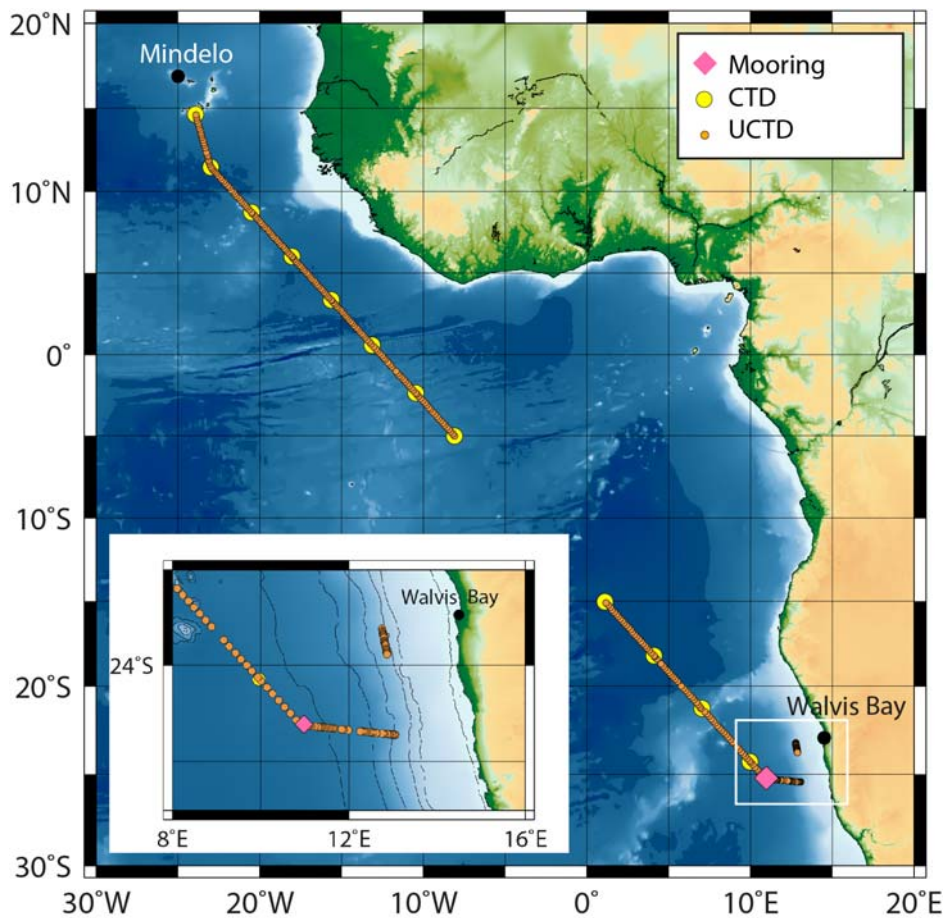


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**Summary Cruise Report
RV METEOR Cruise M104**

Walvis Bay – Mindelo
23. February – 14. March 2014
Chief Scientist: Detlef Quadfasel
Captain: Rainer Hammacher



RV Meteor cruise M104 in the Benguela Upwelling System with locations of the mooring, CTD and uCTD Casts and transit to Mindelo (Cape Verde Islands).

Objectives

Instabilities of eastern boundary currents in upwelling regions and associated cold water filaments lead to a significant negative heat transport from the coastal region to the interior ocean. These mesoscale and sub-mesoscale processes are not adequately resolved in climate models resulting in a strong temperature bias in the eastern parts of the subtropical oceans. With our experimental work we studied the occurrence and dynamics of the filaments and ultimately hope quantifying their role in the oceanic heat transport.

METEOR cruise M104 was a follow-up of cruise M99 in July/August 2013, where a hydrographic and current meter mooring had been deployed some 200 miles off the Namibian coast. The main goal of the present cruise was to recover this mooring and, time permitting, collect spatially high resolution temperature and salinity profiles with an underway CTD system (uCTD) that can be deployed from the moving vessel. A second goal was to quantify the atmospheric concentrations of Methane, Carbon Dioxide and aerosols. All measurements were continued along the 3400 miles long transit from the Benguela region to the Cape Verde Islands. They contribute to the global ocean monitoring of climate variability.

The strategy for reaching those goals was a combination of fast underway measurements and classical station worked from a stopped vessel. The underway measurements gave continuous concentrations of trace gases at 20 m height in the atmosphere and near surface ocean temperature and salinity. Upper ocean currents were measured with ADCPs (ranging to 600 m and 1400 m) and the free-fall uCTD covering the upper 300-400 m of the water column. The station work included profiles of hydrographic parameters and water sampling with a CTD-Rosette system.

RV Meteor cruise M104 was carried out jointly by the Institut für Meereskunde of the University of Hamburg, the Max-Planck-Institut für Meteorologie in Hamburg and the Max-Planck-Institut für Biogeochemie in Jena.

Narrative

RV METEOR sailed from the port of Walvis Bay at 09:20 a.m on Sunday, February, 23rd. Heavy swell did not allow us recovering the mooring right away and we thus first ran an Underway CTD section parallel to the coast of Namibia, approximately along the 1000 m depth contour. When the seas calmed on Tuesday, METEOR set course for the mooring position near 25° 15' S, 010° 54' E. During the transit to the working area more uCTD profiles were collected. The mooring position was reached in the early hours of Wednesday, but unfortunately the releasers did not respond to the acoustic release command. We tried combinations of three different hydrophones and deck units, without success. The main flotation carrying an acoustic Doppler current profiler was equipped with two satellite transmitters. As these had not been active during the whole period since the deployment, we were pretty sure that the mooring was still at its position.

The top floatation of the mooring is at a nominal depth of 30 m only, and our next recovery attempt was to use the so called Tucker trawl method. Here an about 700 m long Kevlar line is towed at a depth of 500 m between the mother vessel and a rubber dinghy moving parallel to it. When the mooring is caught, the dinghy takes one or several loops around it and hands its end of the line to the mother vessel. From here the

mooring is pulled up. Again, unfortunately, we were not successful recovering the mooring this way.

During the late afternoon and evening we tried to locate the mooring acoustically, using the two multi-beam echo sounders EM710 and EM122. A densely spaced search pattern was run and we indeed found a strong acoustic target at a depth of 170 m that could have been the about 140 cm diameter ADCP buoy. A few hours later this target was still at the same position. Around midnight the crew started paying out 8000 m of cable of which the first 2000 m had 15 dredge hooks attached to. The cable was laid in a circle around the nominal mooring position and the position of the acoustic target. This job was finished at 8:30 a.m. on Thursday and shortly thereafter the cable was pulled in again, in the hope, the mooring gets caught and cut off from its anchor weight. At 4:30 p.m. the cable was back on deck, but the mooring had again escaped our recovery exercise. After this frustration experience we continued our acoustic multi beam survey but the acoustic target of the previous night could not be found again.

During the very early hours of February 28th we had to finish our attempts to recover the mooring, as time was running out. We had a 3400 nm transit to Mindelo on the Cape Verde Islands ahead of us and the vessel had to be delivered in time for the next cruise.

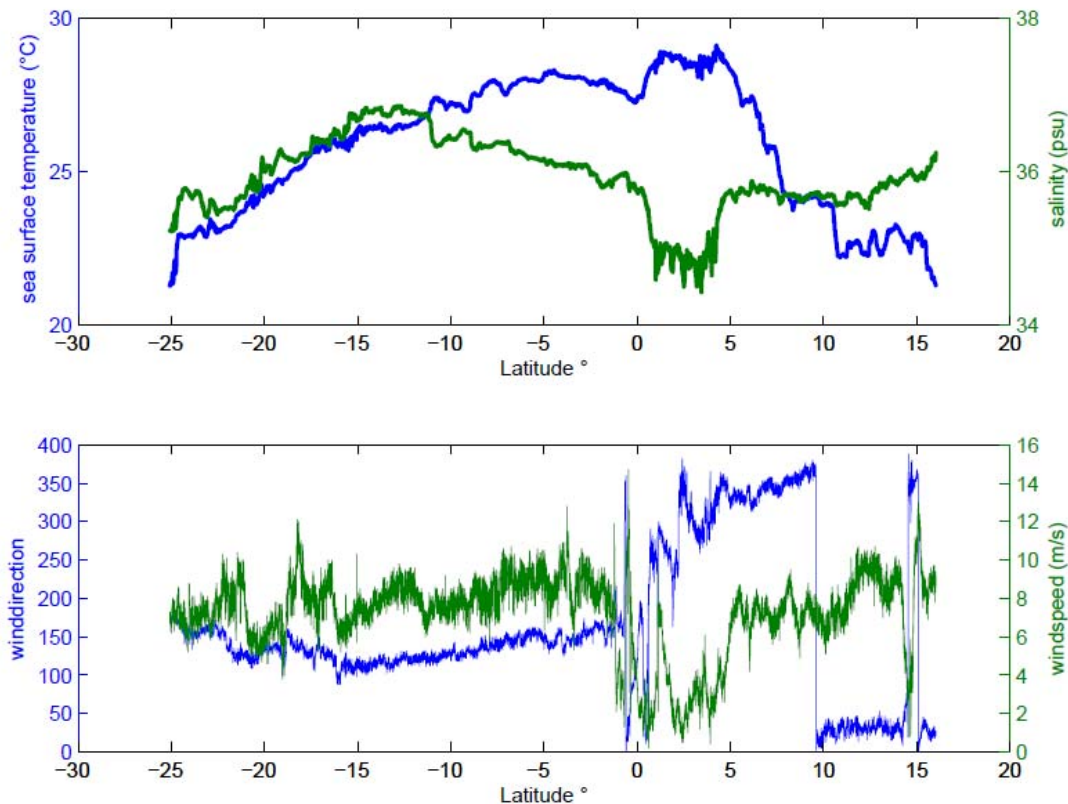
The favourable southeast trade winds allowed the vessel to run at a speed about 12 knots. Once per hour this was reduced to 8 knots while an uCTD profile was taken. Once per day we also took a stationary CTD cast to a depth of 1000 m, mainly for calibration of the uCTD measurements. On Monday, March 3rd near 15° S we stopped the CTD and uCTD work as it was feared that we may not reach Mindelo in time. For three days METEOR ran full speed and on Thursday, March 6th, at around 5° S, we were able to take up the CTD work again. The equator was reached in the early morning hours of Saturday. About here the SE trade winds ceased and we entered the doldrums with occasional heavy thunderstorms. The strongest one encountered gave about 50 litres of rain per square metre in just three hours. We continued our crossing of the equatorial current system and reached the PIRATA buoy at 11° 28' N, 23° 00' W, on Wednesday, March 12th. Here we took a CTD cast for calibration of the moored instruments while the crew got out their fishing gear and tried to stock up our supply of Mai Mais.

