



Ocean Networks Canada

Ferry Maintenance Report – Queen of Alberni

Date: July 18, 2014

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

Reporter: Chris Sundstrom (Servicing), Akash Sastri (Science Analysis)

Attending Personnel: Chris Sundstrom (ONC-Operations), Jeremy Krogh (MEOPAR)

Reason for Visit

Regular instrument servicing

Observations

1. There were no signs of moisture or leaks In the Instrument Box.
2. The AADI optode had very little or no debris but had more than usual sediment/biofilm growth within the housing.
3. The BBFL2 had a partial layer of sediment in the housing and fouling on the sensing surface. Fouling was especially noticed on the “bottom” surface of the horizontal housing.
4. The Seabird 45 CT sensor was dirty with numerous small mussels found within the housing. This is the dirtiest the CT sensor has been since regular cleaning started.
5. The flex tubing was did not need replacement.
6. The sea chest showed no signs of leaks.
7. The inline filter (sea strainer) was checked and was found to be exceptionally dirty and required cleaning.
8. The CT connector corrosion has grown slightly but no evidence for signal degradation yet.

Actions Taken

1. Opened both boxes and observed function. Both were working well, no leaks anywhere.
2. Powered down and disassembled instruments in lower assembly.
3. Cleaned and checked over instruments in Engineering room. Numerous small Mussels (1/8” to 1/4” long) were found in the CT housing. These were removed during cleaning. The CT sensor was completely disassembled for a thorough cleaning rather than the normal simple cleaning through the cleaning port. Cleaned CT sensor connector to remove corrosion scale.



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4. Ran pre- and post- calibration with standard solutions and with Orange test stick and blue test stick for CDOM fluorescence and Chl fluorescence.
5. Re-assembled the instruments in the lower box.
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. Signed out at Engineering room.

Future Actions

1. Potentially replace CT connector (shipboard connector will need to be re-soldered).
2. Monitor growth of Mussels within the system.
3. Purchase and stock DOW #4 silicone grease on ship. Purchase new #2 Philips Screwdriver (missing from toolkit). Purchase longer Slot screwdriver to make installation of panel screw for BBFL2 easier and less time consuming.

