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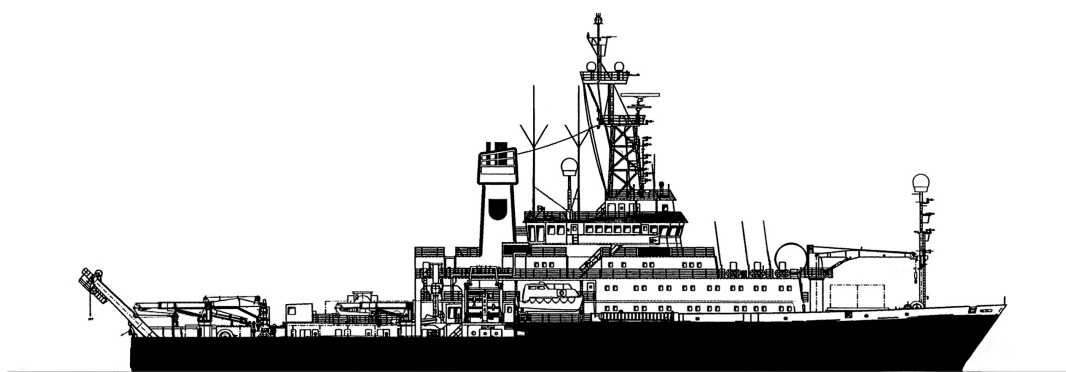
**Summary Cruise Report**  
**RV METEOR Cruise 83/3**  
**Cádiz – Malta**  
**27. December 2010 – 22. January 2011**

**RISTRETTO e LUNGO (\*) cruise**  
**Captain: Michael Schneider**



(\*): **Recovery Including dredging of Sediment Traps, REcovery during Transit of Two bioMoorings, Longcoring for paleoceanography & Underwater video-surveys, Geochemical Observations and recovery of crusts (Ristretto e Lungo)**

**RISTRETTO e LUNGO cruise**  
**with R.V. METEOR**  
**to the EASTERN MEDITERRANEAN**



(from December 27, 2010 to January 22, 2011)



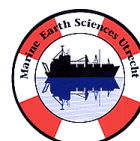
**Universiteit Utrecht**



Netherlands Organisation for Scientific Research



**Royal Netherlands Institute for Sea Research**



## Summary

The RISTRETTO e LUNGO cruise (with components from MOCCHA, MIDDLE, and BIOFUN-projects and en-route Carbonate/mudvolcano-related and Paleo-targets) has been very successful despite the incapability to recover sediment trap moorings in Bannock and Urania areas. The former was related to the lack of reply from the Libyan authorities thus a 'no go' by the German responsible, and the latter to the fact that dredging could not be done to recover the lost mooring from the MACCHIATO cruise.

Unloading and uploading of the ship as well as the initial installation were smooth and efficient. Within 10 hours after departure from Cadiz port we started with a MultiBeam reconnaissance from recently discovered mudvolcano structures in the Alboran Sea. Subsequently we sampled these using Boxcorer and Gravitycorer. Underway to the two BIOFUN mooring sites, East of Minorca, we had one CTD station, to characterize and compare West versus East, and to train the relatively young and unexperienced scientific team prior to the very sensitive and contamination-prone sampling in the major focus sampling areas. Subsequently, we successfully recovered the BIOFUN moorings, and continued to the east, having another underway CTD station, and subsequently, the BIOFUN bathymetric transect intended to be in the Malta/Libyan area. Unfortunately, the 'no-reply' from Libya resulted in more extensive multibeam mapping, and more difficulty to find appropriate sampling sites from the Maltese side of this area. Subsequently, we could not go to the Bannock area for sediment trap mooring recovery and brine sampling, thus moved on to the Medee Brine lake. This brine was sampled using CTD and the bottom sediments were cored using boxcorer and gravitycorer. Subsequent brine lakes were sampled in the same way. The weather conditions were mostly favourable, but we lost nearly one day of more severe wind (7-8). Despite the intense sampling programme, there was not enough time to move to the intended Taranto Gulf area (DP30-site). Therefore, we decided to recover an extra boxcorer at the BIOFUN transect, underway back to Malta. In all it was a successful cruise with an excellent team working all together with all the same one target. !

## **Acknowledgements:**

Despite the Libyan 'disaster', an excellent job has been done by all participants, technicians and crew. The work done during this cruise has in fact been the work of one team, as all have contributed to make this cruise to a great success. Consequently, it seems strange to acknowledge only some groups and persons, and not others. As an alternative, all of us can be acknowledged for the excellent collaboration, the constructive attitude, and the dedicated work done during this cruise. In a scientific shipboard report, however, it is a good custom to specifically thank those persons that have given a significant and constructive contribution, and that usually remain unnamed in the authorships of subsequent scientific papers:

Captain Michael Schneider and his crew are acknowledged for their very constructive support and assistance in ship- and technique- related activities, and beyond. In addition, Michael celebrated not only New Year's Eve with all of us, but also his very birthday, and all 'in style' ! Thanks also to the chef-cook and his baking assistant, who managed to get good meals on the tables, so that we all survived the hardships of long and intense working days. The deck was dedicated to get the best possible material on deck. Lorendz, Ivo, Ruud, and Leon, Marcel, and Evaline are acknowledged for their technical collaboration, and their dedication to support the scientific, and social programme. GdL wishes to thank Erica Koning, and the team for on-land administrative support, Jack Schilling c.s. for NIOZ technical support, Thony van der Gon Netscher, Pieter Kleingeld, and Helen de Waard for UU technical support. Financial support was obtained from NWO and shiptime was donated by NIOZ via ZKO-programme.

## General cruise objectives/outline

The different projects (MOCCHA, MIDDLE, BIOFUN, and en-route carbonate/mudvolcano and (palaeo)oceanography) forming the base for this cruise all have their main focus in the same area but with slightly different sites, which permitted the efficient planning of all operations.

Meteor was the only suitable ship that could be made available in the right time frame, which was in part related to sediment trap moorings to be recovered in the Ionian basin.

First, the transit from Cadiz to the main working area was used to study during 2 days recently discovered mudvolcanoes and to take some en-route samples for comparing West and East and to train the relatively young and largely unexperienced scientific team prior to arriving to the key areas in the Ionian Sea. In addition, the two BIOFUN moorings east of Minorca were recovered. In the BIOFUN bathymetric transect area, alternation of biological sampling and paleoclimate-oriented coring and multi-beam mapping was efficiently done. In the brine lake areas, preparation and analyses of CTD /water column/brine samples was done while coring took place, and vice versa. In these areas also multibeam mapping took place, mostly during the night time. In the same way, transits were used to process samples and to prepare for the next sampling. Only during one day, we had to abandon sampling due to bad weather conditions. The position keeping of Meteor was superb, even so that at one occasion, the second boxcore, requested to be taken at the same site, came to exactly the same 30cm spot as the previous boxcorer (see video images). Despite the relatively good weather conditions, sampling of the interface between seawater and brine was a challenge.

For paleo-climate studies such as MOCCHA, the Mediterranean is located at a strategic position between low and mid-latitude borderlands, and between monsoonal and NAO influenced climate systems. Consequently, it is an important area for obtaining continuous paleoclimate records over at least the last 30 kyr. Such records are extremely difficult to get because of bioturbation, degradation, and dissolution, all of which usually reduce the potential for preserving high-resolution signals. The two sites explored by MOCCHA, seem to be perfect high-resolution climate recorders, in particular the near-coastal site having a high-frequency 11-yr climate cycle for the thusfar recovered last 4.000 years. Preliminary studies have revealed that similar cycles occur at the deep anoxic basin sites where we also have deployed a longterm sediment trap time series. This, together with satellite and other observations, will permit us to unravel the actual mechanisms underlying the observed 11-year cycles in the sediments. Initial results indicate that temperature and salinity play a dominant role, which may be related to changes in land-derived fluxes but also in changes of biogenic, primary-productivity related, marine fluxes, or changed general circulation dynamics. Comparison of results from the deep-ocean anoxic basin sites to those from the near-coastal sediments will allow us to unravel near-coastal land-ocean interaction dominated signals from typical deep-ocean signals. Such comparison will be done on the basis of proxy records obtained from both areas. For this we will also calibrate potential new proxies so as to make them applicable to older units. Assessing the origin and mechanisms of the observed variations for the upper 4 kyr is needed so as to evaluate their potential functioning in older sedimentary units. In addition, it is important to assess if the high-frequency climate variability cycles continue into older (> 20 kyr) units at both sites.

