

BOBECO CRUISE SCIENTIFIC REPORT

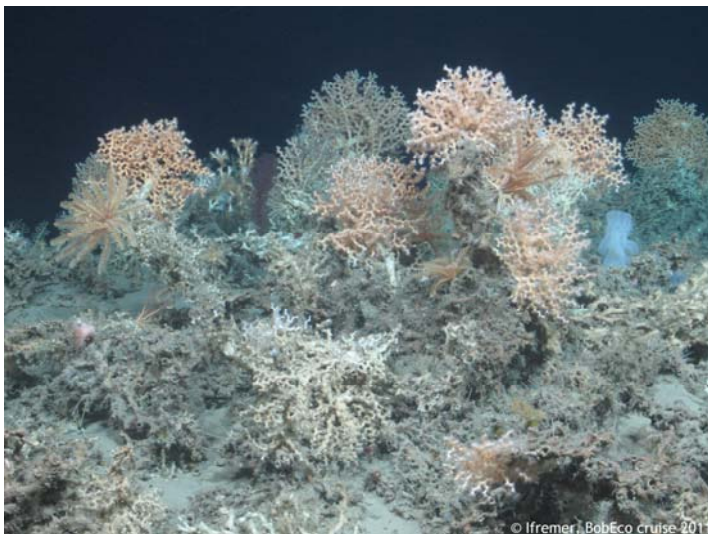
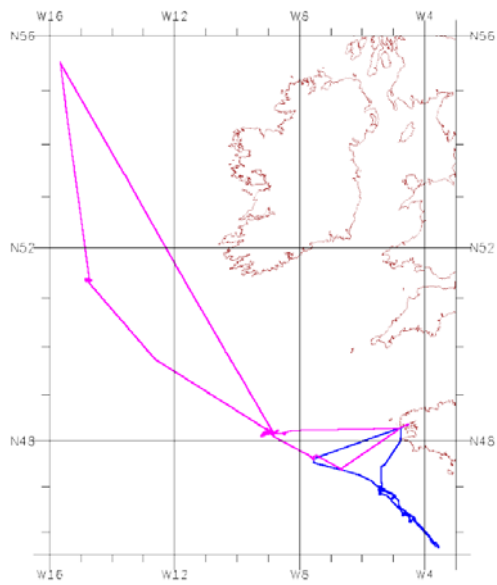


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Preface

This report would not have been possible without the help of all the participants of the CoralFISH project, the funding from the EU (FP7 project) and Ifremer, and the contribution of the teams of the two legs of the BobEco cruise.

These few lines can only briefly summarize the amount of work achieved during the cruise. Its success is owing to the dynamism, enthusiasm and team spirit of the numerous researchers and technicians who have engaged in this venture.

This is the place to acknowledge the exceptional talent and dedication of the ROV team with a special mention of Luc and Clement who identified the species we wanted them to collect better than some of our chemist or physicist colleagues ;-). Thanks also for the unforgettable nickname (*lastminute.com*) of the BobEco cruise that will prevent us from forgetting the rough weather conditions we had to face (or rather to escape from) in Ireland.

This small preamble would be incomplete without acknowledging the invaluable help of the captains and contribution of the crew. Their genuine interest in the objectives we aimed at reaching, their curiosity for our strange tools and pets enabled us to launch the first “apero-expo” on board, a great experience of exchange among all inhabitants of this small world we shared for 35 days.

What more can we say?

Merci à tous, et bon vent!

NB: This report was written in English by most cruise participants in order to be accessible to all European partners. During the compilation, some parts were translated by the mission chief and although it was kindly edited by Kat Urbantat, authors should not be held responsible for English mistakes.

Leg 1 & 2: Teams



Summary

European Directive and International Conventions require member states to setup protection measures for Vulnerable Marine Ecosystems, including Cold Water Corals which extent and distribution in French EEZ are still poorly known while cold Water Corals of Ireland have been studied for the past ten years and are already subject to conservation measures. BobEco cruise is part of a series of several cruises (Celtic explorer, BobGeo1&2) planed in the framework of the CoralFISH EU project which aimed at providing necessary information to follow those directives or indirectly contributing to the acquisition of data on the occurrence of cold water corals in the Bay of Biscay (EVOHE). BobGeo cruises (2009&2010) allowed mapping the geomorphology of a three large areas in the Bay of Biscay. The cruise Bobeco took place in the Bay of Biscay from September 9th to October 11th 2011 to localize, map and study ecosystems associated to Cold Water Corals in the Bay of Biscay, and return on Irish Cold water Coral sites first visited during the Caracole cruise in 2001 to assess their evolution over a ten year period. The exploration of ten canyons in the French area allowed identifying coral formation of different kind (cliffs, fields of colonies, garden, reefs) in seven canyons, including four sites

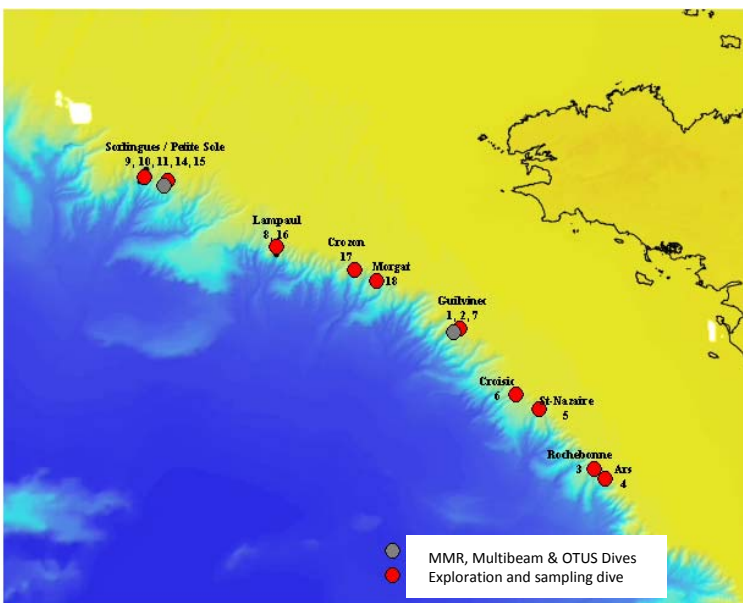


Figure 1 : Dive locations in France

unknown up to date. Many live and dead samples have been collected using Victor 6000 ROV and video transects have been performed across main coral habitats. The joint work of biologists (taxonomists, fishery biologists, geneticists, microbiologists), geologists (geomorphology, mapping, reconstruction of past environmental conditions) and geochemists (water masses characterization, coral dating,

reconstruction of past climate) will allow mapping community assemblages, studying interspecies interactions including the microbiome, analyzing connectivity (past and contemporary), and obtaining a qualitative analysis of the impact of anthropic

perturbations. The association of observations that will feed ongoing habitat classification and mapping with the characterization of environmental variables (geomorphology, sediment, chemistry and water masses) in the studied areas, will feed future habitat modelling and contribute enhancing our understanding of habitat requirement and communities associated to cold water corals formations. This will increase the accuracy of predictive habitat modelling in unexplored areas.

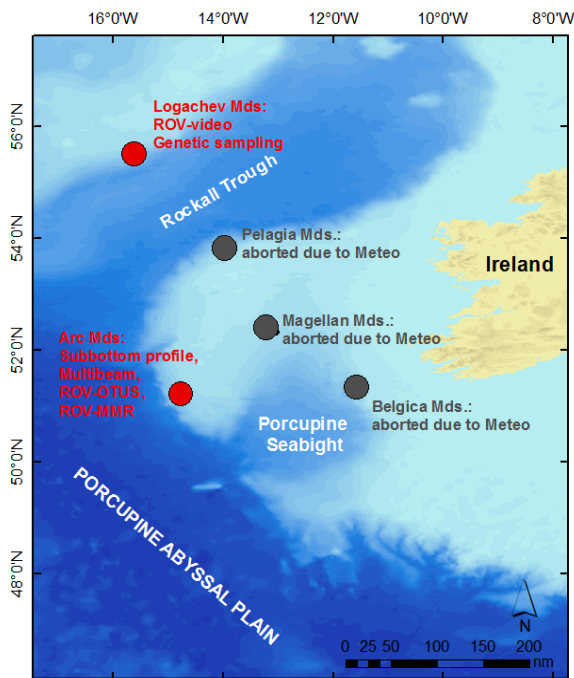


Figure 2 : Dive locations in Ireland

Finally, the dating of corals will permit developing more accurate models of coral growth for the two main reef structuring species (*Lophelia pertusa* and *Madrepora oculata*) in Northern Atlantic, and bring informations as to the impact of past environmental variations during the last millenaries on cold water coral formations.

Observations made during the cruise and further analysis of image data and samples collected (species composition, connectivity, dating, microbiology) will considerably enrich the list of cold water coral sites and habitat known in the French EEZ and provide a ten year comparison point on the reef of Logatchev Mounds in Ireland, bringing some of the necessary information to put management and conservation measures in place on those Vulnerable Marine Ecosystems.

Reminder of scientific themes and objectives

1. Choice of sites after the high resolution exploration and mapping during the BobGeo cruises in 2009&2010

Cold-Water Corals (CWC) habitats include reefs, bushes and sparser formations of coral gardens or soft corals. They have been the target of recent research programs in many regions, including the northeastern Atlantic and Mediterranean basins (national programs, EU projects such as Hermes or Marbef, Census of Marine Life etc.). A recent synthesis of reports of occurrence of CWC shows their presence up to the continental platform and at depths reaching more than 2000m (Reveillaud et al., 2008). This synthesis is based mostly on the evaluation of incidental bycatch by scientists and fishermen and includes historical data from the late 19th and early 20th centuries. It is, however, biased (this density of records obtained in fishing areas, compared to other zones never visited) and fragmented. The spatial distribution of CWC is hard to appraise without guidance as to their location or information on the detailed characteristics of their environment. Potential habitats can be inferred using morphosedimentary characteristics (obtained with acoustic techniques), associated with hydrological data (Grasmueck et al., 2006; Huvenne et al., 2002; Taviani et al., 2005).

The Bay of Biscay has not been explored with precise enough acoustic tools. The resolution of the data EM12D from the EEZ program is too low and their analysis would not allow the localization of carbonate mounds if/when they occur. A high resolution exploration of interfluves and canyons of the Bay of Biscay was carried out during the first and second BobGeo cruise, the results of which – combined with preliminary data – facilitated the identification of target zones. These will be studied during the BobEco cruise for fine-grained habitat mapping, for the occurrence and distribution of fish species and for the genetic structure of populations.

2. “Ecological mapping”, observation and understanding of the ecosystem

Based on the results from BobGeo in the Bay of Biscay, we planned to use ROV with the ‘road’ module (MMR) for fine-grained mapping of the ecosystems, and the “sampling module” to collect samples in the area chosen in Western Ireland. We planned to collect data and ecological and microbiological samples to describe the diversity of communities associated with CWC ecosystems. Further, we wanted to study the genetic diversity and differentiation or connectivity of structuring species (Scleractinians such as *Lophelia pertusa*) as well as some associated species (especially the polychaete *Eunice* (spp. cf.) *norvegica* systematically associated with *L. pertusa*), in order to compare their patterns of dispersal.

Landers (baited video cameras) were included to help contribute to the inventory of fish species present in distinct areas that were accessible to this sampling method (Trenkel et al., 2004). We planned to use a variety of descriptors (such as spatial structure and composition of community assemblages, clonal and genetic structure of coral populations and presence and distribution of fish species) to compare areas under high fishing pressure with apparently pristine zones (according to videos, and VMS data that will be asked for). The indicators were considered in collaboration with the French Agency for Marine protected Areas ‘A-AMP’.

3. Hypotheses initially formulated to be tested using data gathered during the cruise and expected observations:

Habitat mapping

- (1) There is a preferential habitat for CWC in the Bay of Biscay, defined by bathymetric, edaphic and geological characteristics.

Habitat distribution and benthic macrofauna

- (2) The presence and number of structuring species are factors that increase the specific diversity and the density of associated fauna.
- (3) The size of reefs influences the specific diversity and the density of associated communities.
- (4) The composition of communities associated with corals varies on a regional scale, reflecting local environmental conditions and constraints on species dispersal.
- (5) The communities of megafauna associated with corals are stable on the decadal scale (ex. Irish corals visited during the Caracole cruise in 2002).
- (6) There is a succession pattern on the long term (for carbonate mounds) at stages corresponding to models recently proposed in the literature by Huvenne et al. (2005).

Genetic and clonal diversity (Lophelia pertusa & Madrepora oculata & Eunice norvegica)

- (7) Clonal diversity of corals is a function of the inter-sites spatial distribution.
- (8) Clonal and genetic diversity of corals varies among sites and is reduced where the impact of bottom trawling is more pronounced.
- (9) Genetic differentiation shows reduced gene flow among sites and is associated with higher or lower population size.
- (10) Divergence and differentiation patterns of *Eunice norvegica* and *Lophelia pertusa* reflect their durable association and the potential influence of the population size of the host on the polychaete. How is clonal diversity distributed in coral reefs, and at which spatial scale does it emerge?

Dating

- (10) There is a chronological coherence between the occurrence of corals/coral habitat and the regional stratigraphic framework (Zaragosi S et al., 2006; Zaragosi S., 2001).
- (11) The periods of maximum growth coincide with the event Heinrich 1, with periods of strong fluxes due to the melting of Irish and British polar ice and flood of the Paleo river in the English Channel (Toucanne S. et al., 2007; Toucanne S. et al., 2008)
- (12) Northeastern Atlantic CWC originate in the Mediterranean.

Ichthyologic community

(13) Within coral habitats, fish assemblages have a higher density than outside. Their specific composition is different because some species are more likely to aggregate in corals than others.

(14) Fishing activities have a durable impact on CWC reefs and associated benthic communities.

Microbiology

(15) Some microbial communities exist that are strictly associated with polyps, colonies, calcareous skeleton and interstitial sea water [see Neulinger et al. 2008].

4. Strategies initially proposed to test those hypotheses or make the necessary observations:

Habitat mapping

(1) High resolution habitat mapping using the MMR module of ROV to investigate the distribution of corals in relation to the bottom morphology (reliefs, slope), substrate properties, currents (ADCP, etc ...), particles input (particles traps, and concentrations measures using the DOP of the ROV).

Habitat distribution for benthic macrofauna

(2) to (4) Identification and characterization of habitat types, mapping of macro and megafauna communities, density estimates and diversity depending on habitat: based on the analysis of photo and video transects (megafauna) and fauna sampling (mega and macrofauna). Definition of microhabitats in relation to structuring species (*L. pertusa* or *M. oculata*, dead or alive, zones of rubbles, gorgonians, antipatharians etc.) and characterization of the community associated with each microhabitat. A “control” habitat outside coral areas will be chosen in order to compare the composition and structure of communities associated with corals and those that are not. It will be difficult to establish a priori ‘descriptors’ for those non-coral habitats, which will be chosen for their similarity with adjacent coral areas.

(5) Decadal scale: This study will repeat the transects performed on the mounds of the Ireland margin during the Caracole cruise, to compare the distribution of corals and megafauna associated with identical temporal transects. Those will be repeated if possible on two mounds representing distinct stages of activity and spatially close (for example young mounds: Moira, and the active mound Thérèse).

(6) Succession study: This study will be driven by comparing reefs and communities associated with different development stages (of the mounds), based on the “state” of the reef (percentage of live corals versus dead or rubble) and its sedimentary characteristics. Such a study has already been carried out on the basis of data from Caracole (Huvenne et al., 2007; Wheeler et al., 2007) and in other areas (Roberts et al., 2006), and could be pursued with an improved characterization of communities.

Clonal and genetic diversity

(7) to (10) Clonal diversity of the structuring species *Lophelia pertusa* and *Madrepora oculata* will be estimated at all sites using a combined molecular and statistic approach. This is based on the repetition of Multi locus genotypes (MLG) with microsatellites specifically set up for clonal organisms (Arnaud-Haond et al., 2005; Arnaud-Haond and Belkhir, 2007). Molecular markers are available for *L. pertusa* (Le Goff-Vitry et al., 2004), and were planned to be developed during the CoralFISH project for *M. oculata*. Cheryl Morrison (National Geologic Survey, USA) recently developed and kindly shared the information with us. A lack of information on the spatial distribution of samples and technical difficulties during sampling could lead to a bias in the interpretation of results (Le Goff-Vitry et al., 2004). To avoid this bias, hierarchical sampling has to be performed and necessary corrections made during data analysis (Arnaud-Haond et al., 2007a). Molecular data will be used to estimate the genetic structure at distinct sites and appraise the impact of fishing on the 'evolutionary capital' of structural species, as well as their level of genetic connectivity (Alberto et al., 2005; et Arnaud-Haond et al., 2007b; Rozenfeld et al., 2007). Microsatellites are also being developed at Ifremer for the polychaete *Eunice norvegica*. They are based on tissue collected during a previous partner cruise (Conisma, Italy) in the Mediterranean.

Dating

(11) to (13) Considering the almost complete lack of geochemical data on CWC in the Bay of Biscay, a preliminary geochemical study (stable isotopes from C-O, U/Th; ^{14}C ; isotopes of Nd) on corals sampled alive will be carried out to establish a reference database. It will then be possible to date fossil samples precisely using the U/Th and/or ^{14}C methods. From a paleo-oceanographic point of view, the lack of records on the recent North Atlantic circulation requires the use of geochemical tracers for some water mass (^{14}C , Nd-isotopes) and temperature (stable isotopes of O). Dating of CWC coupled with the geochemical study of Nd, a tracer for temperature, should allow us to obtain temporal series "almost" continuous of the hydrological variability in the Bay of Biscay during glacial/inter-glacial cycles, and to understand its relation to climate change of

anthropogenic origin. Those records will then be compared with hydrographic data in order to validate the protocol. The chronostratigraphic and paleogeographic frameworks of the regions will shed some light on the absolute age of the corals.

Ichthyologic community

(14) and (15) The presence of fishes will be estimated using video transect data and the analysis of images from the OTUS camera, as well as video *landers*. The state of the reefs will be estimated (proportion of surface impacted by fishing gears, amount of items revealing fishing impact or litter) and the number of lost fishing gears (nets and long lines, etc.) as well as litter items recognizable in pictures or videos.

Microbiology

(16) A phylogenetic characterization (16S DNA) of microbial communities present in the water, substrate, polypes (*Scleractinians*) and sponges (*Porifera*) will be undertaken in order to identify lineages strictly associated with corals.

Phylogeny and phylogeography

(16) “Barcoding of life” and contribution to the phylogeny and phylogeography of CWC (Ifremer and Zoological Society of London) and associated sponge (*Porifera*) species (Ghent University) (COI, ADN 16S, ITS, Nuclear Calmodulin; some of the markers already identified). A taxonomic study will be coupled with a morphological study.

(17) A phylogeny and phylogeography of corals and sponges and potentially other species will be carried out according to an opportunistic strategy, depending on the identity, interest and quantity of samples that will be collected.

I. Habitat mapping: geomorphology and physico-chemistry

1. Geomorphology, multibeam sounders

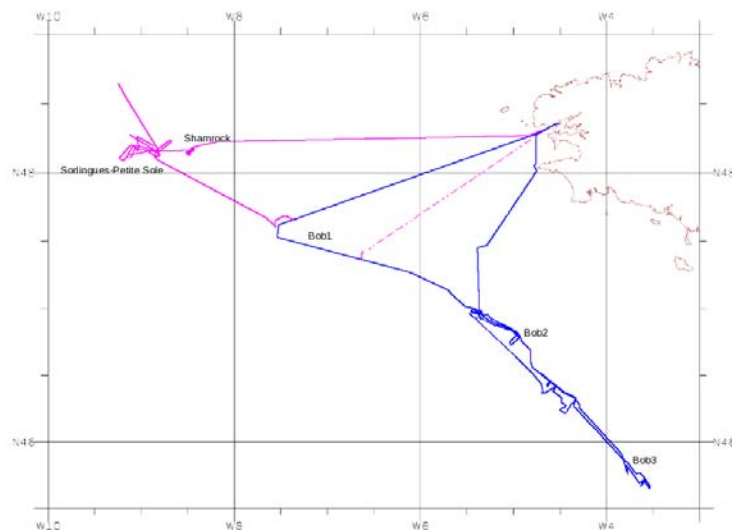
Benoit Loubrieu (also for JF Bourillet, M Veslin, Ifremer, GM, Brest France)

a) *From the boat*

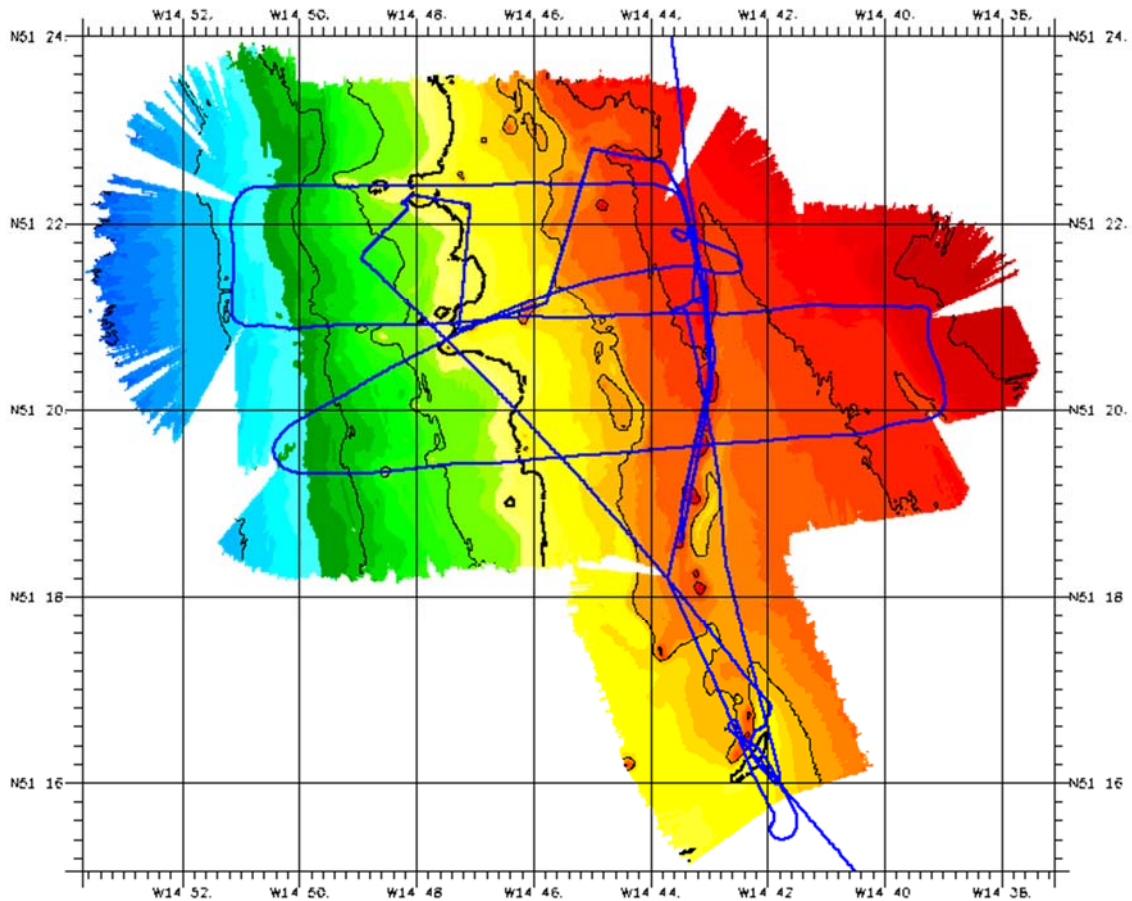
The two multibeam echosounders Reson7150/24kHz and Reson7111/100kHz of the Pourquoi Pas? were used during the BobEco cruise for two reasons:

- In case of missing high resolution bathymetry, mapping the ROV Victor dives sites
- During vessel transit or between 2 ROV dives (free time for the ship when preparing the ROV), acquisition of additional data along profiles, which enrich previous high resolution bathymetry mapping survey along the BOB margin (BobGeo 1, BobGeo2).

Data acquisition was restricted to the French EEZ and the “Arcmound” coral reefs site in the Irish zone because of the necessary authorizations and was associated with the CHIRP data acquisition.



BobEco leg 1 and leg 2 ship tracks in the French zone

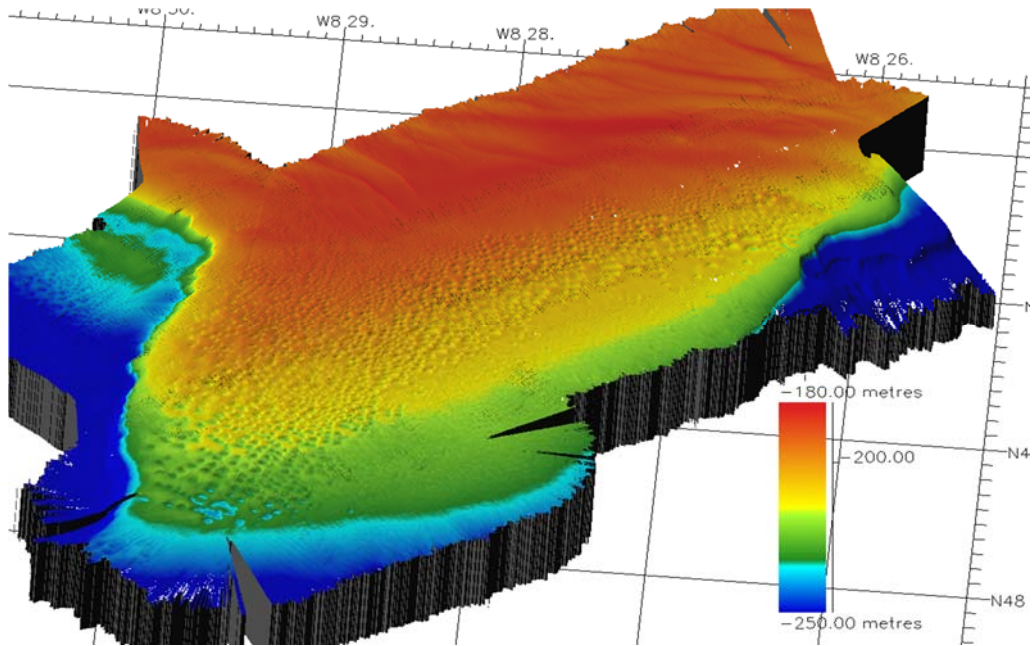


BobEco leg 2 multibeam acquisition in the Arcmound zone

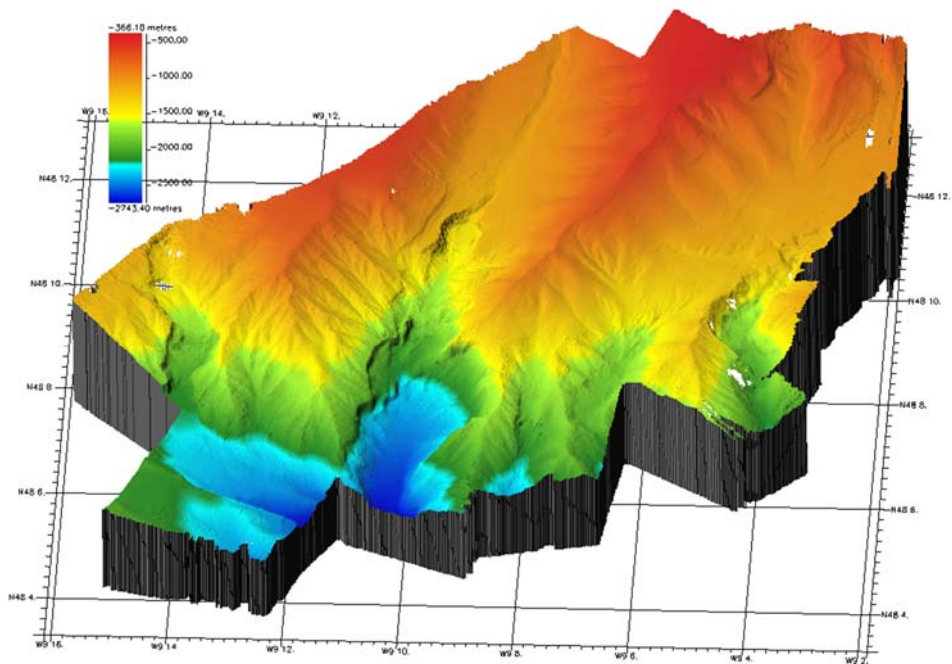
The data are processed on board with the Caraïbes software following a standard flow:

- Quality control: data edition and visual quality evaluation,
- Data filtering: automatic Caraïbes filtering tool (“filtr”), combined with data editing tools (“odicce” and “batmul”),
- Gridding bathymetry data: processing 10 or 20m grid size DTM, depending on the quality of the data, the depth range, and the multibeam frequency,
- Gridding backscatter data; processing 5 or 10m grid size mosaic along each line of acquisition.