After this encounter we continued north and entered the Cape Verde Archipelago between the islands of Fogo and Santiago on Thursday morning. The uCTD section ended here and the remainder of the cruise was devoted to collecting clean air samples in luv of the islands.

On Friday, March 14th, at 8:27 a.m. we picked up the pilot and RV METEOR was alongside in Mindelo at 9:06 a.m.

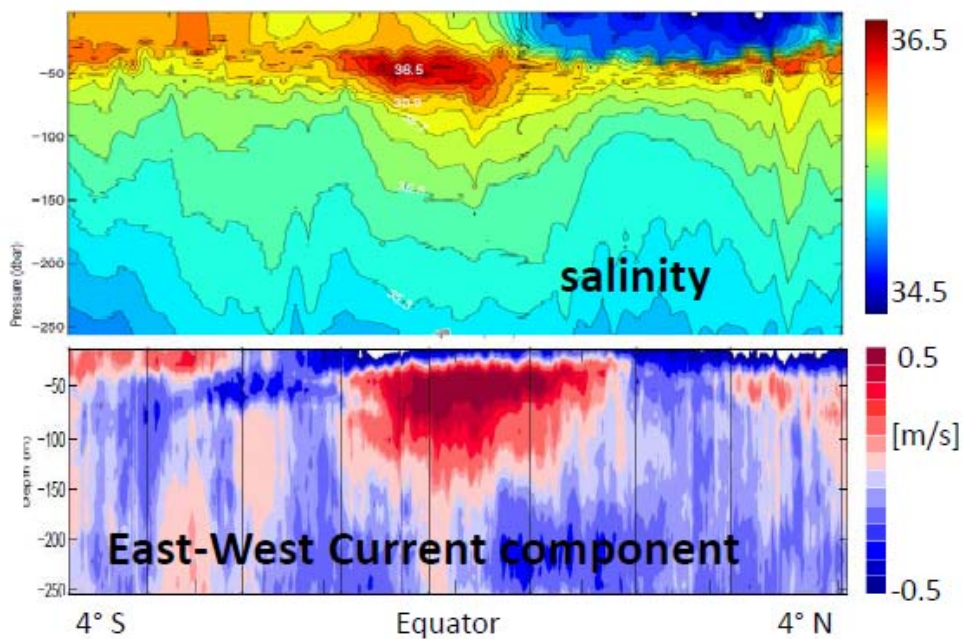
During the transit from the mooring position we passed three major climate zones. These can be identified in the continuous surface observations.

- (1) The south-easterly trades and the subtropical gyre of the southern hemisphere up to the equator. Here winds are fairly steady with speeds between 6 and 10 m/s and directions between S and SE. Sea surface temperatures rise steadily from 21° C off Namibia to about 28° C just south of the equator. At the equator it shows a small dip due to strong vertical mixing in the undercurrent and due to equatorial upwelling. Likewise the sea surface salinity increases from 35.5 to 37 around 12° S from whereon it decreases again to 36 at the equator. The high salinity is due to the strong evaporation by the trade winds, the decrease further north is caused by the advection of lower salinity water from the coastal areas off Africa.
- (2) The doldrums in the area of the Inter-tropical Convergence Zone between the equator and about 5° N. Here wind speeds drop to levels of 2 – 4 m/s, but on short scales reached up to 14 m/s. These high speeds are also characterized by variable wind directions and are associated with sub-mesoscale thunderstorm systems. This precipitation both causes the overall drop in near surface salinities as well as the high variability within this belt with amplitudes of 0.2 or more. The overall drop is also caused by the advection of riverine freshwater from the Congo River, carried in the northern branch of the South Equatorial current.
- (3) The northern hemisphere NE trade wind regime north of 5° N. here temperatures rapidly decrease northward, as cold upwelling water from the African coastal area is advected westward in the North Equatorial Current.



Property – Latitude plot of sea surface salinity and temperature (top) and wind speed and direction (bottom) along the track of METEOR cruise M104.

An example for a high resolution UCTD potential temperature and vessel-mounted ADCP section is given below. The section shows the crossing of the equator and extends from 4° S to 4° N. In the south the salinity decreases from the surface to depth. The high surface values are a result of the high evaporation rates under the trade winds. In the north near surface salinities are low. This is partly caused by the strong precipitation in the doldrums; but also marks the influence of riverine freshwater input from the Kongo River that is carried westward in the South Equatorial Current. At the equator the pronounced subsurface salinity maximum (~ 50 m) indicates the presence of the Equatorial Undercurrent, with eastward velocities of well above 0.5 m/s.



Vertical distribution of salinity (top) and zonal current component (bottom) in the top 250 m of the water column near the equator between 4° S und 4° N.

Acknowledgements

We like to thank Captain Rainer Hammacher, his officers and the crew of RV Meteor for their hospitality and their support of our measurement programme. The ship time of RV Meteor was provided by the Deutsche Forschungsgemeinschaft within the core program METEOR/MERIAN. Financial support for the project was provided through the German Ministry of Education and Research (SACUS-SPACES). We also benefited from financial contributions by the research institutes involved.

Cruise participants

| | | |
|---------------------|----------------------|-------------------|
| Quadfasel, Detlef | Chief Scientist | IfM-Univ. Hamburg |
| Backhaus, Jan | CTD/uCTD watch | IfM-Univ. Hamburg |
| Hainbucher, Dagmar | CTD/uCTD watch | IfM-Univ. Hamburg |
| Hösen, Elisabeth | CTD/uCTD watch | IfM-Univ. Hamburg |
| Kauhs, Carola | Aerosol measurements | MPI-MET. Hamburg |
| Leverenz, Franziska | student | IfM-Univ. Hamburg |
| Möller, Judith | student | IfM-Univ. Hamburg |
| Seifert, Thomas | trace gases | MPI-BGC, Jena |
| Terrassa, Francisca | CTD/uCTD watch | IfM-Univ. Hamburg |
| Welsch, Andreas | moorings, technics | IfM-Univ. Hamburg |
| Mickoleit, Anett | meteorology | DWD, Hamburg |
| Raeke, Andreas | meteorology | DWD, Hamburg |

| | |
|--------------------|--|
| DWD: | Deutscher Wetterdienst, Hamburg, Germany |
| IfM-Univ. Hamburg: | Institut für Meereskunde, University of Hamburg, Germany |
| MPI-BGC: | Max Planck-Institut für Biogeochemie, Jena, Germany |
| MPI-MET: | Max-Planck-Institut für Meteorologie, Hamburg. Germany |

List of Stations

| | |
|--------|---|
| CTD/RO | Conductivity-Temperature-Depth sonde/ Rosette water sampler |
| CTD-U | underway Conductivity-Temperature-Depth sonde |
| MOR | Mooring |

