AFI 3/16 mooring cruise report *JR 92*

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Recovery and Redeployment:

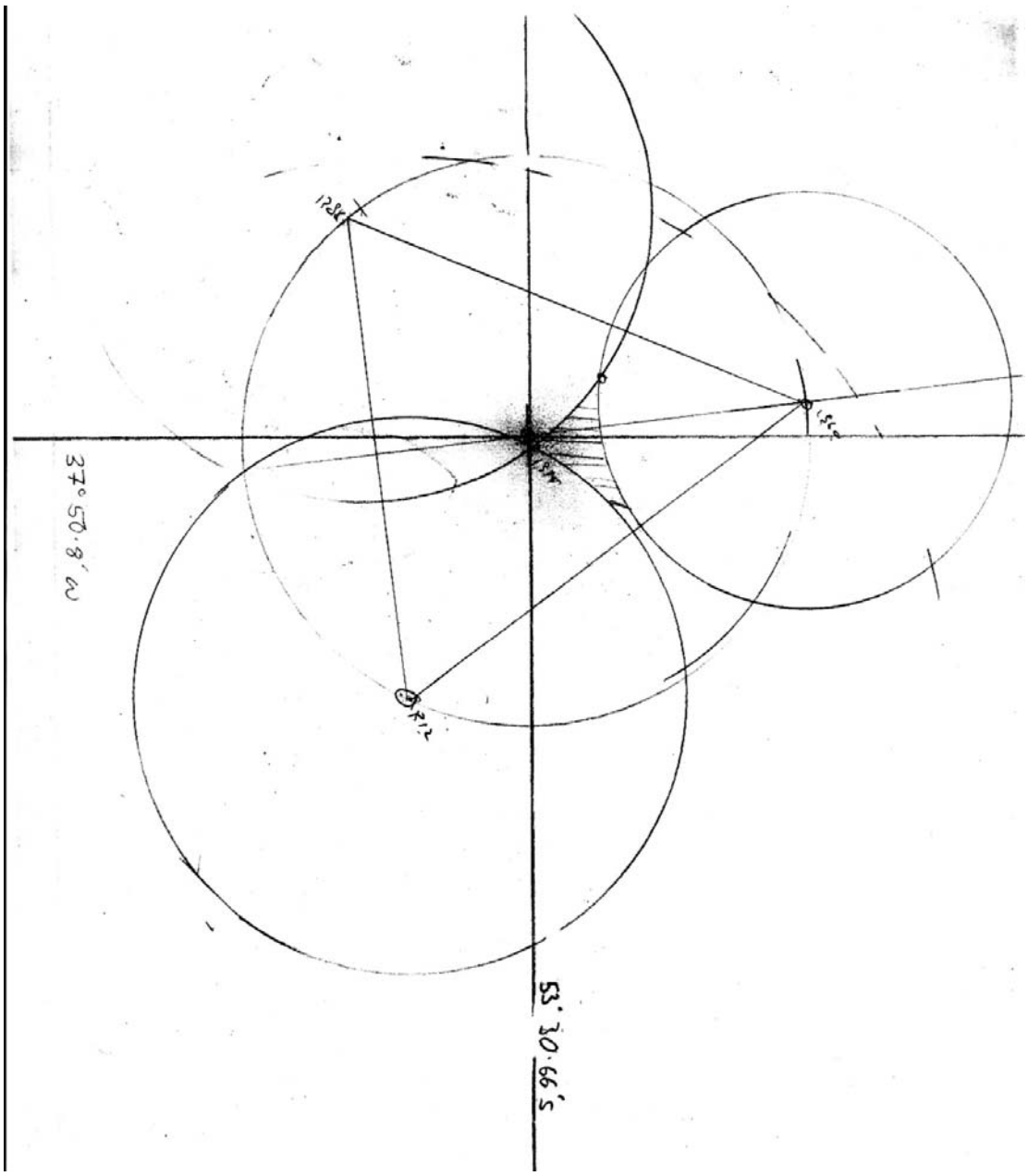
The shallow water mooring was recovered on the afternoon of November the 12th. On the 10th a CTD near to the station to 200m was done, followed directly on station by ½ hour of EK60 data sampling for cross-references with the instruments on the mooring. Then the weather turned too rough for a safe recovery, so the decision was made to go to KEP and come back to the mooring after work was finished there. When we came back on the 12th, the weather had improved remarkably and was good during the recovery (force 5) with good visibility. After sending the acoustic release command the mooring appeared ~10 min later at the surface in front of the ship. For recovery the floating rope between the trimsin buoys was caught and the rope with the releases recovered first, followed by the main buoy. During recovery of the instrument buoy a shackle connecting the 25m length of heavy mooring line to the wire on the Gilson winch fouled a block causing the rope to break. The buoy fell back into the water. Luckily nobody was injured and we were able to grab the rope of the buoy to recover it at the second attempt. To prevent further problems with shackles going through blocks under tension, the length of the ropes below the main buoys **will be increased from 25m to 35m. (This was done for the shallow water mooring.)**
To save time, afterwards we steamed to the deep site and deployed the mooring **on 12.11.03, in 1344m (EA 500) at 53° 30'702S & 37° 50'962W**. The deployment took place as described in the second deployment report in JR87. Afterwards a CTD down to 200 m was done followed by ~ 60min of EK60 data sampling for cross-reference for the instruments.
During the night all the necessary work on the shallow water mooring was carried out with downloading the data, replacing battery packs…. and in the early morning of **13.11.03, in 310m (EA 500) at 53° 47'7043S & 37° 56'267W** the shallow mooring was redeployed in the same way as the deep one. This time the weights were released before the tension of the rope was on the weights so that the releases with the chain and the rest of the rope went over board not in a controlled way. Therefore afterwards chances in the deployment procedures were discussed.