Processing is illustrated in the following illustrations.



Shamrock canyon zone: upper part of the slope, Reson7111-100kHz mapping



Sorlingues canyon area: Reson7150-24kHz multibeam acquisition from lines made when the ROV operation was on “standby”. We could add more coverage compared to previous cruises.

No specific default or problem was observed. The quality of the data is mostly satisfactory.

b) From the ROV

Three dives were dedicated to ROV multibeam and OTUS camera surveys:

Guilvinec canyon site: dive 464-2

Petite Sole canyon site: dive 473-11

Arcmound reefs site: dive 474-12

Data were collected along the ROV route at 70m altitude and also along the OTUS transect at 10m altitude. This resulted in two sets of data for each dive with two levels of resolution:

70m altitude: ~200m corridor, processed through a 50cm grid size DTM,

10m altitude: ~30m corridor, processed through a 20cm grid size DTM.

The bathymetry data, such as the ROV positioning data were satisfactory.

A technical problem occurred during dive 473-11: the immersion data were not received and integrated by the multibeam. They were post-processed on board using the immersion data recorded in the Techsas file.

Tide corrections were applied in real time using SHOM predictions.

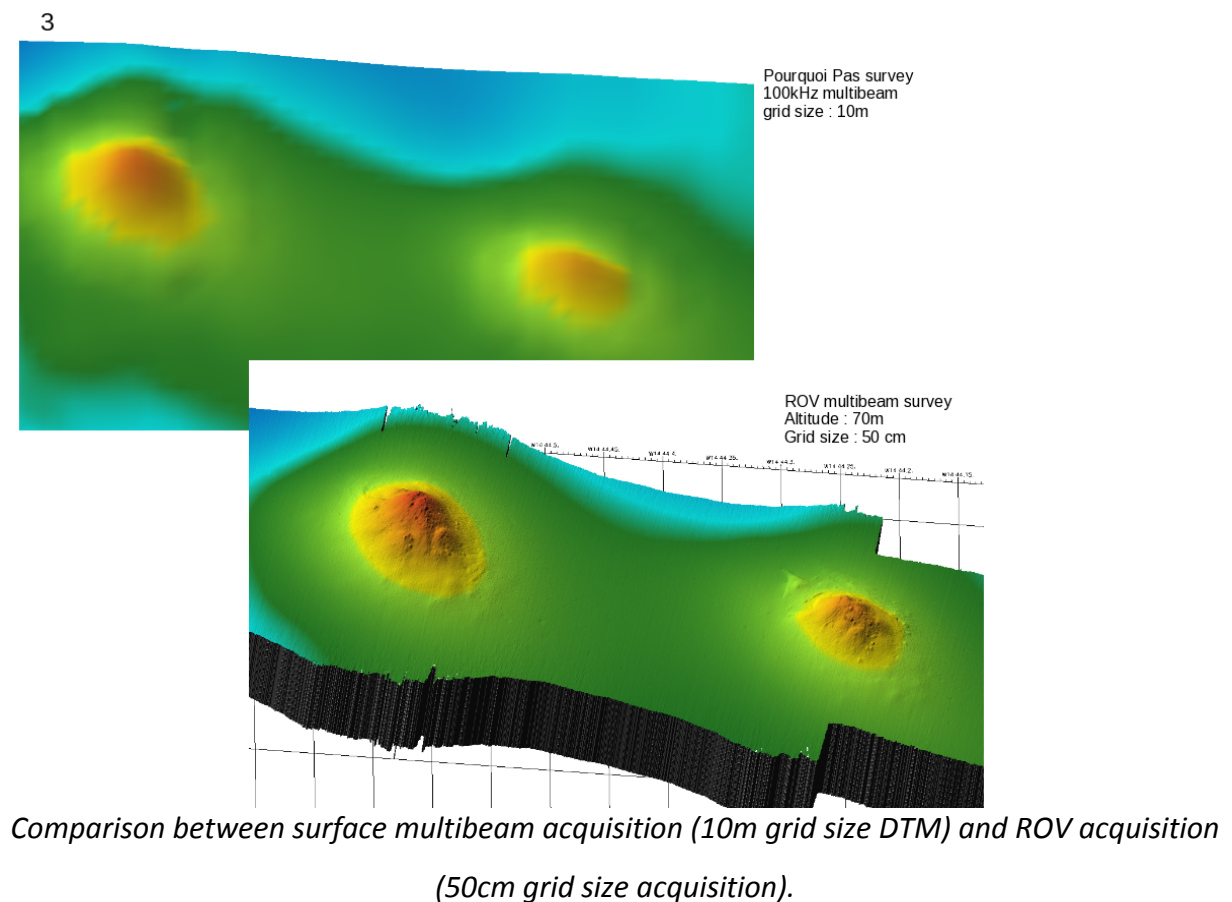
Data were processed on board following the standard flow of the Caraïbes software:

- Quality control: data edition and visual quality evaluation,
- Data filtering: automatic Caraïbes filtering tool of ("filtri") combined with data editing tools ("odicce" and "batmul"),

- Positioning control: using the dedicated Caraïbes “RegBat’ tool to check the coherence of morphology location from one instance of collection to the next.
- Gridding bathymetry data: processing 20cm to 1m grid size DTM, depending on the quality of the data, the ROV altitude.

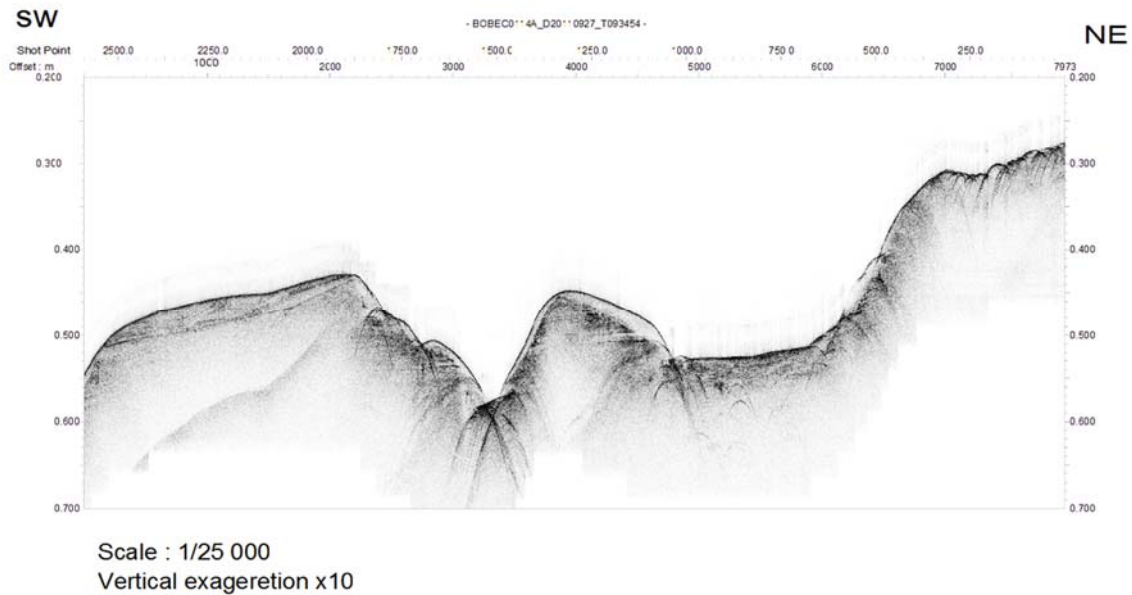
The backscatter data were not processed on board: a default of downloading data files in Caraïbes occurs. The problem is to be corrected on shore, provided the data were well recorded in the Reson S7K rawdata files.

Results are illustrated on maps of the Arcmound coral reefs area.



be able to integrate X, Y shifts of the sounder, in order to be able to correct the exported navigation data *a posteriori* with those values.

Example of Chirp file after treatment:



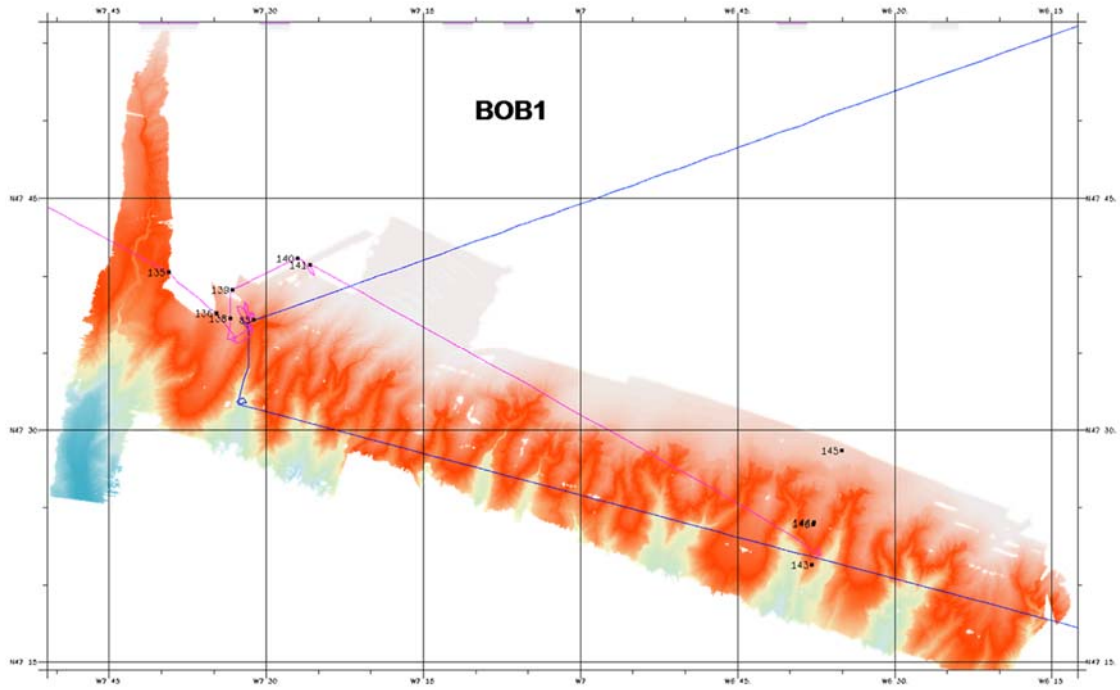
List of CHIRP profiles during BobEco (compiled from profiles in Casino & Chirp data)

leg 1: profiles 1 to 85

leg 2: starting on profile 86

Transits: 1 to 10; 85; 86; 87

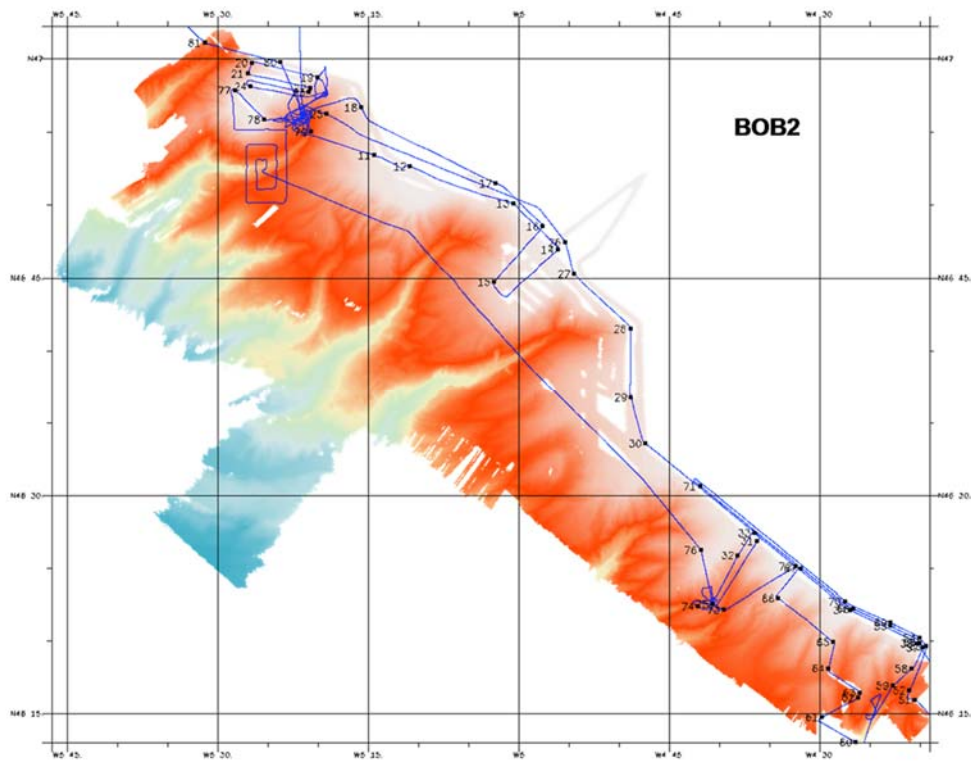
- Box BOB1: beginning at 85



Box Bob1.

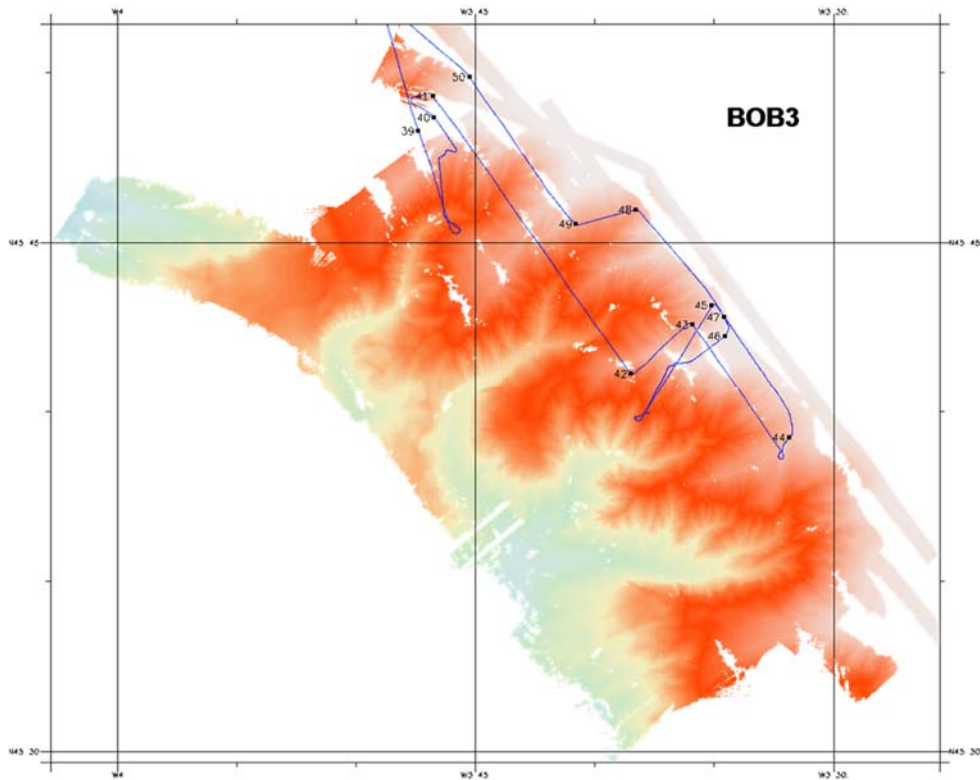
- Between BOB1 & BOB2: 81 to 84

- Box BOB2: 11 to 38 (heading to BOB1), 51 to 80



Box Bob2.

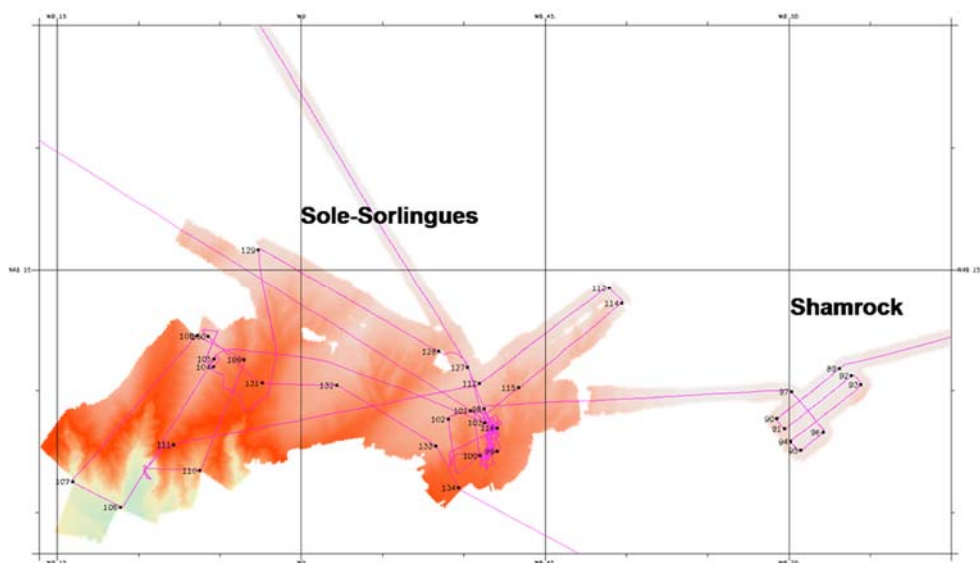
- Box BOB3: 39 to 50 (back to BOB2)



Box Bob3.

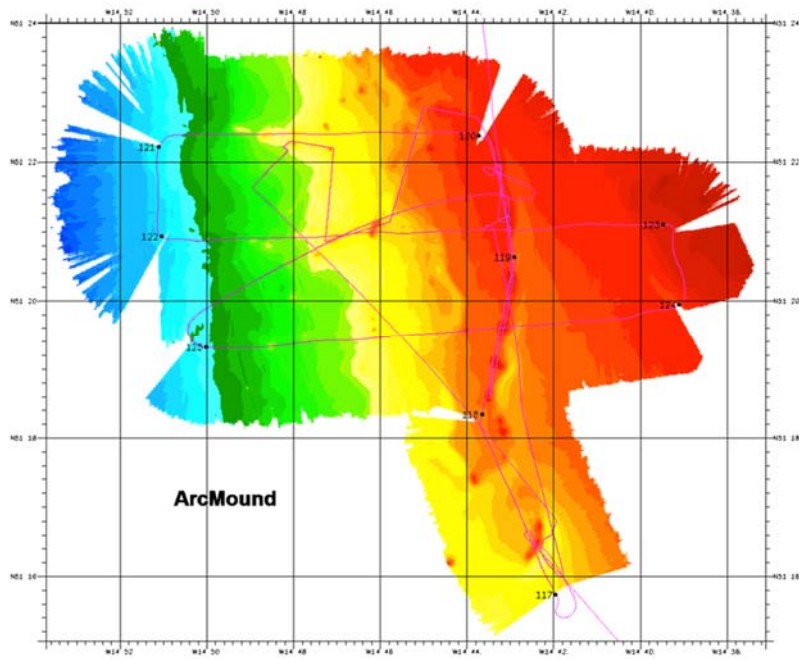
- Shamrock Upper Slope: 88 to 96

- Box Sole-Sorlingues: 97 to 116, 126 to 134



Box Sole-Sorlingues & Shamrock.

- Zone Ireland / Arc Mound: 117 to 125



Boite Arc Mound.

Data are of high quality globally despite some bad meteorological conditions.

3. Temporal and spatial variations of the ecological conditions close to the coral reef area of the Bay of Biscay.

Alexis Khripounoff, Jean-Claude Caprais, Jean-Pierre Brulport, Philippe Noel (Ifremer, DEEP: LEP, Brest, France)

To understand the ecological conditions of deep coral reef habitats we carried out two moorings in one year. One at the head of the canyon located in the North of the Bay where we deployed a current meter and sediment trap and another mooring with current meter ADCP at 20m above the bottom and a CTD-current meter. This equipment allowed us to record information on water and particles, to measure the particle flux reaching the sediment and to describe the hydrodynamic conditions in the surrounding area of the coral reefs using this flux as its main food source. During the BobEco cruise a CTD was attached to the ROV Victor to record the regular parameters of the water (pressure, salinity and temperature) surrounding the coral reefs of the Bay of Biscay. Water bottles were also regularly sampled during the dive.

Sampling locations for the moorings

We deliberately chose one of the stations at the head of the canyon of Guilvinec located in the North of the Bay of Biscay (Fig.1). The mooring trap-current meter was put in place during the second BobGeo cruise (July 2010) and recovered during the BobEco cruise (September 2011) in the canyon of Guilvinec at a depth of 765m: N 6° 9'14", W 05°21.816" (Fig.3) in the same place as during the experiment in 2009-2010. The ADCP mooring was deployed in the same place for 9 days during the BobEco cruise.

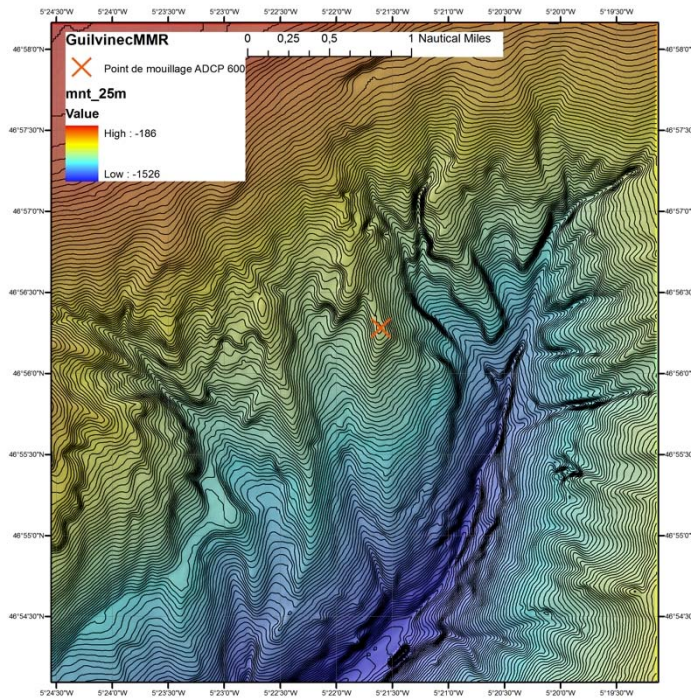


Figure: Location of the two moorings: sediment trap and current-meter and ADCP+CTD

Description of the moorings

We carried out a mooring with a trap-current meter in July 2010 using a Technicap sediment trap (sampling aperture of 1m^2). This was placed 20m above the bottom (a.b.) and an RCM 11 (Aanderra) current meter was placed 10m above the trap (Figure). The sampling interval was 15 days for the sediment traps and 1 hour for the current meters. Before mooring, the sampling bottles of the traps were filled with filtered seawater and sodium borate-buffered formalin (a final concentration of 3%). The ADCP mooring consisted of a 600 kHz ADCP (acoustic Doppler current-meter), which allowed us to obtain current parameters in 34 bins (layers), from 1 m to 18m above the bottom. A current meter Seaguard with CTD sensors was attached 10m above the ADCP.

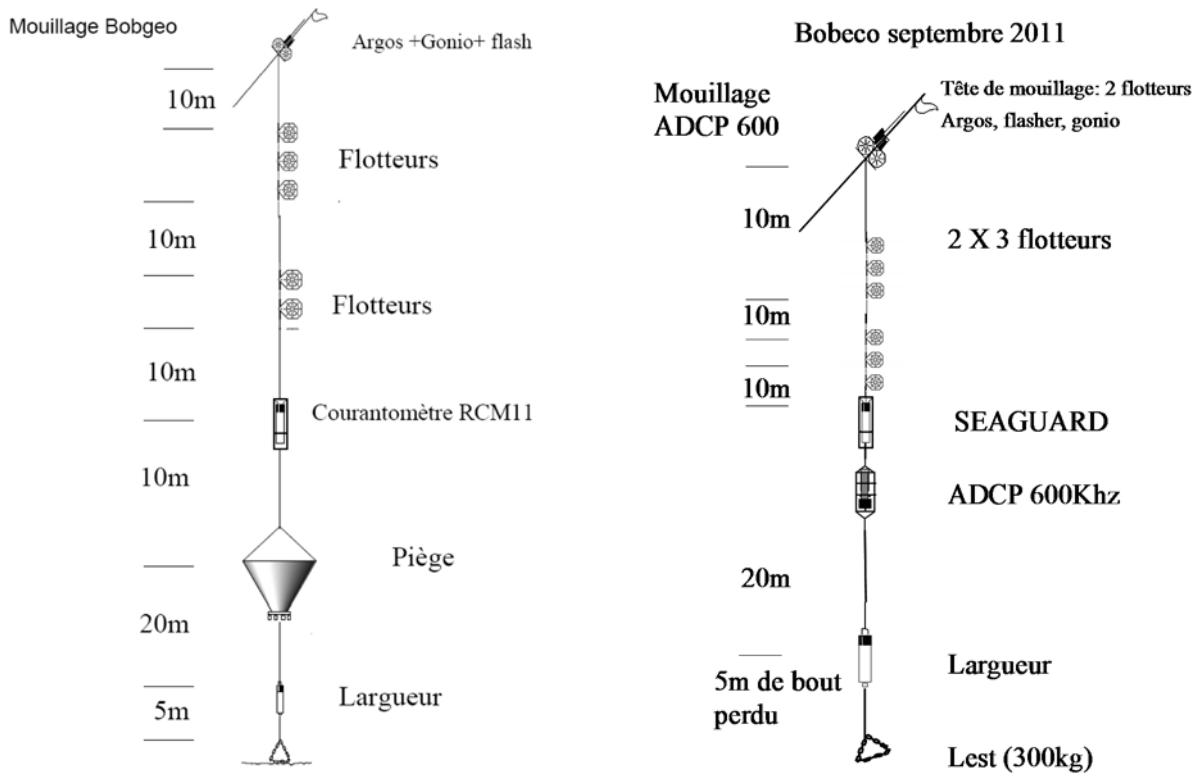
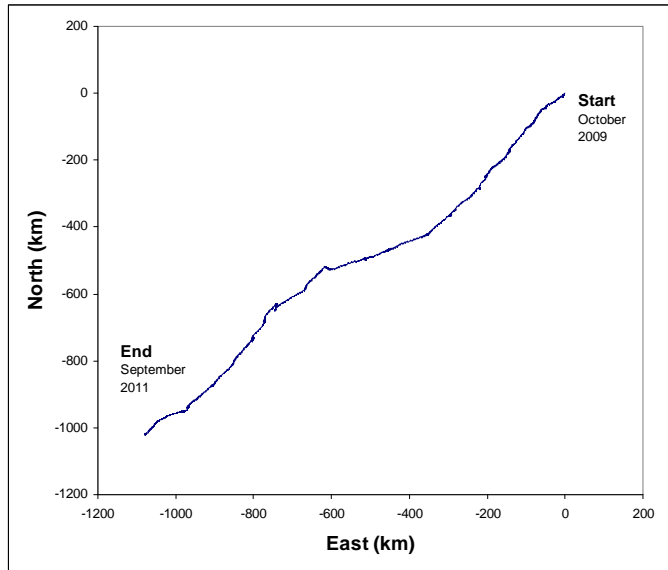
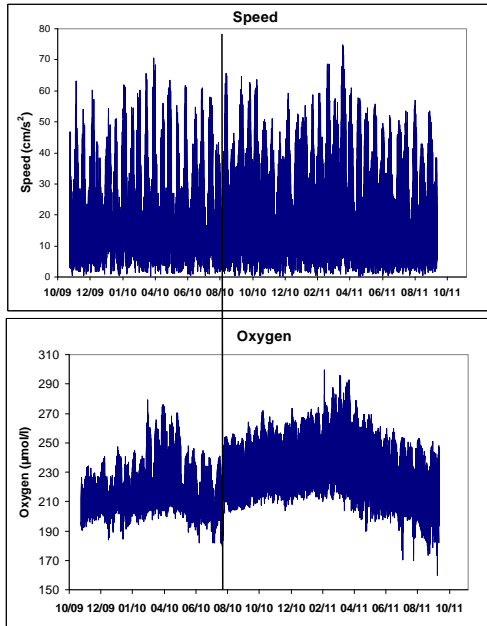


Figure: Mooring sediment trap-current-meter and mooring ADCP-CDT

Preliminary results

The mean current speed was equal to 18cm s^{-1} with a maximum of 75cm s^{-1} . The temperature was $9.9 \pm 0.6\text{ }^{\circ}\text{C}$ and the mean oxygen concentration was about $230\text{ }\mu\text{mol l}^{-1}$.

