



Ocean Networks Canada

Ferry Maintenance Report – Queen of Alberni

Date: October 3rd, 2014

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

Reporter/Attending: Denis Hedji (Servicing/Reporter), Akash Sastri (Science Analysis), Jeremy Krogh (Science assistance MEOPAR)

Reason for Visit

Regular instrument servicing

Observations

1. Signs of moisture at bottom of housing. Water manifold shows condensation.
2. The AADI optode (oxygen sensor) was slightly dirty with sediment/ bio film growth within the housing.
3. The BBFL2 had a partial layer of sediment in the housing and fouling on the sensing surface. Fouling was noticed on the “bottom” surface of the horizontal housing.
4. The Seabird 45 CT sensor very dirty, with to mussels approximately 3/8” long found growing within the housing on the sensor outlet port and on conductivity cell.
5. The flex tubing discolored. Showing sign of expanding.
6. The sea chest had couple spoons of water in housing. Due to condensation build up.
7. The inline filter (sea strainer) was checked and was found very dirty and required disassembly, and thorough cleaning. Some Mussel growth was found inside the strainer basket. A colony of mussels grew inside sea strainer outer filter area.

Actions Taken

1. Opened both boxes and observed function. Both were working well, no leaks anywhere. Dried off the moisture build up at bottom of instrument housing.
2. Powered down and disassembled instruments in lower assembly. CTD, Optode, lastly BBFL2.
3. Cleaned and checked over instruments in Engineering room. Cleaned CT sensor connector to remove sediment and biofouling growth. Take whole CTD apart. Wash clean.
4. Remove all tubing from Water manifold to instruments. Replace with new tubing.
5. Re-assembled the instruments in the lower box.



Ocean Networks Canada

Ferry Maintenance Report – Queen of Alberni

6. Checked over Sea chest and valves, no leaks apparent. Some condensations build up. Will need to pull out the Sea chest to inspect on next ships maintenance.
7. Checked and cleaned the sea strainer. Removed many mussels, bio film and sediment fouling from the external area of strainer. Mussel growth was significant.
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. Checked data output on Seakeeper PC. Matched values with Akash's results on BBFL2 OK. The upper instruments did not connect at first. Stopped Acquisition software. Go into Configuration editor to verify comm. Ports settings, and Save. Re-start Acquisition software, view via Hyperterminal OK. Thereafter, all instruments shown green bullets, and data output to /Datalog folder. Found many data files on PC drive that have not been deleted?
11. Signed out at Engineering room, and Terminal Supervisor office.

Future Actions

1. Potentially replace CT connector (shipboard connector will need to be re-soldered).
2. Monitor growth of Mussels within the system.
3. November refit, replace all metallic connectors on upper boxes with plastic glands. Swap out upper box to slightly larger box to refit with new connectors, more serial ports for future expansion.
4. Pull out Sea chest and inspect bio fouling and or potential growth issues.
5. Replace all braided tubing, and seachest tubing from Ball valve down through hull.
6. Replace Pump – recommended 1 year usage at sea before replacement

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.

ADDENDUM/NOTE: There was no sign of crab inhabitation this trip.