| Station-Cast No | CTD-U No | Gear Abbreviation | Date | Time UTC | Action | Position | | Depth m | Max Pres db | Comment |
|-----------------|-------------|----------------------|------------|-------------|---------|--------------|--------------|------------|----------------|---------|
| | | | | | | Latitude | Longitude | | | |
| ME1040/149-1 | 1 | CTD-U | 23.02.2014 | 20:47 | surface | 22° 1,57' S | 12° 30,32' E | 856 | | |
| ME1040/149-1 | 2 | CTD-U | 23.02.2014 | 21:14 | surface | 22° 4,45' S | 12° 30,91' E | 868 | | |
| ME1040/150-1 | 3 | CTD-U | 24.02.2014 | 09:43 | surface | 23° 14,32' S | 12° 45,32' E | 1102 | 365 | |
| ME1040/150-1 | 4 | CTD-U | 24.02.2014 | 10:08 | surface | 23° 16,76' S | 12° 45,82' E | 1090 | 344 | |
| ME1040/150-1 | 5 | CTD-U | 24.02.2014 | 10:23 | surface | 23° 18,21' S | 12° 46,13' E | 1087 | 355 | |
| ME1040/150-1 | 6 | CTD-U | 24.02.2014 | 10:39 | surface | 23° 19,72' S | 12° 46,44' E | 1077 | 356 | |
| ME1040/150-1 | 7 | CTD-U | 24.02.2014 | 10:53 | surface | 23° 20,90' S | 12° 46,68' E | 1073 | 359 | |
| ME1040/150-1 | 8 | CTD-U | 24.02.2014 | 11:07 | surface | 23° 22,23' S | 12° 46,96' E | 1072 | 342 | |
| ME1040/150-1 | 9 | CTD-U | 24.02.2014 | 11:20 | surface | 23° 23,40' S | 12° 47,20' E | 1073 | 347 | |
| ME1040/150-1 | 10 | CTD-U | 24.02.2014 | 11:33 | surface | 23° 24,63' S | 12° 47,46' E | 1079 | 340 | |
| ME1040/150-1 | 11 | CTD-U | 24.02.2014 | 11:47 | surface | 23° 25,90' S | 12° 47,72' E | 1075 | 360 | |
| ME1040/150-1 | 12 | CTD-U | 24.02.2014 | 12:23 | surface | 23° 29,00' S | 12° 48,36' E | 1089 | 340 | |
| ME1040/150-1 | 13 | CTD-U | 24.02.2014 | 12:36 | surface | 23° 30,13' S | 12° 48,59' E | 1097 | 360 | |
| ME1040/150-1 | 14 | CTD-U | 24.02.2014 | 12:49 | surface | 23° 31,27' S | 12° 48,83' E | 0 | 348 | |
| ME1040/150-1 | 15 | CTD-U | 24.02.2014 | 13:03 | surface | 23° 32,49' S | 12° 49,08' E | 1111 | 317 | |
| ME1040/150-1 | 16 | CTD-U | 24.02.2014 | 13:15 | surface | 23° 33,48' S | 12° 49,29' E | 1124 | 380 | |
| ME1040/150-1 | 17 | CTD-U | 24.02.2014 | 13:28 | surface | 23° 34,47' S | 12° 49,50' E | 0 | 375 | |
| ME1040/150-1 | 18 | CTD-U | 24.02.2014 | 13:44 | surface | 23° 35,80' S | 12° 49,77' E | 1159 | 361 | |
| ME1040/150-1 | 19 | CTD-U | 24.02.2014 | 14:18 | surface | 23° 38,62' S | 12° 50,36' E | 1195 | 375 | |
| ME1040/150-1 | 20 | CTD-U | 24.02.2014 | 14:36 | surface | 23° 40,04' S | 12° 50,65' E | 1213 | 383 | |
| ME1040/150-1 | 21 | CTD-U | 24.02.2014 | 14:52 | surface | 23° 41,38' S | 12° 50,93' E | 1227 | 403 | |
| ME1040/150-1 | 22 | CTD-U | 24.02.2014 | 15:11 | surface | 23° 42,86' S | 12° 51,24' E | 1237 | 397 | |
| ME1040/150-1 | 23 | CTD-U | 24.02.2014 | 15:26 | surface | 23° 44,03' S | 12° 51,48' E | 1248 | 389 | |
| ME1040/150-1 | 24 | CTD-U | 24.02.2014 | 15:42 | surface | 23° 45,34' S | 12° 51,75' E | 1246 | 386 | |
| ME1040/150-1 | 25 | CTD-U | 24.02.2014 | 15:57 | surface | 23° 46,56' S | 12° 52,01' E | 1242 | 375 | |
| ME1040/151-1 | 26 | CTD-U | 25.02.2014 | 11:13 | surface | 25° 26,87' S | 13° 3,29' E | 1846 | 323 | |
| ME1040/151-1 | 27 | CTD-U | 25.02.2014 | 11:28 | surface | 25° 26,70' S | 13° 1,53' E | 1936 | 330 | |
| ME1040/151-1 | 28 | CTD-U | 25.02.2014 | 11:42 | surface | 25° 26,62' S | 12° 59,90' E | 2017 | 330 | |
| ME1040/151-1 | 29 | CTD-U | 25.02.2014 | 11:56 | surface | 25° 26,38' S | 12° 58,13' E | 2103 | 320 | |
| ME1040/151-1 | 30 | CTD-U | 25.02.2014 | 12:11 | surface | 25° 26,20' S | 12° 56,19' E | 0 | 340 | |
| ME1040/151-1 | 31 | CTD-U | 25.02.2014 | 12:26 | surface | 25° 26,02' S | 12° 54,21' E | 2281 | 323 | |

| | | | | | | | | | |
|--------------|----|-------|------------|-------|---------|--------------|--------------|------|---------|
| ME1040/151-1 | 32 | CTD-U | 25.02.2014 | 12:57 | surface | 25° 25,64' S | 12° 50,21' E | 2457 | |
| ME1040/151-1 | 33 | CTD-U | 25.02.2014 | 13:09 | surface | 25° 25,50' S | 12° 48,70' E | 2517 | 327 |
| ME1040/151-1 | 34 | CTD-U | 25.02.2014 | 13:24 | surface | 25° 25,33' S | 12° 46,83' E | 2565 | 344 |
| ME1040/151-1 | 35 | CTD-U | 25.02.2014 | 13:39 | surface | 25° 25,15' S | 12° 44,99' E | 2601 | 339 |
| ME1040/151-1 | 36 | CTD-U | 25.02.2014 | 14:04 | surface | 25° 24,87' S | 12° 41,96' E | 2653 | No data |
| ME1040/151-1 | 37 | CTD-U | 25.02.2014 | 14:41 | surface | 25° 24,42' S | 12° 37,14' E | 2732 | 385 |
| ME1040/151-1 | 38 | CTD-U | 25.02.2014 | 15:13 | surface | 25° 23,98' S | 12° 32,48' E | 2888 | 351 |
| ME1040/151-1 | 39 | CTD-U | 25.02.2014 | 15:31 | surface | 25° 23,77' S | 12° 30,24' E | 3058 | 345 |
| ME1040/151-1 | 40 | CTD-U | 25.02.2014 | 15:50 | surface | 25° 23,55' S | 12° 27,91' E | 3105 | 346 |
| ME1040/151-1 | 41 | CTD-U | 25.02.2014 | 16:19 | surface | 25° 23,22' S | 12° 24,36' E | 3209 | 349 |
| ME1040/151-1 | 42 | CTD-U | 25.02.2014 | 16:37 | surface | 25° 23,01' S | 12° 22,11' E | 3269 | 368 |
| ME1040/151-1 | 43 | CTD-U | 25.02.2014 | 16:56 | surface | 25° 22,79' S | 12° 19,76' E | 3311 | 362 |
| ME1040/151-1 | 44 | CTD-U | 25.02.2014 | 17:12 | surface | 25° 22,60' S | 12° 17,80' E | 3351 | 348 |
| ME1040/151-1 | 45 | CTD-U | 25.02.2014 | 17:30 | surface | 25° 22,39' S | 12° 15,56' E | 3421 | 334 |
| ME1040/151-1 | 46 | CTD-U | 25.02.2014 | 17:50 | surface | 25° 22,17' S | 12° 13,19' E | 3462 | No data |
| ME1040/151-1 | 47 | CTD-U | 25.02.2014 | 18:24 | surface | 25° 21,78' S | 12° 9,04' E | 3516 | No data |
| ME1040/151-1 | 48 | CTD-U | 25.02.2014 | 19:06 | surface | 25° 21,30' S | 12° 3,89' E | 3550 | No data |
| ME1040/151-1 | 49 | CTD-U | 25.02.2014 | 19:23 | surface | 25° 21,10' S | 12° 1,78' E | 3554 | No data |
| ME1040/151-1 | 50 | CTD-U | 25.02.2014 | 19:44 | surface | 25° 20,86' S | 11° 59,22' E | 3572 | 366 |
| ME1040/151-1 | 51 | CTD-U | 25.02.2014 | 20:04 | surface | 25° 20,64' S | 11° 56,86' E | 3594 | No data |
| ME1040/151-1 | 52 | CTD-U | 25.02.2014 | 20:21 | surface | 25° 20,45' S | 11° 54,82' E | 3624 | No data |
| ME1040/151-1 | 53 | CTD-U | 25.02.2014 | 20:40 | surface | 25° 20,23' S | 11° 52,49' E | 3643 | 373 |
| ME1040/151-1 | 54 | CTD-U | 25.02.2014 | 21:00 | surface | 25° 20,00' S | 11° 50,05' E | 3681 | 382 |
| ME1040/151-1 | 55 | CTD-U | 25.02.2014 | 21:19 | surface | 25° 19,79' S | 11° 47,82' E | 3712 | No data |
| ME1040/151-1 | 56 | CTD-U | 25.02.2014 | 22:08 | surface | 25° 19,24' S | 11° 41,97' E | 3802 | No data |
| ME1040/151-1 | 57 | CTD-U | 25.02.2014 | 22:26 | surface | 25° 19,04' S | 11° 39,80' E | 3836 | 368 |
| ME1040/151-1 | 58 | CTD-U | 25.02.2014 | 22:43 | surface | 25° 18,84' S | 11° 37,68' E | 3872 | 329 |
| ME1040/151-1 | 59 | CTD-U | 25.02.2014 | 23:00 | surface | 25° 18,64' S | 11° 35,55' E | 3918 | 357 |
| ME1040/151-1 | 60 | CTD-U | 25.02.2014 | 23:17 | surface | 25° 18,44' S | 11° 33,45' E | 3955 | 345 |
| ME1040/151-1 | 61 | CTD-U | 25.02.2014 | 23:33 | surface | 25° 18,25' S | 11° 31,44' E | 3995 | 358 |
| ME1040/151-1 | 62 | CTD-U | 25.02.2014 | 23:51 | surface | 25° 18,04' S | 11° 29,24' E | 4023 | 367 |
| ME1040/151-1 | 63 | CTD-U | 26.02.2014 | 00:10 | surface | 25° 17,82' S | 11° 26,83' E | 4058 | 336 |
| ME1040/151-1 | 64 | CTD-U | 26.02.2014 | 00:28 | surface | 25° 17,60' S | 11° 24,53' E | 4078 | 339 |