The direction of the residual current was parallel to the canyon and the tidal direction adding the effects of each current. The maximum oxygen concentration was observable when the current direction came from the upper part. Different current frequencies were observable at 12 o'clock (semi-diurnal tide) and every 14 days.



A

B

Figure: Two years of temporal variation of current velocity and oxygen concentration at 30m altitude (vertical black line=change of mooring). B- Progressive vector diagram of the current during 2 years of records

The vertical current speed observed with the ADCP shows homogenous distribution from 1m to 18m above the bottom

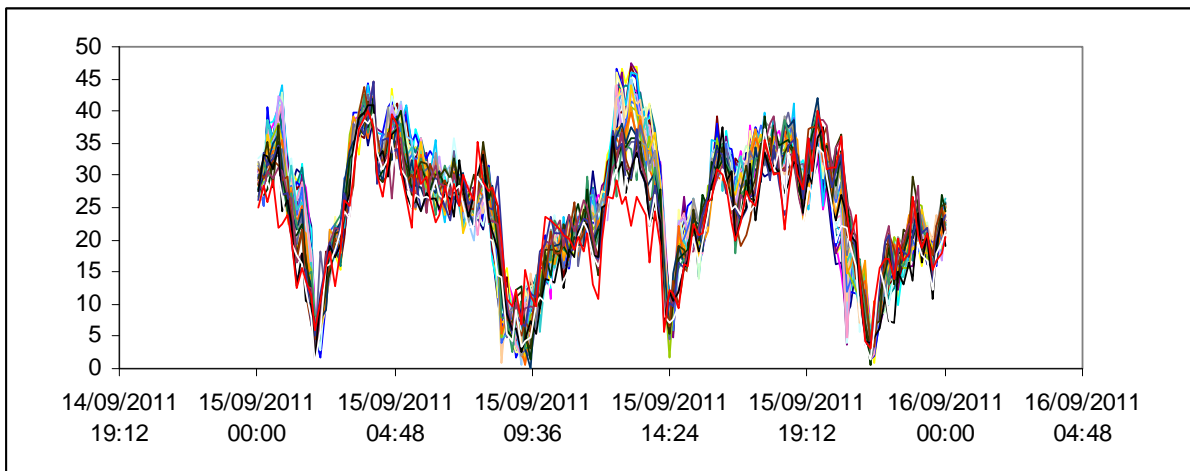


Figure: Example of one day of current speed recorded with the ADCP: 34 bins of 0.50m height, from 1m to 18m above the bottom

Preliminary conclusions

Close to the bottom the hydrodynamism within the Guilvinec canyon is characterized by a semidiurnal tide (12h) and lunar frequency (14 days). We also observed other short events, which impacted on these frequencies. The current was always high, often exceeding 10cm s⁻¹. The topography of the tidal current influenced the orientation of the residual current.

4. Spatial variations of the physio-chemical properties (T, S, pH) for seawaters close to the coral reef areas between 47°N and 55°N along the eastern North-Atlantic margin.

Leg 1 9/09/2011- 22/09/2011

Jean-Claude Caprais (Ifremer, DEEP: LEP, Brest, France)

The aim of the first part of the cruise was the characterization of the water surrounding the corals. CALMAR was used for chemical analysis (oxygen, pH, CO₂ and nutrients) and autonomous sensors for temperature and oxygen measurements.

The tools used manipulated by ROV were principally PEP (préleveur d'eau par pompage) and CALMAR (autonomous chamber).

Some parameters (oxygen, pH and alkalinity) were measured on board and some samples were collected for laboratory tests (total CO₂ and nutrients).

A system based on oxygen sensors was also installed in the cold room for ex situ corals respiration.

During the dives the following samples were collected:

N° dive	PEP samples	Calmar	Ex situ O2	Temperature	Optode (O2)
PL1	-	-	-	1	1
PL2	3	-	-	1	1
PL3	6	-	-	1	1
PL4	6	-	-	1	1
PL5	6	-	-	1	1
PL6	8	1	3	4	1
PL7	10	2	1	1	1
PL8	-	-	-	-	-

Leg 2 23/09/2011- 10/10/2011

Eric Douville, Cécile Gonzalez, Norbert Frank (LSCE, Paris), Alexis Khripounoff, Jean-Claude Caprais, Jean-Pierre Brulport, Philippe Noel (Ifremer, DEEP: LEP, Brest).

As part of a collaboration between the LSCE and IFREMER, one objective of the BobEco cruise was to better understand the physico-chemical properties of seawater masses and potentially evaluate their impact on the development of cold sea coral colonies in the present or in the past. We used CTDSBE_19 installed on ROV Victor 6000 to carry out seawater PEP (“préleveur d’eau par pompage”) samplings on every leg 2 dive to arrive at precise information concerning pH and carbon cycle properties (AT, TCO₂, etc.) in addition to measurements on temperature (T°C), salinity (psu) and pressure (bar, or depth). Surface or bottom seawater pH measurements were carried out on board a few hours after PEP sample collection. In addition, a few seawater samples collected on leg 2 of the cruise, were poisoned with H₂CL₂ and stocked in adapted glass flasks in order to be sent to the national service of Jussieu SNAPOCO₂ in Paris for a complete analysis of the chemistry of carbonates in seawater and for a verification of the pH measurements made on board the *PourquoiPas?*.

pH values were obtained by spectrophotometric pH measurements using two indicator dyes, thymol blue and m-cresol purple (SOP6b, Dickson et al., 2009; Zhang & Byrne, 1996) during the BobEco cruise. Values were deduced from the following equation:

$$\text{pH}_{\text{Total Scale}} = \text{pK}_2 + \log \left(\frac{R - e_1}{e_2 - R \cdot e_3} \right)$$

where pK₂ is deduced from the dissociation constant $K_2 = \frac{[\text{H}^+]_{\text{T}} \cdot [\text{I}^{2-}]}{[\text{HI}]}$ with [HI] and [I²⁻] being the concentrations of protonated and unprotonated indicator dye. The parameter R is the ratio of the absorbances (see values below) produced by indicator dyes (thymol blue or

m-cresol purple) in seawater at the absorbance maxima of I^{2-} and HI^- . And, finally, the symbols e_1 , e_2 and e_3 stand for the molar absorption ratios of each indicator dye. All pH measurements were done at $25 \pm 0.1^\circ\text{C}$ after flasks had been warmed in a thermostatic bath. In a second step, temperature, pressure and salinity CTD records facilitated the precise determination of seawater pH for *in situ* conditions ($\text{pH}_{in\ situ}$). The observed $\text{pH}_{T-25^\circ\text{C}}$ gap measured between the two indicator dyes were systematically inferior to 0.004 pH-unit and uncertainties concerning pH values arrived at during the second BobEco cruise were estimated to be about ± 0.005 pH-unit.

Molar absorption coefficients:

for thymol blue

for m-cresol purple

$$e_1 = 596^\epsilon I / 435^\epsilon HI$$

$$e_1 = 578^\epsilon HI / 434^\epsilon HI$$

$$e_2 = 596^\epsilon I / 435^\epsilon HI$$

$$e_2 = 578^\epsilon I / 434^\epsilon HI$$

$$e_3 = 435^\epsilon I / 435^\epsilon HI$$

$$e_3 = 534^\epsilon I / 434^\epsilon HI$$

where $\lambda^\epsilon I$ and $\lambda^\epsilon HI$ is the molar absorption coefficient of species I^{2-} and HI^- respectively at wavelength λ . Values used for pH calculations were published by Dickson et al. (2009, SOP6b) and Zhang & Byrne (1996).

The following samples were collected during the dives:

N° dive		PEP samples	CTD (P, T, S)	SNAPOCO2 (AT et TCO2)	Boron isotopes / Trace elements	pH Spectrophotometry	Objective
PL471-9	Sampling Petite Sole Canyon	8	yes	2 * 500mL	Yes	Yes	Coral fields
PL472-10	Exploratory dive Sorlingue Canyon	0	yes	-	Yes	Yes	No
PL473-11	MMR/OTUS Petite sole Canyon	8	yes	-	Yes	Yes	Coral fields
PL474-12	MMR/OTUS Arc Mounds	8	yes	-	Yes	Yes	Coral fields
PL475-13	Sampling Logatchev	14	yes	1 * 500mL	Yes	Yes	Surface-Bottom profile / Coral fields
PL476-14	Sampling Petite Sole Canyon	15	yes	-	Yes	Yes	Surface-Bottom profile / Coral fields
PL477-15	Sampling Sorlingue Canyon	15	yes	-	Yes	Yes	Surface-Bottom profile / Coral fields
PL478-16	Sampling Lampaul 2	11	yes	-	Yes	Yes	Surface-Bottom profile / Coral fields
PL479-17	Sampling Crozon Canyon	13	yes	-	Yes	Yes	Surface-Bottom profile / Coral fields
PL480-18	Sampling Douarnenez-Morgat	17	yes	-	Yes	Yes	Surface-Bottom profile / Coral fields

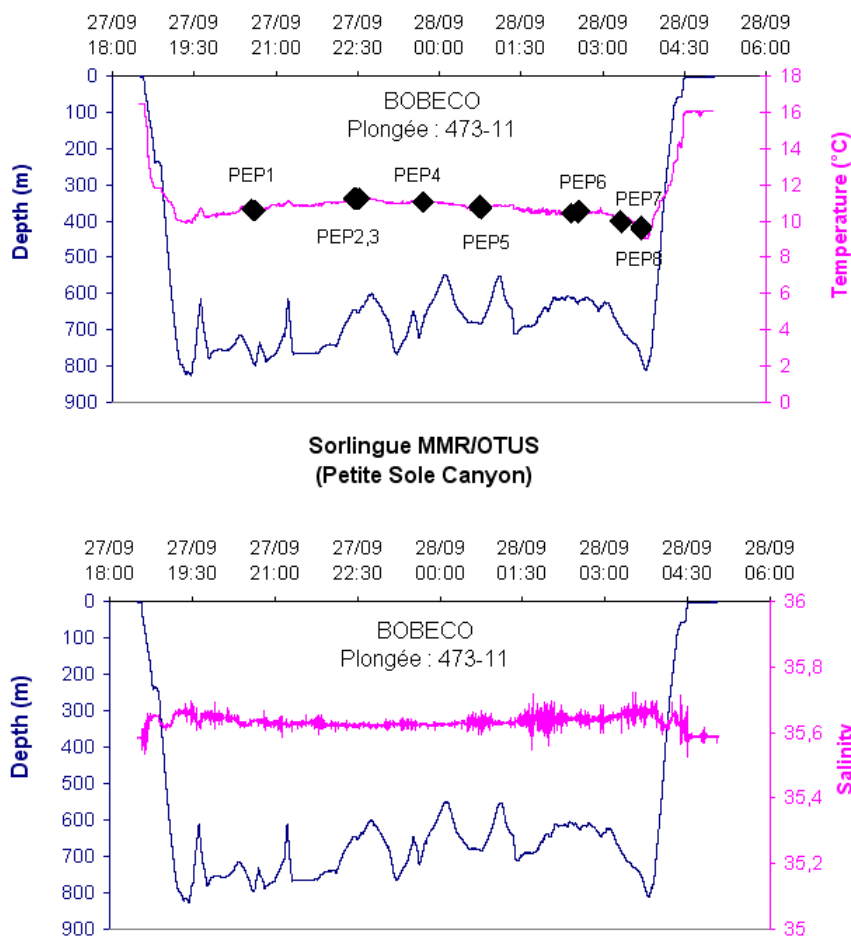


Figure: Example of temperature, pressure (depth) and salinity results obtained during the dive PL 473-11 (28-29/09/11) in the petite Sole Canyon. Leg 2 of BobEco. Black dots illustrate the P/T conditions during PEP samplings for pH measurements.

5. Habitat modeling

For SZL, an additional objective to the sampling for phylogenetic analysis was the collection of novel observations of coral specimen locations to increase our knowledge of the distribution of CWC in the area. Point locality data of corals was extracted from specimen collections made during ROV video surveys. This data will be used for the CoralFISH project to develop and validate habitat suitability maps for cold-water coral occurrence at the level of OSPAR Region V and selected CoralFISH regional study areas. Discussions between scientists during the cruise resulted in the suggestion that CTD data collected on the cruise would provide useful environmental data that is directly observed from the locations where coral observations were made. This data could be used for further model validation and development. CTD values were extracted for the locations of specimens and coral observations. Additionally, oxygen saturation level measurements were collected during leg 1 of the cruise, and will be extracted after the cruise.

II. Habitat distribution of benthic macrofauna

1. Habitat mapping

Inge van den Belt (also for B. Guillaumont, J. Davies and C. Bayle; DEEP-LEP, Ifremer Brest, France)

Introduction

Since the discovery of cold-water corals in the 18th century, research on these corals has increased, particularly with the development of [optical] technologies (Roberts et al., 2006). Cold-water corals can form Vulnerable Marine Ecosystems (VMEs), such as coral reefs and coral gardens. Much research effort has been focused on reef-building scleractinian species such as *Lophelia pertusa* and *Madrepora oculata*. These complex structures form an important habitat for other species by providing shelter, feeding grounds and spawning and nursery areas (Auster, 2007; Sulak et al., 2007; Baillon et al., 2012). In addition to *L. pertusa* and *M. oculata*, there are many other species belonging to different coral- (gorgonians, antipatharians, pennatulids and other scleractinians) and non-coral groups (ceriantharia, sponges, crinoids, etc.) that may form a VME.

Objectives:

Within the framework of Work Package 1 (WP1) of the European CoralFISH project (habitat mapping), the BobEco cruise had the following objectives:

1. The High-Definition (HD) camera of the Remotely Operated Vehicle (ROV) VICTOR 6000 was used to ground-truth the bathymetric data by comparing the bathymetry with the relief seen on the videos.

Despite Ifremer having access to a large amount of data from the Bay of Biscay from previous cruises, to enable detailed, small scale habitat mapping, acquisition of high-resolution acoustic data (collected using the ROV) was necessary to map meso-scale

habitats.. Multiple transects were chosen to observe different geomorphological types and identify areas where VME-habitats may be present.

2. Collection of voucher-specimens for identification using taxonomic techniques:

To aid in the identification of specimens using taxonomic techniques, voucher specimens of corals (primary focus) and other species were collected. These data will also be used in a collaborative project to develop a deep-sea species-catalogue to identify NE Atlantic species.

Sampling design:

Transects:

Transects were chosen based on observations from existing image footage acquired during previous cruises in the Bay of Biscay (EVHOE, Vital, Belgica, Biscosystem, Celtic Explorer) and historical data, for example from Le Danois (1948). The presence/absence data collected during the aforementioned research cruises and historical data were beneficial in planning transects (Figure 1). Planned transects were designed to cross as many potential habitat boundaries as possible, particularly those areas that may host VME-habitats.

Samples:

Identification to species level from imagery is often not possible without physical samples. One of the aims of the sampling work was to acquire images and collect specimens of commonly observed and easily recognised species from image/video data, to aid in this work. The HD-video/photo camera of the ROV used during BobEco can close this gap by capturing an image of the specimen of interest, collecting it and bringing it on board for morphological and taxonomic identification.

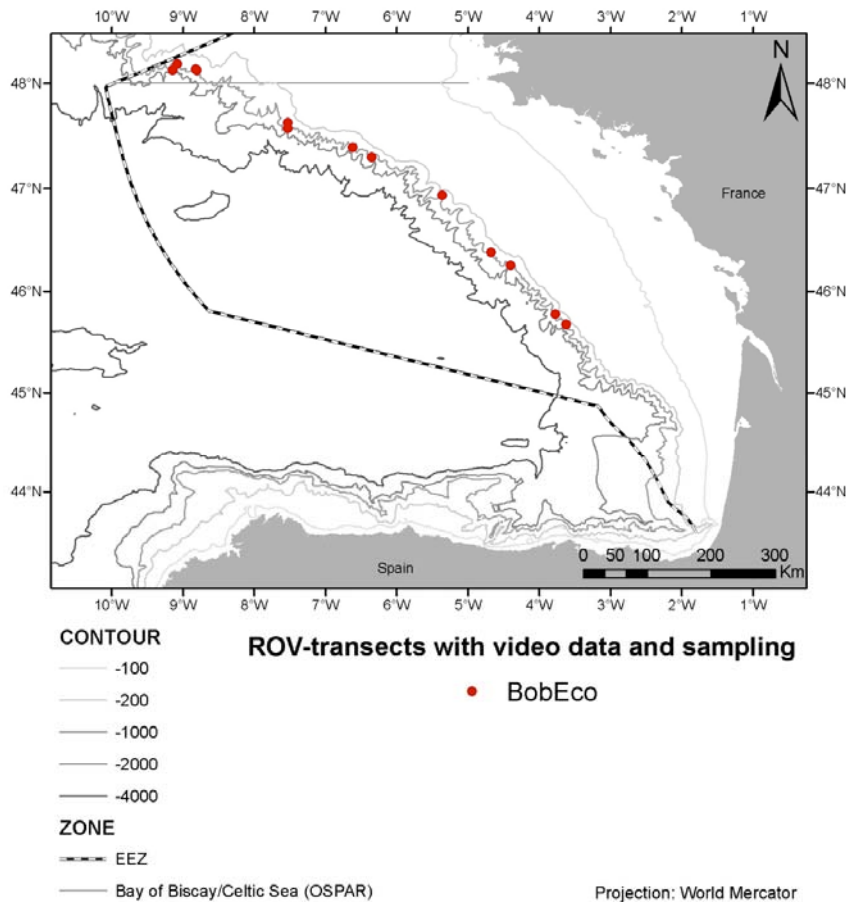


Figure: the map shows the transects undertaken during BobEco. Note samples were taken during each dive, and this the points represent dives where specimens were collected.

During the cruise:

A total of 13 ROV dives were undertaken in the Bay of Biscay and one dive on Rockall Bank, west of Ireland: 7 dives to explore the area and to collect opportunistic samples and 6 dives in the Bay of Biscay included an exploratory part and a sampling part for genetic analysis of *L. pertusa* and *M. oculata*.

Frame-grabs and still images were taken of the species and habitats that were encountered on all dives. The frame-grabs were taken approximately every 4 minutes or less to identify substrate changes. Species, substrate, geomorphology and anthropogenic impact were documented in real time. The software Mimosa (Ifremer) recorded all notes, comments, photos and frame-grabs during the dive.

After the dives, images and corresponding comments were transferred to Alamer (Ifremer). This software can locate images and comments geographically and change them before they are integrated into a database on land.

Multiple photos were taken during the collection of a specimen while it was still *in-situ*: i) of the surroundings of the specimen to be collected and ii) the specimen itself, with close-ups if necessary. Together with the identification on board or later in the lab, these images will help future identifications.

A large variety of taxa were sampled when dive planning permitted it, including those that were on a pre-defined list and those that were not. Once samples were onboard, each individual or colony were photographed to record its morphology and given a (preliminary) identification, if possible. A small part of each specimen was stored in 96% ethanol for bar-coding before it was preserved in 70% ethanol or 4% formaldehyde.

Preliminary results:

Different habitats and species were encountered during the dives of BobEco. The diversity and abundance of antipatharians and gorgonians was remarkable, with some collected species most likely to be first the first records in the Bay of Biscay.

As an objective of the CoralFISH project, the mapping of areas which are known to host cold-water corals, especially VME-species and -habitats, is important. During the BobEco cruise, several VME-habitats were observed, e.g. coral gardens dominated by antipatharians at Petite Sole, coral reefs composed of *Madrepora oculata/Lophelia pertusa* in the Guilvinec canyon and an impressive cliff housing the reef-building scleractinian *Solenosmilia variabilis* that formed a habitat for a large variety of associated species, mainly gorgonians.

A total of 1019 samples were collected during the cruise. On-board each sample was identified to the lowest taxonomic level possible; in most cases this means to order and sometimes to genus level. Each sample was then allocated to one of 12 large groups (Table 1).

Future work and utilization of the collected data:

The video data will be analysed in detail with Cover and Adelle software. The taxa, substrate, habitat type and anthropogenic impact will be recorded amongst other data. These data will

be used for the identification of biotopes, the analysis of species community, habitat-mapping and to establish the extent – if any – of anthropogenic impact.

The images of the collected coral specimens – taken *in-situ* and in the lab – will be used for a workshop about the identification of deep-sea coral species that will be organised in Amsterdam (April 2012). The aim of this workshop is to use taxonomic and morphological characteristics of deep-sea corals for the identification of species on images. This helps with a better ground-truthing of image footage and will reduce misinterpretation or misidentification. It also helps with future identifications of species that have not yet been recorded in an area of interest/research.

The images of all collected individuals will be shared in collaboration between Ifremer, NOAA and the University of Plymouth if they are considered to be good illustrations of a certain species.

Experts will be asked to identify the specimens collected during the BobEco cruise. An expert on gorgonians (Andrea Braga Henriques of the University of the Azores) will identify the collection of gorgonians of BobEco at Ifremer and will give a practical workshop on the taxonomic identification of gorgonians to the team at Ifremer at the same time. An expert on antipatharians (Dr. Tina Molodtsova from the PP Shirshov Institute of Oceanology RAS) will identify this group of corals that were collected during the cruise.

Other experts will be approached to identify other groups of corals and non-corals. Their names are yet to be confirmed.

2. Taxonomy

Andreia Braga Henriques (University of the Azores-IMAR, Portugal)

1. Research topic

I am in the process of writing my PhD entitled 'Cold-water coral communities in the Azores: diversity, habitat and biological response to anthropogenic impacts' at the University of the Azores (Portugal). My PhD project has three overall aims. The first one is to map the current distribution of cold-water coral communities at selected areas in the Azores, making use of state-of-the-art technologies like multibeam and deep-sea imaging. The second aim is to describe coral-epifauna associations to provide a better description of the cold-water communities and their ecological importance as hotspots of biodiversity. Finally, anthropogenic impacts of bottom fishing activities will also be evaluated by studying coral functional responses to physical damage (i.e. mechanical injury).

2. Research interests and BobEco outcomes

I was invited to participate in the BobEco cruise to help with the coral species identification (video and fresh specimens), given my taxonomic expertise on the coral fauna of the Azores (NE Atlantic). As a result, this cruise contributed to improving my knowledge on the taxonomic diversity of the cold-water coral communities of other areas of the Northeast Atlantic – in the Bay of Biscay and on the west coast of Ireland. I was particularly interested in comparing the coral fauna from those regions with the fauna observed in the Azores: how many species are common for all areas? Is their bathymetric range or type of habitat the same?

This cruise also gave me the opportunity to collaborate with researchers that are conducting video analysis and taxonomic work in coral areas. Early next year I will come to Brest to study the octocoral samples collected during this cruise with Brigitte Guillaumont and her team (collaboration established between the University of the Azores-IMAR and Ifremer) and to help them with the preparation of the workshop 'Identification of deep-sea corals

from imagery data' that will take place during the "5th International Symposium on Deep-sea Coral" (Amsterdam- 1-7 April, 2012).

The octocoral and antipatharian samples gathered during the cruise will be examined later to confirm their identification using classic taxonomy and to see if there are undescribed species morphotypes. A taxonomic study is currently being developed in the University of the Azores to review the taxonomic status of the genus *Leiopathes* in the Azores-NE Atlantic (led by Valentina de Matos). Therefore, samples of *Leiopathes* specimens will also be used for barcoding.

3. Tasks on board

3.1. ROV watch shifts

I participated in the video annotation of 11 ROV dives conducted during the first leg in the Bay of Biscay (Dive code – site – date and UTM time – team):

- 1) Dive 464-2 – Guilvinec – 9/11/11 02:00;
- 2) Dive 465-3 – Rochebonne - 9/14/11 04:16 – Andreia and Jamie D;
- 3) Dive 467-5 – Canyon de Saint Nazaire – 9/15/11 14:00 – Jamie D and Andreia;
- 4) Dive 468-6 – Canyon du Croizic – 9/17/11 02:09 – Andreia and Ronan B;
- 5) Dive 469-7 – Canyon du Guilvinec – 9/18/11 14:46 – Valerie C and Andreia; – 9/18/11 14:54 Sophie AH and Andreia;
- 6) Dive 470-8 – Canyon de Lampaul – 9/21/11 05:08 – Andreia and Thomas L; – 9/21/11 14:35 Andreia and Alexis K; – 9/21/11 14:43 – Andreia and Clara B;
- 7) Dive 476-14 – Petite Sole – Andreia and Sandra;
- 8) Dive 476-14 – Petite Sole – 10/04/11 14:00 Andreia and Anthony G;
- 9) Dive 477-15 – Sorlingue – 10/06/11 02:13 Andreia and Mathieu V;
- 10) Dive 479-17 – Crozon – 10/08/11 02:00 Andreia and Mathieu V;
- 11) Dive 480-18 – Morgat – Douarnenez – 10/09/11 16:08 Andreia and Sandra F;

Ifremer's Mimosa software was used in the annotation of events (presence of benthic fauna, type of habitat and anthropogenic impacts) and to capture snapshots of the video footage.

After each watch, a log of the main events observed during the dive as well as snapshots and still images was produced with the video annotation software Alamer.

3.2. Lab sampling

Voucher specimens of invertebrate megafauna species found during the exploratory and sampling dives of the ROV *Victor* were collected. I helped with sampling procedures and coral identification at the laboratory. All specimens were labeled, catalogued and stored for later studies. The specimens were identified to the lowest possible taxon based on morphological characteristics. Fresh samples were taken from each specimen and preserved in different conditions (frozen, 70% and 96% ethanol, and 4% buffered formaldehyde).

4. Collection of coral tissue samples for taxonomic studies - UAZores

A small portion of some coral specimens was preserved in 70% ethanol and 4% buffered formaldehyde to be used for taxonomic studies at the University of the Azores. Also, some samples of *Leiopathes* were preserved in 96% ethanol for barcoding. A total of 139 samples was preserved (Table 1). Two galathids were also stored for later examination.

Table. List of samples preserved for later taxonomic examination and preservation method (70% and 96% ethanol and 4% buffered formalin = formalin).