A remarkable phenomenon in the eastern Mediterranean is the occurrence of deep, hypersaline anoxic basins being amongst the most extreme environments encountered on Earth. Most of these seem associated to the Mediterranean Ridge and the related

accretionary prism. The Mediterranean Ridge is an elongated bathymetric high that dominates the seafloor in the Eastern Mediterranean. The origin of this ridge is considered to be related to the subduction of the African plate below the Eurasian. This ridge is interpreted to be an accretionary ridge. Mud volcanoes and mud diapirism are common structures in accretionary prisms. An additional feature in the eastern Mediterranean is the occurrence of high salinity anoxic basins with increased salinity due to outcropping and dissolving or upward diffusing salts from underlying Messinian evaporites. Although initially it was thought that life was excluded in these harsh environments, such sites are now known to be closely associated with specialized bacterial communities. In particular the interfaces between seawater and brines, but also within the brines themselves and from the seafloor below the brines, have been shown to contain active bacterial communities. In our geochemical studies (MIDDLE), sulphate and sulphide data will give information on the sulphate reduction rates, whereas the isotopic composition of DIC together with data on noble gases and isotopes will give information on the origin and history of the expelled fluids and gases. This will be needed to better understand the history and origin of deep anoxic brine formation in the eastern Mediterranean.

## Cruise participants

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SU Sofia University

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HU: Heidelberg University

FU: Freiburg University; Switzerland

IAn: ISMAR Ancona

## Station list

Station	Date	Time	Position Lat	Position Lon	Speed [kn]	Gear	Gear Abbreviation	Action
ME833/1358-1	29.12.2010	02:12	36°7.52' N	4°53.38' W	7,6	Multibeam-Profil	MB	End profile
ME833/1358-1	29.12.2010	02:34	36°6.98' N	4°52.10' W	6,2	Multibeam-Profil	MB	Begin profile
ME833/1358-1	29.12.2010	03:42	36°1.27' N	4°57.54' W	7,7	Multibeam-Profil	MB	End profile
ME833/1358-1	29.12.2010	04:00	36°0.80' N	4°55.91' W	7,9	Multibeam-Profil	MB	Begin profile
ME833/1358-1	29.12.2010	04:56	36°6.31' N	4°50.90' W	5,7	Multibeam-Profil	MB	End profile
ME833/1359-1	29.12.2010	05:27	36°6.16' N	4°53.45' W	0,8	Grab, TV	TVG	surface
ME833/1359-1	29.12.2010	05:50	36°6.10' N	4°53.45' W	-0,1	Grab, TV	TVG	Start Profil
ME833/1359-1	29.12.2010	07:17	36°6.10' N	4°52.81' W	0	Grab, TV	TVG	End of Profile
ME833/1359-1	29.12.2010	07:55	36°6.11' N	4°53.08' W	0	Grab, TV	TVG	at sea bottom
ME833/1359-1	29.12.2010	08:14	36°6.10' N	4°53.08' W	0	Grab, TV	TVG	on deck
ME833/1360-1	29.12.2010	08:59	36°6.31' N	4°52.91' W	-1,3	Gravity corer	GC	surface
ME833/1360-1	29.12.2010	09:40	36°6.11' N	4°53.08' W	0	Gravity corer	GC	at sea bottom
ME833/1360-1	29.12.2010	09:43	36°6.11' N	4°53.08' W	0	Gravity corer	GC	off ground hoisting
ME833/1360-1	29.12.2010	09:57	36°6.14' N	4°52.97' W	-2,1	Gravity corer	GC	Surface
ME833/1360-1	29.12.2010	10:04	36°6.21' N	4°52.70' W	-2,1	Gravity corer	GC	on deck
ME833/1361-1	29.12.2010	10:44	36°6.10' N	4°53.08' W	0	CTD	CTD	surface
ME833/1361-1	29.12.2010	11:27	36°6.11' N	4°53.03' W	-0,2	CTD	CTD	at depth
ME833/1361-1	29.12.2010	12:10	36°6.12' N	4°52.97' W	2,3	CTD	CTD	on deck
ME833/1362-1	29.12.2010	13:30	36°2.83' N	4°55.58' W	-0,6	Grab, TV	TVG	surface
ME833/1362-1	29.12.2010	13:59	36°2.80' N	4°55.63' W	-0,1	Grab, TV	TVG	on deck
ME833/1362-1	29.12.2010	14:12	36°2.80' N	4°55.63' W	0	Grab, TV	TVG	surface
ME833/1362-1	29.12.2010	14:34	36°2.79' N	4°55.67' W	0,1	Grab, TV	TVG	at sea bottom
ME833/1362-1	29.12.2010	14:34	36°2.79' N	4°55.67' W	0,1	Grab, TV	TVG	Start Profil
ME833/1362-1	29.12.2010	15:36	36°2.88' N	4°56.17' W	0	Grab, TV	TVG	End of Profile
ME833/1362-1	29.12.2010	16:17	36°2.82' N	4°55.82' W	0	Grab, TV	TVG	at sea bottom
ME833/1362-1	29.12.2010	16:45	36°2.82' N	4°55.82' W	0	Grab, TV	TVG	on deck
ME833/1363-1	29.12.2010	17:49	36°3.02' N	4°55.96' W	-0,3	Gravity corer	GC	surface
ME833/1363-1	29.12.2010	18:24	36°3.00' N	4°55.90' W	0	Gravity corer	GC	at sea bottom
ME833/1363-1	29.12.2010	18:30	36°3.00' N	4°55.90' W	0	Gravity corer	GC	off ground hoisting
ME833/1363-1	29.12.2010	19:00	36°3.00' N	4°55.90' W	0	Gravity corer	GC	on deck
ME833/1364-1	29.12.2010	20:45	36°1.41' N	4°58.70' W	7,4	Multibeam-Profil	MB	Begin profile
ME833/1364-1	29.12.2010	20:54	36°0.32' N	4°58.65' W	9,7	Multibeam-Profil	MB	alter course
ME833/1364-1	29.12.2010	21:00	36°0.21' N	4°57.68' W	7,5	Multibeam-Profil	MB	alter course
ME833/1364-1	29.12.2010	21:25	36°0.20' N	4°54.69' W	4,5	Multibeam-Profil	MB	alter course
ME833/1364-1	29.12.2010	22:00	36°3.47' N	4°51.61' W	7,4	Multibeam-Profil	MB	alter course
ME833/1364-1	29.12.2010	22:13	36°2.65' N	4°50.63' W	8,2	Multibeam-Profil	MB	alter course
ME833/1364-1	29.12.2010	22:31	36°0.94' N	4°52.26' W	7,3	Multibeam-Profil	MB	alter course
ME833/1364-1	29.12.2010	22:47	36°0.25' N	4°50.28' W	7,1	Multibeam-Profil	MB	alter course
ME833/1364-1	29.12.2010	23:46	36°7.61' N	4°50.28' W	7,2	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	00:07	36°7.71' N	4°50.17' W	7,1	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	00:36	36°7.60' N	4°54.56' W	7,6	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	00:47	36°7.72' N	4°54.58' W	7,3	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	01:32	36°2.93' N	4°58.77' W	7,9	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	01:42	36°3.55' N	4°59.67' W	7	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	02:14	36°7.00' N	4°56.69' W	7,7	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	02:26	36°7.77' N	4°57.28' W	7,4	Multibeam-Profil	MB	alter course
ME833/1364-1	30.12.2010	02:47	36°5.55' N	4°59.36' W	8,1	Multibeam-Profil	MB	alter course



