Ferry Maintenance Report

Vessel: Queen of Alberni

Date: May 16, 2014

Arrival: 12:45PM sailing to Tsawassen. We signed in at terminal supervisor at Duke Point.

Reporter: Akash Sastri/Chris Sundstrom Staff: Chris Sundstrom, Akash Sastri

Visiting Scientists: Jeremy Krogh

Reason for Visit
Regular instrument servicing, correlation testing

Observations

1. There was a slight sign of moisture or leaks In the Instrument Box. This is suspected to be condensation, but fittings on the BBFL2 are a second possibility.
2. The AADI optode had little to no debris or sediment within the housing.
3. The BBFL2 had minor fouling on the sensing surface. Limited fouling was noticed on the "bottom" surface of the horizontal housing.
4. The Seabird 45 CT sensor had minor sediment and fouling within the sensor.
5. The sea chest showed no signs of leaks.
6. The inline filter (sea strainer) was checked and was found to contain minor levels of biofouling and some levels of sediment.

Actions Taken

1. Opened both boxes and observed function. Both were working well, minor leaks not preventing function.
2. Powered down and disassembled instruments in lower assembly.
3. Cleaned and checked over instruments in Engineering room. The flat sponge stick proved effective in cleaning the BBFL2 and Optode housings. The bottle brush proved effective at cleaning the Seabird CT sensor.
4. Ran pre- and post- calibration with standard solutions and with Orange test stick and white substitute test stick for CDOM fluorescence and Chl fluorescence.
5. Re-assembled the instruments in the lower box. Tightened BBFL2 connectors.
6. Checked over Sea chest and valves, no leaks apparent.
7. Checked and cleaned the sea strainer.
8. Turned ON the system.
9. No leaks in instrument housing and checked flow output at sea strainer. Flow was good. Visually confirmed flow direction at the BBFL2 and confirmed the volume filled with water and began draining correctly.
10. Moved all equipment stored on board into the new hard-shell case for storage and taped spare key to a cable behind the computer box out of sight.
11. Signed out at Engineering room.

Future Actions

1. Contact Engineering on Q of A for potential assistance in removal of interfering antenna on 2nd bridge (which seems to be non-functional). No action to date.
2. Check BBFL2 for further small leaks.
3. Prepare replacement housing for BBFL2 with Helicoil adaptation and jacking points.
4. Analyze BBFL2 data – some discrepancies were noted in correlation testing data.

Discussion of Test Procedures and Results

The test procedures used are documented in the supplemental report, which also provides preliminary analysis of the data and its consequences.