Taxon	Dive code	Local	Equipment	Preservation	Number of samples
Alcyonacea	PL 466-4	Ars	CCA8	70% Ethanol	1
Isididae (Go7)	PL 467-5	Canyon de Saint Nazaire	CCA7	70% Ethanol	1
Alcyonacea (Go2)	PL 467-5	Canyon de Saint Nazaire	CCA7	70% Ethanol	1
Alcyonacea (Go3)	PL 467-5	Canyon de Saint Nazaire	CCA7	70% Ethanol	1

Primnoidae	PL 467-5	Canyon de Saint Nazaire	CCA7	70% Ethanol	1
Primnoidae	PL 467-5	Canyon de Saint Nazaire	GBT	70% Ethanol	1
<i>Enallopsammia</i> sp.	PL 467-5	Canyon de Saint Nazaire	CCA6	70% Ethanol	1
<i>Leiopathes</i> sp.	PL 468-6	Canyon du Croizic	GBT	70% Ethanol	2
<i>Narella</i> sp.	PL 468-6	Canyon du Croizic	CCA2	70% Ethanol	1
<i>Narella</i> sp.	PL 468-6	Canyon du Croizic	CCA6	70% Ethanol	1
<i>Swiftia</i> sp.	PL 468-6	Canyon du Croizic	CCA2	70% Ethanol	1
<i>Narella</i> cf. <i>bellissima</i>	PL 468-6	Canyon du Croizic	CCA3	70% Ethanol	1
<i>Narella</i> sp.	PL 468-6	Canyon du Croizic	CCA6	70% Ethanol	1
<i>Narella</i> sp.	PL 468-6	Canyon du Croizic	CCA6	70% Ethanol	1
<i>Acanthogorgia</i> sp.	PL 468-6	Canyon du Croizic	CCC7	70% Ethanol	1
<i>Narella</i> sp.	PL 468-6	Canyon du Croizic	CCC7	70% Ethanol	1
Actinaria	PL 468-6	Canyon du Croizic	CCAA6	70% Ethanol	1
<i>Narella</i> cf. <i>verluysi</i>	PL 468-6	Canyon du Croizic	CCAA8	70% Ethanol	1
<i>Narella</i> sp.	PL 468-6	Canyon du Croizic	CCBB3	70% Ethanol	1
<i>Acanthogorgia</i> (Ag1)	PL 468-6	Canyon du Croizic	CCBB3	70% Ethanol	2
<i>Narella</i> sp.	PL 468-6	Canyon du Croizic	CCBB7	70% Ethanol	2
<i>Parantipathes</i> sp.	PL 468-6	Canyon du Croizic	GBT2	70% Ethanol	1
<i>Trissopathes</i> sp.	PL 468-6	Canyon du Croizic	GBT3	70% Ethanol	1
<i>Trissopathes</i> sp.	PL 468-6	Canyon du Croizic	GBT3	70% Ethanol	1
<i>Stichopathes</i> sp.	PL 469-7	Guilvinec	CCA1	70% Ethanol	1
<i>Narella</i> sp.	PL-469-7	Guilvinec	CCA4	70% Ethanol	1
<i>Acanthogorgia</i> sp.	PL-469-7	Guilvinec	CCA4	70% Ethanol	1
<i>Narella</i> sp.	PL-469-7	Guilvinec	CCA4	70% Ethanol	1
<i>Trissopathes</i> sp.	PL-469-7	Guilvinec	CCA5	Formalin	1
<i>Trissopathes</i> sp.	PL-469-7	Guilvinec	CCA5	70% Ethanol	1

<i>Parantipathes</i> sp.	PL-469-7	Guilvinec	CCA6	4% Formalin	1
<i>Parantipathes</i> sp.	PL-469-7	Guilvinec	CCA6	70% Ethanol	1
<i>Sticopathes</i> sp.	PL-469-7	Guilvinec	CCA7	70% Ethanol	1
<i>Swiftia</i> sp.	PL-469-7	Guilvinec	CCA7	70% Ethanol	1
<i>Acanthogorgia</i> sp.	PL-469-7	Guilvinec	CCA7	70% Ethanol	1
<i>Narella</i> sp.	PL-469-7	Guilvinec	PBT1	Formalin	1
<i>Narella</i> sp.	PL-469-7	Guilvinec	PBT1	70% Ethanol	1
<i>Narella</i> sp.	PL-469-7	Guilvinec	PBT1	70% Ethanol	1
<i>Acanthogorgia</i> sp.	PL-469-7	Guilvinec	PBT2	Formalin	1
<i>Acanthogorgia</i> sp.	PL-469-7	Guilvinec	PBT2	70% Ethanol	1
<i>Acanthogorgia</i> sp.	PL-469-7	Guilvinec	CCB3	70% Ethanol	1
<i>Parantipathes</i> sp.	PL-469-7	Guilvinec	CCB5	Formalin	1
<i>Parantipathes</i> sp.	PL-469-7	Guilvinec	CCB5	70% Ethanol	1
<i>Narella</i> sp.	PL-469-7	Guilvinec	CCB7	70% Ethanol	1
<i>Acanthogorgia</i> sp.	PL-469-7	Guilvinec	CCB7	70% Ethanol	1
<i>Narella</i> sp.	PL-469-7	Guilvinec	CCB8	70% Ethanol	1
<i>Leiopathes</i> sp.	PL-469-7	Guilvinec	CCC4	Formalin	1
Isididae	PL-469-7	Guilvinec	CCC5	70% Ethanol	1
Isididae	PL-469-7	Guilvinec	CCC5	Formalin	1
<i>Acanella</i> sp.	PL-469-7	Guilvinec	CCC6	70% Ethanol	2
<i>Acanella</i> sp.	PL-469-7	Guilvinec	CCC6	Formalin	1
Antipatharia	PL-469-7	Guilvinec	CCAA3	Formalin	1
Antipatharia	PL-469-7	Guilvinec	CCAA3	70% Ethanol	1
<i>Narella</i> cf. <i>regularis</i>	PL-469-7	Guilvinec	CCC6	70% Ethanol	1
<i>Narella</i> cf. <i>regularis</i>	PL-469-7	Guilvinec	CCC6	Formalin	1
<i>Leiopathes</i> sp.	PL-469-7	Guilvinec	CCAA1	Formalin	1

Antipatharia	PL-469-7	Guilvinec	CCAA7	Formalin	1
Antipatharia	PL-469-7	Guilvinec	CCAA7	70% Ethanol	1
Antipatharia	PL-470-8	Le Lampaul	BCC	70% Ethanol	1
Antipatharia	PL-470-8	Le Lampaul	BCC	70% Ethanol	1
<i>Paragorgia</i> sp.	PL-470-8	Le Lampaul	GBT	70% Ethanol	1
<i>Lepidisis</i> sp.	PL-470-8	Le Lampaul	BCC	70% Ethanol	2
<i>Lepidisis</i> sp.	PL-470-8	Le Lampaul	BCC	Formalin	1
Isididae	PL-470-8	Le Lampaul	CCB8	70% Ethanol	1
Plexauridae	PL-470-8	Le Lampaul	GBT	70% Ethanol	2
Plexauridae	PL-470-8	Le Lampaul	GBT	Formalin	1
<i>Chrysogorgia</i> sp.	PL-470-8	Le Lampaul	CCB8	70% Ethanol	1
Alcyonacea	PL-470-8	Le Lampaul	CCB4	70% Ethanol	1
Alcyonacea	PL-470-8	Le Lampaul	CCB4	Formalin	1
Isididae	PL-470-8	Le Lampaul	CCB6	70% Ethanol	1
<i>Paragorgia</i> sp.	PL-470-8	Le Lampaul	GBT	Formalin	1
<i>Paragorgia</i> sp.	PL-470-8	Le Lampaul	GBT	70% Ethanol	1
<i>Chrysogorgia</i> sp.	PL-470-8	Le Lampaul	CCB6	70% Ethanol	1
<i>Candidella</i> sp.	PL-470-8	Le Lampaul	CCB6	70% Ethanol	1
Isididae	PL-470-8	Le Lampaul	CCB6	70% Ethanol	1
Galatheidae	PL-470-8	Le Lampaul	CCB6	70% Ethanol	1
Isididae	PL-470-8	Le Lampaul	GBT	70% Ethanol	1
<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	VRAC-471	Formalin	1
<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	VRAC-471	Formalin	1
<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	VRAC-471	96% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCA1	Formalin	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCA1	96% Ethanol	1

<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	CCA6	70% Ethanol	1
<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	under box 2	96% Ethanol	1
<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	under box 2	Formalin	1
<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	CCB6	Formalin	1
<i>Leiopathes</i> sp. (Le2)	PL-471-9	Petite Sole	CCB6	96% Ethanol	1
Actiniaria	PL-471-9	Petite Sole	CCA5	Formalin	1
<i>Acanthogorgia</i> sp.	PL-471-9	Petite Sole	CCA6	70% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCB7	Formalin	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCB7	96% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCA5	70% Ethanol	1
<i>Leiopathes</i> sp. (Le1)	PL-471-9	Petite Sole	CCA6	70% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCA4	70% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCB1	70% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCB6	Formalin	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCB6	96% Ethanol	1
Antipatharia	PL-471-9	Petite Sole	CCC8	96% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCC3	70% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCC3	Formalin	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCC1	Formalin	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCC1	96% Ethanol	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCC4	Formalin	1
<i>Leiopathes</i> sp.	PL-471-9	Petite Sole	CCC4	96% Ethanol	1
Antipatharia	PL-471-9	Petite Sole	GBT3	Formalin	1
Antipatharia	PL-471-9	Petite Sole	GBT3	96% Ethanol	1
Stylasteridae	PL-475-13	Logachev	CCB4	70% Ethanol	1
Stylasteridae	PL-475-13	Logachev	CCA3	70% Ethanol	1

Primnoidea	PL-475-13	Logachev	GBT3	70% Ethanol	1
Primnoidea	PL-475-13	Logachev	GBT3	Formalin	1
Primnoidea	PL-475-13	Logachev	CCC1	70% Ethanol	1
<i>Narella</i> sp.	PL-476-14	Petite Sole	GBT3	70% Ethanol	1
<i>Narella</i> sp.	PL-476-14	Petite Sole	GBT3	Formalin	1
<i>Narella</i> sp.	PL-476-14	Petite Sole	GBT2	70% Ethanol	1
<i>Narella</i> sp.	PL-476-14	Petite Sole	GBT2	Formalin	1
Galatheidae	PL-476-14	Petite Sole	CCC1	70% Ethanol	1
<i>Acanella</i> sp.	PL-476-14	Petite Sole	CCC1	70% Ethanol	1
<i>Narella</i> sp. (Na3)	PL-478-16	Lampaul 2	CCA3	70% Ethanol	1
<i>Narella</i> sp. (Na3)	PL-478-16	Lampaul 2	CCA3	Formalin	1
Alcyonidae (1)	PL-478-16	Lampaul 2	GBT2	70% Ethanol	1
Alcyonidae (2)	PL-478-16	Lampaul 2	GBT2	70% Ethanol	1
<i>Narella</i> sp.	PL-480-18	Morg-d2	CCB2	Bag-dry	1
<i>Narella</i> sp.	PL-480-18	Morg-d2	CCC7	Bag-dry	1
<i>Narella</i> sp.	PL-480-18	Morg-d2	CCC7	70% Ethanol	1
Antipatharia	PL-480-18	Morg-d2	GBT1	Formalin	1
Antipatharia	PL-480-18	Morg-d2	GBT1	96% Ethanol	1
<i>Bathypathes</i>	PL-480-18	Morg-d2	CCA2	70% Ethanol	1
<i>Bathypathes</i>	PL-480-18	Morg-d2	CCA2	Formalin	1
Alcyonacea	PL-480-18	Morg-d2	CCC8	96% Ethanol	1
Alcyonacea	PL-480-18	Morg-d2	CCC5	70% Ethanol	1
Alcyonacea	PL-480-18	Morg-d2	CCC5	Formalin	1
Alcyonacea	PL-480-18	Morg-d2	CCB6	70% Ethanol	1
<i>Narella</i> sp. (Na2)	PL-480-18	Morg-d2	CCB6	70% Ethanol	1

3. Comparison of the respiratory metabolism between the two cold corals *Madrepora* and *Lophelia* in the Bay of Biscay.

Alexis Khripounoff, Jean-Claude Caprais, Jean-Pierre Brulport, Philippe Noel (Ifremer, DEEP: LEP, Brest, France)

The comprehensive analysis of carbon cycling and food web dynamics in a cold coral reef community requires the knowledge of the respiration rate of the dominant species. The quantitative data were obtained by dedicated sampling of the coral community at two sites: the Croisic and Guilvinec canyons. The food web structure reveals important carbon sources and transfer pathways in the food web. Two dominant species of corals were studied: *Lophelia pertusa* and *Madrepora oculata*.

Sampling locations for incubations

The first incubation was carried out in the Croisic canyon using the Calmar chamber with the tank. About 1 liter of *Madrepora* was put inside the tank before the start of the incubation.

The second and third incubation took place in the Guilvinec canyon. *Lophelia* was chosen in the second experiment (about 0.7 l) and *Madrepora* during the last incubation (0.5 l).

Description of Calmar with tank

Calmar is a benthic chamber with 5 water cells of 100cm³ which sample at the same time. In addition, an oxygen optode probe facilitates the recording of the oxygen concentration each minute inside the chamber. An analysis of CO₂ and nutrients concentration is planned for the laboratory.

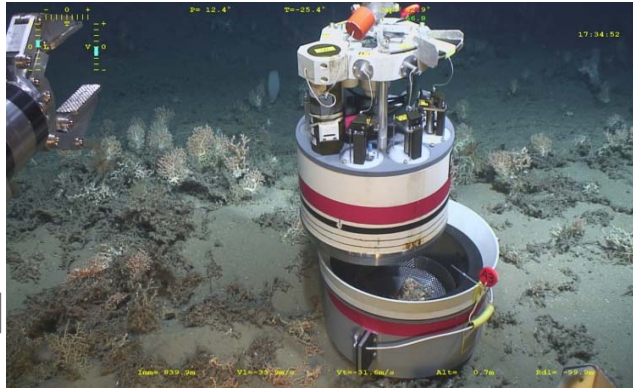
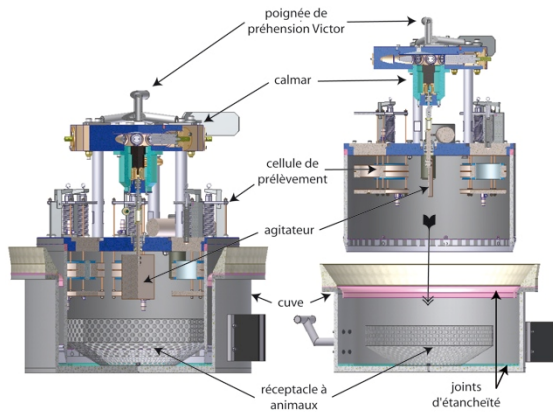


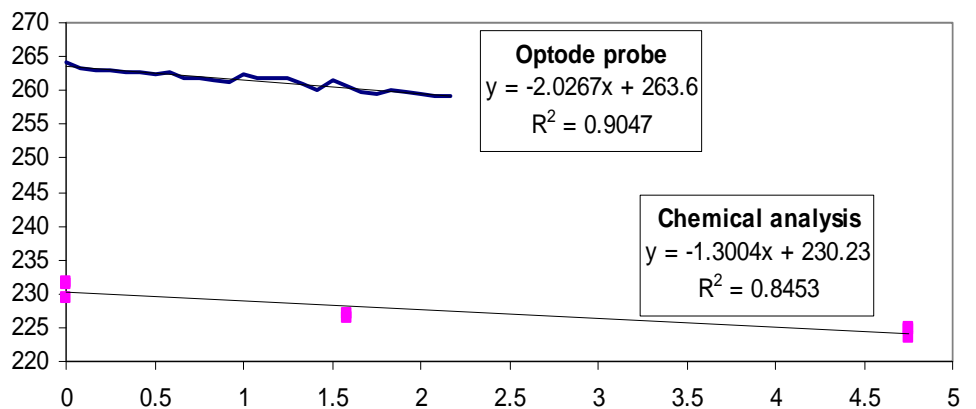
Figure: Scheme of Calmar use

Calmar above the tank surrounded with coral

Calmar results: Respiration rate measurements

The three incubations were successful: 2 with *Madrepora* sampled in two different canyons and one with *Lophelia*. Without the knowledge of the biomass inside the tank, we were not able to estimate the respiration rate of each species. But, according to our estimations, no significant difference can be observed between the two species or at different geographical locations.

Figure: Incubation of *Madrepora*. The oxygen optode in blue and the results of the chemical analysis in pink. The interval between the two methods is the result of a calibration problem of the probe.



Preliminary conclusions

It was the first time that we experimented with the Calmar and the tank to isolate organisms from the sediment. It was a success and the use of this equipment is now well known.

4. Investigation of Echinoid Feeding Ecology in Deep-Sea Coral Habitats

Angela Stevenson (Biogeochemistry Research Group, Trinity College Dublin, Ireland)

1. Basis for the research

Nutrient cycling plays an important role in shaping the structure of deep-sea ecosystems. Although deep-sea research has grown exponentially over the past few decades, substantial gaps in knowledge of nutrient flow, productivity and trophic linkages in deep-sea environments remain. Despite low allochthonous inputs of nutrients to cold-water coral (CWC) reefs, these act as permanent oases in the deep, and still manage to sustain species rich and abundant communities. Current hypotheses to explain this apparent contradiction attribute great importance to the benthic recycling of materials, and as such, CWC ecosystems are thought to be hot spots for biomass and carbon cycling. However, the persistence of this rich ecosystem remains enigmatic and the balance between allochthonous inputs and local regeneration remains irreconcilable.

In shallow water ecosystems, it has been shown that echinoids play an important role in nutrient recycling and modulating tropical coral reef stability, but their role in deep-sea systems is not understood. For example, do deep-sea echinoids play a similar role in recycling organic material as they do in eelgrass beds and kelp forests? Does bioerosion take place? If so, do they act as a structuring force for CWC reefs?

The importance of deep-sea echinoids was partly reflected in my MSc dissertation project, whereby results show evidence of previously unreported bioerosion of CWC by a deep-sea echinoid, *Gracilechinus elegans*. The bioeroder may possess N-fixing symbiotic bacteria in its gut, suggesting that chemoautotrophic processes may serve as a shunt in the local carbon cycle, potentially explaining the enigmatic persistence of the CWC oases. Also, the consumption of coral may act as an internal buffering system allowing *G.elegans* to combat

the fatal effects of pH imbalances due to ocean acidification. A greater number of samples are needed to further explore these relationships.

Ultimately, investigating deep-sea echinoid feeding ecology is a significant step in understanding CWC habitats, which form the basis for environmental policy making and sustainable resource management of CWC ecosystems and fishing stocks.

2. Aims of the study

The project aims to develop on previous findings, help fill the gaps in knowledge about CWC ecosystem processes, and elucidate the functional role of deep-sea echinoids. More specifically, during the BobEco campaign I aimed to collect echinoid tissue samples, such as gonads, echinoderma, muscle, and gut contents, in order to quantify energy flow, nutrients consumed, trophic relationships and temporal shifts in echinoid diet.

3. Activities conducted during BobEco

In order to study this feeding ecology, echinoids were sampled with the mechanical arm of ROV Victor, from various coral habitats in the Bay of Biscay and Irish continental margin (Table 1). Five different species were encountered, all of which appear to have different feeding habits. Echinoids were dissected on board upon retrieval from the ROV. Gonads, echinoderma, muscle and gut contents were removed and stored separately in the -80 C freezer and subsequently dried at 60°C for 48hrs.

Table 1. Summary of Specimens Collected during BobEco

	Taxonomic name	Specimen ID	Site	Treatment	Notes
1	<i>Echinus sp.</i>	PL467 CCA3 U1	Saint Nazaire Canyon	Dissected, -80° C	*Species will be IDed upon return to Dublin, Ireland

2	<i>Cidaris cidaris</i>	PL468 CCA5 U1	Croizic Canyon	Dissected, -80° C	
3	<i>Cidaris cidaris</i>	PL468 CCBB1 U2	Croizic Canyon	Dissected, -80° C	
4	<i>Cidaris cidaris</i>	PL468 CCC1 U3	Croizic Canyon	Dissected, -80° C	
5	Sediment	PL468 PBT2	Croizic Canyon	Dissected, -80° C	
6	<i>C. cidaris</i>	PL468 CCAA4 U4	Croizic Canyon	Dissected, -80° C	
7	<i>C. cidaris</i>	PL468 CCAA8 U5	Croizic Canyon	Dissected, -80° C	
8	<i>Calveriosoma fenestratum</i>	PL468 CCAA8 U6	Croizic Canyon	Dissected, -80° C	
9	<i>C. cidaris</i>	PL469 PBT1 U1	Guilvinec Canyon	Dissected, -80° C	
10	<i>C. cidaris</i>	PL469 CCA1 U2	Guilvinec Canyon	Dissected, -80° C	
11	<i>C. cidaris</i>	PL469 CCB6 U3	Guilvinec Canyon	Dissected, -80° C	
12	<i>C. cidaris</i>	PL469 CCA7 U4	Guilvinec Canyon	Dissected, -80° C	
13	<i>C. cidaris</i>	PL469 CCA3 U5	Guilvinec Canyon	Dissected, -80° C	
14	<i>Calveriosoma fenestratum</i>	PL469 CCB2 U6	Guilvinec Canyon	Dissected, -80° C	
15	<i>C. cidaris</i>	PL469 CCC1 U7	Guilvinec Canyon	Dissected, -80° C	
16	<i>Echinus sp.</i>	PL470 CCB5 U1	Lampaul Canyon	Dissected, -80° C	*Same species as PL467 CCA3 U1
17	<i>Gracilechinus elegans</i>	PL470 CCB4 U2	Lampaul Canyon	Dissected, -80° C	
18	<i>Echinus sp.</i>	PL470 CCB7 U3	Lampaul Canyon	Dissected, -80° C	*Same species as PL467 CCA3 U1

19	Unidentified Echinothuriidae	PL470 CCB3 U4	Lampaul Canyon	Dissected, -80° C	*Species will be IDed upon return to Dublin, Ireland
20	<i>C. cidaris</i>	PL471 CCA1 U1	Petit Sole Canyon	Dissected, -80° C	
21	<i>C. cidaris</i>	PL471 CCB1 U2	Petit Sole Canyon	Dissected, -80° C	
22	<i>C. cidaris</i>	PL471 CCA6 U3	Petit Sole Canyon	Dissected, -80° C	
23	<i>C. cidaris</i>	PL471 CCA3 U4	Petit Sole Canyon	Dissected, -80° C	
24	<i>C. cidaris</i>	PL471 CCA5 U5	Petit Sole Canyon	Dissected, -80° C	
25	<i>C. cidaris</i>	PL471 CCB7 U6	Petit Sole Canyon	Dissected, -80° C	
26	<i>C. cidaris</i>	PL471 CCA8 U7	Petit Sole Canyon	Dissected, -80° C	
27	<i>C. cidaris</i>	PL471 GBT2 U8	Petit Sole Canyon	Dissected, -80° C	
28	<i>C. cidaris</i>	PL475 CCA6 U1	Logatchev Mound	Dissected, -80° C	
29	<i>C. cidaris</i>	PL475 CCB3 U2	Logatchev Mound	Dissected, -80° C	
30	<i>C. cidaris</i>	PL475 CCB5 U3	Logatchev Mound	Dissected, -80° C	
31	<i>C. cidaris</i>	PL476 CCB4 U1	Petit Sole Canyon	Dissected, -80° C	
32	Sediment	PL476 PBT 1	Petit Sole Canyon	Dissected, -80° C	
33	<i>C. cidaris</i>	PL476 CCA4 U2	Petit Sole Canyon	Dissected, -80° C	

34	<i>C. cidaris</i>	PL476 CCA5 U3	Petit Sole Canyon	Dissected, -80° C	
35	<i>C. cidaris</i>	PL476 CCB5 U4	Petit Sole Canyon	Dissected, -80° C	
36	<i>C. cidaris</i>	PL476 CCA6 U5	Petit Sole Canyon	Dissected, -80° C	
37	<i>C. cidaris</i>	PL476 CCC4 U6	Petit Sole Canyon	Dissected, -80° C	
38	<i>C. cidaris</i>	PL476 CCC7 U7	Petit Sole Canyon	Dissected, -80° C	
39	<i>C. cidaris</i>	PL476 CCC2 U8	Petit Sole Canyon	Dissected, -80° C	
40	Unidentified Echinothuriidae	PL476 CCC1 U9	Petit Sole Canyon	Dissected, -80° C	*Same species as PL470 CCB3 U4
41	<i>C. cidaris</i>	PL476 CCB1 U10	Petit Sole Canyon	Dissected, -80° C	
42	<i>C. cidaris</i>	PL476 CCB2 U11	Petit Sole Canyon	Dissected, -80° C	
43	<i>C. cidaris</i>	PL476 CCB7 U12	Petit Sole Canyon	Dissected, -80° C	
44	<i>C. cidaris</i>	PL476 CCB3 U13	Petit Sole Canyon	Dissected, -80° C	
45	<i>C. cidaris</i>	PL476 CCB4 U14	Petit Sole Canyon	Dissected, -80° C	
46	<i>C. cidaris</i>	PL476 CCC5 U15	Petit Sole Canyon	Dissected, -80° C	
47	<i>Echinus sp.</i>	PL477 CCA7 U1	Sorlingue Canyon	Dissected, -80° C	
48	Sediment	PL478 CCA3 Sed	Lampaul Canyon (2)	-80°C	

49	<i>C. cidaris</i>	PL478 CCA8 U1	Lampaul Canyon (2)	Dissected, -80° C	
50	<i>C. cidaris</i>	PL478 GBT1 U2	Lampaul Canyon (2)	Dissected, -80° C	
51	Unidentified Echinothuriidae	PL478 GBT3 U3	Lampaul Canyon (2)	Dissected, -80° C	
52	Unidentified Echinothuriidae	PL478 CCA6 U4	Lampaul Canyon (2)	Dissected, -80° C	
53	Unidentified Echinothuriidae	PL478 CCA5 U5	Lampaul Canyon (2)	Dissected, -80° C	
54	Sediment	PL479 Sed (2parts)	Crozon Canyon	Dissected, -80° C	
55	<i>Madrepora oculata</i>	PL479 CCB4 M1,2 (2parts)	Crozon Canyon	Dissected, -80° C	
56	<i>Lophelia pertusa</i>	PL479 GBT1 L1,2 (2parts)	Crozon Canyon	Dissected, -80° C	
57	Unidentified Echinothuriidae	PL479 CCB4 U1	Crozon Canyon	Dissected, -80° C	
58	Unidentified Echinothuriidae	PL479 CCA8 U2	Crozon Canyon	Dissected, -80° C	
59	<i>C. cidaris</i>	PL479 CCB2 U3	Crozon Canyon	Dissected, -80° C	
60	Unidentified Echinothuriidae	PL479 CCA6 U4	Crozon Canyon	Dissected, -80° C	
61	Unidentified Echinothuriidae	PL479 U5 (behind CC)	Crozon Canyon	Dissected, -80° C	
62	Unidentified Echinothuriidae	PL480 CCB4 U1	Morgat Douarnez Canyon	Dissected, -80° C	
63	Unidentified Echinothuriidae	PL480 U2 (Equip. Unk.)	Morgat Douarnez Canyon	Dissected, -80° C	

64	Unidentified Echinothuriidae	PL480 U3 (Equip. Unk.)	Morgat Douarnez Canyon	Dissected, -80° C	
65	<i>C. cidaris</i>	PL480 CCB8 U4	Morgat Douarnez Canyon	Dissected, -80° C	
66	<i>C. cidaris</i>	PL480 CCA6 U5	Morgat Douarnez Canyon	Dissected, -80° C	
67	<i>C. cidaris</i>	PL480 CCA8 U6	Morgat Douarnez Canyon	Dissected, -80° C	
68	<i>C. cidaris</i>	PL480 CCB1 U7	Morgat Douarnez Canyon	Dissected, -80° C	
69	<i>C. cidaris</i>	PL480 CCA4 U8	Morgat Douarnez Canyon	Dissected, -80° C	
70	<i>C. cidaris</i>	PL480 CCA6 U9	Morgat Douarnez Canyon	Dissected, -80° C	
71	<i>C. cidaris</i>	PL480 CCB6 U10	Morgat Douarnez Canyon	Dissected, -80° C	
72	<i>C. cidaris</i>	PL480 CCB6 U11	Morgat Douarnez Canyon	Dissected, -80° C	
73	<i>C. cidaris</i>	PL480 CCB6 U12	Morgat Douarnez Canyon	Dissected, -80° C	

74	<i>C. cidaris</i>	PL480 GBT2 U13	Morgat Douarnez Canyon	Dissected, -80° C	
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4. Future work resulting from samples collected during BobEco

The large number of samples obtained on board will provide invaluable information about the feeding habits of echinoids. By using gut content analyses as well as carbon and nitrogen stable isotope analyses on various tissues, we can determine the importance of autochthonous material as a nutritional source for echinoids residing in deep-sea coral habitats and detect possible seasonal shifts in diet. If echinoids are indeed recycling locally produced material, then the isotopic composition of echinoid tissues will reflect the $\delta^{13}\text{C}$ isotopic signature of autochthonous material rather than allochthonous material. $\delta^{13}\text{C}$ is useful in identifying the food source in an organism's diet, while $\delta^{15}\text{N}$ will allow trophic positioning of echinoids within the benthic food web.