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|--------------|----|--------|------------|-------|-----------------|--------------|--------------|------|-----|
| ME1040/151-1 | 65 | CTD-U | 26.02.2014 | 00:44 | surface | 25° 17,41' S | 11° 22,46' E | 4094 | 328 |
| ME1040/151-1 | 66 | CTD-U | 26.02.2014 | 01:02 | surface | 25° 17,19' S | 11° 20,07' E | 4108 | 325 |
| ME1040/151-1 | 67 | CTD-U | 26.02.2014 | 01:20 | surface | 25° 16,96' S | 11° 17,63' E | 4119 | 327 |
| ME1040/151-1 | 68 | CTD-U | 26.02.2014 | 01:49 | surface | 25° 16,59' S | 11° 13,66' E | 4133 | 332 |
| ME1040/151-1 | 69 | CTD-U | 26.02.2014 | 02:23 | surface | 25° 16,16' S | 11° 9,19' E | 4151 | 329 |
| ME1040/151-1 | 70 | CTD-U | 26.02.2014 | 02:41 | surface | 25° 15,94' S | 11° 6,81' E | 4171 | 325 |
| ME1040/151-1 | 71 | CTD-U | 26.02.2014 | 02:57 | surface | 25° 15,74' S | 11° 4,71' E | 4187 | 313 |
| ME1040/151-1 | 72 | CTD-U | 26.02.2014 | 03:16 | surface | 25° 15,52' S | 11° 2,32' E | 4208 | 356 |
| ME1040/151-1 | 73 | CTD-U | 26.02.2014 | 03:32 | surface | 25° 15,33' S | 11° 0,35' E | 4221 | 315 |
| ME1040/152-1 | | MOR | 26.02.2014 | 06:12 | released | 25° 14,44' S | 10° 54,72' E | 0 | |
| ME1040/152-1 | | MOR | 26.02.2014 | 11:35 | Dinghi in water | 25° 14,34' S | 10° 54,80' E | 920 | |
| ME1040/152-1 | | MOR | 26.02.2014 | 15:13 | released | 25° 14,96' S | 10° 55,05' E | 0 | |
| ME1040/152-1 | | MOR | 26.02.2014 | 16:00 | EM710, EM122 | 25° 14,76' S | 10° 55,06' E | 0 | |
| ME1040/152-1 | | MOR | 27.02.2014 | 00:13 | Start dredging | 25° 14,48' S | 10° 53,94' E | 0 | |
| ME1040/152-1 | | MOR | 27.02.2014 | 06:09 | Start heaving | 25° 14,95' S | 10° 53,98' E | 4247 | |
| ME1040/152-1 | | MOR | 27.02.2014 | 14:47 | on deck | 25° 14,95' S | 10° 53,99' E | 4249 | |
| ME1040/152-1 | | MOR | 27.02.2014 | 16:02 | released | 25° 14,53' S | 10° 54,43' E | 4244 | |
| ME1040/152-1 | | MOR | 27.02.2014 | 16:39 | EM710, EM122 | 25° 14,53' S | 10° 54,42' E | 4245 | |
| ME1040/152-1 | | MOR | 27.02.2014 | 22:37 | End Mooring | 25° 14,95' S | 10° 54,42' E | 4248 | |
| ME1040/153-1 | 74 | CTD-U | 27.02.2014 | 23:30 | surface | 25° 8,24' S | 10° 48,32' E | 4247 | 317 |
| ME1040/153-1 | 75 | CTD-U | 28.02.2014 | 00:30 | surface | 25° 0,39' S | 10° 40,51' E | 4259 | 260 |
| ME1040/153-1 | 76 | CTD-U | 28.02.2014 | 01:29 | surface | 24° 52,17' S | 10° 32,34' E | 4261 | 341 |
| ME1040/153-1 | 77 | CTD-U | 28.02.2014 | 02:30 | surface | 24° 44,04' S | 10° 24,26' E | 4263 | 299 |
| ME1040/153-1 | 78 | CTD-U | 28.02.2014 | 03:30 | surface | 24° 35,96' S | 10° 16,25' E | 4242 | 306 |
| ME1040/153-1 | 79 | CTD-U | 28.02.2014 | 04:30 | surface | 24° 28,03' S | 10° 8,39' E | 4214 | 235 |
| ME1040/153-1 | 80 | CTD-U | 28.02.2014 | 05:30 | surface | 24° 20,27' S | 10° 0,71' E | 4236 | 330 |
| ME1040/154-1 | 1 | CTD/RO | 28.02.2014 | 06:05 | surface | 24° 17,65' S | 9° 57,81' E | 4252 | |
| ME1040/154-1 | | CTD/RO | 28.02.2014 | 06:27 | at depth | 24° 17,65' S | 9° 57,81' E | 4252 | |
| ME1040/154-1 | | CTD/RO | 28.02.2014 | 07:03 | on deck | 24° 17,65' S | 9° 57,81' E | 4252 | |
| ME1040/155-1 | 81 | CTD-U | 28.02.2014 | 07:30 | surface | 24° 15,58' S | 9° 56,05' E | 4269 | 335 |
| ME1040/155-1 | 82 | CTD-U | 28.02.2014 | 08:30 | surface | 24° 7,74' S | 9° 48,33' E | 4320 | 348 |
| ME1040/155-1 | 83 | CTD-U | 28.02.2014 | 09:30 | surface | 24° 0,22' S | 9° 40,89' E | 4305 | 345 |
| ME1040/155-1 | 84 | CTD-U | 28.02.2014 | 10:31 | surface | 23° 52,63' S | 9° 33,42' E | 4332 | 324 |

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|--------------|-----|--------|------------|-------|----------|--------------|--------------|------|---------|
| ME1040/155-1 | 85 | CTD-U | 28.02.2014 | 11:30 | surface | 23° 44,83' S | 9° 25,73' E | 4404 | 287 |
| ME1040/155-1 | 86 | CTD-U | 28.02.2014 | 12:30 | surface | 23° 36,36' S | 9° 17,40' E | 4475 | 277 |
| ME1040/155-1 | 87 | CTD-U | 28.02.2014 | 13:30 | surface | 23° 28,38' S | 9° 9,56' E | 4511 | 320 |
| ME1040/155-1 | 88 | CTD-U | 28.02.2014 | 14:31 | surface | 23° 20,10' S | 9° 1,43' E | 4507 | No data |
| ME1040/155-1 | 89 | CTD-U | 28.02.2014 | 15:30 | surface | 23° 11,91' S | 8° 53,40' E | 4506 | 308 |
| ME1040/155-1 | 90 | CTD-U | 28.02.2014 | 16:30 | surface | 23° 3,57' S | 8° 45,22' E | 4243 | 327 |
| ME1040/155-1 | 91 | CTD-U | 28.02.2014 | 17:30 | surface | 22° 55,47' S | 8° 37,28' E | 4483 | 320 |
| ME1040/155-1 | 92 | CTD-U | 28.02.2014 | 18:30 | surface | 22° 47,19' S | 8° 29,20' E | 4462 | 326 |
| ME1040/155-1 | 93 | CTD-U | 28.02.2014 | 19:30 | surface | 22° 39,39' S | 8° 21,58' E | 4471 | 339 |
| ME1040/155-1 | 94 | CTD-U | 28.02.2014 | 20:30 | surface | 22° 31,47' S | 8° 13,85' E | 4462 | 307 |
| ME1040/155-1 | 95 | CTD-U | 28.02.2014 | 21:30 | surface | 22° 23,51' S | 8° 6,09' E | 2849 | 322 |
| ME1040/155-1 | 96 | CTD-U | 28.02.2014 | 22:30 | surface | 22° 15,76' S | 7° 58,53' E | 2698 | 350 |
| ME1040/155-1 | 97 | CTD-U | 28.02.2014 | 23:30 | surface | 22° 7,73' S | 7° 50,72' E | 3004 | 350 |
| ME1040/155-1 | 98 | CTD-U | 01.03.2014 | 00:29 | surface | 21° 59,98' S | 7° 43,18' E | 3034 | 320 |
| ME1040/155-1 | 99 | CTD-U | 01.03.2014 | 01:29 | surface | 21° 51,99' S | 7° 35,42' E | 3018 | 320 |
| ME1040/155-1 | 100 | CTD-U | 01.03.2014 | 02:30 | surface | 21° 43,77' S | 7° 27,45' E | 3086 | 323 |
| ME1040/155-1 | 101 | CTD-U | 01.03.2014 | 03:31 | surface | 21° 35,88' S | 7° 19,80' E | 3112 | 322 |
| ME1040/155-1 | 102 | CTD-U | 01.03.2014 | 04:30 | surface | 21° 27,88' S | 7° 12,06' E | 3043 | 302 |
| ME1040/155-1 | 103 | CTD-U | 01.03.2014 | 05:30 | surface | 21° 19,58' S | 7° 4,02' E | 2989 | 302 |
| ME1040/156-1 | 2 | CTD/RO | 01.03.2014 | 06:20 | surface | 21° 17,19' S | 7° 1,03' E | 3052 | |
| ME1040/156-1 | | CTD/RO | 01.03.2014 | 06:41 | at depth | 21° 17,19' S | 7° 1,03' E | 3052 | |
| ME1040/156-1 | | CTD/RO | 01.03.2014 | 07:18 | on deck | 21° 17,19' S | 7° 1,03' E | 3052 | |
| ME1040/157-1 | 104 | CTD-U | 01.03.2014 | 07:30 | surface | 21° 16,94' S | 7° 0,63' E | 3052 | No data |
| ME1040/157-1 | 105 | CTD-U | 01.03.2014 | 07:55 | surface | 21° 15,79' S | 6° 58,26' E | 3088 | 297 |
| ME1040/157-1 | 106 | CTD-U | 01.03.2014 | 08:30 | surface | 21° 11,09' S | 6° 54,38' E | 3363 | 333 |
| ME1040/157-1 | 107 | CTD-U | 01.03.2014 | 09:30 | surface | 21° 3,93' S | 6° 48,88' E | 3577 | 324 |
| ME1040/157-1 | 108 | CTD-U | 01.03.2014 | 10:30 | surface | 20° 55,69' S | 6° 40,94' E | 3929 | 316 |
| ME1040/157-1 | 109 | CTD-U | 01.03.2014 | 11:31 | surface | 20° 47,16' S | 6° 32, 72' E | | |
| ME1040/157-1 | 110 | CTD-U | 01.03.2014 | 12:29 | surface | 20° 39,19' S | 6° 25,03' E | 4430 | 335 |
| ME1040/157-1 | 111 | CTD-U | 01.03.2014 | 13:28 | surface | 20° 31,03' S | 6° 17,18' E | 4501 | 324 |
| ME1040/157-1 | 112 | CTD-U | 01.03.2014 | 14:29 | surface | 20° 22,74' S | 6° 9,21' E | 4328 | 310 |
| ME1040/157-1 | 113 | CTD-U | 01.03.2014 | 15:30 | surface | 20° 14,67' S | 6° 1,38' E | 4107 | 332 |
| ME1040/157-1 | 114 | CTD-U | 01.03.2014 | 16:30 | surface | 20° 6,60' S | 5° 53,70' E | 4496 | 320 |

