Cast 3

Station 2

January 7, 19:01

-73 23, -165 07

4081 m depth

This station is in the center of the sea ice band. It was chosen to measure the iron conditions under melting sea ice. The ship parked against a large flow to increase the effect of recently melted water.

There is a thin (15 m) surface mixed layer and a winter water layer about 60 m thick. The winter water show the effects of mixing at the top and bottom. The rest of the water column shows a very clear indication of CDW, with a Tmax that indicates core upper CDW.

The surface mixed layer is 15 m thick with a temperature of -1.2 and salinity of 33.7. Fluorescence is very low.

The next layer is winter water extending from 20 to 80 m. The Tmin is at 60m with a temperature of -1.6C and salinity of 34.1. This layer has warmed from the winter conditions which would have had temperatures of freezing (roughly -1.8C).

The rounded structure of the temperature in this layer shows mixing with waters on either side of this layer.

Below winter water is a layer of increasing temperature (and salinity) with a Tmax at 280 m. The temperature (1.7C) and salinity (34.68) indicate that this layer is almost pure upper CDW. There is also a pronounced O2min which confirms the water mass.



