Expedition Log for IODP Expedition 313
New Jersey Shallow Shelf

Week 5 – 1st June

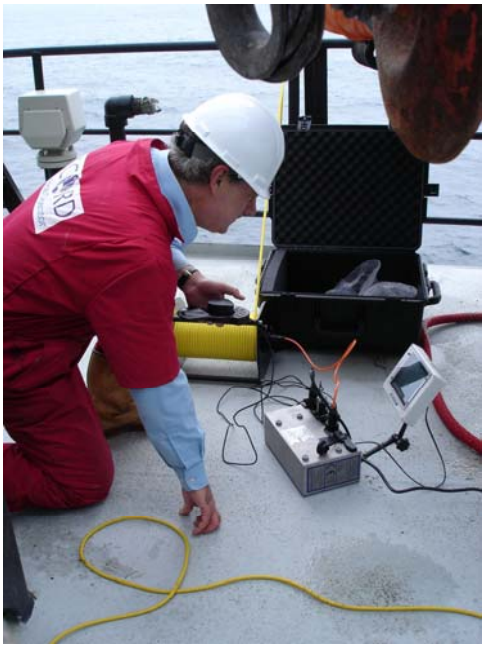
Life as an Electronics Engineer *Dave Wallis*

What should an Electronics Engineer be doing on a Drill ship? (The ship itself has its own engineering staff to cover the shipside equipment and in any event much of that knowledge requires years of training and certification from the relevant authorities.)

Well all the various items of kit onboard from the science viewpoint require electricity. (Clockwork driven core analysis never got much beyond the prototype stage!) As a result of which someone with general electronics knowledge gets towed along with few specific tasks to handle but a requirement to 'be available' 168 hours a week.

Needless to say there is always something to do. From wiring up the generators to provide the power, to running the miniature ROV brought along for viewing the seabed, to repairing all sorts of miscellaneous items as they fail or need setting up. And then they need power at the bow for some new item such as the loggers' tools, (see Loggers Logbook report from week 4) or the freezer in the Geochemistry lab container that must be kept at -35°C during the ship move between sites.

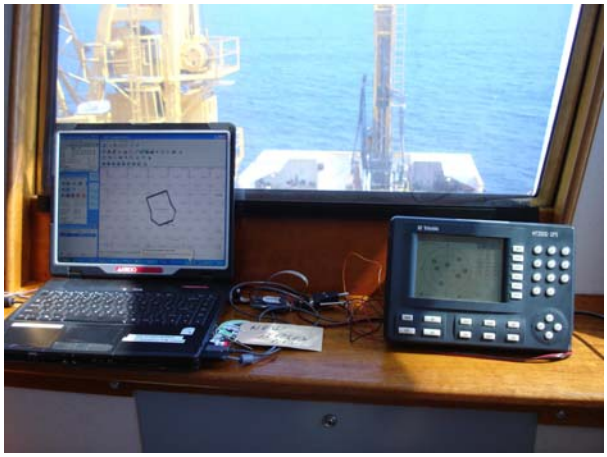
D_Wallis©ECORD_IODP – The ROV equipment



HJ_Wallrabe_Adams©ECORD_IODP – Setting up the ROV ready for action

C_Cotterill©ECORD_IODP – Dave giving a “piloting” lesson to Vanessa, one of the Montpellier logging staff

Oh yes, and running the Navigation software in parallel with the Captain and his own sophisticated GPS (Global Positioning System) sets to verify that we really have arrived at the selected spot as the ship changes location between drill sites. For this purpose we place an antenna for the GPS system, which we carried across from Europe, alongside the drilling rig and connect it to a Laptop computer running a specialised navigation and positioning package. The information we get comes from the USA DoD maintained GPS system. Whether it’s a European GPS set or an American GPS set the numbers are the same.



D_Wallis©ECORD_IODP – the navigation system set up on the bridge

The Laptop displays a plot of the vessel within a target display so that the captain can manoeuvre his vessel to place the drill location as close as possible to the proposed location. He has all sorts of cunning tricks up his sleeve, such as ‘walking’ onto location by tagging the seabed with one leg at a time.

A_Wuelbersl©ECORD_IODP – Dave working on the bridge alongside Captain Clem

Another job was installing the wireline logging counter. The wireline counter sensors were duly placed at the top of the derrick (see Loggers Delight entry, week **4**) but the cables needed connecting to the counter and (as is more common than not) the sensor polarity was incorrect. After much head scratching a small correction circuit was assembled and fitted and lo and behold: the ability to count the cable out and back again; giving instant depth of wireline tool information to the surface.

C_Cotterill©ECORD_IODP – Chris Delahunty, DOSECC, attaches the wireline counter with newly installed circuit board to the drilling rig