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|--------------|-----|--------|------------|-------|----------|--------------|-------------|------|---------|
| ME1040/157-1 | 115 | CTD-U | 01.03.2014 | 17:30 | surface | 19° 58,92' S | 5° 46,35' E | 5061 | 324 |
| ME1040/157-1 | 116 | CTD-U | 01.03.2014 | 18:29 | surface | 19° 51,26' S | 5° 39,00' E | 5083 | No data |
| ME1040/157-1 | 117 | CTD-U | 01.03.2014 | 19:30 | surface | 19° 43,08' S | 5° 31,17' E | 5080 | 324 |
| ME1040/157-1 | 118 | CTD-U | 01.03.2014 | 20:29 | surface | 19° 35,28' S | 5° 23,72' E | 5083 | 312 |
| ME1040/157-1 | 119 | CTD-U | 01.03.2014 | 21:29 | surface | 19° 27,60' S | 5° 16,37' E | 5098 | 308 |
| ME1040/157-1 | 120 | CTD-U | 01.03.2014 | 22:29 | surface | 19° 19,57' S | 5° 8,70' E | 5096 | 320 |
| ME1040/157-1 | 121 | CTD-U | 01.03.2014 | 23:28 | surface | 19° 11,96' S | 5° 1,44' E | 5036 | 337 |
| ME1040/157-1 | 122 | CTD-U | 02.03.2014 | 00:28 | surface | 19° 4,10' S | 4° 53,94' E | 5183 | 337 |
| ME1040/157-1 | 123 | CTD-U | 02.03.2014 | 01:29 | surface | 18° 56,30' S | 4° 46,52' E | 5350 | 325 |
| ME1040/157-1 | 124 | CTD-U | 02.03.2014 | 02:30 | surface | 18° 48,91' S | 4° 39,47' E | 5427 | 321 |
| ME1040/157-1 | 125 | CTD-U | 02.03.2014 | 03:31 | surface | 18° 40,82' S | 4° 31,78' E | 5430 | 289 |
| ME1040/157-1 | 126 | CTD-U | 02.03.2014 | 04:30 | surface | 18° 32,86' S | 4° 24,21' E | 5434 | No data |
| ME1040/157-1 | 127 | CTD-U | 02.03.2014 | 05:30 | surface | 18° 24,89' S | 4° 16,64' E | 5440 | 298 |
| ME1040/157-1 | 128 | CTD-U | 02.03.2014 | 06:30 | surface | 18° 16,69' S | 4° 8,86' E | 5447 | 298 |
| ME1040/158-1 | 3 | CTD/RO | 02.03.2014 | 07:03 | surface | 18° 13,82' S | 4° 5,76' E | 5450 | |
| ME1040/158-1 | | CTD/RO | 02.03.2014 | 07:26 | at depth | 18° 13,82' S | 4° 5,76' E | 5448 | |
| ME1040/158-1 | | CTD/RO | 02.03.2014 | 07:53 | on deck | 18° 13,82' S | 4° 5,76' E | 5449 | |
| ME1040/159-1 | 129 | CTD-U | 02.03.2014 | 08:10 | surface | 18° 13,97' S | 4° 6,26' E | 5447 | 280 |
| ME1040/159-1 | 130 | CTD-U | 02.03.2014 | 09:29 | surface | 18° 2,93' S | 3° 55,82' E | 5459 | 302 |
| ME1040/159-1 | 131 | CTD-U | 02.03.2014 | 10:29 | surface | 17° 54,94' S | 3° 48,25' E | 5460 | 313 |
| ME1040/159-1 | 132 | CTD-U | 02.03.2014 | 11:30 | surface | 17° 46,64' S | 3° 40,39' E | 5465 | 329 |
| ME1040/159-1 | 133 | CTD-U | 02.03.2014 | 12:29 | surface | 17° 38,98' S | 3° 33,15' E | 5474 | 311 |
| ME1040/159-1 | 134 | CTD-U | 02.03.2014 | 13:31 | surface | 17° 30,71' S | 3° 25,33' E | 5483 | 323 |
| ME1040/159-1 | 135 | CTD-U | 02.03.2014 | 14:29 | surface | 17° 14,69' S | 3° 10,22' E | 5491 | 316 |
| ME1040/159-1 | 136 | CTD-U | 02.03.2014 | 15:29 | surface | 17° 6,48' S | 3° 2,47' E | 5501 | 320 |
| ME1040/159-1 | 137 | CTD-U | 02.03.2014 | 16:29 | surface | 16° 58,11' S | 2° 54,59' E | 5501 | 309 |
| ME1040/159-1 | 138 | CTD-U | 02.03.2014 | 17:29 | surface | 16° 49,93' S | 2° 46,88' E | 5502 | 310 |
| ME1040/159-1 | 139 | CTD-U | 02.03.2014 | 18:29 | surface | 16° 41,92' S | 2° 39,35' E | 5507 | 313 |
| ME1040/159-1 | 140 | CTD-U | 02.03.2014 | 19:29 | surface | 16° 33,90' S | 2° 31,81' E | 5511 | 310 |
| ME1040/159-1 | 141 | CTD-U | 02.03.2014 | 20:28 | surface | 16° 25,73' S | 2° 24,14' E | 5513 | 300 |
| ME1040/159-1 | 142 | CTD-U | 02.03.2014 | 21:29 | surface | 16° 17,83' S | 2° 16,72' E | 5519 | 315 |
| ME1040/159-1 | 143 | CTD-U | 02.03.2014 | 22:29 | surface | 16° 9,93' S | 2° 9,31' E | 5519 | 311 |
| ME1040/159-1 | 144 | CTD-U | 03.03.2014 | 23:31 | surface | 16° 2,23' S | 2° 2,09' E | 5514 | 347 |

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|--------------|-----|--------|------------|-------|----------|--------------|--------------|------|-----|
| ME1040/159-1 | 145 | CTD-U | 03.03.2014 | 00:30 | surface | 15° 54,39' S | 1° 54,75' E | 5508 | 339 |
| ME1040/159-1 | 146 | CTD-U | 03.03.2014 | 01:29 | surface | 15° 46,18' S | 1° 47,06' E | 5535 | 338 |
| ME1040/159-1 | 147 | CTD-U | 03.03.2014 | 02:31 | surface | 15° 38,44' S | 1° 39,81' E | 5537 | 344 |
| ME1040/159-1 | 148 | CTD-U | 03.03.2014 | 03:29 | surface | 15° 30,53' S | 1° 32,43' E | 5541 | 311 |
| ME1040/159-1 | 149 | CTD-U | 03.03.2014 | 04:29 | surface | 15° 22,71' S | 1° 25,12' E | 5453 | 322 |
| ME1040/159-1 | 150 | CTD-U | 03.03.2014 | 05:29 | surface | 15° 14,61' S | 1° 17,54' E | 5577 | 311 |
| ME1040/159-1 | 151 | CTD-U | 03.03.2014 | 06:29 | surface | 15° 6,37' S | 1° 9,86' E | 5564 | 308 |
| ME1040/159-1 | 152 | CTD-U | 03.03.2014 | 07:30 | surface | 15° 6,47' S | 1° 9, 45' E | | 315 |
| ME1040/160-1 | 4 | CTD/RO | 03.03.2014 | 08:40 | surface | 15° 3,00' S | 1° 6,77' E | 5580 | |
| ME1040/160-1 | | CTD/RO | 03.03.2014 | 09:02 | at depth | 15° 3,00' S | 1° 6,77' E | 5580 | |
| ME1040/160-1 | | CTD/RO | 03.03.2014 | 09:43 | on deck | 15° 3,00' S | 1° 6,77' E | 5572 | |
| ME1040/161-1 | 5 | CTD/RO | 06.03.2014 | 11:24 | surface | 4° 59,99' S | 8° 5,40' W | 4356 | |
| ME1040/161-1 | | CTD/RO | 06.03.2014 | 11:46 | at depth | 4° 59,99' S | 8° 5,40' W | 4355 | |
| ME1040/161-1 | | CTD/RO | 06.03.2014 | 12:21 | on deck | 4° 59,99' S | 8° 5,40' W | 4354 | |
| ME1040/162-1 | 153 | CTD-U | 06.03.2014 | 12:33 | surface | 5° 0,01' S | 8° 5,40' W | 4357 | 340 |
| ME1040/162-1 | 154 | CTD-U | 06.03.2014 | 13:30 | surface | 4° 52,25' S | 8° 12,39' W | 4353 | 296 |
| ME1040/162-1 | 155 | CTD-U | 06.03.2014 | 14:31 | surface | 4° 43,96' S | 8° 19,88' W | 4573 | 314 |
| ME1040/162-1 | 156 | CTD-U | 06.03.2014 | 15:30 | surface | 4° 36,22' S | 8° 26,87' W | 4574 | 296 |
| ME1040/162-1 | 157 | CTD-U | 06.03.2014 | 16:30 | surface | 4° 28,06' S | 8° 34,24' W | 3524 | 306 |
| ME1040/162-1 | 158 | CTD-U | 06.03.2014 | 17:30 | surface | 4° 19,89' S | 8° 41,61' W | 4250 | 304 |
| ME1040/162-1 | 159 | CTD-U | 06.03.2014 | 18:30 | surface | 4° 11,81' S | 8° 48,91' W | 4212 | 281 |
| ME1040/162-1 | 160 | CTD-U | 06.03.2014 | 19:30 | surface | 4° 3,76' S | 8° 56,18' W | 3765 | 304 |
| ME1040/162-1 | 161 | CTD-U | 06.03.2014 | 20:30 | surface | 3° 55,65' S | 9° 3,50' W | 3882 | 269 |
| ME1040/162-1 | 162 | CTD-U | 06.03.2014 | 21:30 | surface | 3° 47,41' S | 9° 10,93' W | 3815 | 283 |
| ME1040/162-1 | 163 | CTD-U | 06.03.2014 | 22:30 | surface | 3° 39,31' S | 9° 18,23' W | 3989 | 270 |
| ME1040/162-1 | 164 | CTD-U | 06.03.2014 | 23:30 | surface | 3° 31,09' S | 9° 25,65' W | 3708 | 285 |
| ME1040/162-1 | 165 | CTD-U | 07.03.2014 | 00:31 | surface | 3° 22,82' S | 9° 33,11' W | 3622 | 294 |
| ME1040/162-1 | 166 | CTD-U | 07.03.2014 | 01:29 | surface | 3° 15,25' S | 9° 39,81' W | 3821 | 283 |
| ME1040/162-1 | 167 | CTD-U | 07.03.2014 | 02:30 | surface | 3° 6,76' S | 9° 47,60' W | 4047 | 277 |
| ME1040/162-1 | 168 | CTD-U | 07.03.2014 | 03:29 | surface | 2° 58,69' S | 9° 54,86' W | 4249 | 274 |
| ME1040/162-1 | 169 | CTD-U | 07.03.2014 | 04:30 | surface | 2° 50,28' S | 10° 2,45' W | 3747 | 312 |
| ME1040/162-1 | 170 | CTD-U | 07.03.2014 | 05:30 | surface | 2° 42,08' S | 10° 9,85' W | 3776 | 290 |
| ME1040/162-1 | 171 | CTD-U | 07.03.2014 | 06:30 | surface | 2° 33,97' S | 10° 17,15' W | 3981 | 275 |