ME833/1364-1	30.12.2010	03:31	36°0.30' N	4°57.60' W	5	Multibeam-Profil	MB	End profile
ME833/1365-1	30.12.2010	04:36	36°0.41' N	4°57.60' W	-0,1	Grab, TV	TVG	surface
ME833/1365-1	30.12.2010	04:58	36°0.40' N	4°57.60' W	0,1	Grab, TV	TVG	Start Profil
ME833/1365-1	30.12.2010	05:38	36°0.18' N	4°57.48' W	0	Grab, TV	TVG	End of Profile
ME833/1365-1	30.12.2010	06:04	36°0.28' N	4°57.57' W	0,1	Grab, TV	TVG	at sea bottom
ME833/1365-1	30.12.2010	06:28	36°0.27' N	4°57.57' W	0,1	Grab, TV	TVG	on deck
ME833/1366-1	30.12.2010	06:52	36°0.26' N	4°57.56' W	-1,3	Gravity corer	GC	surface
ME833/1366-1	30.12.2010	07:24	36°0.28' N	4°57.57' W	-0,1	Gravity corer	GC	at sea bottom
ME833/1366-1	30.12.2010	07:29	36°0.28' N	4°57.57' W	0	Gravity corer	GC	off ground hoisting
ME833/1366-1	30.12.2010	07:50	36°0.34' N	4°57.60' W	-1,1	Gravity corer	GC	Surface
ME833/1366-1	30.12.2010	07:58	36°0.45' N	4°57.66' W	-0,3	Gravity corer	GC	on deck
ME833/1367-1	30.12.2010	08:34	35°59.65' N	4°56.88' W	0,7	Grab, TV	TVG	surface
ME833/1367-1	30.12.2010	08:59	35°59.64' N	4°56.87' W	0	Grab, TV	TVG	at sea bottom
ME833/1367-1	30.12.2010	09:24	35°59.64' N	4°56.87' W	0	Grab, TV	TVG	on deck
ME833/1368-1	30.12.2010	09:58	35°59.84' N	4°56.65' W	-2	Gravity corer	GC	surface
ME833/1368-1	30.12.2010	10:55	35°59.64' N	4°56.87' W	0	Gravity corer	GC	at sea bottom
ME833/1368-1	30.12.2010	11:01	35°59.64' N	4°56.87' W	0	Gravity corer	GC	off ground hoisting
ME833/1368-1	30.12.2010	11:32	35°59.68' N	4°56.74' W	0,6	Gravity corer	GC	on deck
ME833/1369-1	30.12.2010	12:16	36°2.56' N	4°55.98' W	2,2	Grab, TV	TVG	surface
ME833/1369-1	30.12.2010	12:37	36°2.63' N	4°55.87' W	0	Grab, TV	TVG	at sea bottom
ME833/1369-1	30.12.2010	13:00	36°2.63' N	4°55.84' W	1,4	Grab, TV	TVG	on deck
ME833/1370-1	30.12.2010	13:28	36°2.57' N	4°56.13' W	0,8	Gravity corer	GC	surface
ME833/1370-1	30.12.2010	13:54	36°2.63' N	4°55.88' W	0	Gravity corer	GC	at sea bottom
ME833/1370-1	30.12.2010	13:58	36°2.63' N	4°55.88' W	0	Gravity corer	GC	off ground hoisting
ME833/1370-1	30.12.2010	14:30	36°2.71' N	4°55.85' W	-0,6	Gravity corer	GC	on deck
ME833/1371-1	30.12.2010	15:17	36°6.07' N	4°53.12' W	0,1	Grab, TV	TVG	surface
ME833/1371-1	30.12.2010	15:41	36°6.07' N	4°53.11' W	0	Grab, TV	TVG	at sea bottom
ME833/1371-1	30.12.2010	16:03	36°6.00' N	4°53.06' W	0	Grab, TV	TVG	on deck
ME833/1372-1	30.12.2010	16:30	36°6.00' N	4°53.06' W	-0,3	Gravity corer	GC	surface
ME833/1372-1	30.12.2010	17:04	36°6.07' N	4°53.11' W	0	Gravity corer	GC	at sea bottom
ME833/1372-1	30.12.2010	17:09	36°6.06' N	4°53.12' W	-0,1	Gravity corer	GC	off ground hoisting
ME833/1372-1	30.12.2010	17:39	36°6.23' N	4°53.21' W	-0,2	Gravity corer	GC	on deck
ME833/1373-1	30.12.2010	17:54	36°6.04' N	4°53.39' W	7,5	Parasound-Profil	PS	Begin profile
ME833/1373-1	30.12.2010	18:41	36°5.93' N	4°46.11' W	7,6	Parasound-Profil	PS	End of profile
ME833/001-1	01.01.2011	08:04	37°44.06' N	2°12.43' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/001-1	01.01.2011	09:08	37°44.05' N	2°12.43' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/001-1	01.01.2011	10:25	37°44.05' N	2°12.43' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/002-1	02.01.2011	06:05	39°14.78' N	4°9.94' E	0	Mooring	MOR	Hydrophone into the water
ME833/002-1	02.01.2011	06:11	39°14.78' N	4°9.94' E	0	Mooring	MOR	Hydrophone on Deck
ME833/002-1	02.01.2011	06:41	39°14.78' N	4°9.94' E	0	Mooring	MOR	Hydrophone into the water
ME833/002-1	02.01.2011	06:42	39°14.78' N	4°9.94' E	0	Mooring	MOR	released
ME833/002-1	02.01.2011	06:45	39°14.78' N	4°9.94' E	0	Mooring	MOR	Hydrophone on Deck
ME833/002-1	02.01.2011	07:08	39°14.65' N	4°9.91' E	0	Mooring	MOR	on the surface
ME833/002-1	02.01.2011	07:30	39°14.74' N	4°9.91' E	0,8	Mooring	MOR	headbuoy on deck
ME833/002-1	02.01.2011	07:52	39°14.96' N	4°9.46' E	1,4	Mooring	MOR	action
ME833/002-1	02.01.2011	08:00	39°15.01' N	4°9.22' E	1,3	Mooring	MOR	action
ME833/002-1	02.01.2011	08:04	39°15.03' N	4°9.12' E	1	Mooring	MOR	mooring on deck
ME833/003-1	02.01.2011	13:25	39°13.85' N	5°24.71' E	-0,4	Mooring	MOR	Hydrophone into the water
ME833/003-1	02.01.2011	13:30	39°13.85' N	5°24.71' E	0,4	Mooring	MOR	released
ME833/003-1	02.01.2011	13:32	39°13.86' N	5°24.71' E	0	Mooring	MOR	on deck
ME833/003-1	02.01.2011	14:01	39°13.75' N	5°24.72' E	0,1	Mooring	MOR	on the surface
ME833/003-1	02.01.2011	14:19	39°13.99' N	5°24.93' E	0,8	Mooring	MOR	headbuoy on deck
ME833/003-1	02.01.2011	14:28	39°14.03' N	5°24.80' E	0,8	Mooring	MOR	on deck

