

## CRYOCOOLER SERVICE REPORT

**Date of work:** October, 2004 (exact date not known); date of report: 11-5-04

**Beamline:** 11

**Requestor:** C. Kurtz

**Vessel serial no:** AMG00100/S3-BESSRC                      **Pump serial no:** 3E95

**Oxford series:** A

**Pump operating hours:** not recorded

**Technician(s):** D. Burke

### Summary of work:

On or around October 28, 2004, a relatively large ball of ice existed on the LN<sub>2</sub> supply side bayonet fitting which partially covered the vacuum clamp that fastens the rupture disk to the bayonet. The ice ball also covered a portion of the low pressure vent line and the SK-2 wire harness that provides power for the pump motor. The photo in Figure 1 shows the area of the rupture disk after the ice ball had dissipated.



Fig. 1: Close-up of bayonets and rupture disk clamp after ice ball was dissipated

A Dry-tel vacuum pump was connected to the bayonet with an appropriate pumpout valve. The pump was operated overnight causing the ice around the rupture disk to dissipate by the next day. At that time, the pumpout valve was closed but the valve and pump were left mechanically connected to the bayonet. To date (11-05-04) the ice on the bayonet has not returned.

The above information indicates that the possible cause of the leaky bayonet is the O-ring on the pump out port. The valve and pump will be disconnected in the near future. If the ice-ball returns to the bayonet area, the O-ring will have to be repaired during the next shutdown period.

After the ice ball around the rupture disk area had dissipated, it was noticed that the ice around the low pressure vent was still present and that the SK-2 power harness for the pump was enveloped by the remaining ice and residual water. A hot air blower was used to reduce the size of the remaining ice so that the harness could be relocated to a less hazardous position. It is known that leaving this harness in the ice/water mixture could result in damage.

The ice ball on the vent line is still present. The next time the unit is serviced, the integrity of the vent line should be improved to eliminate the ice ball. Figure 2 is a photo of the ice ball.

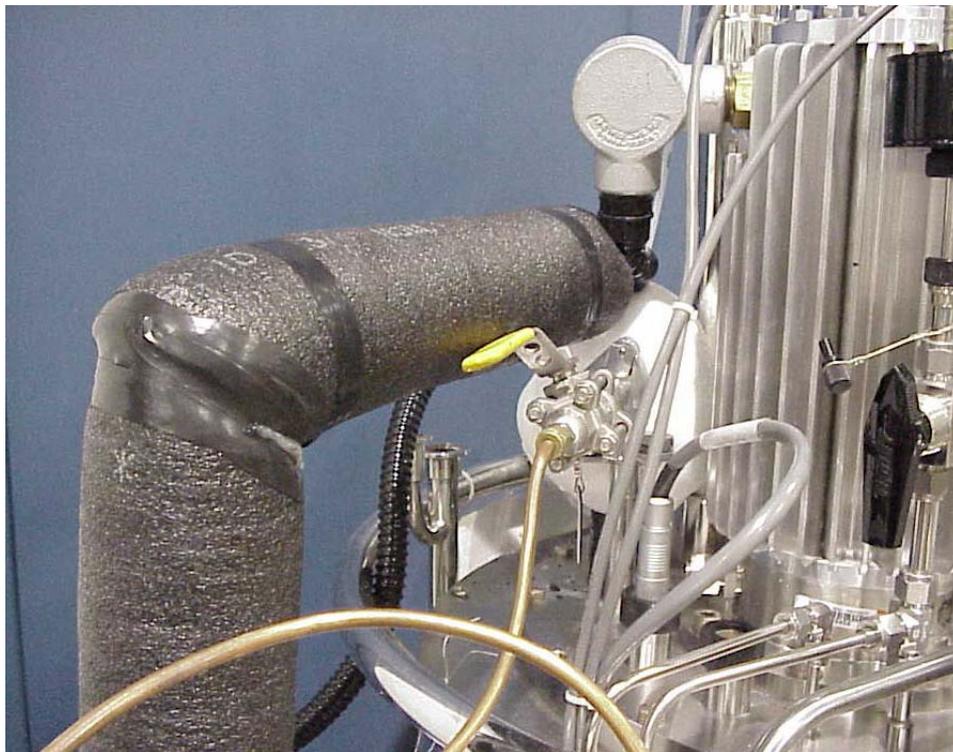


Fig. 2: Ice ball remaining on vent line.