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|--------------|-----|--------|------------|-------|----------|-------------|--------------|------|---------|
| ME1040/162-1 | 172 | CTD-U | 07.03.2014 | 07:30 | surface | 2° 25,85' S | 10° 24,47' W | 3573 | 297 |
| ME1040/163-1 | 6 | CTD/RO | 07.03.2014 | 08:02 | surface | 2° 22,59' S | 10° 27,26' W | 3336 | |
| ME1040/163-1 | | CTD/RO | 07.03.2014 | 08:24 | at depth | 2° 22,59' S | 10° 27,25' W | 3340 | |
| ME1040/163-1 | | CTD/RO | 07.03.2014 | 08:56 | on deck | 2° 22,59' S | 10° 27,25' W | 3332 | |
| ME1040/164-1 | 173 | CTD-U | 07.03.2014 | 09:13 | surface | 2° 22,56' S | 10° 27,27' W | 3343 | 311 |
| ME1040/164-1 | 174 | CTD-U | 07.03.2014 | 10:30 | surface | 2° 11,73' S | 10° 37,19' W | 4060 | 311 |
| ME1040/164-1 | 175 | CTD-U | 07.03.2014 | 11:30 | surface | 2° 3,95' S | 10° 44,20' W | 3647 | 347 |
| ME1040/164-1 | 176 | CTD-U | 07.03.2014 | 12:31 | surface | 1° 55,79' S | 10° 51,55' W | 4065 | 319 |
| ME1040/164-1 | 177 | CTD-U | 07.03.2014 | 13:29 | surface | 1° 48,15' S | 10° 58,43' W | 3802 | 345 |
| ME1040/164-1 | 178 | CTD-U | 07.03.2014 | 14:29 | surface | 1° 40,21' S | 11° 5,59' W | 4183 | 326 |
| ME1040/164-1 | 179 | CTD-U | 07.03.2014 | 15:29 | surface | 1° 32,17' S | 11° 12,82' W | 3599 | 347 |
| ME1040/164-1 | 180 | CTD-U | 07.03.2014 | 16:30 | surface | 1° 24,24' S | 11° 19,97' W | 3605 | 338 |
| ME1040/164-1 | 181 | CTD-U | 07.03.2014 | 17:30 | surface | 1° 16,38' S | 11° 27,05' W | 3894 | 323 |
| ME1040/164-1 | 182 | CTD-U | 07.03.2014 | 18:30 | surface | 1° 8,64' S | 11° 34,02' W | 3854 | 342 |
| ME1040/164-1 | 183 | CTD-U | 07.03.2014 | 19:30 | surface | 1° 1,06' S | 11° 40,84' W | 3747 | 334 |
| ME1040/164-1 | 184 | CTD-U | 07.03.2014 | 20:30 | surface | 0° 53,19' S | 11° 47,92' W | 3435 | No data |
| ME1040/164-1 | 185 | CTD-U | 07.03.2014 | 21:30 | surface | 0° 45,23' S | 11° 55,09' W | 3881 | 316 |
| ME1040/164-1 | 186 | CTD-U | 07.03.2014 | 22:30 | surface | 0° 37,31' S | 12° 2,22' W | 4019 | 327 |
| ME1040/164-1 | 187 | CTD-U | 07.03.2014 | 23:30 | surface | 0° 29,51' S | 12° 9,25' W | 4183 | 335 |
| ME1040/164-1 | 188 | CTD-U | 08.03.2014 | 01:34 | surface | 0° 17,91' S | 12° 19,68' W | 4298 | 259 |
| ME1040/164-1 | 189 | CTD-U | 08.03.2014 | 02:34 | surface | 0° 10,04' S | 12° 26,77' W | 4396 | 252 |
| ME1040/164-1 | 190 | CTD-U | 08.03.2014 | 03:26 | surface | 0° 3,23' S | 12° 32,90' W | 4493 | 251 |
| ME1040/164-1 | 191 | CTD-U | 08.03.2014 | 04:30 | surface | 0° 5,32' N | 12° 40,60' W | 4048 | 279 |
| ME1040/164-1 | 192 | CTD-U | 08.03.2014 | 05:30 | surface | 0° 13,08' N | 12° 47,59' W | 4299 | 268 |
| ME1040/164-1 | 193 | CTD-U | 08.03.2014 | 06:30 | surface | 0° 21,02' N | 12° 54,74' W | 3979 | 281 |
| ME1040/164-1 | 194 | CTD-U | 08.03.2014 | 07:30 | surface | 0° 29,07' N | 13° 1,98' W | 4522 | 286 |
| ME1040/165-1 | 7 | CTD/RO | 08.03.2014 | 08:32 | surface | 0° 36,26' N | 13° 8,39' W | 4390 | |
| ME1040/165-1 | | CTD/RO | 08.03.2014 | 08:52 | at depth | 0° 36,26' N | 13° 8,39' W | 4389 | |
| ME1040/165-1 | | CTD/RO | 08.03.2014 | 09:47 | on deck | 0° 36,26' N | 13° 8,39' W | 4390 | |
| ME1040/166-1 | 195 | CTD-U | 08.03.2014 | 10:30 | surface | 0° 39,61' N | 13° 11,48' W | 4525 | 270 |
| ME1040/166-1 | 196 | CTD-U | 08.03.2014 | 11:30 | surface | 0° 47,67' N | 13° 18,73' W | 4668 | 292 |
| ME1040/166-1 | 197 | CTD-U | 08.03.2014 | 12:30 | surface | 0° 56,05' N | 13° 26,27' W | 3993 | 328 |
| ME1040/166-1 | 198 | CTD-U | 08.03.2014 | 13:30 | surface | 1° 3,98' N | 13° 33,42' W | 4962 | 348 |