ME833/003-1	02.01.2011	14:39	39°14.04' N	5°24.58' E	0,9	Mooring	MOR	on deck
ME833/003-1	02.01.2011	14:45	39°14.00' N	5°24.48' E	0,8	Mooring	MOR	on deck
ME833/003-1	02.01.2011	14:46	39°13.98' N	5°24.48' E	0,9	Mooring	MOR	on deck
ME833/003-1	02.01.2011	14:47	39°13.97' N	5°24.47' E	0,9	Mooring	MOR	mooring on deck
ME833/004-1	03.01.2011	05:18	38°17.53' N	8°31.56' E	-0,5	CTD/rosette water sampler	CTD/RO	surface
ME833/004-1	03.01.2011	06:05	38°17.45' N	8°31.67' E	0,4	CTD/rosette water sampler	CTD/RO	at depth
ME833/004-1	03.01.2011	07:11	38°17.21' N	8°31.94' E	-0,6	CTD/rosette water sampler	CTD/RO	on deck
ME833/005-1	04.01.2011	21:32	34°49.90' N	16°6.31' E	4,9	Multibeam-Profil	MB	Begin profile
ME833/005-1	05.01.2011	01:32	34°54.67' N	16°41.07' E	7,3	Multibeam-Profil	MB	alter course
ME833/005-1	05.01.2011	06:57	34°57.93' N	17°29.53' E	7,8	Multibeam-Profil	MB	End profile
ME833/006-1	05.01.2011	08:55	34°40.78' N	17°24.56' E	-0,1	CTD/rosette water sampler	CTD/RO	surface
ME833/006-1	05.01.2011	10:00	34°40.78' N	17°24.56' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/006-1	05.01.2011	11:27	34°40.78' N	17°24.56' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/007-1	05.01.2011	11:38	34°40.78' N	17°24.56' E	0	Grab, TV	TVG	surface
ME833/007-1	05.01.2011	12:44	34°40.78' N	17°24.56' E	0	Grab, TV	TVG	at sea bottom
ME833/007-1	05.01.2011	12:44	34°40.78' N	17°24.56' E	0	Grab, TV	TVG	Start Profil
ME833/007-1	05.01.2011	12:55	34°40.84' N	17°24.48' E	0,2	Grab, TV	TVG	End of Profile
ME833/007-1	05.01.2011	14:08	34°40.84' N	17°24.48' E	0	Grab, TV	TVG	on deck
ME833/008-1	05.01.2011	15:35	34°40.79' N	17°24.05' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/008-1	05.01.2011	15:52	34°40.79' N	17°24.04' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/008-1	05.01.2011	16:14	34°40.79' N	17°24.04' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/009-1	05.01.2011	17:12	34°34.81' N	17°31.28' E	7,8	Multibeam-Profil	MB	Begin profile
ME833/009-1	06.01.2011	02:42	34°31.75' N	16°7.12' E	7,4	Multibeam-Profil	MB	End profile
ME833/010-1	06.01.2011	05:04	34°50.40' N	16°8.90' E	0	Grab, TV	TVG	surface
ME833/010-1	06.01.2011	05:20	34°50.40' N	16°8.90' E	0	Grab, TV	TVG	Start Profil
ME833/010-1	06.01.2011	05:50	34°50.26' N	16°8.99' E	0	Grab, TV	TVG	End of Profile
ME833/010-1	06.01.2011	05:50	34°50.26' N	16°8.99' E	0	Grab, TV	TVG	at sea bottom
ME833/010-1	06.01.2011	06:26	34°50.11' N	16°9.10' E	-1,3	Grab, TV	TVG	on deck
ME833/011-1	06.01.2011	06:58	34°50.28' N	16°8.98' E	0	Grab, TV	TVG	surface
ME833/011-1	06.01.2011	07:10	34°50.28' N	16°8.98' E	0	Grab, TV	TVG	Bodensicht
ME833/011-1	06.01.2011	07:15	34°50.29' N	16°8.98' E	0,4	Grab, TV	TVG	at sea bottom
ME833/011-1	06.01.2011	07:31	34°50.29' N	16°8.97' E	0	Grab, TV	TVG	on deck
ME833/012-1	06.01.2011	07:53	34°50.28' N	16°8.98' E	-0,6	Grab, TV	TVG	surface
ME833/012-1	06.01.2011	08:17	34°50.28' N	16°8.98' E	0,2	Grab, TV	TVG	at sea bottom
ME833/012-1	06.01.2011	08:33	34°50.07' N	16°9.12' E	-1,3	Grab, TV	TVG	on deck
ME833/013-1	06.01.2011	10:23	34°31.74' N	16°20.58' E	0	Grab, TV	TVG	surface
ME833/013-1	06.01.2011	10:50	34°31.70' N	16°20.60' E	0	Grab, TV	TVG	Start Profil
ME833/013-1	06.01.2011	11:06	34°31.75' N	16°20.56' E	-0,3	Grab, TV	TVG	End of Profile
ME833/013-1	06.01.2011	11:38	34°31.75' N	16°20.56' E	0	Grab, TV	TVG	on deck
ME833/014-1	06.01.2011	13:40	34°31.74' N	16°20.56' E	0	Grab, TV	TVG	surface
ME833/014-1	06.01.2011	14:04	34°31.74' N	16°20.56' E	0	Grab, TV	TVG	at sea bottom
ME833/014-1	06.01.2011	14:38	34°31.74' N	16°20.56' E	0	Grab, TV	TVG	on deck
ME833/015-1	06.01.2011	15:00	34°31.74' N	16°20.56' E	0	Grab, TV	TVG	surface
ME833/015-1	06.01.2011	15:26	34°31.75' N	16°20.56' E	0	Grab, TV	TVG	at sea bottom
ME833/015-1	06.01.2011	15:59	34°31.74' N	16°20.56' E	0	Grab, TV	TVG	on deck
ME833/016-1	06.01.2011	18:32	34°31.13' N	16°48.53' E	0,1	Multi corer	MUC	surface
ME833/016-1	06.01.2011	19:12	34°31.10' N	16°48.50' E	0	Multi corer	MUC	at sea bottom
ME833/016-1	06.01.2011	19:14	34°31.10' N	16°48.50' E	0	Multi corer	MUC	hiev
ME833/016-1	06.01.2011	19:57	34°31.11' N	16°48.47' E	-0,5	Multi corer	MUC	on deck
ME833/017-1	06.01.2011	20:28	34°34.41' N	16°47.61' E	0,2	Multi corer	MUC	surface
ME833/017-1	06.01.2011	21:05	34°34.40' N	16°47.60' E	0	Multi corer	MUC	at sea bottom
ME833/017-1	06.01.2011	21:07	34°34.40' N	16°47.60' E	0	Multi corer	MUC	hiev
ME833/017-1	06.01.2011	21:45	34°34.42' N	16°47.56' E	-0,3	Multi corer	MUC	on deck