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

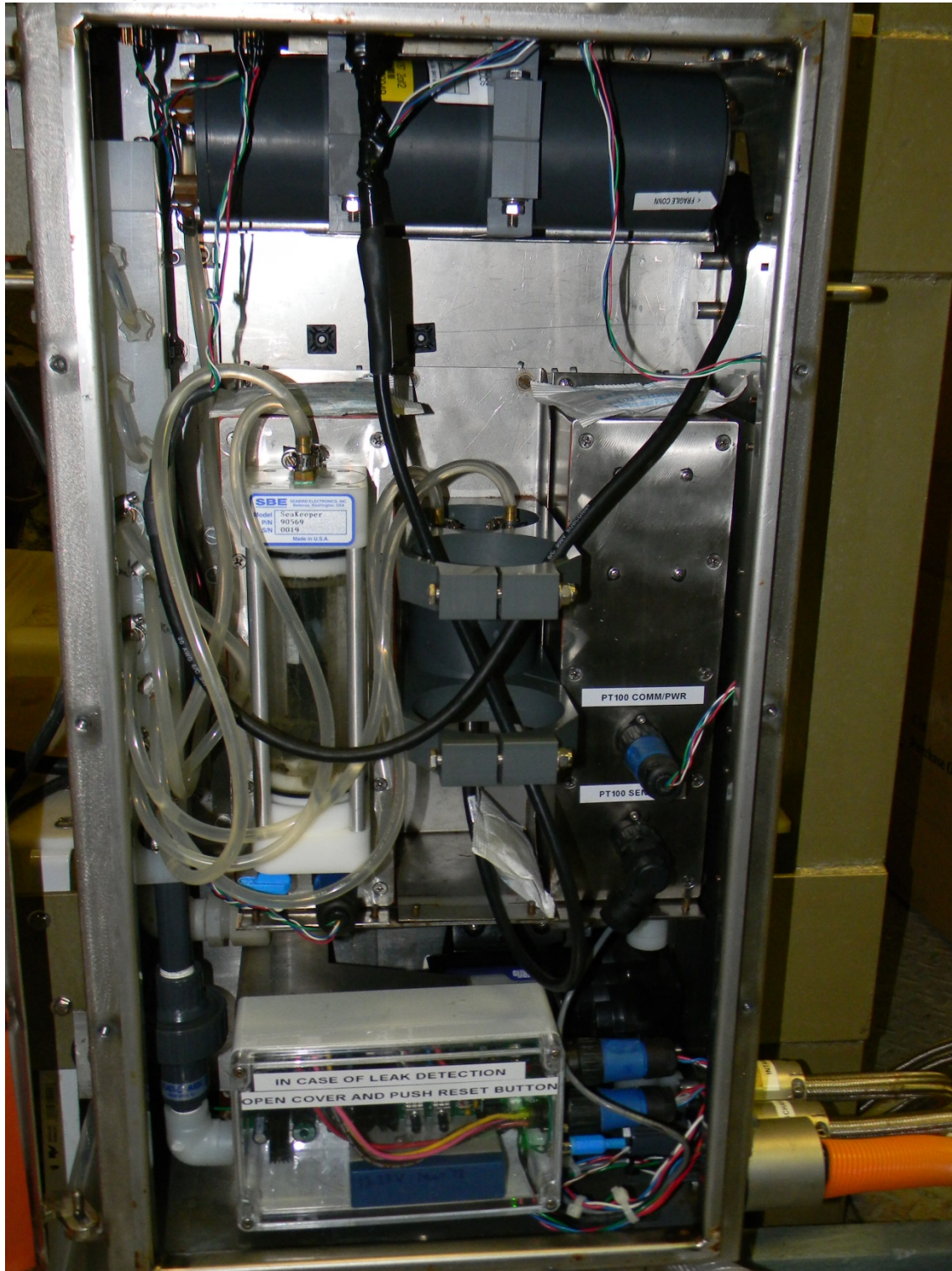


Figure 1: System Upon Arrival



Figure 2: Mussel Growth within CT Sensor

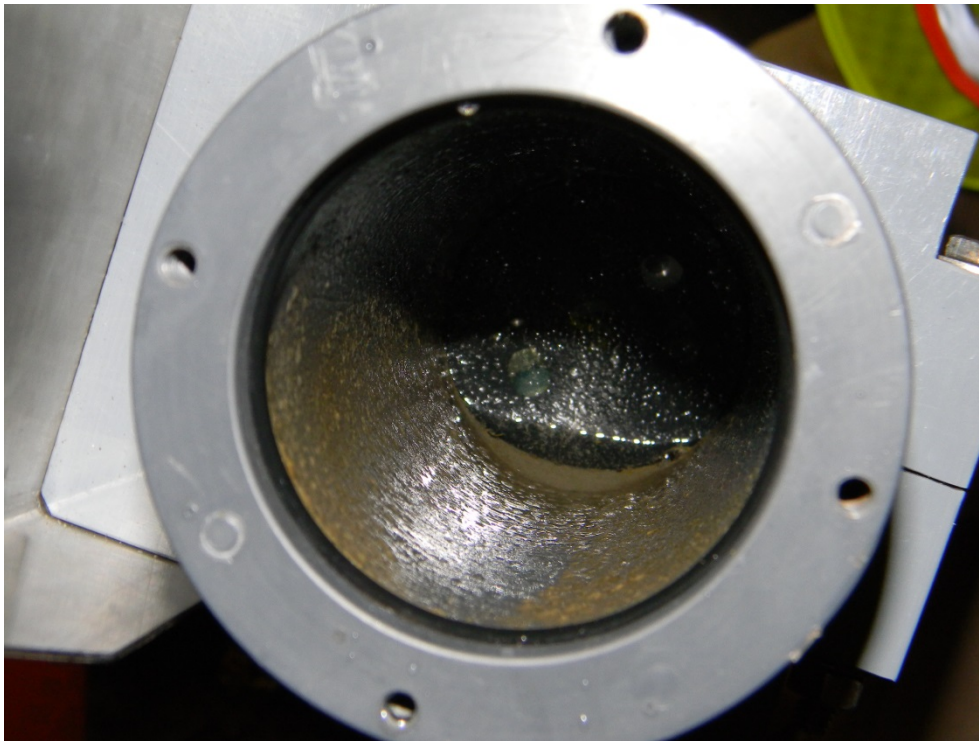


Figure 3: Fouling within BBFL2



Figure 4: Mussel Growth and Fouling within Disassembled CT Sensor