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|--------------|-----|--------|------------|-------|----------|-------------|--------------|------|-------|
| ME1040/166-1 | 199 | CTD-U | 08.03.2014 | 14:28 | surface | 1° 11,16' N | 13° 39,88' W | 3589 | 364 |
| ME1040/166-1 | 200 | CTD-U | 08.03.2014 | 15:29 | surface | 1° 18,59' N | 13° 46,57' W | 4858 | 367 |
| ME1040/166-1 | 201 | CTD-U | 08.03.2014 | 16:30 | surface | 1° 25,99' N | 13° 53,23' W | 4957 | 396,5 |
| ME1040/166-1 | 202 | CTD-U | 08.03.2014 | 17:33 | surface | 1° 33,75' N | 14° 0,22' W | 5010 | 381 |
| ME1040/166-1 | 203 | CTD-U | 08.03.2014 | 18:30 | surface | 1° 40,67' N | 14° 6,46' W | 5194 | 397 |
| ME1040/166-1 | 204 | CTD-U | 08.03.2014 | 19:30 | surface | 1° 47,95' N | 14° 13,07' W | 5130 | 375 |
| ME1040/166-1 | 205 | CTD-U | 08.03.2014 | 20:30 | surface | 1° 55,31' N | 14° 19,64' W | 5110 | 381 |
| ME1040/166-1 | 206 | CTD-U | 08.03.2014 | 21:29 | surface | 2° 2,51' N | 14° 26,13' W | 5219 | 392 |
| ME1040/166-1 | 207 | CTD-U | 08.03.2014 | 22:30 | surface | 2° 10,15' N | 14° 33,01' W | 5170 | 381 |
| ME1040/166-1 | 208 | CTD-U | 08.03.2014 | 23:30 | surface | 2° 17,50' N | 14° 39,63' W | 4893 | 380 |
| ME1040/166-1 | 209 | CTD-U | 09.03.2014 | 00:30 | surface | 2° 24,92' N | 14° 46,31' W | 4819 | 410 |
| ME1040/166-1 | 210 | CTD-U | 09.03.2014 | 01:30 | surface | 2° 31,97' N | 14° 52,67' W | 4694 | 390 |
| ME1040/166-1 | 211 | CTD-U | 09.03.2014 | 02:30 | surface | 2° 38,70' N | 14° 58,73' W | 4722 | 424 |
| ME1040/166-1 | 212 | CTD-U | 09.03.2014 | 03:29 | surface | 2° 45,40' N | 15° 4,77' W | 4738 | 433 |
| ME1040/166-1 | 213 | CTD-U | 09.03.2014 | 04:30 | surface | 2° 52,31' N | 15° 11,00' W | 4648 | 412 |
| ME1040/166-1 | 214 | CTD-U | 09.03.2014 | 05:30 | surface | 2° 59,12' N | 15° 17,13' W | 4734 | 413 |
| ME1040/166-1 | 215 | CTD-U | 09.03.2014 | 06:30 | surface | 3° 6,13' N | 15° 23,46' W | 4763 | 421 |
| ME1040/166-1 | 216 | CTD-U | 09.03.2014 | 07:30 | surface | 3° 12,92' N | 15° 29,58' W | 4787 | 406 |
| ME1040/166-1 | 217 | CTD-U | 09.03.2014 | 08:30 | surface | 3° 16,02' N | 15° 32,38' W | 4788 | 423 |
| ME1040/167-1 | 8 | CTD/RO | 09.03.2014 | 09:06 | surface | 3° 22,50' N | 15° 37,97' W | 4831 | |
| ME1040/167-1 | | CTD/RO | 09.03.2014 | 09:28 | at depth | 3° 22,50' N | 15° 37,97' W | 4829 | |
| ME1040/167-1 | | CTD/RO | 09.03.2014 | 09:58 | on deck | 3° 22,50' N | 15° 37,97' W | 4829 | |
| ME1040/168-1 | 218 | CTD-U | 09.03.2014 | 10:17 | surface | 3° 22,00' N | 15° 37,51' W | 4798 | 421 |
| ME1040/168-1 | 219 | CTD-U | 09.03.2014 | 11:34 | surface | 3° 30,78' N | 15° 45,69' W | 4866 | 418 |
| ME1040/168-1 | 220 | CTD-U | 09.03.2014 | 12:30 | surface | 3° 37,25' N | 15° 51,53' W | 4910 | 405 |
| ME1040/168-1 | 221 | CTD-U | 09.03.2014 | 13:30 | surface | 3° 44,11' N | 15° 57,72' W | 4928 | 383 |
| ME1040/168-1 | 222 | CTD-U | 09.03.2014 | 14:28 | surface | 3° 50,86' N | 16° 3,80' W | 4935 | 413 |
| ME1040/168-1 | 223 | CTD-U | 09.03.2014 | 15:30 | surface | 3° 58,04' N | 16° 10,29' W | 4971 | 417 |
| ME1040/168-1 | 224 | CTD-U | 09.03.2014 | 16:31 | surface | 4° 5,27' N | 16° 16,81' W | 4982 | 369 |
| ME1040/168-1 | 225 | CTD-U | 09.03.2014 | 17:30 | surface | 4° 12,32' N | 16° 23,17' W | 4981 | 364 |
| ME1040/168-1 | 226 | CTD-U | 09.03.2014 | 18:30 | surface | 4° 19,50' N | 16° 29,66' W | 4987 | 416 |
| ME1040/168-1 | 227 | CTD-U | 09.03.2014 | 19:30 | surface | 4° 26,64' N | 16° 36,10' W | 4992 | 394 |
| ME1040/168-1 | 228 | CTD-U | 09.03.2014 | 20:30 | surface | 4° 33,78' N | 16° 42,55' W | 4985 | 982 |

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|--------------|-----|--------|------------|-------|----------|-------------|--------------|------|-----|
| ME1040/168-1 | 229 | CTD-U | 09.03.2014 | 21:30 | surface | 4° 41,05' N | 16° 49,12' W | 4986 | 349 |
| ME1040/168-1 | 230 | CTD-U | 09.03.2014 | 22:30 | surface | 4° 48,49' N | 16° 55,84' W | 4997 | 404 |
| ME1040/168-1 | 231 | CTD-U | 09.03.2014 | 23:31 | surface | 4° 55,91' N | 17° 2,53' W | 4988 | 390 |
| ME1040/168-1 | 232 | CTD-U | 10.03.2014 | 00:30 | surface | 5° 3,05' N | 17° 9,00' W | 4999 | 404 |
| ME1040/168-1 | 233 | CTD-U | 10.03.2014 | 01:31 | surface | 5° 10,18' N | 17° 15,44' W | 4988 | 379 |
| ME1040/168-1 | 234 | CTD-U | 10.03.2014 | 02:30 | surface | 5° 17,20' N | 17° 21,79' W | 4998 | 385 |
| ME1040/168-1 | 235 | CTD-U | 10.03.2014 | 03:31 | surface | 5° 24,55' N | 17° 28,43' W | 5001 | 401 |
| ME1040/168-1 | 236 | CTD-U | 10.03.2014 | 04:30 | surface | 5° 31,44' N | 17° 34,67' W | 4990 | 371 |
| ME1040/168-1 | 237 | CTD-U | 10.03.2014 | 05:30 | surface | 5° 38,60' N | 17° 41,15' W | 4991 | 395 |
| ME1040/168-1 | 238 | CTD-U | 10.03.2014 | 06:30 | surface | 5° 45,79' N | 17° 47,65' W | 4944 | 416 |
| ME1040/168-1 | 239 | CTD-U | 10.03.2014 | 07:30 | surface | 5° 52,70' N | 17° 53,91' W | 4599 | 433 |
| ME1040/168-1 | 240 | CTD-U | 10.03.2014 | 08:30 | surface | 5° 59,64' N | 18° 0,19' W | 4964 | 405 |
| ME1040/169-1 | 9 | CTD/RO | 10.03.2014 | 09:04 | surface | 6° 2,42' N | 18° 2,46' W | 4941 | |
| ME1040/169-1 | | CTD/RO | 10.03.2014 | 09:25 | at depth | 6° 2,42' N | 18° 2,46' W | 4933 | |
| ME1040/169-1 | | CTD/RO | 10.03.2014 | 09:56 | on deck | 6° 2,42' N | 18° 2,46' W | 4934 | |
| ME1040/170-1 | 241 | CTD-U | 10.03.2014 | 10:13 | surface | 6° 2,13' N | 18° 2,53' W | 4932 | 370 |
| ME1040/170-1 | 242 | CTD-U | 10.03.2014 | 11:30 | surface | 6° 11,57' N | 18° 10,99' W | 4859 | 376 |
| ME1040/170-1 | 243 | CTD-U | 10.03.2014 | 12:30 | surface | 6° 18,83' N | 18° 17,56' W | 4879 | 361 |
| ME1040/170-1 | 244 | CTD-U | 10.03.2014 | 13:30 | surface | 6° 26,01' N | 18° 24,07' W | 4864 | 398 |
| ME1040/170-1 | 245 | CTD-U | 10.03.2014 | 14:30 | surface | 6° 33,08' N | 18° 30,47' W | 4864 | 384 |
| ME1040/170-1 | 246 | CTD-U | 10.03.2014 | 15:30 | surface | 6° 40,13' N | 18° 36,86' W | 3578 | 390 |
| ME1040/170-1 | 247 | CTD-U | 10.03.2014 | 16:30 | surface | 6° 47,11' N | 18° 43,19' W | 4657 | 423 |
| ME1040/170-1 | 248 | CTD-U | 10.03.2014 | 17:30 | surface | 6° 54,15' N | 18° 49,58' W | 4667 | 375 |
| ME1040/170-1 | 249 | CTD-U | 10.03.2014 | 18:33 | surface | 7° 1,53' N | 18° 56,22' W | | 386 |
| ME1040/170-1 | 250 | CTD-U | 10.03.2014 | 19:30 | surface | 7° 8,40' N | 19° 2,50' W | 4453 | 375 |
| ME1040/170-1 | 251 | CTD-U | 10.03.2014 | 20:30 | surface | 7° 15,61' N | 19° 9,05' W | 4424 | 383 |
| ME1040/170-1 | 252 | CTD-U | 10.03.2014 | 21:30 | surface | 7° 22,73' N | 19° 15,51' W | 4451 | 361 |
| ME1040/170-1 | 253 | CTD-U | 10.03.2014 | 22:30 | surface | 7° 29,94' N | 19° 22,07' W | 4473 | 336 |
| ME1040/170-1 | 254 | CTD-U | 10.03.2014 | 23:30 | surface | 7° 37,19' N | 19° 28,64' W | 3613 | 390 |
| ME1040/170-1 | 255 | CTD-U | 11.03.2014 | 00:30 | surface | 7° 43,91' N | 19° 34,75' W | 4384 | 355 |
| ME1040/170-1 | 256 | CTD-U | 11.03.2014 | 01:30 | surface | 7° 51,12' N | 19° 41,30' W | 4345 | 382 |
| ME1040/170-1 | 257 | CTD-U | 11.03.2014 | 02:29 | surface | 7° 58,20' N | 19° 47,73' W | 3830 | 364 |
| ME1040/170-1 | 258 | CTD-U | 11.03.2014 | 03:29 | surface | 8° 5,48' N | 19° 54,35' W | 3887 | 326 |