ME833/018-1	06.01.2011	23:14	34°37.40' N	16°29.60' E	6,9	Multibeam-Profil	MB	Begin profile
ME833/018-1	07.01.2011	01:06	34°36.21' N	16°12.75' E	7,8	Multibeam-Profil	MB	alter course
ME833/018-1	07.01.2011	01:42	34°40.37' N	16°12.29' E	6,9	Multibeam-Profil	MB	alter course
ME833/018-1	07.01.2011	03:33	34°41.44' N	16°29.01' E	7,8	Multibeam-Profil	MB	alter course
ME833/018-1	07.01.2011	04:38	34°33.63' N	16°33.48' E	7,7	Multibeam-Profil	MB	End profile
ME833/019-1	07.01.2011	04:55	34°32.68' N	16°34.01' E	0	Multi corer	MUC	surface
ME833/019-1	07.01.2011	05:30	34°32.67' N	16°34.01' E	0	Multi corer	MUC	at sea bottom
ME833/019-1	07.01.2011	06:05	34°32.67' N	16°34.00' E	0	Multi corer	MUC	on deck
ME833/020-1	07.01.2011	07:14	34°34.42' N	16°47.58' E	-0,3	Multi corer	MUC	surface
ME833/020-1	07.01.2011	07:50	34°34.40' N	16°47.60' E	0	Multi corer	MUC	at sea bottom
ME833/020-1	07.01.2011	07:51	34°34.40' N	16°47.60' E	0	Multi corer	MUC	hiev
ME833/020-1	07.01.2011	08:24	34°34.40' N	16°47.60' E	0	Multi corer	MUC	on deck
ME833/021-1	07.01.2011	09:03	34°34.40' N	16°47.60' E	0	Piston corer	PC	surface
ME833/021-1	07.01.2011	09:57	34°34.40' N	16°47.60' E	0	Piston corer	PC	at sea bottom
ME833/021-1	07.01.2011	09:58	34°34.40' N	16°47.60' E	0	Piston corer	PC	heave
ME833/021-1	07.01.2011	10:47	34°34.40' N	16°47.60' E	0	Piston corer	PC	on Deck
ME833/022-1	07.01.2011	13:20	34°31.77' N	16°20.68' E	0,3	Piston corer	PC	surface
ME833/022-1	07.01.2011	13:52	34°31.70' N	16°20.60' E	0,1	Piston corer	PC	at sea bottom
ME833/022-1	07.01.2011	13:52	34°31.70' N	16°20.60' E	0,1	Piston corer	PC	heave
ME833/022-1	07.01.2011	14:38	34°31.68' N	16°20.70' E	-0,7	Piston corer	PC	on Deck
ME833/023-1	07.01.2011	16:07	34°32.20' N	16°21.30' E	0	Grab, TV	TVG	surface
ME833/023-1	07.01.2011	16:34	34°32.20' N	16°21.30' E	0	Grab, TV	TVG	at sea bottom
ME833/023-1	07.01.2011	17:08	34°32.20' N	16°21.30' E	0	Grab, TV	TVG	on deck
ME833/024-1	07.01.2011	19:35	34°31.12' N	16°48.48' E	-0,4	Grab, TV	TVG	surface
ME833/024-1	07.01.2011	20:19	34°31.11' N	16°48.50' E	0	Grab, TV	TVG	Start Profil
ME833/024-1	07.01.2011	20:31	34°31.12' N	16°48.46' E	-0,4	Grab, TV	TVG	End of Profile
ME833/024-1	07.01.2011	20:32	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	at sea bottom
ME833/024-1	07.01.2011	21:13	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	on deck
ME833/025-1	07.01.2011	21:16	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	surface
ME833/025-1	07.01.2011	21:54	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	at sea bottom
ME833/025-1	07.01.2011	22:34	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	on deck
ME833/026-1	07.01.2011	23:11	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	surface
ME833/026-1	07.01.2011	23:56	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	at sea bottom
ME833/026-1	08.01.2011	00:46	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	on deck
ME833/027-1	08.01.2011	01:14	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	surface
ME833/027-1	08.01.2011	01:55	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	at sea bottom
ME833/027-1	08.01.2011	02:42	34°31.12' N	16°48.46' E	0	Grab, TV	TVG	on deck
ME833/028-1	08.01.2011	05:54	34°31.70' N	16°20.61' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/028-1	08.01.2011	06:23	34°31.70' N	16°20.61' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/028-1	08.01.2011	06:54	34°31.70' N	16°20.61' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/029-1	08.01.2011	09:02	34°31.10' N	16°48.50' E	0,1	CTD/rosette water sampler	CTD/RO	surface
ME833/029-1	08.01.2011	09:45	34°31.10' N	16°48.50' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/029-1	08.01.2011	10:33	34°31.10' N	16°48.50' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/030-1	08.01.2011	13:12	34°33.53' N	17°20.41' E	0	Grab, TV	TVG	surface
ME833/030-1	08.01.2011	14:09	34°33.50' N	17°20.40' E	0	Grab, TV	TVG	Bodensicht
ME833/030-1	08.01.2011	14:10	34°33.50' N	17°20.40' E	0	Grab, TV	TVG	Start Profil
ME833/030-1	08.01.2011	14:24	34°33.47' N	17°20.37' E	-0,5	Grab, TV	TVG	End of Profile
ME833/030-1	08.01.2011	14:25	34°33.47' N	17°20.37' E	-0,1	Grab, TV	TVG	at sea bottom
ME833/030-1	08.01.2011	15:31	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	on deck
ME833/031-1	08.01.2011	15:57	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	surface
ME833/031-1	08.01.2011	16:56	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	at sea bottom
ME833/031-1	08.01.2011	18:00	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	on deck
ME833/032-1	08.01.2011	18:43	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	surface

ME833/032-1	08.01.2011	19:39	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	at sea bottom
ME833/032-1	08.01.2011	19:40	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	heaving
ME833/032-1	08.01.2011	20:39	34°33.47' N	17°20.37' E	0	Grab, TV	TVG	on deck
ME833/033-1	09.01.2011	18:00	34°20.70' N	22°23.49' E	-0,6	Grab, TV	TVG	surface
ME833/033-1	09.01.2011	18:40	34°20.70' N	22°23.50' E	0	Grab, TV	TVG	at sea bottom
ME833/033-1	09.01.2011	19:24	34°20.70' N	22°23.50' E	0	Grab, TV	TVG	on deck
ME833/034-1	09.01.2011	19:55	34°19.95' N	22°19.05' E	4,8	Multibeam-Profil	MB	Begin profil
ME833/034-1	09.01.2011	21:25	34°14.41' N	22°31.53' E	7,8	Multibeam-Profil	MB	alter course
ME833/034-1	09.01.2011	23:51	34°10.80' N	22°54.36' E	8	Multibeam-Profil	MB	End profil
ME833/034-1	10.01.2011	01:04	34°19.79' N	22°54.70' E	6,7	Multibeam-Profil	MB	Begin profil
ME833/034-1	10.01.2011	04:01	34°27.96' N	22°29.24' E	6,6	Multibeam-Profil	MB	alter course
ME833/034-1	10.01.2011	05:30	34°17.97' N	22°36.27' E	7,8	Multibeam-Profil	MB	End profil
ME833/035-1	10.01.2011	06:39	34°19.70' N	22°35.10' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/035-1	10.01.2011	08:08	34°19.70' N	22°35.10' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/035-1	10.01.2011	09:41	34°19.70' N	22°35.10' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/036-1	10.01.2011	10:31	34°21.54' N	22°28.83' E	0	Box corer	BC	surface
ME833/036-1	10.01.2011	11:56	34°21.60' N	22°28.80' E	0	Box corer	BC	at sea bottom
ME833/036-1	10.01.2011	13:04	34°21.60' N	22°28.80' E	0	Box corer	BC	on deck
ME833/037-1	10.01.2011	13:18	34°21.60' N	22°28.80' E	0	Box corer	BC	surface
ME833/037-1	10.01.2011	14:54	34°21.60' N	22°28.80' E	0	Box corer	BC	at sea bottom
ME833/037-1	10.01.2011	15:56	34°21.60' N	22°28.80' E	0	Box corer	BC	on deck
ME833/038-1	10.01.2011	16:43	34°27.01' N	22°32.08' E	7,9	Multibeam-Profil	MB	Begin profil
ME833/038-1	10.01.2011	19:22	34°36.69' N	22°11.16' E	6,6	Multibeam-Profil	MB	alter course
ME833/038-1	10.01.2011	20:46	34°27.39' N	22°5.41' E	7,5	Multibeam-Profil	MB	alter course
ME833/038-1	10.01.2011	21:25	34°29.15' N	22°1.96' E	6,3	Multibeam-Profil	MB	alter course
ME833/038-1	10.01.2011	22:50	34°38.34' N	22°7.46' E	7,2	Multibeam-Profil	MB	alter course
ME833/038-1	10.01.2011	23:17	34°40.13' N	22°4.00' E	8	Multibeam-Profil	MB	alter course
ME833/038-1	11.01.2011	00:34	34°31.29' N	21°58.50' E	7,9	Multibeam-Profil	MB	alter course
ME833/038-1	11.01.2011	03:28	34°19.36' N	22°21.99' E	7,2	Multibeam-Profil	MB	alter course
ME833/038-1	11.01.2011	04:35	34°24.66' N	22°29.46' E	6,9	Multibeam-Profil	MB	End profil
ME833/039-1	11.01.2011	06:00	34°19.70' N	22°35.10' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/039-1	11.01.2011	06:14	34°19.70' N	22°35.10' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/039-1	11.01.2011	07:31	34°19.70' N	22°35.10' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/039-1	11.01.2011	08:59	34°19.70' N	22°35.11' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/040-1	11.01.2011	09:45	34°22.02' N	22°29.16' E	-0,1	Grab, TV	TVG	surface
ME833/040-1	11.01.2011	11:11	34°22.10' N	22°29.19' E	0	Grab, TV	TVG	Bodensicht
ME833/040-1	11.01.2011	11:12	34°22.10' N	22°29.19' E	0	Grab, TV	TVG	Start Profil
ME833/040-1	11.01.2011	13:13	34°21.87' N	22°29.13' E	0,2	Grab, TV	TVG	End of Profil
ME833/040-1	11.01.2011	13:20	34°21.88' N	22°29.15' E	0	Grab, TV	TVG	at sea bottom
ME833/040-1	11.01.2011	14:32	34°21.88' N	22°29.15' E	0	Grab, TV	TVG	on deck
ME833/041-1	11.01.2011	15:40	34°20.70' N	22°23.50' E	0	Grab, TV	TVG	surface
ME833/041-1	11.01.2011	16:45	34°20.70' N	22°23.50' E	0	Grab, TV	TVG	Start Profil
ME833/041-1	11.01.2011	18:03	34°20.71' N	22°23.64' E	0	Grab, TV	TVG	End of Profil
ME833/041-1	11.01.2011	18:03	34°20.71' N	22°23.64' E	0	Grab, TV	TVG	at sea bottom
ME833/041-1	11.01.2011	18:49	34°20.63' N	22°23.70' E	0	Grab, TV	TVG	on deck
ME833/042-1	11.01.2011	19:52	34°21.60' N	22°28.80' E	0	Gravity corer	GC	surface
ME833/042-1	11.01.2011	20:57	34°21.60' N	22°28.80' E	0	Gravity corer	GC	information
ME833/042-1	11.01.2011	21:03	34°21.60' N	22°28.80' E	0	Gravity corer	GC	at sea bottom
ME833/042-1	11.01.2011	21:08	34°21.60' N	22°28.80' E	0	Gravity corer	GC	off ground hoisting
ME833/042-1	11.01.2011	22:24	34°21.60' N	22°28.80' E	0	Gravity corer	GC	on deck
ME833/043-1	11.01.2011	23:34	34°34.97' N	22°29.04' E	8,9	Multibeam-Profil	MB	Begin profil
ME833/043-1	12.01.2011	02:34	34°41.63' N	22°2.12' E	7,4	Multibeam-Profil	MB	alter course
ME833/043-1	12.01.2011	03:24	34°47.13' N	22°3.62' E	6,5	Multibeam-Profil	MB	alter course