As such, the tissues collected on board will undergo further preparation for carbon and nitrogen stable isotope analyses upon my return to Dublin, Ireland. Also, gut contents will undergo TOC, TON, C:N analyses and also gut content analyses to supplement the isotopic analyses.

BobEco has also permitted observation and gathering of quantitative data concerning echinoid bioeroding activities.

III. Genetic and Clonal diversity of Scleractinians

Sophie Arnaud-Haond, Ronan Becheler, Sandra Fuchs, Olivier Mouchel, Yann Moalic
(Ifremer, DEEP-EP, Brest, France)

1. Context and objectives

Objective Nr.4 of the CoralFISH project

The use of genetic fingerprinting to assess the potential erosion of genetic fitness of corals due to long-term exposure to fishing impacts

The BobEco cruise took place in the Bay of Biscay and the Celtic Sea, two regions supporting important cold-water coral reefs. In the deep sea, these ecosystems represent hotspots for marine biodiversity.

The work on board is focused on the population genetics of the cold-water corals (CWC), notably *Lophelia pertusa* and *Madrepora oculata*, the main species structuring the deep reefs, and was realized by members of the “Laboratoire Environnements Profonds” (Sandra Fuchs, Olivier Mouchel, Yann Moalic, Sophie Arnaud-Haond and Ronan Becheler)

Genetic diversity is one of three levels of biodiversity, and is recognized by the Convention for Biological Diversity as a priority in conservation (but see Laikre, et al 2010). It is indeed supposed to reflect the adaptive potential of populations and species facing environmental fluctuations. In evolutionary ecology, the genetic diversity is also expected to promote the resistance and resilience of populations facing disturbances.

In the case of the CWC, the main disturbance they encounter is bottom trawling, erasing large portions of reefs and thus affecting the demography of structuring populations. A potential consequence is the impoverishment of their genetic diversity, through an enhanced genetic drift, or demographic bottleneck. Trawling may also affect the spatial

genetic structure of the coral populations, through a disruption of the equilibrium between migration and drift, within and among populations. In addition, the CWC are partially clonal, i.e. able to alternate sexual and vegetative reproductions. The clonal architecture is likely to be deeply affected by trawling. Yet, little is known about the rate of clonality and its spatial extent. A pioneering study (LeGoff-Vitry et al, 2004) assessed the clonal diversity of *Lophelia pertusa* populations from the North-East Atlantic and found the levels of clonal richness to be very variable. However, this study did not use standardized strategies for the sampling of colonies. Because the estimators of clonality are highly sensitive to the sampling strategy, a standardized assessment is still required. In addition, the dispersion of propagules among populations is a factor of resilience, as their recruitment compensates the local extinctions caused by human activities. Assessing the level of genetic connectivity among CWC populations is thus paramount to inferring their susceptibility to human impacts and, ideally to detecting source and sink populations.

The levels of clonality, genetic diversity and structure will be assessed using microsatellite markers. A set of microsatellites was developed and published for *L. pertusa* (Morrison et al 2008). The development of these markers is still in progress for *M. oculata*. A preliminary objective for this species will also consist in the screening of its microsatellites bank.

The main objectives of this project are:

- The validation of the bank of microsatellite markers for *Madrepora oculata*, developed by Morrison et al (unpublished work),
- The assessment of the clonal diversity and the spatial extent of clonality, as well as the levels of genetic diversity, for both *Lophelia pertusa* and *Madrepora oculata*,
- The comparison of the parameters describing the clonal architecture and genetic diversity between impacted and non-impacted reefs,

- The estimations of the connectivity among populations, through a study of genetic structure performed at different geographical scales (fine-grained to regional scales)

The central goal on board is also to collect a relatively large number of samples of *L. pertusa* and *M. oculata*, from different locations in both the Bay of Biscay and the Celtic Sea, using a standardized sampling strategy, in order to compile a sufficiently powerful genetic dataset to provide relevant answers.

A last objective for this cruise is the systematic barcoding of scleractinian species associated with reefs, using the nuclear marker ITS. To this aim, the classically used CO1 mitochondrial marker is not adapted, as it is extremely invariant among scleractinians. This objective fits the Tree Of Life program, and generated data may be useful for future phylogenetic studies of cold-water scleractinians.

2. Sites

Sites in the Gulf of Gascogne and the Irish Sea

Eight canyons were explored and sampled in the Bay of Biscay, using the ROV (remotely operated vehicle) Victor 6000 (Table 1). Depending on the goal of the dive, two sampling strategies were applied. During the exploration phase we used opportunistic sampling along a linear transect crossing the canyon. Randomized and standardized sampling was conducted in the phase of the dives dedicated to genetic sampling, as detailed below.

The linear transect matching the crest of the Canyon of Ars (dive 466) was explored. Coral samples were collected between 800 and 840 meters depth.

The Canyon of Saint-Nazaire (dive 467, 46° 35'000 N; 05° 07'000 W) was also explored along a transect ranging from 1750m (downstream part of the canyon) and 700m

(upstream part). Several colonies of *Solenosmilia* sp. were collected. This kind of sampling was also used for the Canyon of Sorlingues (dive 477).

The Canyons of Le Croisic (dive 468), Le Guilvinec (dive 469), Petite Sole (dives 471 and 476), Lampaul (dive 478), Crozon (dive 479) and Morgat (dive 480) (Figure 1) were also explored during dives dedicated to genetic sampling, through the standardized procedure described in the next paragraph. We found the most impacted reefs among those explored in the Bay of Biscay in the Canyon of Morgat.

In the Celtic Sea, the location of Logachev was sampled using this strategy. The initially scheduled supplementary locations in this region could finally not be explored due to the strong meteorological conditions that did not allow the launching of the ROV.

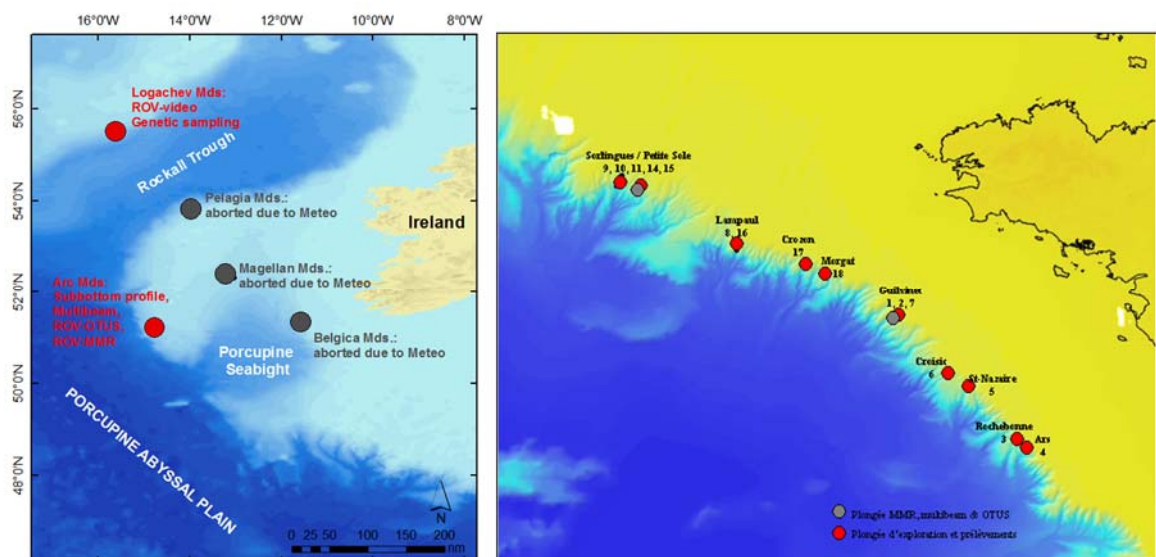


Figure 1: Sampling sites. On the left (Celtic Sea), genetic sampling was conducted in the Logachev Mounds only. On the right (Bay of Biscay), samples were collected for each location represented by red dots.

3. Sampling strategies

For each location, a sampling quadrat (200*100 m²) was designed within the reef. Within the quadrat, 30 geographical coordinates were randomly generated, and one to three colonies of both *L. pertusa* and *M. oculata* were collected, using the articulated arm of the ROV. Each colony corresponded to a single sampling unit (SU). A minimum of 30 SU was collected, to guarantee statistical viability for genetic analyses.

Yet, the available time did not allow the systematic fulfillment of this minimum. Notably, the second quadrat positioned in the proximity to the first one within

the Canyon of Le Guilvinec was 100*100m², and only around 15 SU were recovered (leading to an equivalent sampling density). During collection it was not always possible to sample the exact coordinates due to the difficulty of positioning the ROV accurately (imprecision of the GSP system, powerful currents), or due to the patchiness of the reef. In these cases, the closest colonies were recovered, and the geographical coordinates were also corrected (Figure 1).

This sampling strategy presents a double advantage. On one hand, it limits the biases during the collection of the SU by reducing the choice of the collectors. The use of geographical coordinates facilitates the assessment of the spatial extent of clonality and the spatial genetic structure.

The specimens of the polychaete *Eunice norvegica*, in association with the corals *L. pertusa* and *M. oculata* were recovered once the colonies were on board. This polychaete was thus indirectly submitted to the same sampling strategy.

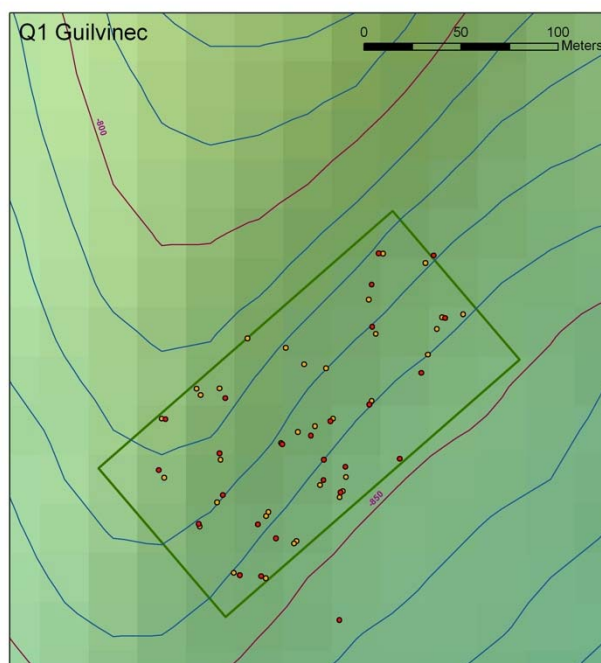


Figure2. Sampling quadrat in the Guilvinec Canyon (green rectangle). The pink dots represent the initial random geographical coordinates. For logistical reasons, their exact respect is generally impossible. The red dots correspond to the corrected coordinates.

4. Processing of samples onboard

Once on board, each sampling unit was placed in a 15ml pill-box, with a label carrying all required information (location, species, geographical coordinates), filled with 96% ethanol and sealed with parafilm to insure the impermeability (for the long-term conservation of the samples).

In parallel, several polyps of each colony were recovered, and the fresh tissue was placed in Eppendorf tubes, for DNA extraction.

5. Perspectives for the use of data

Testing the microsatellite markers for *Madrepora oculata*

These markers will first be tested on *M. oculata* samples already available (previous cruises). If validated, the set of selected microsatellites will be used on the overall dataset of the BobEco cruise.

The added value of standardized random sampling strategy

This strategy is recognized as one of the more adequate methods for the assessment of clonality in genetics studies (Arnaud-Haond et al, 2007). The relatively important size of the samples leads to a satisfying statistical robustness of genetic/clonal diversity assessment. The standardization of sampling mode and density will render the inter-site comparisons relevant. To our knowledge, this is the first time that such sampling strategies are applied in the deep sea. Their feasibility depends on specific logistics (ROV and its high-tech equipment, buoyant lift with acoustic-release system, technicians, important duration of dives). A preliminary, if partial, knowledge of each site is also required.

Estimating genotypic and genetic diversities

For the majority of quadrats the sampling sizes are above the level of statistical relevancy, allowing reliable assessments of intraspecific (both clonal and genetic) diversity assessment, for the three species *Lophelia pertusa*, *Madrepora oculata* and *Eunice norvegica*. Clonal

richness will be assessed for each quadrat. In addition, the spatial components of clonality will be estimated using the geographical coordinates of the sampling units (clonal size in meters, coefficient of aggregation). Levels of heterozygosity and allelic richness will be assessed and compared among canyons. These estimators will potentially allow us to detect signatures of demographic bottleneck, if such a demographic event happened in a relatively recent past. The study of the clonal architecture will deliver crucial information about the populations' dynamics of *L. pertusa* and *M. oculata*. In particular, the clonal richness informs us about the differential investment of the considered population between sexual and vegetative reproduction (respectively high and low levels of clonal richness) and may enlighten us on their respective role in the maintenance of the demography.

These data will also be crossed with assessments of the demographic status (density of colonies, their relative abundance, the size of colonies, the associated specific richness, etc.) and the intensity of trawling. These last parameters could be estimated through video analyses.

Comparison between impacted versus non-impacted populations

The standardization of sampling strategy makes the comparison of these different estimators feasible and relevant. Unfortunately, we did not find impacted and non-impacted areas in the same location. Thus, intra-site comparisons of genetic/clonal diversity are impossible. Yet, the panel of explored canyons covers a large range of impact-intensity. While the canyon of Morgat constitutes the most impacted area of our dataset, the site of Petite Sole Canyon and Logachev represent relatively non-impacted reefs. Along the gradient of impacts covered by our samples, the detection of genetic and/or clonal consequences of human activities is likely. A preliminary reflection about the methodology is necessary, to quantitatively assess the impact-intensity for each quadrat.

Populations Connectivity

Within the framework of a thesis funded by the European project Hermione, Mikael Dahl is currently analyzing genetic data for *L. pertusa*, to infer the genetic connectivity on the scale

of the North-Eastern Atlantic/ Mediterranean. A collaboration is planned within this framework. The *L. pertusa* samples collected during this cruise substantially increase the overall dataset for the “connectivity” goals. To this day, no such study on *M. oculata* populations has ever been performed. Any future work on this topic will thus constitute the first connectivity study for this species.

On the fine-grained spatial scale, the genetic structure has never been studied, as it requires geographical coordinates for each sampling unit. Our sampling allows testing of the hypothesis of a restriction to dispersal, at the intra-quadrate scale.

The spatial genetic structure will also be studied for various spatial scales. This will deliver important information about the dispersal abilities of the CWC species.

Barcoding

A relatively weak number of different scleractinian species was collected during this cruise (table 1). Additional taxa were also collected, when found (gorgonians, soft corals, etc.). We target the nuclear marker “ITS” (internal transcribed spacer) for these species, as it was previously shown that the classical CO1 is not variable enough among species to establish a stringent barcode for each of them.

Location	Geographic Region	sampling mode	<i>Lophelia pertusa</i>	<i>Madrepora oculata</i>	<i>Eunice norvegica</i>	Other scleractinian sp	Latitude	Longitude
Ars Canyon (crest)	Bay of Biscay	(linear transect)	16	0	2	4 <i>Desmophyllum</i> sp. 1 unidentified sp.	45°41' 000 N	3°38' 000 W
Saint-Nazaire Canyon	Bay of Biscay	(linear transect)	-	-	-	4 <i>Solenosmilia</i> sp. 1 <i>Elanopsamia</i> sp.	46°34' 000 N	4°30' 000 W
Croisic Canyon	Bay of Biscay	Q1 (200*100m ²)	40	39	24	-	46°23' 000 N	4°41' 000 W
Guilvinec Canyon	Bay of Biscay	Q1 (200*100m ²)	27	28	12	-	46° 56' 043 N	5° ,360599 W
	Bay of Biscay	Q2 (110*100m ²)	13	15	18	-	46° 55' 906 N	5° ,358957 W
Morgat-Douarnenez Canyon	Bay of Biscay	Q1 (200*100m ²)	30	31	35	1 <i>Desmophyllum</i> sp.	47° 19' 000 N	6° 21' 000 W
Crozon Canyon	Bay of Biscay	Q1 (200*100m ²)	21	23	26	1 <i>Desmophyllum</i> sp.	47° 22' 000 N	6° 37' 000 W
Lampaul Canyon	Bay of Biscay	(linear transect)	9	12	8	1 <i>Dendrophyllia</i> sp.	47° 37' 050 N	7° 31' 600 W
Petite Sole Canyon	Bay of Biscay	Q1 (200*100m ²)	26	27	10	32 <i>Leiopathes</i> sp.	48° 08' 300 N	8° 48' 200 W
Petite Sole Canyon	Bay of Biscay	Q2 (200*100m ²)	31	33	26		48° 07' 320 N	8° 48' 800 W
Sorlingue Canyon	Bay of Biscay	(linear transect)	3	3	1		47° 37' 270 N	7° 31' 600 W
Logachev Mound	Celtic Sea	Q1	25	30	29	2 solitary corals	55° 31' 370 N	15° 38' 900 W

Table 1: Collection of samples for the three targeted species *Lophelia pertusa*, *Madrepora oculata* and *Eunice norvegica*. Additional samples belonging to different species were added.

IV. Datation

Norbert Frank, Eric Douville, Cécile Gonsalez (Geochronology and marine Geochemistry-LSCE, Gif-sur-Yvette, France)

Understanding the **influence of climate change** on the **temporal and spatial evolution of cold-water coral reefs** and patches is the first objective of the participation of LSCE researchers in the BobEco cruise. To reach this goal we selected a small fragment from almost **every recovered fossil coral recovered** in the various canyons in the Bay of Biscay. The particular focus is on the species *Lophelia pertusa*, *Madrepora oculata* corals, and *Desmophyllum dianthus*. However, other long-lived coral species will be studied to determine their **life span**. Upon sampling the **coral fragments will be cleaned, dried, photographed and stored for further research** in the host laboratory. At LSCE the fragments will be further chemically cleaned prior to the determination of the **U-series and radiocarbon ages** of the selected corals using **mass spectrometry**. Based on the ages we will estimate statistical distributions of the number of coral ages against time. This allows us to **determine whether certain climate periods over the past few thousand years were more or less favorable to the growth of the various species**. The Bay of Biscay is of particular interest here as climate-driven changes of the biogeographic limit of coral growth are clearly evidenced further north (Rockall Bank, Porcupine Seabight) as well as further south (Morocco Margin) (Frank et al. 2011, GEOLOGY). In contrast, little is yet known about the presence of corals in the Bay of Biscay, which may be an area through which the corals transited from south to north through the ice ages. Ideally, a sediment core containing coral fragments would be retrieved to obtain long time series of coral growth rather than basing age distributions solely on fossil coral fragments exposed on the sediment-water interface.

The second objective is the **use of fossil corals as an archive of seawater chemistry and ocean circulations**. This is because **corals record several trace elements and isotopes in their aragonite skeleton**, which facilitates the reconstruction of **environmental parameters such as temperature and productivity**, but also the **state of ventilation** (so called age of a water mass) as well its provenance. The procedure to reconstruct seawater parameters from coral is quite similar to the one used for dating, with intense documentation, cleaning and physical measurements of trace elements and isotopes, using cutting edge mass spectrometry. However, in contrast to the dating

of fossil corals, we need modern samples to link the geochemical tracers to modern observations of seawater. Moreover, **large branching corals are ideally needed** to derive tracer time series that may be linked to modern hydrographic dynamics or to reveal episodic changes of hydrography related to large-scale changes in the Atlantic basin. Small and short-term dynamical changes, such as diurnal changes or weekly and yearly dynamics cannot be studied, as skeleton growth takes a significant amount of time depending on the species studied.

A **large number of living and fossil coral fragments** of species *Lophelia pertusa*, *Madrepora oculata*, *Desmophyllum dianthus* as well as a few fragments of *Solenosmilia* corals were recovered during the various dives carried out during the first leg of BobEco. It appeared that numerous fossil corals of species *Lophelia pertusa* were recolonized by *Madrepora oculata* and in some cases by *Lophelia pertusa* and *Desmophyllum dianthus*. The corals were **documented on images, cleaned and dried down** to prepare for **geochemical analyses and geochronological studies at LSCE**. In addition to the initially planned work program, a few very small fragments were collected from Gorgonian corals to test the feasibility of radiocarbon dating.

In detail:

Sampling started following **dive 465-3**. **Three coral fragments** were taken from the grab sampler (Benne Hanon): one well-preserved fossil *Lophelia pertusa* and two very small fragments of heavily bioeroded and remineralized corals of species *L.pertusa* and possibly *Dendrophyllia*).

BobEco BH-01- Lp and Lp/DE

During **Dive 466-04**, several large branching fragments of fossil corals of species *L.pertusa* and *M. oculata* and *D. dianthus* that were recovered from an isolated colony, were selected for **geochronological and geochemical analyses**. Samples were rinsed in seawater several times and were then dried at 60°C in an oven, photographed and stored.

BobEco PL466-04 GBL-Dd

BobEco PL466-04 GBL-Lp

Seven coral fragments of species *Solenosmilia* and one fragment of a Gorgonian coral were recovered during **Dive 467-45-5**. In some cases, corals were overgrown with Fe-Mn deposits but a few appeared modern or post-modern. **Geochronological and geochemical analyses will be carried out at LSCE**.

BobEco-PL467-45-5-CCA7-Sm

BobEco-PL467-45-5-CCA8-Sm

BobEco-PL467-45-5-CCA3-Sm

BobEco-PL467-45-5-CCA5-Sm

BobEco-PL467-45-5-GBT-Sm

BobEco-PL467-45-5-GBT-Gorg

A large number of fossil and modern corals were recovered during **Dive 468-46-6**. Interestingly, old fossils had recently been overgrown by living species. Samples of *Lophelia pertusa* and *Desmophyllum dianthus* were selected, cleaned in seawater and dried. In total, 14 specimens were selected. **Geochronological and geochemical analyses will be carried out at LSCE.**

BobEco-PL468-46-6-

CCA3Lp/CCA6Lp/CCA5Lp/CCBB7Lp/CCC4Lp/CCC7Lp/CCC4Dd/CCBB8Lp/CCC6Lp/CCC1Lp/CCAA4Lp
.../GBTLp/CCAA1Lp/

Numerous fossil coral fragments as well as modern and post-modern species of *M. oculata*, *L. pertusa* and *D. dianthus* were recovered during **Dive 469-47-7**. One large multi-species fragment including modern *M. oculata* and fossil *L. pertusa* and *D. dianthus* was selected for geochronological studies. It was cleaned by rinsing with seawater and dried in an oven.

Geochronological and geochemical analyses on all three different species of this fragment **are to take place at LSCE.**

BobEco-PL469-47-7-CCA1Lp/CCA1Mo/CCA1Dd

During **Dive 470-48-8** corals were sampled at significantly deeper depths than on previous dives. However, no fossil corals from key species (*Lophelia pertusa*; *Madrepora oculata*) were recovered except one *D. dianthus*. However, three fossil and coated fragments of *Solenosmillia* corals were cleaned, and dried and documented for further **geochronological and geochemical studies**. In addition, the **base of a Gorgonian coral was recovered to test radiocarbon dating on the organic skeleton.**

BobEco PL470-48-8 SM/Gorgonian

Leg 2

The rising levels of CO₂ in the atmosphere have caused ocean acidification since the industrial era. Seawater pH has already dropped from 0.1 units in surface waters and will continue to drop as atmospheric CO₂ levels increase. Assessing the pH variability in the last decades is essential since the **survival of calcifying organisms depends on seawater pH**. Several studies have shown **the potential of the boron isotopic composition** in tropical corals for the reconstruction of **sea-surface paleo-pH at low latitudes** (i.e. Hönisch et al., 2004; Pelejero et al., 2005; Wei et al., 2009; Douville et al., 2010). These studies are based on the pH-dependent speciation of boric acid and borate anion on seawater, and on the assumption that only charged boron speciations (borate anions) are incorporated into coral skeleton (Hemming and Hanson, 1992). For highest latitudes and deeper waters (50-4500 m), cold-water corals are interesting and unique as natural archives. This is both because their habitat in 4°C to 12°C and under the influence of strong currents allows recording the parameters of sub-surface or intermediate currents, and because they build their aragonite skeleton without the photosynthesis process. The pH reconstruction technique has already been performed on a deep-sea coral *Madrepora oculata* sample from Rost Reef (67°N, 9°E) in order to assess if seawater acidification has already reached intermediate North Atlantic seawaters (Gonzalez-Roubaud et al., *in prep.*).

The 947 samples of mainly coral *Madrepora oculata* and *Lophelia pertusa* collected during leg 2 of the BobEco cruise will allow to enhance the comprehension of the paleo-pH techniques. The wide geographic localization of sampling sites will allow us to study the influence of environmental and biological parameters (different sampling sites) on coral growth and incorporation of boron isotopes into coral skeleton. One of the objectives of leg 2 of the BobEco cruise was to collect samples at different depths at a sampling site. Previous studies and skeleton density and growth parameters on tropical surface corals revealed a logarithmic relationship between depth (0-35m) and coral skeleton density (Bosscher, 1993). Although a few parameters of growth rates, mainly for culture corals, have been determined, coral growth processes on deep-sea corals remain mysterious (Orejas et al., 2006). BobEco samples will allow the assessment of eventual differences on coral skeleton growth parameters and on boron isotopes incorporation through chemical boron extraction analysis and high precision X-ray tomography studies. Finally, recent studies identify an important proportion of trigonal boric acid incorporated into coral skeleton (Klochko et al., 2009,

Rollion-Bard et al., 2011). Studying samples with Magnetic Nuclear Resonance (MNR) will shed some light on the boron incorporation for live samples living at different pHs.

Samples:

Samples mainly consist of fragments of coral species (i.e. *Madrepora oculata* and *Lophelia pertusa*) that were originally destined for genetic studies. In addition, several big-sized samples were recovered in order to apply the datation (coll. Norbert Frank, leg 1) and paleo-pH reconstruction techniques.

This is the nomenclature for the samples list:

-MF = *Madrepora oculata* Fossil

-MA = *Madrepora oculata* Alive

-LF = *Lophelia pertusa* Fossil

-LA = *Lophelia pertusa* Alive

Samples that have different types of coral forms and species are counted as unique samples, even if the composition is detailed in the observations column.

A total of 946 samples was collected on the ROV dives. Most of the samples consist of individual or a few modern or fossil polyps (initially destined for genetic sampling). These little fragments were collected from all boxes (CCA, CCB and a few from CCC). These samples will allow us to perform skeleton density measurements in order to assess potential differences between the two species, between sampling sites or between fossil and non-fossil polyps. Replicates on sampling will help us estimate the reproducibility and the precision of the technique. Moreover, these samples will also permit the calibration of the methodology of pH reconstruction comparing the pH obtained through boron isotopes incorporated into coral skeleton to pH measurements of seawater collected near the sampling site (PEPs sampling). Finally, studies on how boron is incorporated in coral skeleton may be carried out with MNR.

Samples are listed by diving sites and sampling ROV cases in **table 1**.

During **Dive PL471-49-9 – Petite Sole**, two medium-sized samples of *Madrepora oculata* and *Lophelia pertusa* were collected. Those samples will be used for calibration exercises and skeleton density studies.

Moreover, five specimens of fossil and live corals (*Solenosmillia* corals?) that were maintained at 4°C for several days, will be taken to Norbert Frank for dating.

During **Dive PL475-13 - Logatchev**, 396 samples of *Lophelia pertusa* and *Madrepora oculata* were collected (fossil and live samples). Studies on how boron is incorporated in coral skeleton may be carried out. Two bivalve fragments of shell were also sampled, in order to apply the boron isotopes technique in bivalve calcium carbonate.