PICTURES

Figure 1: Instrument Box upon opening

Figure 2: CT Sensor showing condensation/drips puddling on top

Figure 3: Interior and fouling of BBFL2

Figure 4: Interior of Optode

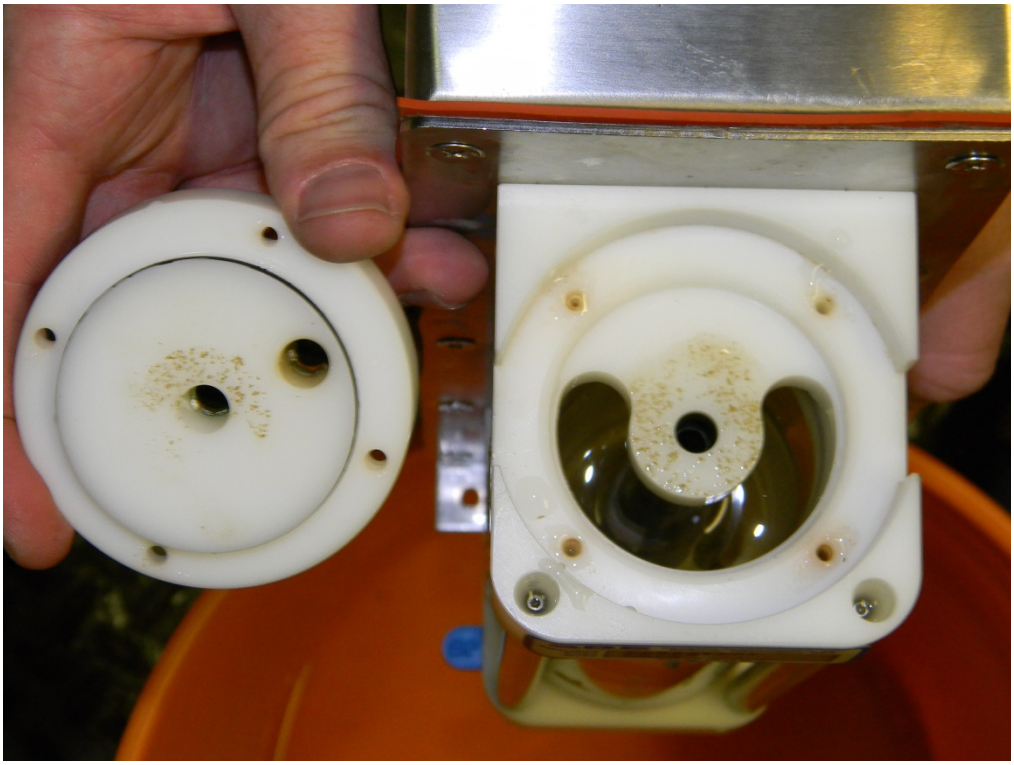

Figure 5: Interior and fouling of CT sensor

Figure 6: Sea strainer fouling

Figure 7: Instrument box after maintenance

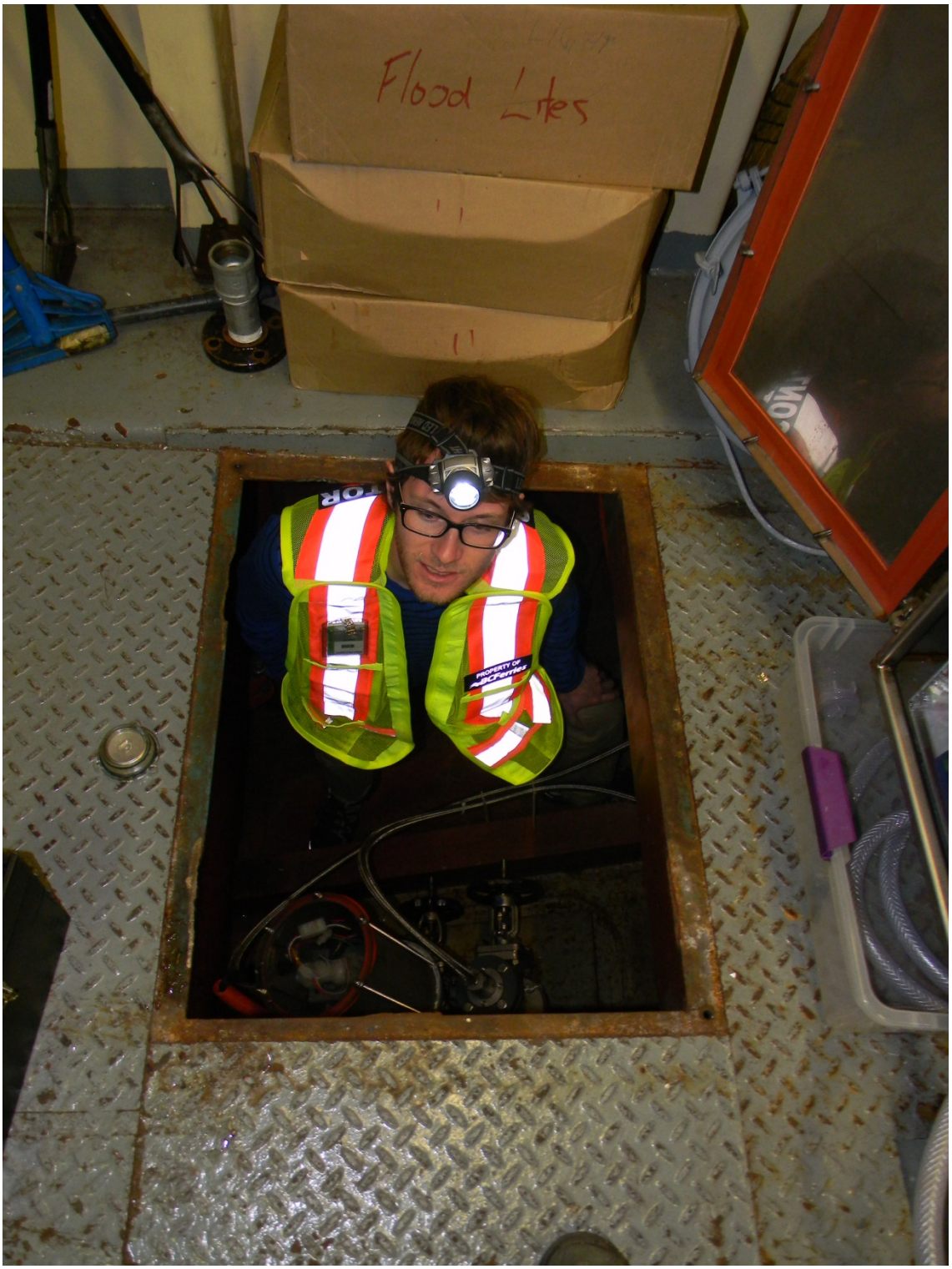

Figure 8: Jeremy Krogh in the bilges performing Sea Strainer maintenance