ME833/043-1	12.01.2011	05:09	34°43.50' N	22°18.43' E	8	Multibeam-Profil	MB	End profile
ME833/044-1	12.01.2011	06:22	34°40.20' N	22°9.10' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/044-1	12.01.2011	07:35	34°40.20' N	22°9.10' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/044-1	12.01.2011	09:16	34°40.20' N	22°9.10' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/045-1	12.01.2011	09:50	34°40.75' N	22°7.15' E	-0,3	Grab, TV	TVG	surface
ME833/045-1	12.01.2011	11:01	34°40.80' N	22°7.20' E	0	Grab, TV	TVG	at sea bottom
ME833/045-1	12.01.2011	12:22	34°40.80' N	22°7.20' E	0	Grab, TV	TVG	on deck
ME833/046-1	12.01.2011	13:16	34°42.98' N	22°12.89' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/046-1	12.01.2011	14:24	34°43.00' N	22°12.90' E	0,1	CTD/rosette water sampler	CTD/RO	at depth
ME833/046-1	12.01.2011	16:00	34°43.00' N	22°12.90' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/047-1	12.01.2011	17:18	34°40.20' N	22°9.10' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/047-1	12.01.2011	18:30	34°40.20' N	22°9.10' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/047-1	12.01.2011	19:53	34°40.20' N	22°9.10' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/048-1	12.01.2011	20:41	34°39.52' N	21°59.80' E	7,9	Multibeam-Profil	MB	Begin profile
ME833/048-1	12.01.2011	22:29	34°53.22' N	21°59.83' E	7,9	Multibeam-Profil	MB	alter course
ME833/048-1	13.01.2011	00:37	34°48.94' N	22°19.37' E	8,1	Multibeam-Profil	MB	alter course
ME833/048-1	13.01.2011	01:18	34°53.99' N	22°20.81' E	8	Multibeam-Profil	MB	alter course
ME833/048-1	13.01.2011	03:50	34°59.97' N	21°57.89' E	7,6	Multibeam-Profil	MB	alter course
ME833/048-1	13.01.2011	04:15	35°3.07' N	21°58.84' E	7,8	Multibeam-Profil	MB	alter course
ME833/048-1	13.01.2011	04:31	35°2.78' N	22°1.24' E	7,1	Multibeam-Profil	MB	alter course
ME833/048-1	13.01.2011	05:39	34°53.86' N	22°1.53' E	8,8	Multibeam-Profil	MB	End profile
ME833/049-1	13.01.2011	06:10	34°55.00' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/049-1	13.01.2011	07:22	34°55.00' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/049-1	13.01.2011	07:32	34°55.01' N	22°1.50' E	0,5	CTD/rosette water sampler	CTD/RO	Information
ME833/049-1	13.01.2011	07:42	34°55.05' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	Information
ME833/049-1	13.01.2011	07:46	34°55.05' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/049-1	13.01.2011	07:51	34°55.05' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	Information
ME833/049-1	13.01.2011	08:05	34°55.12' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	Information
ME833/049-1	13.01.2011	08:09	34°55.12' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/049-1	13.01.2011	08:13	34°55.13' N	22°1.50' E	0,4	CTD/rosette water sampler	CTD/RO	Information
ME833/049-1	13.01.2011	08:21	34°55.20' N	22°1.50' E	0,3	CTD/rosette water sampler	CTD/RO	Information
ME833/049-1	13.01.2011	08:25	34°55.20' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/049-1	13.01.2011	08:51	34°55.20' N	22°1.50' E	0,1	CTD/rosette water sampler	CTD/RO	Information
ME833/049-1	13.01.2011	10:01	34°55.20' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/050-1	13.01.2011	10:34	34°57.35' N	22°1.65' E	-0,6	Box corer	BC	surface
ME833/050-1	13.01.2011	11:48	34°57.35' N	22°1.65' E	0	Box corer	BC	at sea bottom
ME833/050-1	13.01.2011	13:12	34°57.34' N	22°1.65' E	-0,3	Box corer	BC	on deck
ME833/051-1	13.01.2011	13:42	34°57.36' N	22°1.65' E	-0,5	Gravity corer	GC	surface
ME833/051-1	13.01.2011	14:54	34°57.35' N	22°1.65' E	0	Gravity corer	GC	at sea bottom
ME833/051-1	13.01.2011	16:22	34°57.27' N	22°1.60' E	0,2	Gravity corer	GC	on deck
ME833/052-1	13.01.2011	17:00	34°57.10' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/052-1	13.01.2011	18:14	34°57.10' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/052-1	13.01.2011	20:02	34°57.10' N	22°1.50' E	0	CTD/rosette water sampler	CTD/RO	on deck
ME833/053-1	13.01.2011	20:58	35°2.32' N	22°10.01' E	5,3	Multibeam-Profil	MB	Begin profile
ME833/053-1	13.01.2011	23:30	35°7.98' N	21°47.86' E	7,7	Multibeam-Profil	MB	alter course
ME833/053-1	14.01.2011	00:38	35°8.06' N	21°37.25' E	7,5	Multibeam-Profil	MB	alter course
ME833/053-1	14.01.2011	02:32	35°17.19' N	21°25.07' E	3,5	Multibeam-Profil	MB	End profile
ME833/054-1	14.01.2011	03:04	35°17.41' N	21°24.78' E	-0,1	Piston corer	PC	surface
ME833/054-1	14.01.2011	04:26	35°17.42' N	21°24.78' E	0	Piston corer	PC	at sea bottom
ME833/054-1	14.01.2011	05:57	35°17.23' N	21°24.82' E	-0,8	Piston corer	PC	on Deck
ME833/055-1	14.01.2011	07:14	35°13.82' N	21°28.42' E	0	Gravity corer	GC	surface
ME833/055-1	14.01.2011	08:25	35°13.83' N	21°28.42' E	0	Gravity corer	GC	information
ME833/055-1	14.01.2011	08:37	35°13.83' N	21°28.42' E	0	Gravity corer	GC	at sea bottom

