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QUICK REFERENCE

SIMPLE WAYS TO AVOID OIL CONTAMINATION ON DEPLOYMENT   (ver. 06/03/10)

Sea-Bird CTDs can be deployed in oil; oil will not cause long-term damage. Oil coatings inside the conductivity cell and on the dissolved oxygen sensor membrane can possibly affect the sensor's calibration. Simple measures can help minimize this and the effects:

MINIMIZE INGESTION OF OIL INTO CONDUCTIVITY CELL AND DO SENSORS:

- Set CTD so that the pump does not turn on until the CTD is in the water and below the layer of surface oil.
- Pump turn-on is controlled by two user-programmable parameters:
  1) the minimum conductivity frequency, or
  2) the pump delay
  3) use one or both 1) and 2) together

1. Set **minimum conductivity frequency** for pump turn-on above instrument's *zero conductivity raw frequency* (shown on the conductivity sensor Calibration Sheet and on Configuration Sheet)
   o For salt water applications = *zero conductivity raw frequency* + 500 Hz
   o For fresh/nearly fresh water = *zero conductivity raw frequency* + 5 Hz

2. Another option: Set the **pump turn-on delay time** to control the pump:
   o Set the **pump turn-on delay time** to allow enough time to lower CTD below the surface oil layer.
   o The CTD starts counting the pump delay time after the **minimum conductivity frequency** is exceeded.
   o You may need to set the pump delay time to be longer than our typical 30 - 60 second recommendation if you will not get CTD in water quickly.

Note: Remaining steps based on recommendations from a customer working in the Gulf of Mexico oil spill zone:

3. If oil on surface, use boat engines or paddles to clear surface water.

4. If sheen remains, use dishwashing liquid (e.g., Dawn) to disperse oils.

5. Deploy CTD/carousel through clearing.

6. Repeat 3 and 4 if oil reappears prior to removing CTD/Carousel from water.

7. Recover and clean according to instructions.

If you have methods that are working, and you would like to share them with us and others, please send us an email (cjanzen@seabird.com)!