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|--------------|-----|--------|------------|-------|----------|--------------|--------------|------|-----|
| ME1040/170-1 | 259 | CTD-U | 11.03.2014 | 04:29 | surface | 8° 12,70' N | 20° 0,92' W | 4301 | 368 |
| ME1040/170-1 | 260 | CTD-U | 11.03.2014 | 05:30 | surface | 8° 19,90' N | 20° 7,48' W | 4269 | 357 |
| ME1040/170-1 | 261 | CTD-U | 11.03.2014 | 06:30 | surface | 8° 27,32' N | 20° 14,22' W | 1879 | 363 |
| ME1040/170-1 | 262 | CTD-U | 11.03.2014 | 07:30 | surface | 8° 34,45' N | 20° 20,71' W | 4124 | 364 |
| ME1040/170-1 | 263 | CTD-U | 11.03.2014 | 08:30 | surface | 8° 41,58' N | 20° 27,20' W | 4137 | 378 |
| ME1040/171-1 | 10 | CTD/RO | 11.03.2014 | 09:06 | surface | 8° 44,44' N | 20° 29,81' W | 4142 | |
| ME1040/171-1 | | CTD/RO | 11.03.2014 | 09:28 | at depth | 8° 44,44' N | 20° 29,81' W | 4142 | |
| ME1040/171-1 | | CTD/RO | 11.03.2014 | 09:57 | on deck | 8° 44,44' N | 20° 29,81' W | 4142 | |
| ME1040/172-1 | 264 | CTD-U | 11.03.2014 | 10:06 | surface | 8° 44,76' N | 20° 30,03' W | 4144 | 368 |
| ME1040/172-1 | 265 | CTD-U | 11.03.2014 | 11:30 | surface | 8° 54,95' N | 20° 39,39' W | 4068 | 354 |
| ME1040/172-1 | 266 | CTD-U | 11.03.2014 | 12:30 | surface | 9° 2,10' N | 20° 45,91' W | 4016 | 372 |
| ME1040/172-1 | 267 | CTD-U | 11.03.2014 | 13:32 | surface | 9° 9,40' N | 20° 52,56' W | 3804 | 396 |
| ME1040/172-1 | 268 | CTD-U | 11.03.2014 | 14:30 | surface | 9° 16,17' N | 20° 58,74' W | 3675 | 369 |
| ME1040/172-1 | 269 | CTD-U | 11.03.2014 | 15:30 | surface | 9° 23,34' N | 21° 5,29' W | 3673 | 361 |
| ME1040/172-1 | 270 | CTD-U | 11.03.2014 | 16:30 | surface | 9° 30,74' N | 21° 12,04' W | 3878 | 328 |
| ME1040/172-1 | 271 | CTD-U | 11.03.2014 | 17:30 | surface | 9° 37,96' N | 21° 18,64' W | 4483 | 354 |
| ME1040/172-1 | 272 | CTD-U | 11.03.2014 | 18:31 | surface | 9° 45,10' N | 21° 25,15' W | 5053 | 349 |
| ME1040/172-1 | 273 | CTD-U | 11.03.2014 | 19:30 | surface | 9° 52,30' N | 21° 31,74' W | 5087 | 346 |
| ME1040/172-1 | 274 | CTD-U | 11.03.2014 | 20:29 | surface | 9° 54, 03' N | 21° 38,28' W | | 362 |
| ME1040/172-1 | 275 | CTD-U | 11.03.2014 | 21:30 | surface | 10° 6,93' N | 21° 45,11' W | 5159 | 362 |
| ME1040/172-1 | 276 | CTD-U | 11.03.2014 | 22:33 | surface | 10° 15,06' N | 21° 52,55' W | 5144 | 322 |
| ME1040/172-1 | 277 | CTD-U | 11.03.2014 | 23:30 | surface | 10° 22,10' N | 21° 58,99' W | 5056 | 349 |
| ME1040/172-1 | 278 | CTD-U | 12.03.2014 | 00:29 | surface | 10° 29,52' N | 22° 5,79' W | 5128 | 337 |
| ME1040/172-1 | 279 | CTD-U | 12.03.2014 | 01:31 | surface | 10° 37,15' N | 22° 12,77' W | 5131 | 335 |
| ME1040/172-1 | 280 | CTD-U | 12.03.2014 | 02:30 | surface | 10° 44,38' N | 22° 19,39' W | 5130 | 340 |
| ME1040/172-1 | 281 | CTD-U | 12.03.2014 | 03:30 | surface | 10° 51,97' N | 22° 26,35' W | 5124 | 341 |
| ME1040/172-1 | 282 | CTD-U | 12.03.2014 | 04:31 | surface | 10° 59,85' N | 22° 33,58' W | 5111 | 338 |
| ME1040/172-1 | 283 | CTD-U | 12.03.2014 | 05:30 | surface | 11° 6,84' N | 22° 40,00' W | 5101 | 321 |
| ME1040/172-1 | 284 | CTD-U | 12.03.2014 | 06:30 | surface | 11° 13,62' N | 22° 46,23' W | 5090 | 335 |
| ME1040/172-1 | 285 | CTD-U | 12.03.2014 | 07:30 | surface | 11° 19,51' N | 22° 51,63' W | 5097 | 368 |
| ME1040/172-1 | 286 | CTD-U | 12.03.2014 | 08:30 | surface | 11°25,27'N | 22°56,88'W | | 354 |
| ME1040/173-1 | 11 | CTD/RO | 12.03.2014 | 09:50 | surface | 11° 29,56' N | 23° 0,56' W | 5102 | |
| ME1040/173-1 | | CTD/RO | 12.03.2014 | 10:12 | at depth | 11° 29,56' N | 23° 0,56' W | 5103 | |

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|--------------|-----|--------|------------|-------|---------------|--------------|--------------|------|-----|
| ME1040/173-1 | | CTD/RO | 12.03.2014 | 10:42 | on deck | 11° 29,56' N | 23° 0,56' W | 5103 | |
| ME1040/174-1 | 287 | CTD-U | 12.03.2014 | 11:30 | surface | 11° 30,62' N | 23° 0,58' W | 5105 | 370 |
| ME1040/174-1 | 288 | CTD-U | 12.03.2014 | 12:30 | surface | 11° 40,26' N | 23° 3,36' W | 5085 | 370 |
| ME1040/174-1 | 289 | CTD-U | 12.03.2014 | 13:30 | surface | 18°48,53'N | 23°57,48'W | | 379 |
| ME1040/175-1 | | MB | 12.03.2014 | 13:00 | Begin profile | 11° 44,63' N | 23° 4,62' W | 5070 | |
| ME1040/176-1 | 290 | CTD-U | 12.03.2014 | 16:30 | surface | 11° 53,62' N | 23° 7,22' W | 5063 | 391 |
| ME1040/175-1 | | MB | 12.03.2014 | 16:30 | End profile | 11° 53,62' N | 23° 7,22' W | 5063 | |
| ME1040/176-1 | 291 | CTD-U | 12.03.2014 | 17:49 | surface | 12° 6,38' N | 23° 10,91' W | 5026 | 372 |
| ME1040/176-1 | 292 | CTD-U | 12.03.2014 | 18:30 | surface | 12° 12,39' N | 23° 12,65' W | 5000 | 389 |
| ME1040/176-1 | 293 | CTD-U | 12.03.2014 | 19:30 | surface | 12° 21,35' N | 23° 15,25' W | 4970 | 372 |
| ME1040/176-1 | 294 | CTD-U | 12.03.2014 | 21:30 | surface | 12° 40,32' N | 23° 20,74' W | 4869 | 348 |
| ME1040/176-1 | 295 | CTD-U | 12.03.2014 | 22:31 | surface | 12° 49,38' N | 23° 23,37' W | 4822 | 355 |
| ME1040/176-1 | 296 | CTD-U | 12.03.2014 | 23:30 | surface | 12° 58,38' N | 23° 25,99' W | 4753 | 361 |
| ME1040/176-1 | 297 | CTD-U | 13.03.2014 | 00:30 | surface | 13° 7,40' N | 23° 28,61' W | 4625 | 346 |
| ME1040/176-1 | 298 | CTD-U | 13.03.2014 | 01:33 | surface | 13° 16,32' N | 23° 31,20' W | 4566 | 381 |
| ME1040/176-1 | 299 | CTD-U | 13.03.2014 | 02:29 | surface | 13° 24,30' N | 23° 33,51' W | 4519 | 357 |
| ME1040/176-1 | 300 | CTD-U | 13.03.2014 | 03:30 | surface | 13° 33,34' N | 23° 36,15' W | 4470 | 347 |
| ME1040/176-1 | 301 | CTD-U | 13.03.2014 | 04:30 | surface | 13° 42,04' N | 23° 38,68' W | 4407 | 352 |
| ME1040/176-1 | 302 | CTD-U | 13.03.2014 | 05:30 | surface | 13° 50,92' N | 23° 41,26' W | 4352 | 370 |
| ME1040/176-1 | 303 | CTD-U | 13.03.2014 | 06:30 | surface | 13° 59,82' N | 23° 43,86' W | 4294 | 379 |
| ME1040/176-1 | 304 | CTD-U | 13.03.2014 | 07:30 | surface | 14° 8,46' N | 23° 46,38' W | 4237 | 369 |
| ME1040/176-1 | 305 | CTD-U | 13.03.2014 | 08:30 | surface | 14° 17,53' N | 23° 49,03' W | 4222 | 326 |
| ME1040/176-1 | 306 | CTD-U | 13.03.2014 | 09:31 | surface | 14° 27,42' N | 23° 51,91' W | 4122 | 319 |
| ME1040/176-1 | 307 | CTD-U | 13.03.2014 | 10:30 | surface | 14° 37,32' N | 23° 54,81' W | 3877 | 311 |
| ME1040/177-1 | 12 | CTD/RO | 13.03.2014 | 11:05 | surface | 14° 39,45' N | 23° 55,36' W | 3844 | |
| ME1040/177-1 | | CTD/RO | 13.03.2014 | 11:29 | at depth | 14° 39,45' N | 23° 55,43' W | 3843 | |
| ME1040/177-1 | | CTD/RO | 13.03.2014 | 11:52 | on deck | 14° 39,45' N | 23° 55,43' W | 3842 | |