ME833/055-1	14.01.2011	08:45	35°13.82' N	21°28.42' E	0	Gravity corer	GC	off ground hoisting
ME833/055-1	14.01.2011	10:07	35°13.72' N	21°28.42' E	-0,3	Gravity corer	GC	on deck
ME833/056-1	14.01.2011	10:55	35°13.83' N	21°28.42' E	0	CTD/rosette water sampler	CTD/RO	surface
ME833/056-1	14.01.2011	12:36	35°13.83' N	21°28.42' E	0,1	CTD/rosette water sampler	CTD/RO	at depth
ME833/056-1	14.01.2011	14:38	35°13.83' N	21°28.42' E	-0,1	CTD/rosette water sampler	CTD/RO	on deck
ME833/057-1	14.01.2011	15:28	35°13.61' N	21°32.05' E	0,1	Grab, TV	TVG	surface
ME833/057-1	14.01.2011	19:15	35°13.16' N	21°31.53' E	0	Grab, TV	TVG	at sea bottom
ME833/057-1	14.01.2011	19:17	35°13.16' N	21°31.53' E	0,1	Grab, TV	TVG	heaving
ME833/057-1	14.01.2011	20:29	35°13.16' N	21°31.53' E	-0,1	Grab, TV	TVG	on deck
ME833/058-1	14.01.2011	20:51	35°14.61' N	21°31.83' E	5,7	Multibeam-Profil	MB	Begin profile
ME833/058-1	14.01.2011	22:46	35°26.22' N	21°42.27' E	7,2	Multibeam-Profil	MB	alter course
ME833/058-1	15.01.2011	01:06	35°26.50' N	21°20.72' E	7,8	Multibeam-Profil	MB	End profile
ME833/059-1	15.01.2011	03:12	35°13.04' N	21°30.64' E	0	Grab, TV	TVG	surface
ME833/059-1	15.01.2011	04:28	35°13.04' N	21°30.55' E	0,2	Grab, TV	TVG	Bodensicht
ME833/059-1	15.01.2011	04:28	35°13.04' N	21°30.55' E	0,2	Grab, TV	TVG	Start Profil
ME833/059-1	15.01.2011	07:24	35°13.00' N	21°30.56' E	0,1	Grab, TV	TVG	End of Profile
ME833/059-1	15.01.2011	08:38	35°13.00' N	21°30.63' E	-0,1	Grab, TV	TVG	on deck
ME833/060-1	15.01.2011	08:55	35°13.00' N	21°30.63' E	-0,2	CTD/rosette water sampler	CTD/RO	surface
ME833/060-1	15.01.2011	10:12	35°13.00' N	21°30.63' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/060-1	15.01.2011	12:32	35°13.00' N	21°30.63' E	0,1	CTD/rosette water sampler	CTD/RO	on deck
ME833/061-1	15.01.2011	13:46	35°16.58' N	21°41.47' E	0	Grab, TV	TVG	surface
ME833/061-1	15.01.2011	15:00	35°16.60' N	21°41.43' E	0	Grab, TV	TVG	at sea bottom
ME833/061-1	15.01.2011	16:20	35°16.60' N	21°41.43' E	0	Grab, TV	TVG	on deck
ME833/062-1	15.01.2011	16:37	35°16.60' N	21°41.43' E	0	Grab, TV	TVG	surface
ME833/062-1	15.01.2011	17:57	35°16.60' N	21°41.43' E	0	Grab, TV	TVG	at sea bottom
ME833/062-1	15.01.2011	19:18	35°16.60' N	21°41.43' E	0	Grab, TV	TVG	on deck
ME833/063-1	15.01.2011	20:22	35°12.66' N	21°53.07' E	6,2	Multibeam-Profil	MB	Begin profile
ME833/063-1	15.01.2011	22:46	35°30.62' N	21°53.86' E	7,3	Multibeam-Profil	MB	alter course
ME833/063-1	16.01.2011	03:00	35°30.85' N	21°19.03' E	6,5	Multibeam-Profil	MB	alter course
ME833/063-1	16.01.2011	03:29	35°28.13' N	21°20.48' E	7,5	Multibeam-Profil	MB	End profile
ME833/064-1	16.01.2011	07:03	35°11.57' N	21°31.83' E	0,2	Mooring	MOR	surface
ME833/064-1	16.01.2011	07:06	35°11.58' N	21°31.83' E	0,3	Mooring	MOR	surface
ME833/064-1	16.01.2011	07:18	35°11.65' N	21°31.78' E	0,3	Mooring	MOR	surface
ME833/064-1	16.01.2011	07:23	35°11.68' N	21°31.76' E	0,4	Mooring	MOR	surface
ME833/064-1	16.01.2011	07:40	35°11.80' N	21°31.69' E	0,6	Mooring	MOR	surface
ME833/064-1	16.01.2011	08:05	35°12.01' N	21°31.54' E	0,7	Mooring	MOR	surface
ME833/064-1	16.01.2011	08:09	35°12.05' N	21°31.51' E	0,6	Mooring	MOR	surface
ME833/064-1	16.01.2011	08:38	35°12.28' N	21°31.32' E	0,7	Mooring	MOR	surface
ME833/064-1	16.01.2011	08:43	35°12.32' N	21°31.29' E	0,5	Mooring	MOR	surface
ME833/064-1	16.01.2011	11:07	35°13.61' N	21°30.39' E	0,4	Mooring	MOR	surface
ME833/064-1	16.01.2011	11:17	35°13.67' N	21°30.34' E	0,2	Mooring	MOR	surface
ME833/065-1	16.01.2011	12:56	35°16.54' N	21°41.44' E	0,6	CTD/rosette water sampler	CTD/RO	surface
ME833/065-1	16.01.2011	14:18	35°16.60' N	21°41.45' E	-0,2	CTD/rosette water sampler	CTD/RO	at depth
ME833/065-1	16.01.2011	15:50	35°16.60' N	21°41.45' E	-0,1	CTD/rosette water sampler	CTD/RO	on deck
ME833/066-1	16.01.2011	17:02	35°16.60' N	21°41.43' E	-0,1	Gravity corer	GC	surface
ME833/066-1	16.01.2011	18:22	35°16.60' N	21°41.43' E	0,1	Gravity corer	GC	at sea bottom
ME833/066-1	16.01.2011	18:28	35°16.60' N	21°41.43' E	0	Gravity corer	GC	off ground hoisting
ME833/066-1	16.01.2011	19:48	35°16.52' N	21°41.32' E	-0,3	Gravity corer	GC	on deck
ME833/067-1	17.01.2011	12:48	35°13.61' N	21°31.47' E	-0,1	CTD/rosette water sampler	CTD/RO	surface
ME833/067-1	17.01.2011	14:15	35°13.60' N	21°31.49' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/067-1	17.01.2011	15:41	35°13.60' N	21°31.49' E	0,1	CTD/rosette water sampler	CTD/RO	on deck
ME833/068-1	17.01.2011	16:06	35°13.82' N	21°31.15' E	0	Gravity corer	GC	surface
ME833/068-1	17.01.2011	17:22	35°13.80' N	21°31.13' E	0,2	Gravity corer	GC	at sea bottom