Figure 5: Fouling within Optode Sensor



Figure 6: Corrosion within CT Sensor Connector

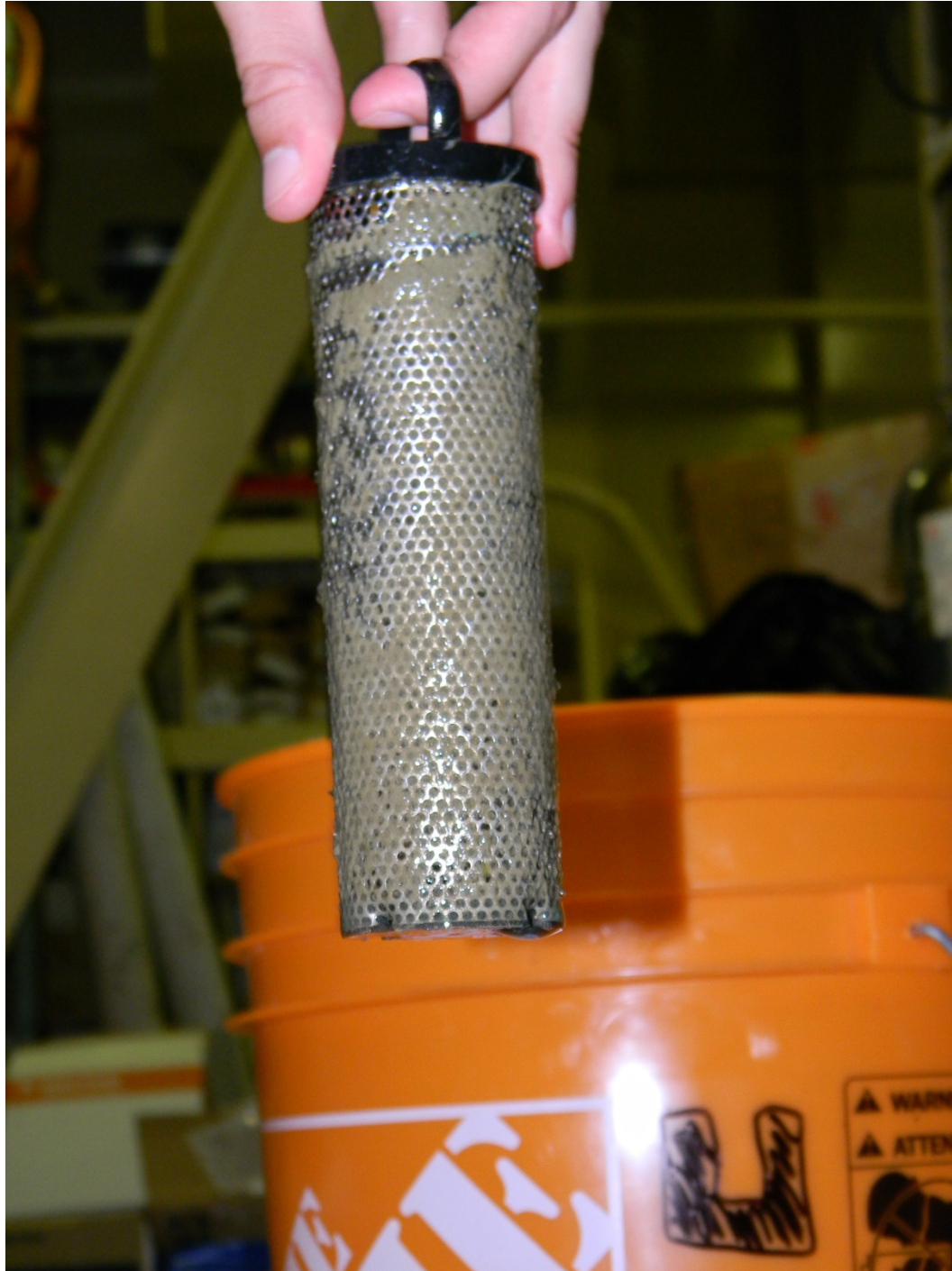


Figure 7: Fouling in Sea Strainer



Figure 8: Fouling in Sea Strainer



Figure 9: Cleaned Sea Strainer



Figure 10: Cleaned System Operating post-Servicing