperature and salinity. He said he will take a profile. Right below the ice the salinity was 9.6 and the temperature was minus .4 C. At one meter below the surface the salinity was 14.1 and the temperature was minus .7. At two meters below the surface the salinity was 27.5 and the temperature was minus 1.1. At three meters below the surface the salinity was 29.2 and the temperature was minus 1. Mahoney said it was fresher at the top and saltier at the bottom which is just what you would expect. He said there was river water from the Kobuk sitting underneath the ice. Brewster asked if they are still in the area where the Noatak water comes out. Harris said most likely. The main channel is not too far out this way. He said the boat, the North Star usually parks not too far out where the rough ice is right now. Harris said both the Noatak and the Kobuk combine.

Rolph measures the ice core taken near the seal hole. Brewster comments on the different layers of the ice core. Mahoney said it could be from when the ice grew faster or slower or wind pushing frazzle ice up underneath the ice layer. He said if you look at a thin slice of the ice you can see the individual crystals. He said there are quite a few different ways you can get layers in the ice like that. He commented about the algae growth on the bottom of the ice core and takes the ice up close to the camera. He said it could be sediment or algae, but given that it is spring and they look a bit greenish he would say they are algae.

Brewster asked if they keep the ice cores frozen all the way back to Fairbanks. Mahoney said he will cut them up into five centimeter chunks and melt them. He will measure the salt content and see how the salt varies from top to bottom in the ice. Mahoney bags up the ice and start to put equipment away.