ME833/068-1	17.01.2011	17:27	35°13.80' N	21°31.13' E	0,1	Gravity corer	GC	off ground hoisting
ME833/068-1	17.01.2011	18:41	35°13.75' N	21°31.09' E	-0,1	Gravity corer	GC	on deck
ME833/069-1	17.01.2011	20:16	35°12.67' N	21°47.27' E	7,7	Multibeam-Profil	MB	Begin profile
ME833/069-1	17.01.2011	20:53	35°12.50' N	21°52.80' E	7,1	Multibeam-Profil	MB	alter course
ME833/069-1	17.01.2011	21:46	35°10.52' N	22°0.15' E	6,8	Multibeam-Profil	MB	alter course
ME833/069-1	17.01.2011	22:10	35°13.08' N	22°0.75' E	7,9	Multibeam-Profil	MB	alter course
ME833/069-1	17.01.2011	22:34	35°15.78' N	21°58.67' E	7,6	Multibeam-Profil	MB	alter course
ME833/069-1	17.01.2011	23:24	35°22.06' N	21°58.55' E	7,8	Multibeam-Profil	MB	alter course
ME833/069-1	17.01.2011	23:58	35°22.50' N	22°3.58' E	8,1	Multibeam-Profil	MB	alter course
ME833/069-1	18.01.2011	01:00	35°14.56' N	22°4.06' E	7,8	Multibeam-Profil	MB	alter course
ME833/069-1	18.01.2011	01:44	35°12.63' N	22°10.56' E	8,4	Multibeam-Profil	MB	alter course
ME833/069-1	18.01.2011	02:20	35°08.11' N	22°9.99' E	8,2	Multibeam-Profil	MB	alter course
ME833/069-1	18.01.2011	03:40	35°11.22' N	21°57.86' E	7,3	Multibeam-Profil	MB	End profile
ME833/070-1	18.01.2011	06:11	35°13.58' N	21°31.50' E	0,1	CTD/rosette water sampler	CTD/RO	surface
ME833/070-1	18.01.2011	07:26	35°13.60' N	21°31.50' E	0	CTD/rosette water sampler	CTD/RO	at depth
ME833/070-1	18.01.2011	08:58	35°13.60' N	21°31.50' E	-0,1	CTD/rosette water sampler	CTD/RO	on deck
ME833/071-1	18.01.2011	09:22	35°13.55' N	21°31.95' E	0	Grab, TV	TVG	surface
ME833/071-1	18.01.2011	10:38	35°13.54' N	21°31.95' E	-0,1	Grab, TV	TVG	Bodensicht
ME833/071-1	18.01.2011	10:38	35°13.54' N	21°31.95' E	-0,1	Grab, TV	TVG	Start Profil
ME833/071-1	18.01.2011	11:50	35°13.55' N	21°31.96' E	0,1	Grab, TV	TVG	End of Profile
ME833/071-1	18.01.2011	11:51	35°13.55' N	21°31.96' E	0	Grab, TV	TVG	at sea bottom
ME833/071-1	18.01.2011	13:16	35°13.55' N	21°31.96' E	0	Grab, TV	TVG	on deck
ME833/072-1	18.01.2011	14:18	35°16.60' N	21°41.46' E	-0,3	Gravity corer	GC	surface
ME833/072-1	18.01.2011	15:34	35°16.60' N	21°41.43' E	0	Gravity corer	GC	at sea bottom
ME833/072-1	18.01.2011	15:39	35°16.60' N	21°41.43' E	0	Gravity corer	GC	off ground hoisting
ME833/072-1	18.01.2011	17:00	35°16.64' N	21°41.48' E	3,6	Gravity corer	GC	on deck
ME833/073-1	18.01.2011	18:51	35°30.76' N	21°58.48' E	6,9	Multibeam-Profil	MB	Begin profile
ME833/073-1	18.01.2011	20:55	35°15.25' N	21°58.31' E	7,4	Multibeam-Profil	MB	alter course
ME833/073-1	18.01.2011	22:53	35°11.14' N	22°15.46' E	7,5	Multibeam-Profil	MB	alter course
ME833/073-1	18.01.2011	23:38	35°5.83' N	22°14.64' E	7,5	Multibeam-Profil	MB	alter course
ME833/073-1	19.01.2011	02:16	35°12.06' N	21°52.83' E	7,2	Multibeam-Profil	MB	alter course
ME833/073-1	19.01.2011	03:00	35°12.24' N	21°46.34' E	7,3	Multibeam-Profil	MB	alter course
ME833/073-1	19.01.2011	04:00	35°13.71' N	21°38.63' E	6,2	Multibeam-Profil	MB	End profile
ME833/074-1	19.01.2011	06:00	35°15.00' N	21°32.00' E	0	Grab, TV	TVG	surface
ME833/074-1	19.01.2011	07:16	35°15.00' N	21°32.00' E	0,1	Grab, TV	TVG	Bodensicht
ME833/074-1	19.01.2011	07:16	35°15.00' N	21°32.00' E	0,1	Grab, TV	TVG	Start Profil
ME833/074-1	19.01.2011	08:52	35°15.32' N	21°32.55' E	0	Grab, TV	TVG	End of Profile
ME833/074-1	19.01.2011	08:55	35°15.32' N	21°32.55' E	0	Grab, TV	TVG	at sea bottom
ME833/074-1	19.01.2011	10:11	35°15.32' N	21°32.55' E	0	Grab, TV	TVG	on deck
ME833/075-1	19.01.2011	11:04	35°17.42' N	21°24.77' E	-0,3	Piston corer	PC	surface
ME833/075-1	19.01.2011	12:32	35°17.42' N	21°24.78' E	0	Piston corer	PC	at sea bottom
ME833/075-1	19.01.2011	12:32	35°17.42' N	21°24.78' E	0	Piston corer	PC	heave
ME833/075-1	19.01.2011	14:02	35°17.17' N	21°24.66' E	-0,5	Piston corer	PC	on Deck
ME833/076-1	19.01.2011	17:08	35°35.19' N	21°58.43' E	6,8	Multibeam-Profil	MB	Begin profile
ME833/076-1	19.01.2011	20:12	35°35.26' N	21°31.13' E	8	Multibeam-Profil	MB	End profile
ME833/077-1	20.01.2011	15:00	34°33.52' N	17°20.41' E	0	Grab, TV	TVG	surface
ME833/077-1	20.01.2011	16:00	34°33.50' N	17°20.40' E	0	Grab, TV	TVG	at sea bottom
ME833/077-1	20.01.2011	16:00	34°33.50' N	17°20.40' E	0	Grab, TV	TVG	Start Profil
ME833/077-1	20.01.2011	16:42	34°33.50' N	17°20.12' E	0,2	Grab, TV	TVG	End of Profile
ME833/077-1	20.01.2011	16:44	34°33.50' N	17°20.11' E	0,2	Grab, TV	TVG	heaving
ME833/077-1	20.01.2011	17:49	34°33.49' N	17°20.11' E	0	Grab, TV	TVG	on deck