PICTURES

Figure 1: System upon arrival



Figure 2: CT Sensor fouling



Figure 3: CT Sensor fouling



Figure 4: CT Sensor fouling

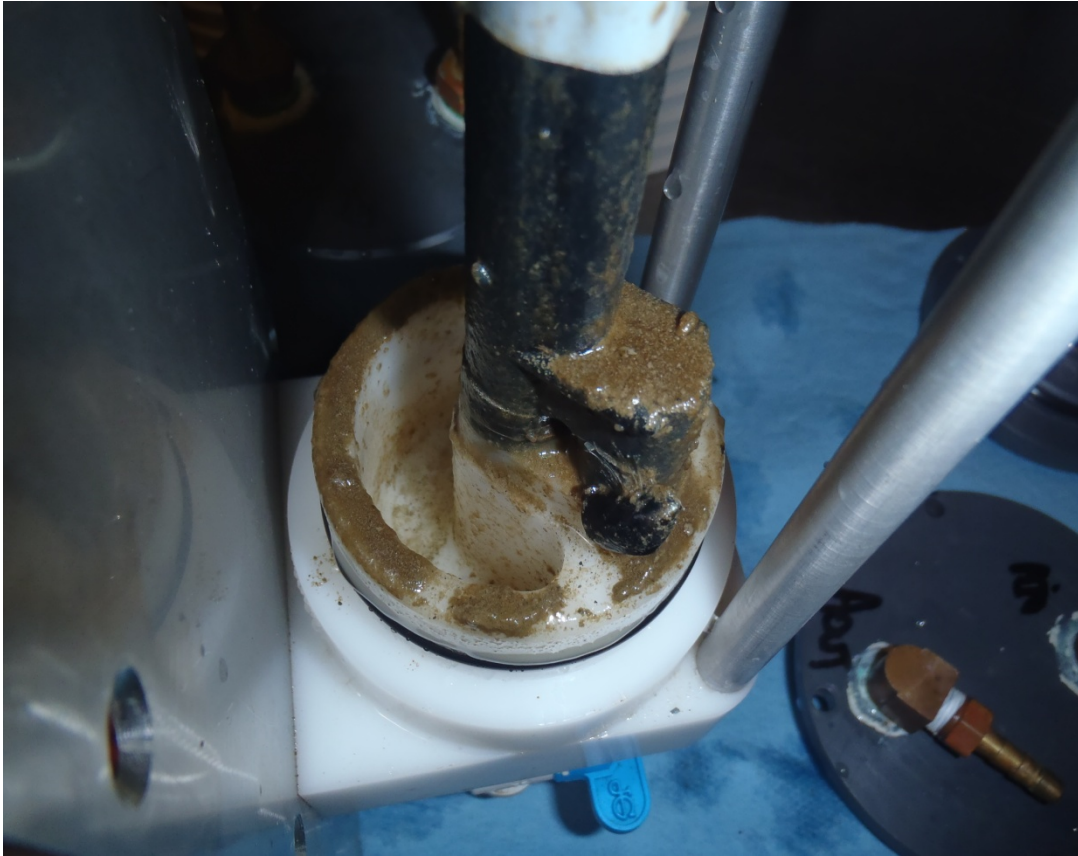


Figure 5: BBFL2 Fouling

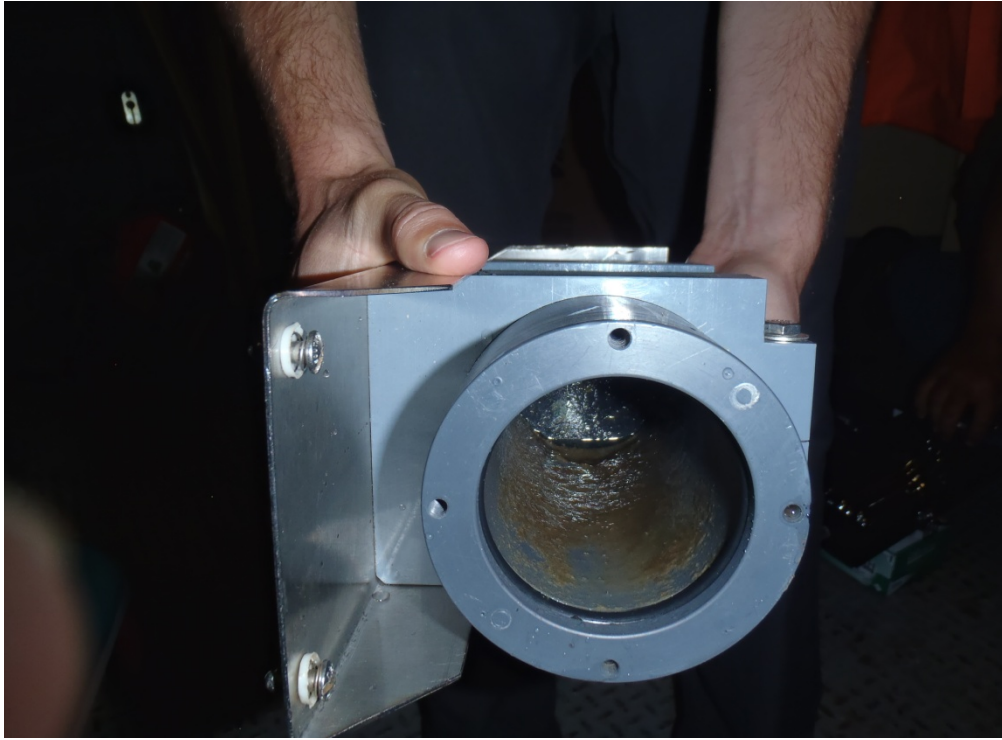


Figure 6: BBFL2 Fouling

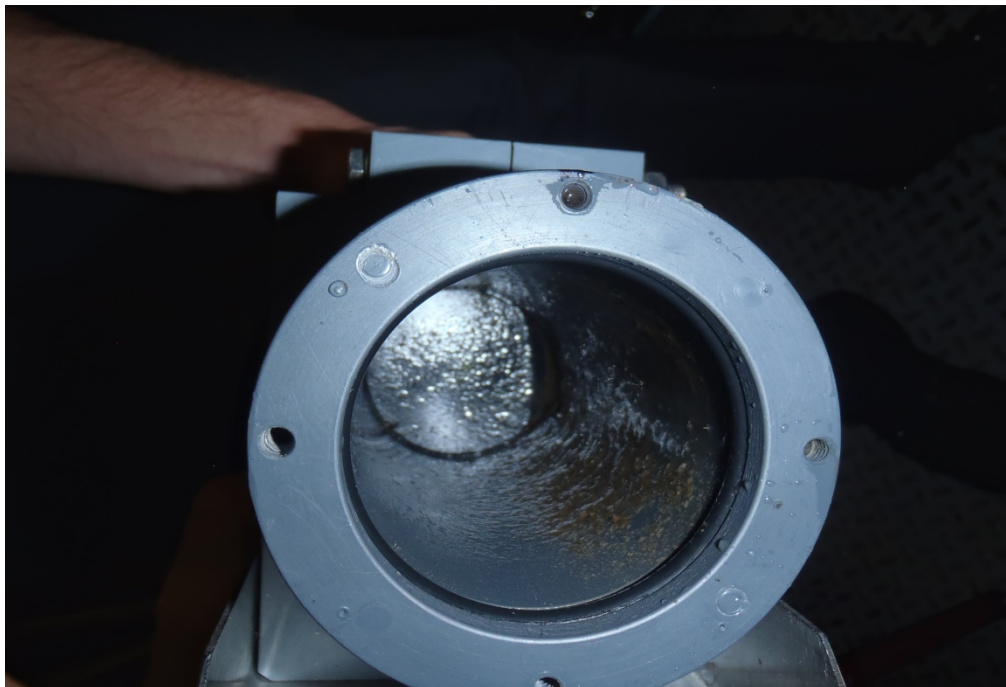


Figure 7: Optode fouling



Figure 8: Mussel growth and fouling in Sea Strainer



Figure 9: Mussel growth in sea strainer



Figure 10: Sea strainer mussel growth in external housing area