Malfunction of WCP 005:

Again, the WCP has not gathered data over the last deployment. There was a file on the instrument, but it was only 2 bytes long. Initially communications could not be established between the PC and the WCP. This only proved possible after the WCP batteries were replaced. We then checked the old main battery and it showed that the –12V battery was down to –3V, the +12V was down to +10.5 and the clock battery was dead! The question is, is it the battery packs which cause the problems, or is it the electronics, which drain the batteries so quickly? Because of the lack of time we could not do any further tests so the unit was redeployed with the new Lithium battery pack.
Before deployment both WCP units were checked for operation using a transistor radio. Unfortunately this does not work after the lead to the PC is disconnected.

Relocation of the lost acoustic releases.

After finishing all other work, we were in the lucky position of having some spare time to try and locate the acoustic releases which were lost when the fishing vessel snagged the rope in May 03. We started at the original dropping point and were able to "talk" to one of the pair of releases. It showed a range of 1340 m – which means it was directly under the ship. We than steamed 800 m to the north and the distance was 1440. We than relocated to the south east and the south west on the 800m radius (see drawing). Both readings there were 1560 m distance to the releases. By calculating the depth of the water with the distance to the instruments in direct line and though the water we were able to determine the position of the releases to ~ 100m^2. They are more or less laying at the original dropping point at 53^o 30.66 S & 37^o 50.8 W. So hopefully we will get another opportunity later in the season to drag for them.



Work carried out:

WCP:

- New lithium battery packs in both instruments
- Successful autonomous deep test north of Signy to 200m

CTD:

- New battery packs in both instruments

ADCP:

- New battery packs in both instruments

NOVATEC beacons

- New batteries in:
    - shallow one: R09-020, Ch. B, 159.48 MHz
    - new deep one: R09-021, Ch. C, 160.725 MHz

ARGOS beacons

- New batteries in:
    - new shallow one: SN 250, ID 35519
    - new deep one: SN 251, ID 35520

Releases

- New batteries in both deep water release
- New batteries in shallow water **release 217**

Batteries to be ordered for March:

- 90 AA cells for Argos beacon, Novatec beacon and acoustic releases
- 2 * battery packs for CTD (Lithium)
- 2 * battery packs for WCP (Lithium)
- 2 * clock batteries for WCP clock
- 2 * battery packs for ADCP

Instrument settings (general):

CTD

shallow:
start time: 12.11.03
sample interval: 240 sec.

deep:
start time: 12.11.03
sample interval: 240 sec.

WCP

Shallow:
Start time: 12.11.03
Stop time: 04.04.04
Sample interval: 3 min:28 sec
Bin size: 32
Gain: 4

Deep:
Start time: 12.11.03
Stop time: 04.04.04
Sample interval: 3 min:28 sec
Bin size: 32
Gain: 4
Calc. resources: 63.24 MB

ADCP

Shallow:
Start time: 12.11.03
Duration: 180 days
Sample interval: 2 min
Pings in interval: 7

Deep:
Start time: 12.11.03
Duration: 180 days
Sample interval: 2 min
Pings in interval: 7