In addition, the following big sized-samples will be used from this dive for the purpose of reconstruction techniques:

BobEco_PL475-13_CCA1_LF+LA

BobEco_PL475-13_CCA1_LA_A

BobEco_PL475-13_CCA1_LA_B

BobEco_PL475-13_CCA1_LA_C

BobEco_PL475-13_CCA1_MA

BobEco_PL475-13_CCA1_MF+MA

During **Dive PL476-14 – Petite Sole (not main Canyon)** 115 samples were cleaned in seawater and dried overnight at ambient temperature. Most samples consist of fossil and/or live fragments of *Madrepora oculata* and *Lophelia pertusa*. Those samples, like the samples from Dive PL475-13 will be subjected to calibration experiments and skeleton density studies. Some of these samples were taken from sites at different depths. Additional studies will look for eventual differences in skeleton density and growth parameters for these samples at different depths.

In addition, the following big sized-samples will be used from this dive for the purpose of reconstruction techniques:

BobEco_PL476-14_CCB5_LF

BobEco_PL476-14_CCC8_MF+MA

BobEco_PL476-14_CCA6_LF

BobEco_PL476-14_CCB8_MF+MA

BobEco_PL476-14_CCA4_MF

BobEco_PL476-14_CCB1_MF+MA

BobEco_PL476-14_PBT3_MF+MA

BobEco_PL476-14_Vrac: fossil *Lophelia pertusa* found in the upper ROV cover.

During **Dive PL477-15 - Sorlingues**, approximately 22 samples were taken from CCA5, CCA6 and CCA7. These samples were collected at different depths, and will allow us to carry out the experiments already described for the previous dives.

In addition, the following big sized-samples will be used from this dive for the purpose of reconstruction techniques:

BobEco_PL477-15_CCA5_MA+LF

During **Dive PL478-16 – Lampaul Canyon**, 106 samples of fragments of fossil and live *Madrepora oculata* and *Lophelia pertusa* were collected for calibration experiments and skeleton density studies. In addition, an oyster was collected in GBT1 and GBT2. Six specimens of fossil oyster shell will allow us to test the boron isotopes technique in other phylum.

During **Dive 479-17-Crozon Canyon**, 150 fragments of fossil and live coral were sampled, both for applying dating techniques and paleo-pH reconstruction, in particular boron isotopic calibration experiments.

No big-sized samples were taken for paleo-pH reconstruction purposes from this dive.

Finally, during **Dive PL480-18 – Douamenez Canyon**, 152 small coral fragments were collected for boron isotopic calibration and skeleton density studies.

Site	Case	Madrepora fossil (MF)	Madrepora Alive (MA)	Lophelia fossil (LF)	Lophelia alive (LA)	Observations	Total
PL475-13	CCA1	7	17	1	1 6	LF+LA	32
PL475-13	CCA2	1 8	1 3	NO	1	MF+MA	14
PL475-13	CCA3	1	11	NO	7		19
PL475-13	CCA4	NO	9	2	9		20
PL475-13	CCA4	1	NO	2	NO		3
PL475-13	CCA5	1 2	1 3	3	8	MF+MA	17
PL475-13	CCA6	6	9	NO	11		26
PL475-13	CCA7	1	1	3	NO		5
PL475-13	CCB1	2	1	5	2		10
PL475-13	CCB2	9	23	1	12		45
PL475-13	CCB3	13	8	3	4		28
PL475-13	CCB4	1 2	1 26	2	2	MF+MA	31
PL475-13	CCB5	8	9	1 5	1 5	LF+LA + Coquille bivalve	28
PL475-13	CCB6	14	11	3	4		32
PL475-13	CCB8	1	5	NO	1		7
PL475-13	CCC1	1	1	6	4		12

PL475-13	CCC2	5	6	NO	1		12
PL475-13	CCC4	NO	5	NO	1		6
PL475-13	CCC5	2	4	NO	1		7
Site	Case	Madrepora fossil (MF)	Madrepora Alive (MA)	Lophelia fossil (LF)	Lophelia alive (LA)	Observations	Total
PL475-13	CCC5	NO	NO	1	8		9
PL475-13	CCC6	1	1	3	1		6
PL475-13	CCC7	NO	8	NO	12		20
PL475-13	CCC8	NO	1	NO	1		2
PL475-13	PBT3	NO	NO	1 1	1 7	LF+LA	9
PL475-13	PBT4	1 1	1 1	NO	NO	MF+MA MF+MA	2
PL476-14	CCA1	2	6	1	1 2	LF+LA	11
PL476-14	CCA1					Narella	1
PL476-14	CCA2	2	5	1	1	LF+LA	8
PL476-14	CCA3	NO	NO	NO	1		1
PL476-14	CCA4	1	NO	NO	1		2
PL476-14	CCA6	3	NO	NO	3		6
PL476-14	CCA7	NO	7	NO	2		9
PL476-14	CCA8	1	NO	1	1	LF+LA	2
PL476-14	CCA8	4	5	NO	NO		9

PL476-14	CCB3	NO	NO	NO	4		4
PL476-14	CCB4	1	NO	1	4	LF+LA	7
PL476-14	CCB5	NO	NO	1	2		3
PL476-14	CCB6	NO	3	NO	6		9
PL476-14	CCB8	1	1	1	1		4
Site	Case	Madrepora fossil (MF)	Madrepora Alive (MA)	Lophelia fossil (LF)	Lophelia alive (LA)	Observations	Total
PL476-14	CCC3	1 1 1	1 1	1	1 3	MF+LF+LA MF+MA	7
PL476-14	CCC4	NO	1	NO	6		7
PL476-14	CCC5	2	2	NO	NO		4
PL476-14	CCC5	3	NO	NO	NO		3
PL476-14	CCC6	NO	9	NO	5		13
PL476-14	CCC7	NO	NO	1	2		3
PL476-14	CCC8	NO	1	1	NO		2
PL476-14	PBT4	NO	NO	1	1	LF+LA	1
PL477-15	CCA5	1	5	4	1		11
PL477-15	CCA6	1	5	NO	2		8
PL477-15	CCA7	1 2	NO	NO	1	MF+LA	3
PL478-16	CCA1	2	5	NO	NO		7
PL478-16	CCA2	1		1		MF+LF	9

		1 1	1 1	1	1 4	LF+LA MF+MA	
PL478-16	CCA2					Dendrophyllia fossil and live	2
PL478-16	CCA3	1 1 7	1 1 4	1 1 5	1	MA+LF MF+LF MF+MA	20
PL478-16	CCA4	NO	NO	2	NO		2
Site	Case	Madrepora fossil (MF)	Madrepora Alive (MA)	Lophelia fossil (LF)	Lophelia alive (LA)	Observations	Total
PL478-16	CCA5	3	1 1 5	1 1 4	15	MA+LF MA+LF	29
PL478-16	CCA6	1	2	NO	5		8
PL478-16	CCA7	1 1 1	1 1 6	1 1 2	1 1 3	MF+MA MF+MA+LF MF+LF	13
PL478-16	CCA8	1 1	1 1 6	1 1 2	3	MF+MA MF+MA+LF	13
PL478-16	GBT1		1	1		MA+LF	20

		2	3	7	4	+2 oyster shells	
PL478-16	GBT2	1	1	1	2	MA+LF +4 oyster shells	5
PL478-16	GBT3	1	NO	2	NO		3
PL479-17	CCA1	1 3	1 1	NO	NO	MF+MA	5
PL479-17	CCA2	6	NO	NO	NO		6
PL479-17	CCA3	2	5	NO	NO		7
PL479-17	CCA4	2	1	1	1		5
PL479-17	CCA5	NO	5	NO	NO		5
PL479-17	CCA6	1	3	NO	NO		4
Site	Case	Madrepora fossil (MF)	Madrepora Alive (MA)	Lophelia fossil (LF)	Lophelia alive (LA)	Observations	Total
PL479-17	CCA7	1 2	1	1	1	MF+LA	5
PL479-17	CCA8	1 1	1 1			MF+MA	3
PL479-17	CCB1	1 6	1 1	8	1		17
PL479-17	CCB2	3	NO	NO	6		9
PL479-17	CCB3	1	1	1	5		8
PL479-17	CCB4	4	5	1	1 2	LF+LA	12

PL479-17	CCB5	6	7	NO	1		14
PL479-17	CCB6	2	6	3	NO		11
PL479-17	CCB7	1	3	2	3		9
PL479-17	CCB8	3	5	4	1		13
PL479-17	GBT1	2	2	NO	NO		4
PL479-17	PBT2	4	3	2	4		13
PL480-18	CCA1	NO	1	1	1	LF+LA MA+LF	4
PL480-18	CCA2	2	1	NO	1		4
PL480-18	CCA3	2	1	1	NO		4
PL480-18	CCA4	2	1	4	1		8
PL480-18	CCA5	NO	1	1	7		9
PL480-18	CCA6	NO	2	2	NO		4
PL480-18	CCA7	NO	2	1	NO		3
Site	Case	Madrepora fossil (MF)	Madrepora Alive (MA)	Lophelia fossil (LF)	Lophelia alive (LA)	Observations	Total
PL480-18	CCA8	1	2	NO	6		9
PL480-18	CCB1	NO	2	NO	2		4
PL480-18	CCB2	1	3	1	1	MF+LA	5
PL480-18	CCB3	2	2	2	NO		6
PL480-18	CCB5	NO	6	2	3		11
PL480-18	CCB6	2	1	1	1		5

PL480-18	CCB7	NO	1	3	3		7
PL480-18	CCB8	NO	2	NO	3		5
PL480-18	CCC3	NO	1	NO	NO		1
PL480-18	CCC5	3	10	6	2		21
PL480-18	CCC7	1	5	1	10		17
PL480-18	CCC8	1	2	NO	6		9
PL480-18	GBT1	1	1	4	NO		6
PL480-18	GBT2	1	NO	4	NO		5
PL480-18	GBT3	NO	4	NO	1		5

V. Ichthyologic communities

Thomas Linley (Aberdeen University)

1. Purpose of the cruise

The **Biogenic Reef Ichthyofauna Lander** (BRIL) offers an alternative to destructive methods of fish population assessment. Only a very small amount of coral is likely to be impacted, if at all, by the ballast (anchor chain links – about 50cm² total area) making the method favorable within sensitive habitats.

The lander is highly selective. Only scavenging species will be attracted to the bait and others may be discouraged by the strobe of the camera. In general, about one third of the species that would be found in a trawl survey are found using the lander. It is possible however, to use the lander to compare species composition, animal size and local abundance.

Lander studies within the CoralFISH project will supplement other methods of fish population assessment to **give a complete picture of which species are making use of cold-water coral reefs and what for.**

The BRIL will collect new data within the Bay of Biscay and supplement data already collected within Irish waters.

2. The Biogenic Reef Ichthyofauna Lander (BRIL) Equipment

BRIL is a baited, free-fall photographic lander (Fig.1). The main lander frame is custom built from aluminum. Precision fitted plastic clamps are used to attach the scientific payload, a 3,000m rated Kongsberg digital stills camera (OE14-208) based on the Canon Power Shot G5 encased in titanium alloy housing. Storage is on an internal four-gigabyte compact flash card. Illumination is provided by a flashgun (OE11-242) slaved directly to the main camera. Both are powered by a Bennex DeepSea Power & Light Power Module delivering 24V-40AH (Two 12V-40AH cells connected in series), which is housed in an oil-filled ABS plastic case.

The settings on the camera are adjusted manually to optimize the capture of the reference cross (Table 1). The 2m strop used to connect the lander to the ballast provides the known distance. This allows the lander to function with no other light source than the strobe, hopefully reducing the amount of disturbance to scavenging animals.

An **ADDI SeaGuard platform** controls the environmental sensors. It is set up via an integrated Windows-based interface. Mounted on the unit is a ZPulse **Doppler Current Sensor** (4520), **temperature sensor** (4060), **conductivity sensor** (4319) and a **pressure sensor** (4117). Two of the four current sensor lenses are deactivated. Only those facing out from the frame with an unobstructed beam are used for readings. During each deployment, the SeaGuard recording platform took a **reading every 5 minutes**. Since the recorder is placed on the lander frame, it is worth noting that it is **2.5m above the seabed**. Due to the boundary effect it is likely that current speed around the bait is lower, potentially to a greater extent in the coral areas. Data is stored internally on a Secure Digital (SD) memory card. A custom-built battery pack was constructed that allowed the unit to take disposable, commercially available batteries.

Table: Settings used on Kongsberg digital stills camera. Focal range is $\frac{3}{4}$ of actual distance due to the magnifying effect of the water/air interface at the lens.

ISO	100
F stop (aperture)	6.3
Shutter Speed	1/125
Flash output	Full
Resolution	L
Compression	Fine
Focal length	1.5m

IXSEAOceano 2500 Universal releases are connected to a release yoke. Only one is required to fire for the unit to release. During this cruise a second release with integrated USBL (Ultra Short BaseLine) beacon was borrowed from Ifremer to give precise lander positioning.

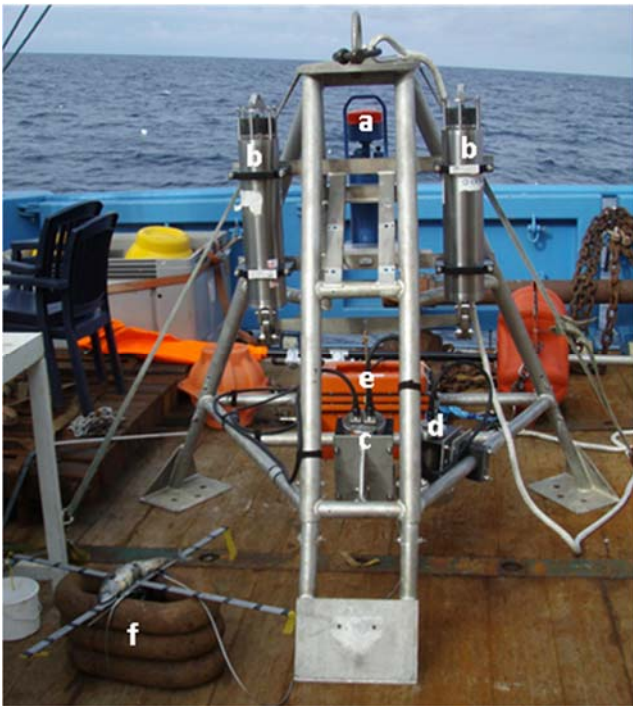


Figure: Lander frame with scientific payload. a) AADI SeaGuard, b) IXSEA Acoustic Releases, c) Kongsberg Digital Stills Camera and d) Flash and e) Bennex Deep Sea Power and Light Battery can all be seen clamped to the frame. f) Reference cross, bait and ballast can also be seen in the foreground.

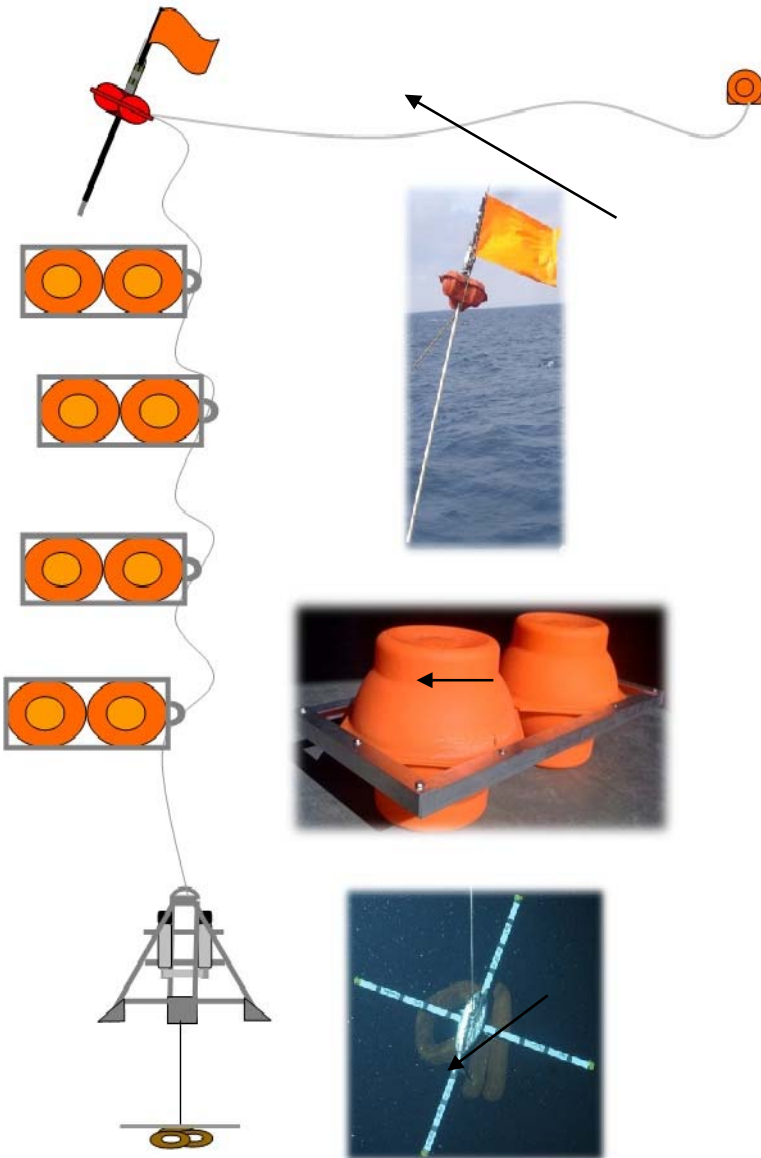


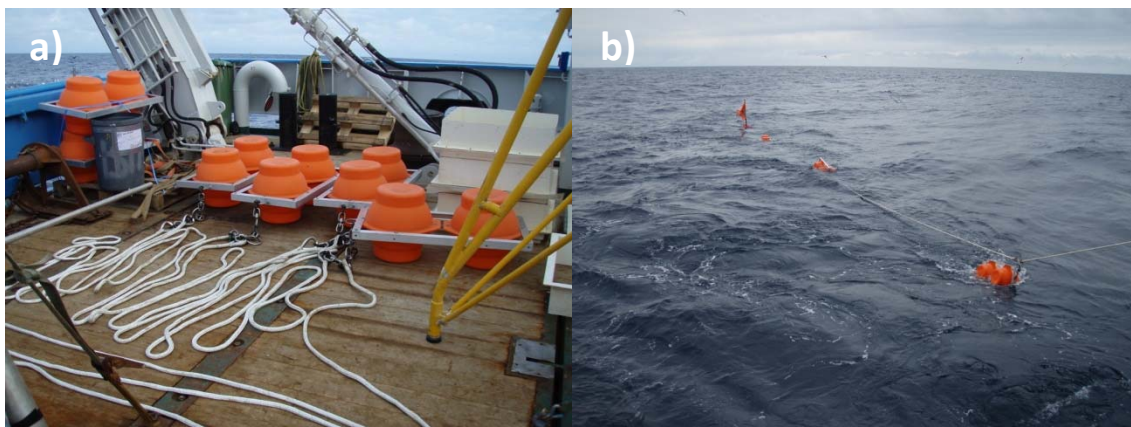
Figure: lander mooring line as it appears during deployment.

At the top of the mooring line is a Dahn buoy constructed from three VITROVEX thirteen-inch diameter glass spheres mounded in a triangular protective casing. A mast passes through the center of the buoy. To aid spotting the lander at the surface a large plastic flag is fitted to the top of the mast. A NOVATECH ST-400A Xenon Flasher and NOVATECH RF-700A1 VHF Radio Beacon are mounted just below the flag. Both are activated upon surfacing and aid in the location of the lander at the surface. 20m of floating 20mm polypropylene rope ending in a pellet buoy (eleven-inch glass sphere in protective casing) is attached to the Dahn buoy. This provides an area where the lander can be grappled and recovery can begin via winch.

BRIL deployment

One whole mackerel (*Scomber scombrus*) weighting approximately 500g is attached to a reference cross with 10cm markers and current indicators. Three salvaged anchor chain links weighing 45kg each are attached to the underside of the reference cross as ballast. The cross is attached to the lander via a 2m strop.

The vessel steams towards the deployment site at about 0.5knts. All equipment is powered up. A successful boot-up is observed before the SeaGuard is sealed in its housing and it is ensured that the camera strobe fires every minute – two consecutive flashes indicate that the camera is successfully recording the images. The pellet and Dahn are thrown clear off the rear of the vessel. The connecting rope is laid out ready and is pulled passively into the water by the vessel's forward movement. The next float rack is positioned near the stern. Just before the rope pulls taught the rack is pushed over the stern. Once the lander is positioned over the stern of the vessel and the mooring is streaming out without any knotting, the lander is released following approval from the bridge. Forward movement should be maintained until all equipment is clear. The float racks will be seen to descend in turn, following the lander. The time that the flag descends is noted and will be referred to as "flag down time".



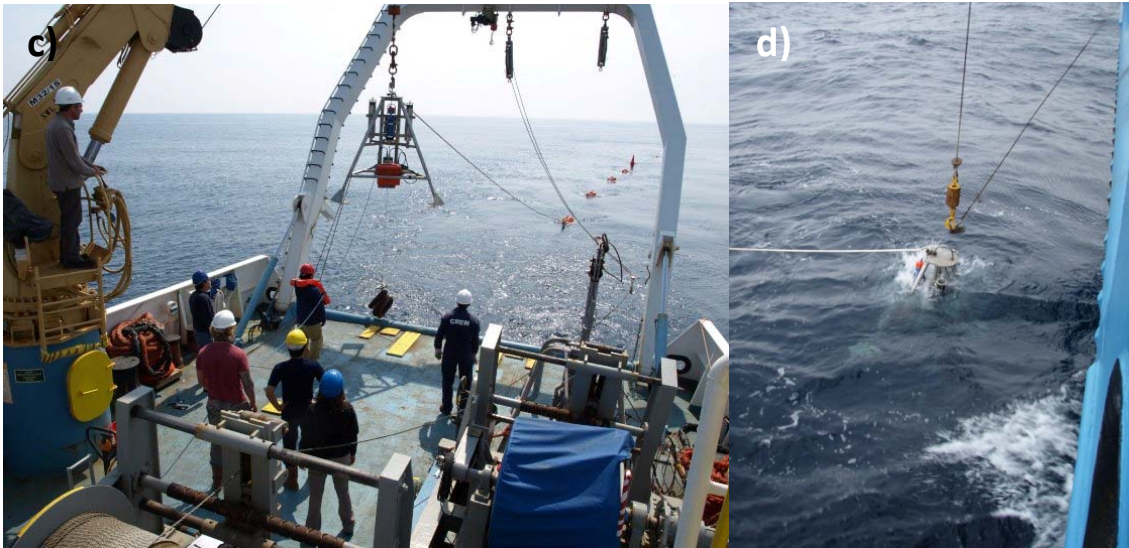


Figure: BRIL deployment sequence. a) mooring line laid out on deck, b) mooring line being deployed from the stern of the RV Pelagia, c) BRIL being positioned for release onboard the RV Universitatis, d) BRIL release by quick-release.

BRIL recovery

The IXSEA releases are communicated with via a hull mounted or dunking transducer and an IXSEA TT 801 LF telecommand unit. If the USBL receiver is enabled, the lander ascent can be monitored.

Upon reaching the surface the VHF transmitter will activate and the lander should be spotted visually.

The floating rope is grappled from the starboard side. The mooring line is hauled in via a tigger winch through a wide-throated (also known as fishermen's or fat-boy) block attached to the stern A-frame. Each component of the line is removable, the line can be hauled and, upon reaching a float, brought inboard using the A-frame and removed by hand. This process continues until the BRIL itself is at the surface. It is lifted and brought inboard via the A-frame. The frame and floats are secured and the recovery is complete.

Deployments

BRIL was deployed 7 times; 2 in the 1st leg and 5 in the 2nd.

Table: Deployment locations

	Date	Lat	Long	Depth	Location	Comment
1	11/09/11	46.937240	-5.361832	781	Guilvinec	Camera failed at depth
2	13/09/11	46.381043	-4.680209	882	Croisic	Camera failed at depth
3	25/09/11	48.119911	-8.8116990	912	Sorlingues	Drifted due to tide. Ref drift to coral
4	26/09/11	48.141377	-8.800266	764	Sorlingues	Worked well, > 20hrs
5	29/09/11	51.274641	-14.706933	650	Arc	Camera failed at depth mounds
6	04/10/11	48.140245	-8.804113	629	Petite Sol	Camera failed at depth
7	06/10/11	47.600559	-7.555133	619	Lampaul	Worked well, over 24hrs

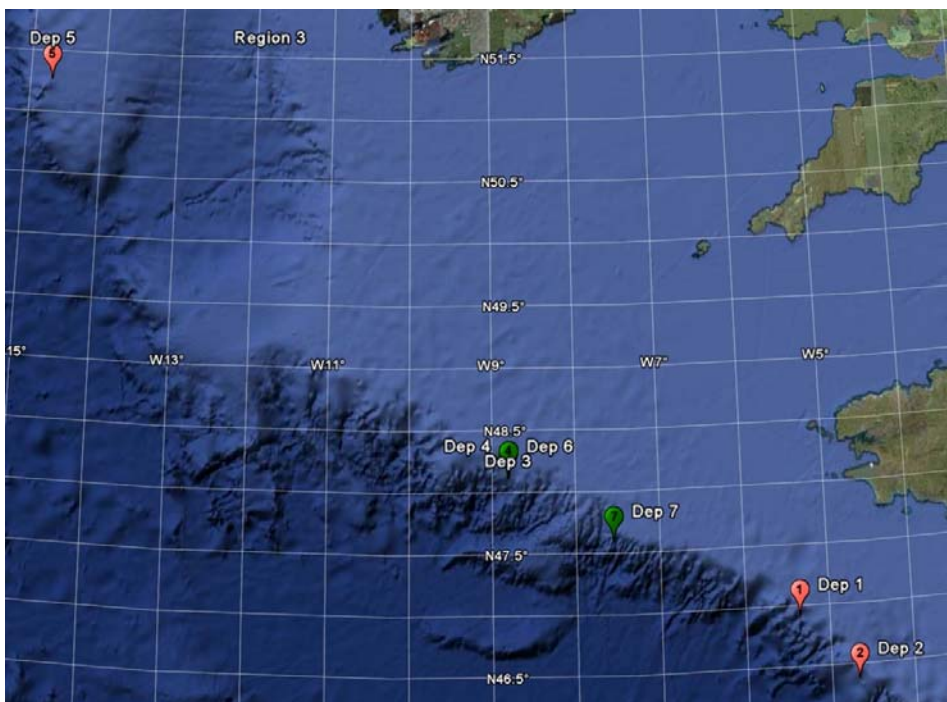


Figure: BRIL deployments within BobEco. Green markers indicate successful deployments.

Deployment 1 – Guilvinec canyon

The BRIL was deployed for almost 52hrs. On recovery it was found that the **camera had failed under pressure**, operating up to about 100m depth and then stopping. No fault could be found during deck tests. The problem only occurs under pressure.

CTD and current data was obtained for this time period. A continued increase in depth during the deployment would indicate that the lander likely drifted.

Table: Environmental data from Deployment 1

	Depth	Temperature	Salinity	Current speed
	(m)	(°C)	(PSU)	(cm/sec)
Min	827.0	8.0	35.4	0.3
Max	1003.3	11.1	35.6	41.4
Range	176.3	3.1	0.2	41.1
Mean	890.7	9.7	35.6	11.6
SD	73.62	0.72	0.03	7.11
Duration	51.75hrs			

Deployment 2 – Croisic canyon

The BRIL was deployed for over 90hrs. On recovery it was found that the **camera had failed under pressure**, operating up to about 100m depth and then stopping but this time restarting once it returned to less than 100m. This indicated that the problem was with the Burton connectors on the camera and strobe.

CTD and current data was obtained for this time period. A sudden increase in depth would indicate that the lander continued to be pushed by currents.

Table: Environmental data from Deployment 2

	Depth	Temperature	Salinity	Current speed
	(m)	(°C)	(PSU)	(cm/sec)
Min	861.8	8.2	35.5	0.2
Max	1151.0	10.8	35.7	46.1
Range	289.1	2.6	0.2	45.9
Mean	1076.2	9.2	35.6	7.5
SD	108.74	0.51	0.034	6.88
Duration	91.08	hrs		

Deployment 3 – Sorlingues canyon coral area

After sealing the connectors (Fig.5) the deployment was successful, confirming that the problem is with the Burton connectors. The contacts were cleaned with solvent to remove the corrosion that had formed. The sealing faces were well greased with silicone grease and the connectors were coated first with electrical tape and then encased in heat-shrink tubing.



Figure: initial attempts to seal Burton connectors.

The CTD data had not been fully processed up to this point and it was during the review of these images that it became apparent that the lander was moving in the strong currents (over 40cm/sec). This was originally intended as a non-coral area. However, the lander drifted and became lodged in an area of coral previously unknown (Fig.6). This newly discovered site could then be used for Calypso coring.

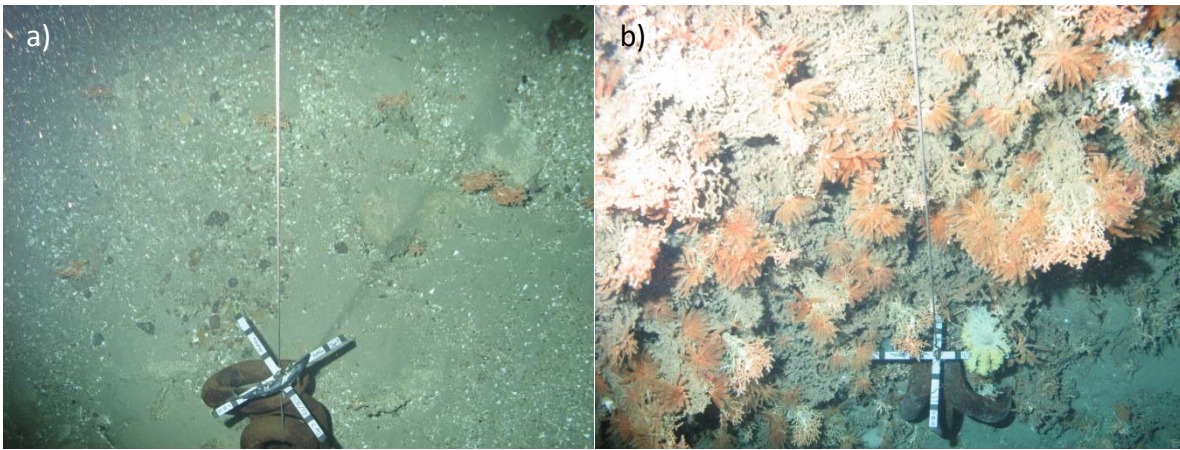


Figure: Lander movement during deployment; a) the non-coral area where the lander was originally deployed, b) the unknown coral area where the lander eventually settled.

Fish species seen during the deployment are those commonly seen on lander deployments (Fig.7). The common Mora (*Mora moro*) was the most abundant, reaching as many as four individuals in a single frame despite the lander's movement. Other common species were Greater forkbeard (*Phycis blennoides*), Codling (*Lepidion sp.*) and Cutthroat eel (*Synaphobranchus kaupii*).

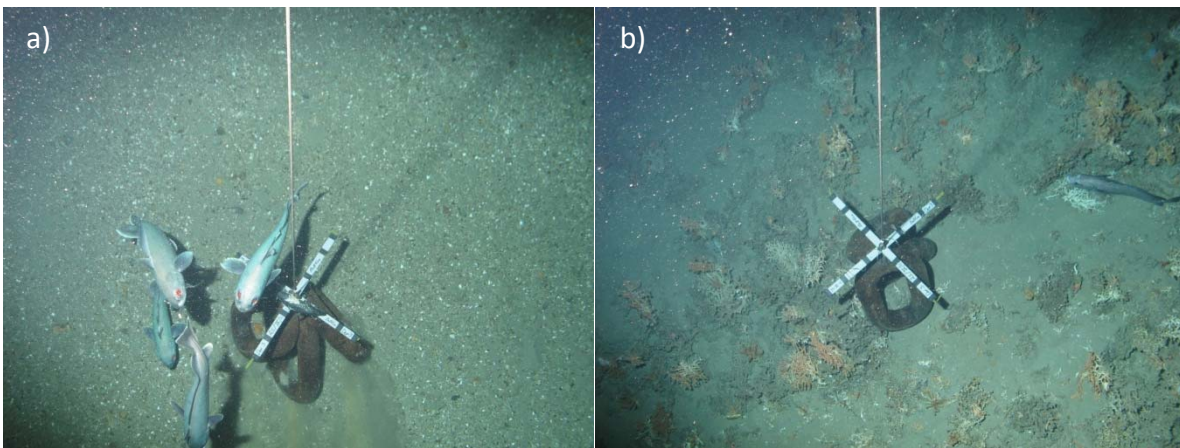


Figure: Examples of fish species attracted to the bait; a) Common mora (*Mora moro*), b) Greater forkbeard (*Phycis blennoides*)

The dominant invertebrate scavenger was the Red crab (*Chaceon quinque-dens*)(Fig.8)

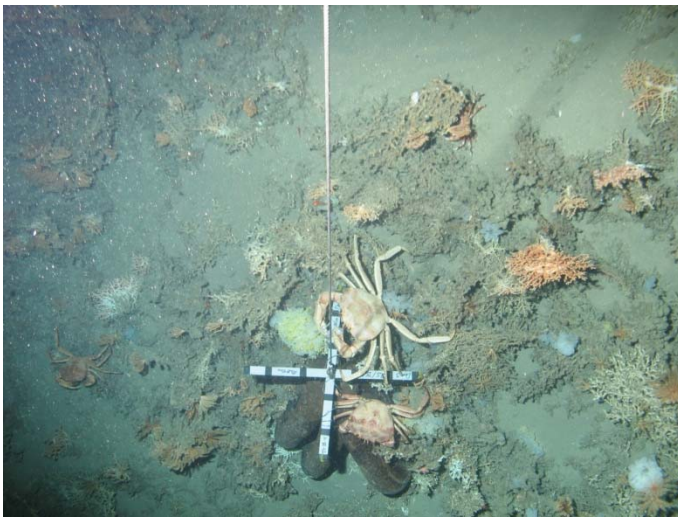


Figure: Red crabs (*C.quinquedens*) feeding on bait.

The SeaGuard was successful in collecting environmental data.

Table: Environmental data from Deployment 3

	Depth	Temperature	Salinity	Current speed
	(m)	(°C)	(PSU)	(cm/sec)
Min	934.0	8.8	35.6	0.6
Max	938.2	10.1	35.7	43.8
Range	4.3	1.3	0.1	43.2
Mean	936.3	9.3	35.6	11.8
SD	1.13	0.40	0.01	6.94
Duration	31.4	hrs		

Deployment 4 - Sorlingues canyon reference area.

Although only preliminary processing of the images has been possible to date, it seems there is a difference within the fish species attracted to the lander in the coral and reference areas. Common Mora (*M.moro*) still dominated but there seemed more numerous and larger Greater forkbeard

(*P. blennoides*). The Cutthroat eel (*S. kaupii*) was also present. The European Conger (*Conger conger*) was seen more often; these large individuals ate a large amount of the bait.

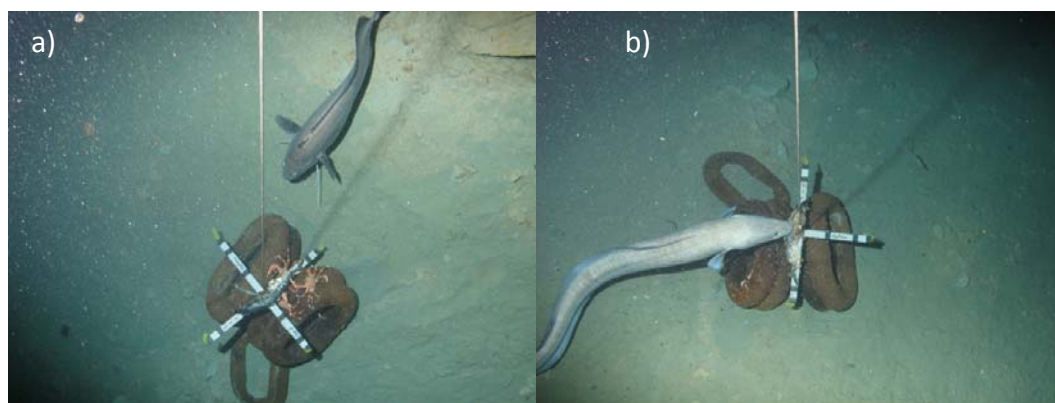


Figure: Fish species seen in the reference area; a) a very large Greater forkbeard (*P. blennoides*) and swimmer crabs (*Bathynectes longispina*), b) European Conger (*C. conger*) and a swarm of amphipods.

A difference in the invertebrate attracted was also seen. The red crab, which was numerous at the previous station, was no longer present. Large numbers of the swimmer crab (*Bathynectes longispina*) were seen instead.

It could have been due to the lander shifting in the previous deployment. It was noted, that a swarm of feeding amphipods was only seen on the deployment in the reference area. The SeaGuard was successful in collecting environmental data.

Table: Environmental data from Deployment 4

	Depth	Temperature	Salinity	Current speed
	(m)	(°C)	(PSU)	(cm/sec)
Min	759.6	9.1	35.6	1.3
Max	765.4	11.0	35.6	25.2
Range	5.8	1.9	0.1	23.9
Mean	762.5	10.2	35.6	12.6
SD	1.88	0.58	0.02	6.53
Duration	18.6	hrs		

Deployment 5 - Arc mounds

Upon recovery it was discovered that the previous problem had resurfaced, the flash had failed at depth. Water ingress and corrosion were found once the seals had been removed (Fig.10).



Figure: Corrosion visible on the female Burton connector following deployment and camera failure.

Another method will subsequently be used to attempt to seal the connectors. The SeaGuard was successful in collecting environmental data.

Table: Environmental data from Deployment 5

	Depth	Temperature	Salinity	Current speed
	(m)	(°C)	(PSU)	(cm/sec)
Min	652.3	9.7	35.4	0.3
Max	655.5	10.1	35.4	20.7
Range	3.2	0.4	0.0	20.4
Mean	653.8	10.0	35.4	8.7
SD	1.07	0.06	0.00	3.99
Duration	31.1	hrs		

Deployment 6 – Petite Sol coral area

The camera once again failed at depth. The SeaGuard was successful in collecting environmental data.

Table: Environmental data from Deployment 6

	Depth (m)	Temperature (°C)	Salinity (PSU)	Current speed (cm/sec)
Min	625.7	10.5	35.5	0.3
Max	627.8	11.1	35.6	32.2
Range	2.1	0.6	0.1	31.8
Mean	626.8	10.7	35.6	12.3
SD	0.64	0.14	0.01	8.52
Duration	25.8	hrs		

Deployment 7 – Lampaul canyon unknown area

This was a blind deployment on a mound summit. No coral was visible so it will be considered a reference station.

The deployment was successful following filling the connectors with silicon grease and sealing with amalgamating tape. The camera operated for over **24hrs and collected 1,358 images** at the seabed.

The species seen were those that had been seen at the previous deployments, including the Blackmouth Catshark (*Galeus melastomus*) (Fig.11a) and the Blue Ling (*Molva dypterygia*) (Fig.11b). The first arrivals were the Cutthroat eel (*S.kaupii*) followed shortly by very large Conger eels (*C.conger*) (Fig.11a).

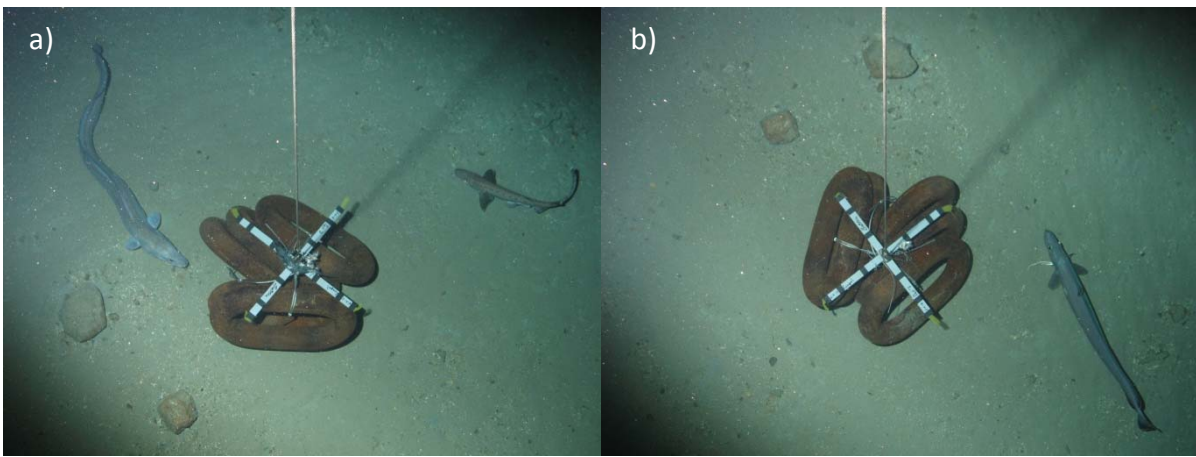


Figure: Fish species seen in the reference area; a) Conger eels (*C. conger*) and Blackmouth Catshark (*Galeus melastomus*), b) Blue Ling (*Molva dypterygia*).

Several large whelk-like gastropods were seen to be attracted to the bait, actively crawling across the reference cross and ballast. A large urchin (*Calveriosoma fenestratum*) also appeared to be drawing closer to the bait and may have been feeding on the bait scattered on the sediment by the feeding fish.



Figure: Whelk-like gastropods and large urchin (*Calveriosoma fenestratum*)

The SeaGuard was successful in collecting environmental data.

Table: Environmental data from Deployment 7

	Depth	Temperature	Salinity	Current speed
	(m)	(°C)	(PSU)	(cm/sec)
Min	622.4	10.6	35.6	0.2
Max	624.4	11.2	35.6	23.1
Range	2.1	0.6	0.0	22.9
Mean	623.4	10.9	35.6	9.1
SD	0.69	0.12	0.01	4.91
Duration	22.1	hrs		

VI. Microbiology

1. Microbial diversity of European Sponges *Hexadella*

Julie Reveillaud (Marine Biology Section, Ghent University, Belgium)

Literature Review

Marine sponges are among the first branching Metazoan, and constitute a highly diverse and abundant group in benthic communities through tropical, temperate and polar zones, from shallow to deep-sea ecosystems. They have sparked huge scientific and medical interest due to their ecological importance (Bell, 2008) and the production of a diverse range of biologically active metabolites (Faulkner, 2000). Sponges host **extraordinarily dense and diverse microbial communities** including Bacteria, Archaea and Fungi, which can comprise up to 40% of the sponge volume (Vacelet 1975, Taylor et al., 2007), and a density of more than 10^9 microbial cells per ml of animal tissue (Webster and Hill, 2001). These remarkable sponge-associated microbial communities have been shown to provide a suite of nutritional and defensive capabilities to their host (Hentschel et al., 2006; Taylor et al., 2007; Van Duyl et al., 2008). In addition, these symbiotic associations may have a significant role in the sponge carbon and nitrogen cycles, and have the potential to open up new pathways for the production of important secondary metabolites. However, relatively little is known about sponge microbiomes, the **true extent of their diversity**, the relationship with their hosts, their functional role, and the factors influencing their community structure. Little has been published about the **specificity of sponge-symbiont** associations, i.e. the relative contribution of host-specific selection vs. colonization from the environment. Sponges constitute a remarkably diverse and numerous group in the deep sea. Due to the remoteness and poor accessibility of this habitat, little data on these sponges are available compared to their shallower counterparts, and even less is known about the deep-sea sponges microbiomes. Recent studies on deep-sea sponges associated with cold-water coral reefs have revealed substantial biodiversity levels (e.g., Longo et al., 2005; Van Soest et al., 2007), and the existence of many cryptic lineages in small encrusting sponge growth forms (e.g., Reveillaud et al., 2010; 2011). With the increasing availability of deep-sea sampling tools, deep-sea sponges and their microbiomes constitute a valuable reservoir of metabolic and genetic diversity that can now be untapped. The genus *Hexadella* (Porifera, Verongida, Ianthellidae) constitutes ideal model taxa for the investigations of sponge microbiomes. *Hexadella* species produce many different metabolites,

among which complex brominated tyrosine derived compounds showing a wide range of biological activities (e.g., anti-HIV; Matsunaga et al., 2005). Morris and Andersen suggested that the composition of this metabolite pool is modulated by water depth (1989). Individuals are found in a wide range of environments (i.e., from shallow to bathyal cold-water coral environments, from the Mediterranean to the Norwegian margin) and the **phylogeny of these European *Hexadella* taxa is now well documented**. Recent phylogenetic studies between Atlanto-Mediterranean shallow-water and deep-sea coral associated *Hexadella* species demonstrated the occurrence of several cryptic species (Reveillaud et al., 2010). Sibling species belonging to the *Hexadella racovitza* complex showed different biochemical profiles and toxicity properties toward the marine bacterium *Vibrio fischeri* (Reveillaud et al., in prep), indicating that **microbiome studies should be carried out below genus level**.

Aims of the study

The general objective of this study is to investigate the **extent of the microbial diversity** associated with *Hexadella* species and to test the following hypothesis: *Hexadella* symbiotic microbial community structure is correlated with (i) the levels of sponge phylogenetic relatedness, (ii) habitats (shallow / deep-water), and (iii) geographic location. A total of 73 *Hexadella* sponges were sampled along European margins -stored in ethanol- and their taxonomy and phylogenetic relatedness was determined using the congruence of independent mitochondrial and nuclear molecular markers (Reveillaud et al., 2010). In addition, new specimens (as well as sea water samples) will be obtained during the deep-sea campaign BobEco (September-October 2011, R/V *Pourquoi Pas?*, Ifremer, French-Irish margins) and will be added to this collection. The archaeal and bacterial community structure of *Hexadella* individuals (reflecting the divergent *Hexadella* lineages and their geographic distribution) will be evaluated using amplicon pyrosequencing of 16s rDNA gene libraries (Sogin et al., 2006, Webster et al., 2010). In addition, the functional diversity of microbes inhabiting these sponge habitats will be evaluated when possible, based on taxonomic assignment of the 16s rDNA sequences and comparison with the large 16s rDNA database. Using a tag pyrosequencing technology, this study **would be the first to investigate in depth the microbial communities associated within closely related sponge species**, along a wide geographic and

bathymetric range. Finally, this study aims to evaluate and compare methods for the preservation of DNA for analysis of microbial communities in sponges using pyrosequencing techniques. This research will be carried out at the Sogin's lab, Marine Biological Laboratory (Josephine Bay Paul Center Woods Hole, USA), in collaboration with the University of Ghent (Belgium, Supervision Prof. dr. Ann Vanreusel). This post-doctoral project is funded by the European Commission HERMIONE project (Hotspot Ecosystem Research and Man's Impact On European seas, EC-FP7).

Aims of the BobEco Cruise

The BobEco cruise aimed at the sampling of additional *Hexadella* specimens and seawater samples from the French and Irish margins in order to (i) complete our sampling dataset, and (ii) allow testing preferred preservation protocols for pyrosequencing analysis of sponge microbial communities. Half of the specimens was preserved in 96% ethanol (for species identification and microbial analysis), while the other half was frozen at -80°C (for microbial analysis comparison). In addition, some *Hexadella* specimens and background seawater were collected in sealed individual compartments. These latter specimens *-collected in closed conditions-* will prevent microbial contaminations and allow us to examine the influence of the surrounding water environment on the microbial diversity of sponges.

Info acquired, Improvement of the studies

Due to the presence of specialized microbial devices on board of the R/V *Pourquoi Pas?* (sealed individual containers, autoclave, hood), the ship can be seen as a sea-laboratory of excellence to collect sponge samples for microbial diversity analysis using pyrosequencing techniques. I had the great opportunity to learn and interact with researchers at Ifremer working on microbial diversity (V. Cueff-Gauchard, Dr. Sophie Arnaud-Haond). I am convinced that both will be key elements to successfully achieving my post-doctoral project on sponge-microbial communities, to contributing to my personal scientific maturity and to pursuing the aim to create my own original line of investigation.

	DIVE	Equipment	Nb specimens	Taxon
	PL469-47-7 (Guilvinec)	CCB8P02		Porifera
		CCB8P01		Porifera
		CCB8P02		Porifera
		CCB8P01		Porifera
		CCC3-P0		Porifera
		CCC2-P0		Porifera
		CCAA5-P01		Porifera
		CC3-P0		Porifera
		CCAA5-P01		Porifera
		CC2-P0		Porifera
		GBT Gd		REMOVED
		CCB8-P0		REMOVED
		CCA1		Porifera
		CCB1-P0		Porifera
		CCB1-P0		Porifera
		GBT-P03		Porifera
		GBT-P02		Porifera
		GBT-Gd		Porifera
	GBT-Gd		Porifera	
	PL 468-46-6 (Croisic)	GBT3		Porifera
		GBT3		Porifera
		GBT3		Porifera
		GBT3		Porifera
		GBT2		Porifera
	PL470-48-8 (Lampaul)	CCB4-P01		Porifera
		CCB4-P02		Porifera
25/09/2011	PL471-49-09 (Petite Sole)	CC_A2	1	Hexadella
			1	Hexadella
			2	Hexadella
			1_2 with REST	Hexadella
		CC_A4		Hexadella
				Hexadella
			3_4	Hexadella
		CC_A7		Hexadella
				Hexadella
				Hexadella
		PBT5-Microbio	1	Hexadella
			1	Hexadella
			1_2 with REST	Hexadella
		PBT6-Microbio		Hexadella
				Hexadella
			1_2_3 with REST	Hexadella
PBT1-MICROBIO_WATER		Water		
		Water		
PBT2-MICROBIO_WATER		Water		
		Water		
	BIO_WATER (above corals, Valérie)		Water	

02/10/2011	PL 475-13 (Logachev)	CC-B7		Porifera
				Porifera
				Porifera
		PBT1	Hexadella 3	Hexadella on Hexactinell
			Hexadella 3	Hexadella on Hexactinell
			Hexadella 3	Hexadella on Hexactinell
			Hexadella	Hexadella on Hexactinell
			Hexadella 1	Hexadella on coral branch
			Hexadella 1	Hexadella
			Hexadella 2	Hexadella
		CC-B5		Hexadella on Hexactinell
				Hexadella on Hexactinell
		CC-B1/B2/B3/B5/B6		Hexadella on Hexactinell
		CC-B3		Hexadella
				Hexadella
				Hexadella
				Madrepora
				Madrepora
				Madrepora with Hexadella
				Hexadella on Hexactinell
		CC-A7		Hexadella on Hexactinell
				Hexadella on Hexactinell
				Hexadella on Hexactinell
		CC-A2		Hexadella on Hexactinell
				Hexadella on Hexactinell
		CC-A3		Hexadella on Hexactinell
				Hexadella on Hexactinell
				Hexadella on Hexactinell
		CC-A8		Hexadella on Hexactinell
				Hexadella on Hexactinell
				Hexadella on Hexactinell
		CC-A1		Hexadella on Hexactinell
				Hexadella on Hexactinell
				Hexadella on Hexactinell
		O_WATER-In Quadrat		water sample
				water sample
				water sample
				water sample
		GBT2		Hexadella
				Hexadella
	Hexadella			
	Madrepora			
	Madrepora			
	Madrepora with Hexadella			
	Hexadella on Hexactinell			
	????????????????			
	Hexadella on Hexactinell			
CC-C5		Porifera		
		Porifera		
		Porifera		
GBT1		Hexadella on Hexactinell		
		Hexadella on Hexactinell		
		Hexadella on Hexactinell		

	DIVE	Equipment	Nb specimens	Taxon
4-5 Octobre	PL 476-54-14	PBT1		Sediments
		PBT2		Hexadella with dead coral sk
				Hexadella with dead coral sk
				Hexadella with dead coral sk
				Hexadella with dead coral sk
				Hexadella with dead coral sk
		PBT2		Sediments
		CC-B8		Hexactinellid cut in pieces with
				Hexactinellid cut in pieces with
				Hexactinellid
		CC-B1		Hexactinellid cut in pieces with
				Hexactinellid cut in pieces with
				Hexactinellid
		CC-B6		Hexactinellid cut in pieces with
				Hexactinellid cut in pieces with
				Hexactinellid
		PBT3		Madrepora
				Madrepora
		CC-C2		Porifera
		GBT1		Porifera
CC-C7		Sediments		
CC-C8		Sediments		
CC-C3		Hexactinellid cut in pieces with		
		Hexactinellid cut in pieces with		
		Hexactinellid		
PEP 10		Water sample		
		Water sample		
		Water sample		
		Water sample		
6 october	PL 478-16 (Lampaul Canyon)	CC-A8		Hexactinellid cut in pieces with
				Hexactinellid cut in pieces with
				Hexactinellid
6 october	Subsamples Angela			Cidaris
				Cidaris
				Cidaris
				Cidaris
				Cidaris

10 october	PL480-18 (Canyon Douarnenez, IMPACTED!!!)	PBT1	Hexadella tissu scratched with scalpel (t	
				/
		CC-B6	Hexadella tissu scratched with scalpel (t	
			Hexadella tissu scratched with scalpel (t	
				/
		CC-C5	Hexadella tissu scratched with scalpel (t	
			Hexadella tissu scratched with scalpel (t	
			Hexadella tissu scratched with scalpel (t	
			Hexadella tissu scratched with scalpel (t	
			Hexadella tissu scratched with scalpel (t	
			Hexadella tissu scratched with scalpel (t	
		above sponges), really II		Water sample
				Water sample
gh in water column, no		Water sample		
		Water sample		

Table: detail of samples collected for sponges

2. Micro-organisms associated with cold-water corals (Scleractinians) and their environment

Valérie Cueff-Gauchard (Ifremer, DEEP-LM2E, Brest, France)

1. Objectives :

Interactions between microorganisms and corals have been extensively studied in tropical regions in the past years. Comparatively little is known about microbiota associated with CWC, despite their apparently extensive distribution along continental margins. Few studies have demonstrated the occurrence of a rich and diverse bacterial community within structural species of CWC reefs based on *Scleractinia*, *Lophelia pertusa* (Kellogg et al., 2009; Neulinger et al., 2009; Neulinger et al., 2008; Schöttner et al., 2009) and *Madrepora oculata* (Hansson et al., 2009).

These studies have shown that different bacterial phyla are associated with *Lophelia pertusa* or *Madrepora oculata*, either at the level of polyps, ectoderm, tentacles, gastric cavity or mucus produced by corals. Some phyla are also distinguished from those encountered in the adjacent environment (sediment, water, substrate including dead corals...) and would be specific to corals. Besides, some bacterial groups are similar among coral species and may constitute a community specific to CWC whereas others differ on a geographic basis. Species studied thus far come from Norwegian fjords, the Sea of the Hebrides, the Mediterranean Sea or the Gulf of Mexico (Kellogg et

al., 2009), from Alaska (Penn et al., 2006) or from Irish waters (Hansson et al., 2009). Although distinct molecular approaches were used, microbial diversity seems to vary among geographic locations but also within geographic zones on a local scale.

Besides, the composition of bacterial communities also seems to be related to the color of coral colonies, white, pink or orange-yellow for *Lophelia pertusa* (Neulinger et al., 2008), and is entirely different in live and dead corals.

At the moment no data is available on the diversity of bacterial communities associated with CWC in the Bay of Biscay, and only a single study reports the composition of communities associated with *Madrepora oculata* on Rockall Bank (Ireland). During the cruise, our aim is, therefore, to collect samples in order to describe bacterial and archae communities (ADNr 16S) associated with the two main reef builders *Lophelia pertusa* et *Madrepora oculata* in the Bay of Biscay and in Ireland. These communities will be compared to those present in the environment (water and substrate) of the reefs, in order to describe the lineages and assemblage of lineages strictly associated with each coral species. Comparisons will also be made between impacted zones (trawled areas) and non-impacted ones within the framework of the CoralFISH project. The relationship between community composition and the color morphs will also be investigated. Finally, tissue will be preserved for potential future RNA studies dedicated to the metabolic activity of major microorganisms associated with CWC.

The research done to date has not unraveled the role of bacteria associated with CWC. Several hypotheses as to their role have been proposed (1) their contribution to nutrition through the carbon cycle, the chelation of iron, the transformation of nitrogen or polyphosphates into elements metabolized by corals, (2) the detoxification through biotransformation of toxic metabolites, (3) the stabilization and development of the calcareous skeleton through bacterial induction, (4) the production of secondary metabolites acting as protective agents such as antibiotics protecting from putative pathogens (Yakimov et al., 2006). The composition of the microbial community may also be related to the geographic distribution of corals as well as their color (Neulinger et al., 2008).

Collected samples will also be preserved in order to be able to further develop more functional approaches to identify the bacterial metabolism and their possible role, following their preliminary phylogenetic characterization:

- Conditioning of DNA for studies on functional genes if future funding allows it.
- Onboard tissue fixation for future in situ hybridization with specific sounds in order to identify groups present in majority.

- Fixation for electronic microscopy in order to visualize the distribution of microorganisms within structures.
- Conditioning to preserve live microorganisms in order to cultivate lineages.

Finally, several specimens of *Eunice norvegica* will be preserved in order to assess microbial diversity associated with this species, in particular the digestive track, and compare it to the communities described in corals.

2. Sampling strategy

Considering the configuration of dives and different tools used with the ROV Victor, sampling tools used for microbiology can only be used when one or two lifts can be sent per dive. We concomitantly collected specimens for microbiology while sampling for population genetics. For each site chosen for sampling, sampling quadrates were defined for population genetics with each sample corresponding to a-priori-generated random coordinates within the quadrate. Each time it was possible, a sterile and waterproof box was used to sample each species (one colony per box), *Lophelia pertusa* and *Madrepora oculata*, at one of those coordinates. Thus, samples could be used for both microbiology and population genetic analysis with the information combined in the end. Waterproof boxes (PBT) were cleaned with detergent, rinsed and sterilized with ethanol and filled with sterile water filtered at 0.22 μ m before being used for sampling.

At each sampling station, a water sample was taken from the surroundings: sediment and/or substrate at the basis of the colonies (either dead coral type *Lophelia pertusa* or sediment) and water.

The collector of water by pumping (PEP) was used to sample water using sterile bags of 5L (about 8min30 to pump about 4.6L). In the beginning of leg 1, we tried to calibrate the pumping time needed to optimize the volume.

As for sediment sampling during the first leg it was impossible to use other tools than the sterile and waterproof boxes used to sample corals. The colonies were thus sampled with the dead substrate attached to their basis. A volume of sediment was also collected at the foot of the colony and added to the same box. This necessitated a rigorous cleaning of colonies with sterile water on board before processing in order to avoid cross contamination with sediment. During the second leg, tube cores were tested to collect sediment. However, this was unsuccessful as the sample sediment was too hard and admixed with rubble, which meant that cores emptied in the water column straight after collection. In the end, one sampling box was therefore used to sample sediment apart from colonies.

3. Samples conditioning

Colonies of *Lophelia pertusa* & *Madrepora oculata*

Once arrived on deck, colonies were directly transferred from the sampling box to a sterilized plastic tank under a laminar flow hood. Several live branches were cut with sterile material and transferred to a sterile petri dish. Polyps targeted for DNA, RNA or cultures were smashed and dissected with sterilized material (hammer covered by sterile plastic changed for each sample, and pliers) to extract flesh and separate it from calcareous structures. Samples targeted for microscopy (FISH and electronic microscopy-MET) were kept intact.

Polyps were then transferred into 1.8 ml-cryotubes filled with solutions corresponding to future targeted use. For each colony:

- 4 tubes for RNA with RNA later kept at -80°C
- 5 tubes for DNA frozen at -80°C
- 3 tubes for FISH filled with 2% formaldehyde
- 3 tubes for MET/MEB with 2.5 % glutaraldéhyde
- 3 tubes for cultures filled with 5% DMSO in seawater and kept at -80°C.

Substrate = sediment and/or dead colonies mixed or not with sediment

Substrate was recovered with a large sterile spatula and transferred to a laminar flow hood in a sterile porcelain mortar. Dead coral fragments were then ground and transferred to 50 ml falcons.

- ADN: 1, 2 or 3 falcons directly frozen at -80°C for DNA analyses
- FISH: 1, 2 or 3 falcons fixed with 2% formaldehyde at 4°C for FISH analysis

Water sampling

Two filtering systems on sterile Nalgène were used simultaneously, with a nuclepore 0.2 µm filter (Whatman). During the second leg, part of the water was shared with Julie Réveillaud for sponge microbiology. Water from the bags was smoothly transferred to 500 ml receptacles of filtration and pumped with a vacuum pump.

- Between 2 and 2.5L was filtered and the dried filter kept in a box at -80°C for DNA extraction
- About 2L were then filtered and the filter transferred to a petri dish inverted with 20ml of FISH fixation buffer (cf. protocol)

Protocols

ARN /ADN – Samples for DNA were frozen at -80°C, those for RNA in RNA later.

FISH – samples preserved for *in situ* fluorescent hybridization were fixed in 2% formaldehyde (in sterile seawater) for 2h at 4°C, then rinsed twice in PBS1X before being frozen in a buffer PBS2X-ethanol 50:50 at -20°C.

Sediment in falcon centrifuged for 4 min at 5000 rpm between each step and supernatant was discarded.

For filters (water), after fixation for 2 hours, the filters were reset on the filtration unit, 50ml PBS1X was injected across. The filter was then dried in 50% ethanol for 3 min, in 80% ethanol for 3 min, then in absolute ethanol before being frozen in an isolated box at -20°C.

Electronic microscopy – samples collected for electronic microscopy were fixed in 2.5% glutaraldehyde final for 16h at 4°C then preserved in a buffer containing sodium azide at 4°C.

Cultures – Samples collected for cultures were preserved in sterile seawater with 5% final DMSO and frozen at -80°C.

4. List of samples

Dive	site	Tool	Sample	Conservation/Fixation
PL467-05	St Nazaire	PEP6	1.1L	1 control filter DNA (-80°C)
		PEP12	1.1L	Not conditioned (test)
PL468-06	Bob2 – Croisic Quadrat 1	PBT2	1 colony <i>Lophelia pertusa</i>	3 polyps RNA (RNA later -80°C) 3 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyp cultures (DMSO 5% -80°C)
			Sediment alone	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
			Sediment + substrate dead corals ground	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
		PBT4	1 colony <i>Madrepora oculata</i>	4 polyps RNA (RNA later -80°C) 5 polyps ADN (à sec -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldéhyde) 3 polyps cultures (DMSO 5% -80°C)
			1 small colony <i>Lophelia pertusa</i>	2 polyps RNA (RNA later -80°C) 3 polyps DNA (dry -80°C)

			Ground dead substrate	2 Falcons 50 ml DNA (dry -80°C) 1 Falcon 50 ml FISH (fixation formaldehyde)
		PEP6	4.3 L water 4.4	2.5L filtered for DNA (dry -80°C) 1.8L filtered for FISH (fixation formaldehyde)
PL469-07	Bob2 Guilvinec Quadrat 1	PBT4	1 colony <i>Lophelia pertusa</i>	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
			1 <i>Eunice norvegica</i> cuto in 2	2 tubes DNA (dry -80°C)
			ground dead substrate	1 Falcon 50 ml DNA (dry -80°C) 1 Falcon 50 ml FISH (fixation formaldehyde)
		PBT2	1 colony <i>Madrepora oculata</i>	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
			1 small colony <i>Lophelia pertusa</i>	2 polyps DNA (dry -80°C)
			ground dead substrate	1 Falcon 50 ml DNA (dry -80°C)

				1 Falcon 50 ml FISH (fixation formaldehyde)
		PEP6	Failure of sampling	
Bob2 Guilvinec Quadrat 2		PBT3	1 colony <i>Lophelia pertusa</i>	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
			Sediment	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
			ground dead substrate	1 Falcon 50 ml DNA (dry -80°C) 1 Falcon 50 ml FISH (fixation formaldehyde)
		PBT5	1 colony <i>Madrepora oculata</i>	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
			Sediment	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
			ground dead substrate	1 Falcon 50 ml DNA (dry -80°C)

				1 Falcon 50 ml FISH (fixation formaldehyde)
		PEP12	4.3 L water	2.2 L filtered for DNA (dry -80°C) 2 L filtered for FISH (fixation formaldehyde)

plongée	site	outil	échantillon	conditionnement
PL471-09	Small Sole Quadrat 1	PBT3	1 colony <i>Lophelia pertusa</i>	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
		PBT2	1 colony <i>Madrepora oculata</i>	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
		PEP2	4.7 L water (-1 L for Julie Réveillaud)	2 L filtered for DNA (dry -80°C) 1.7 L filtered for FISH (fixation formaldehyde)
		CT8	Sediment + ground dead substrate	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
PL475-13	Logachev Quadrat 1	PBT3	1 colony <i>Lophelia pertusa</i> pink	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
			1 <i>Eunice norvegica</i> cut in 3	3 tubes DNA (dry -80°C)

			<p>4 polyps RNA (RNA later -80°C)</p> <p>5 polyps DNA (dry -80°C)</p> <p>3 polyps FISH (fixation formaldehyde)</p> <p>3 polyps MEB/MET (fixation glutaraldehyde)</p> <p>3 polyps cultures (DMSO 5% -80°C)</p>
	PBT2	<p>1 colony <i>Madrepora oculata</i> pink = Mo(1)</p>	
		<p>1 colony <i>Madrepora oculata</i> orange = Mo(2)</p>	<p>4 polyps RNA (RNA later -80°C)</p> <p>5 polyps DNA (dry -80°C)</p> <p>3 polyps FISH (fixation formaldehyde)</p> <p>3 polyps MEB/MET (fixation glutaraldehyde)</p> <p>3 polyps cultures (DMSO 5% -80°C)</p>
	BDV	<p>Sediment + ground dead substrate</p>	<p>2 Falcons 50 ml DNA (dry -80°C)</p> <p>2 Falcons 50 ml FISH (fixation formaldehyde)</p>
	PEP2	<p>4.5 L water</p>	<p>2,5 L filtered for DNA (dry -80°C)</p> <p>2 L filtered for FISH (fixation formaldehyde)</p>
	CC-A1	<p>1 <i>Eunice norvegica</i> dissected for digestive tract.</p>	<p>1 tube DNA (dry -80°C)</p>
	CC-C5	<p>1 <i>Eunice norvegica</i> dissected for digestive tract.</p>	<p>1 tube DNA (dry -80°C)</p>

plongée	site	outil	échantillon	conditionnement
PL476-14	Small Sole Quadrat 2	PBT4	1 colony <i>Lophelia pertusa</i> pink = Lp(1)	4 polyyps RNA (RNA later -80°C) 5 polyyps DNA (dry -80°C) 3 polyyps FISH (fixation formaldéhyde) 3 polyyps MEB/MET (fixation glutaraldéhyde) 3 polyyps cultures (DMSO 5% -80°C)
			1 colony <i>Lophelia pertusa</i> brown = Lp(2)	4 polyyps RNA (RNA later -80°C) 5 polyyps DNA (dry -80°C) 3 polyyps FISH (fixation formaldéhyde) 3 polyyps MEB/MET (fixation glutaraldéhyde) 3 polyyps cultures (DMSO 5% -80°C)
		PBT3	1 colony <i>Madrepora oculata</i> White/pink = Mo(1)	4 polyyps RNA (RNA later -80°C) 5 polyyps DNA (dry -80°C) 3 polyyps FISH (fixation formaldéhyde) 3 polyyps MEB/MET (fixation glutaraldéhyde) 3 polyyps cultures (DMSO 5% -80°C)
			1 colony <i>Madrepora oculata</i> orange = Mo(2)	4 polyyps RNA (RNA later -80°C) 5 polyyps DNA (dry -80°C) 3 polyyps FISH (fixation formaldéhyde) 3 polyyps MEB/MET (fixation glutaraldéhyde) 3 polyyps cultures (DMSO 5% -80°C)

		PBT1	Sediment + ground dead substrate	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
		PEP9	4.5 L water	2,5 L filtered for DNA (dry -80°C) 2 L filtered for FISH (fixation formaldehyde)
		CC-C1	1 <i>Eunice norvegica</i> dissected for digestive tractus	1 tube DNA (dry -80°C)
PL479-17	Crozon Quadrat	PBT2	1 colony <i>Lophelia pertusa</i> rose pâle, quasi blanche = Lp(1)	4 polyyps RNA (RNA later -80°C) 5 polyyps DNA (dry -80°C) 3 polyyps FISH (fixation formaldehyde) 3 polyyps MEB/MET (fixation glutaraldehyde) 3 polyyps cultures (DMSO 5% -80°C)
			1 colony <i>Lophelia pertusa</i> pink = Lp(2) hybrid with <i>Madrepora oculata</i> = Mo(1)	4 polyyps RNA (RNA later -80°C) 5 polyyps DNA (dry -80°C) 3 polyyps FISH (fixation formaldehyde) 3 polyyps MEB/MET (fixation glutaraldehyde) 3 polyyps cultures (DMSO 5% -80°C)
			1 colony <i>Madrepora oculata</i> rosé = Mo(1) hybrid with <i>Lophelia pertusa</i> Lp(2)	4 polyyps RNA (RNA later -80°C) 5 polyyps DNA (dry -80°C) 3 polyyps FISH (fixation formaldehyde) 3 polyyps MEB/MET (fixation glutaraldehyde)

				3 polyps cultures (DMSO 5% -80°C)
			1 small colony <i>Madrepora oculata</i> pink = Mo(2)	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
		PBT1	Sediment + ground dead substrate	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
		PEP13	4 L water	1 L filtered for DNA (dry -80°C) 1 L filtered for DNA (dry -80°C) 1,5 L filtered for FISH (fixation formaldehyde)
dive	site	tool	sample	Storage
PL480-18	Douarnenez Quadrat	PBT1	1 colony <i>Lophelia pertusa</i> light pink, almost white = Lp(1)	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
			1 colony <i>Lophelia pertusa</i> blanc = Lp(2) hybride avec <i>Madrepora oculata</i> = Mo(3)	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde)

			3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
		1 colony Madrepora oculata white = Mo(3) hybrid with Lophelia pertusa Lp(2)	5 polyps DNA (dry -80°C)
		2 L water	1,3 L filtered for DNA (dry -80°C) 1 L filtered for FISH (fixation formaldehyde)
	PBT 4	1 small colony Madrepora oculata pink = Mo(1)	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
		1 small colony Madrepora oculata pink = Mo(2)	4 polyps RNA (RNA later -80°C) 5 polyps DNA (dry -80°C) 3 polyps FISH (fixation formaldehyde) 3 polyps MEB/MET (fixation glutaraldehyde) 3 polyps cultures (DMSO 5% -80°C)
	PBT5	Sediment + ground dead substrate	2 Falcons 50 ml DNA (dry -80°C) 2 Falcons 50 ml FISH (fixation formaldehyde)
	PEP14	4 L water in 2 L for Julie	1 L filtered for DNA (dry -80°C)

				500 ml filtered for FISH (fixation formaldehyde)
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Global objectives were reached for microbiology, we wish to thank the three teams that made it possible: scientists, ROV and crew of the Pourquoi Pas?

VII. Phylogeny and Phylogeography

Chris Yesson (Zoological Society of London-ZSL, UK)

The primary objective of our participation in the cruise was the collection of specimens of Octocorallia (Octocorals) for genetic analysis. Prior to the start of the first leg, specimen identification sheets were provided to assist in the collection of samples. This collection is in fulfillment of our obligation to the EU-funded PF7 project CoralFISH to perform population genetics analyses on Octocorals of the NE Atlantic. Prior to this cruise, we collected a number of Octocoral samples from the Azores and off the west coast of Ireland. The collection of specimens from the Bay of Biscay adds novel populations from new geographic regions to our analysis. Our target groups are genus *Narella* (Primnoidae), genus *Funiculina* (Funiculinidae) and *Acanthogorgia* (Acanthogorgiidae). During the course of the cruise we collected 95 samples of *Narella* and 20 *Acanthogorgia* (see table below). It remains uncertain if sampling of all groups is sufficient to perform a comprehensive population-level study, as species level identifications of samples have yet to be completed. However, samples of these target groups will be used in the development and testing of microsatellite markers for this purpose. Our ultimate objective is to describe dispersal patterns and to compare the connectivity of the system for multiple species.

Additional to the targeted groups, an ad-hoc collection of other Octocorals was performed. We estimate that somewhere between 20-30 species were collected. The aim for these samples is the sequencing of DNA barcoding regions to test the efficacy in the discrimination of Octocoral taxa. The official DNA barcoding region CO1 and additional regions MSH1 and ND2 will be examined. We will use molecular phylogenetic approaches to assist the identification of coral species and to study global patterns of evolution in deep-sea corals. These samples will be analyzed in conjunction with specimens collected on other CoralFISH cruises.

Specimen processing: Photographic records of all genetic samples were taken, and where possible matched to *in situ* images from the ROV. All genetics samples were stored in 96% ethanol in sealed tubes and then packaged into 'zip lock' bags for transport. The majority of primary samples were retained by Ifremer, and subsamples were taken for genetic analysis at ZSL. Where sufficient material was recovered, primary samples of *Narella* were frozen in zip lock bags, for storage at ZSL.

A supplementary objective was the collection of novel observations of coral specimen locations to increase our knowledge of the distribution of cold-water corals in the area. Point locality data of corals was extracted from specimen collections made during ROV video surveys. This data will be used for the CoralFISH project to develop and validate habitat suitability maps for cold-water coral occurrence at the level of OSPAR Region V

and selected CoralFISH regional study areas. Discussions between scientists during the cruise resulted in the suggestion that CTD data collected on the cruise would provide useful environmental data directly collected from the locations where corals were recorded. This data could be used for further model validation and development. CTD values were extracted for the location of specimens and coral observations. Additionally, oxygen saturation states were collected during leg 1 of the cruise, and will be extracted after the cruise.

Table 1: List of Octocoral specimens collected for genetic analysis, along with geographic location and environmental conditions where available.

Box	Name	Date	Time	Latitude	Longitude	Depth	Temperature	Salinity
Dive PL-466-44-4 - Ars Canyon								
CCA8	Alcyonacea	14/09/2011	23:04:43	45.68019	-3.62212	788	10.44	35.72
GBTGo1	Acanthogorgia	14/09/2011	22:00:14	45.67688	-3.62460	837	10.43	35.73
Dive PL-467-45-5 - St Nazaire								
GBTGo1	Gorgonian	15/09/2011	14:26:54	46.25348	-4.40825	1641	5.83	35.29
CCA7Go	Gorgonian	15/09/2011	15:24:09	46.25352	-4.40843	1588	5.54	35.25
CCA7Go	Gorgonian	15/09/2011	15:24:09	46.25352	-4.40843	1588	5.54	35.25
CCA7Go	Gorgonian	15/09/2011	15:30:48	46.25352	-4.40847	1588	5.53	35.25
Dive PL-468-46-6 - Croizic canyon								
CCA2	Narella	16/09/2011	10:28:43	46.38079	-4.67803	840	10.04	35.72
CCA2	Swiftia	16/09/2011	10:28:39	46.38079	-4.67803	840	10.04	35.72
CCA3	Narella	16/09/2011	10:46:05	46.38085	-4.67823	841	10.04	35.72
CCA4	Acanthogorgia	16/09/2011	11:12:23	46.38102	-4.67842	846	10.04	35.72
CCA6NA1	Narella	16/09/2011	13:37:52	46.38145	-4.67713	837	9.58	35.72
CCA6NA2	Narella	16/09/2011	13:37:52	46.38145	-4.67713	837	9.58	35.72
CCBB6	Acanthogorgia	16/09/2011	23:08:53	46.38185	-4.67877	848	10.00	35.72
CCC2	Acanthogorgia	17/09/2011	01:36:42	46.38178	-4.67822	843	9.65	35.73
CCC4	Narella	17/09/2011	01:57:01	46.38167	-4.67845	845	9.53	35.73
CCC5	Acanthogorgia	17/09/2011	03:19:39	46.38153	-4.67798	844	9.51	35.72
CCC7	Narella	17/09/2011	03:02:24	46.38165	-4.67855	848	9.45	35.72
Dive PL-469-47-7 - Gulvinec								

CCA4NA1	Narella	18/09/2011	15:26:06	46.93374	-5.36075	821	9.18	35.66
CCA4NA2	Narella	18/09/2011	15:26:06	46.93374	-5.36075	821	9.18	35.66
CCA8	Narella	18/09/2011	17:08:25	46.93368	-5.36025	840	-	-
CCB3Ag	Acanthogorgia	18/09/2011	18:58:54	46.93398	-5.35988	837	-	-
CCB7	Narella	18/09/2011	20:48:42	46.93408	-5.36018	828	-	-
CCB8	Narella	18/09/2011	21:39:21	46.93428	-5.36063	811	-	-
CCC2	Narella	19/09/2011	01:15:57	46.93493	-5.35918	820	-	-
CCC3	Acanthogorgia	19/09/2011	01:41:44	46.93467	-5.35915	830	-	-
CCC5	Bamboo coral	19/09/2011	01:22:33	46.93498	-5.35917	819	-	-
CCC6	Acanella	19/09/2011	03:05:02	46.93488	-5.35952	815	-	-
CCC6	Narella	19/09/2011	03:10:04	46.93490	-5.35952	815	-	-
GBT	Narella	18/09/2011	21:07:53	46.93410	-5.36015	827	-	-
PBT1	Narella	19/09/2011	05:27:32	46.93334	-5.35993	849	-	-
PBTAg	Acanthogorgia	18/09/2011	14:03:44	46.93350	-5.36047	837	9.37	35.67

Dive PL-470-48-8 - Le Lampaul

BehindCC	Lepidisis	21/09/2011	01:12:10	47.53034	-7.54280	2216	3.85	35.03
CCB2	Anthemelia??	21/09/2011	09:34:04	47.56737	-7.52887	1697	4.84	35.14
CCB2	Isididae	21/09/2011	09:34:04	47.56737	-7.52887	1697	4.84	35.14
CCB4	Candidella	21/09/2011	11:34:44	47.56737	-7.52815	1557	4.96	35.16
CCB4	Primnoid	21/09/2011	11:34:44	47.56737	-7.52815	1557	4.96	35.16
CCB5	Paragorgia	21/09/2011	07:51:07	47.56737	-7.52910	1746	6.13	35.30
CCB6	Candidella	21/09/2011	11:52:53	47.56808	-7.52813	1546	4.90	35.15
CCB6	Chrysogorgia	21/09/2011	11:52:53	47.56808	-7.52813	1546	4.90	35.15
CCB6	Isididae	21/09/2011	11:49:52	47.56808	-7.52813	1546	4.92	35.16
CCB6BM2	Bamboo coral	21/09/2011	11:49:52	47.56808	-7.52813	1546	4.92	35.16
CCB8	Bamboo coral	21/09/2011	09:34:04	47.56737	-7.52887	1697	4.84	35.14
CCB8	Chrysogorgia	21/09/2011	09:34:04	47.56737	-7.52887	1697	4.84	35.14
GBT	Gorgonian	21/09/2011	09:08:29	47.56747	-7.52897	1691	5.10	35.18
GBT	Paragorgia	21/09/2011	08:50:41	47.56743	-7.52885	1706	5.10	35.17
GBT	Paragorgia	21/09/2011	08:47:36	47.56742	-7.52888	1706	5.09	35.18
GBT	Plexuridae	21/09/2011	09:08:29	47.56747	-7.52897	1691	5.10	35.18

Dive PL-471-49-9 - Petite Sole

CCB6Ag	Acanthogorgia	26/09/2011	05:12:11	48.14085	-8.80433	626	#N/A	#N/A
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Dive PL-472-50-10 - Sorlingue

CCC3	Pennatula (cf. Phosphora)	27/09/2011	05:05:38	48.13210	-9.13934	1039	9.02	35.64
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Dive PL-475-53-13 - Logatchev

CCA5	Anthomastus	02/10/2011	03:35:59	55.52275	-15.64951	809	7.17	35.22
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CCC1	Primnoid (cf Callogorgia)	02/10/2011	08:13:44	55.52328	-15.64869	808	7.24	35.22
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GBT3	Primnoid (cf Callogorgia)	02/10/2011	01:29:09	55.52351	-15.65057	810	7.46	35.21
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CCB2	Acanthogorgia	02/10/2011	05:23:20	55.52356	-15.64845	805	7.19	35.22
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Dive PL-476-54-14 - Petite Sole 2

CCA7Na1	Narella	04/10/2011	19:55:44	48.12237	-8.81400	919	8.82	35.63
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CCA7Na2	Narella	04/10/2011	20:48:50	48.12221	-8.81369	920	8.87	35.63
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CCB5	Acanthogorgia	05/10/2011	04:04:40	48.12217	-8.81326	919	10.32	35.64
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CCB7Ag1	Acanthogorgia	05/10/2011	06:10:54	48.12274	-8.81276	917	9.21	35.66
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CCB7Ag2	Acanthogorgia	05/10/2011	06:17:14	48.12273	-8.81278	917	9.17	35.65
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CCA5Ag1	Acanthogorgia	04/10/2011	19:14:35	48.12199	-8.81385	925	8.74	35.62
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CCA5Ag2	Acanthogorgia	04/10/2011	19:16:33	48.12199	-8.81385	925	8.75	35.62
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CCA5	Narella	04/10/2011	19:11:24	48.12197	-8.81386	925	8.74	35.62
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CCA1	Acanthogorgia	04/10/2011	18:20:54	48.12198	-8.81334	924	8.72	35.62
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CCA4	Narella	04/10/2011	19:11:24	48.12197	-8.81386	925	8.74	35.62
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CCC1	Narella	05/10/2011	07:26:10	48.12092	-8.81256	931	8.80	35.62
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CCC1	Acanella	05/10/2011	07:09:27	48.12071	-8.81280	932	8.80	35.62
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GBT3	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-B	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-C	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-D	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-E	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-F	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-G	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-H	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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GBT3-I	Narella	05/10/2011	17:12:29	48.12133	-8.81389	930	11.90	35.64
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CCC4	Acanthogorgia	05/10/2011	08:46:37	48.12260	-8.81320	911	8.84	35.63
CCC2	Narella	05/10/2011	07:41:03	48.12089	-8.81252	931	8.81	35.63
CCC2	Acanthogorgia	05/10/2011	07:41:03	48.12089	-8.81252	931	8.81	35.63
GBT2	Narella	05/10/2011	17:21:43	48.12131	-8.81392	929	11.11	35.61
Dive PL-477-55-15 - Sorlingue 2								
GBT2	Alcyoniina	05/10/2011	19:11:01	48.15429	-9.05850	1194	7.47	35.48
CCA5	Swiftia	05/10/2011	21:59:46	48.16838	-9.07637	960	8.94	35.62
Dive PL-478-56-16 - Lampaul 2								
GBT1NaA	Narella	07/10/2011	02:54:00	47.62879	-7.53432	729	10.61	35.66
GBT1NaB	Narella	07/10/2011	02:57:38	47.62880	-7.53430	729	10.62	35.66
GBT1NaC	Narella	07/10/2011	03:06:58	47.62880	-7.53425	729	10.71	35.65
GBT1NaD	Narella	07/10/2011	03:10:07	47.62880	-7.53424	729	10.72	35.65
GBT1NaE	Narella	07/10/2011	-	-	-	-	-	-
GBT1NaF	Narella	07/10/2011	-	-	-	-	-	-
GBT1NaG	Narella	07/10/2011	-	-	-	-	-	-
GBT1NaH	Narella	07/10/2011	-	-	-	-	-	-
CCA3Na1	Narella	07/10/2011	09:40:13	47.62452	-7.52699	811	10.14	35.68
CCA3Na2	Narella	07/10/2011	09:57:18	47.62452	-7.52700	811	10.15	35.68
CCA3Na3	Narella	07/10/2011	09:40:13	47.62452	-7.52699	811	10.14	35.68
CCA3Na4	Narella	07/10/2011	09:57:18	47.62452	-7.52700	811	10.15	35.68
CCA7	Narella	07/10/2011	05:35:02	47.62111	-7.52773	879	9.74	35.69
GBT2AI1	Alcyonidae	06/10/2011	20:31:37	47.61577	-7.53314	1094	9.04	35.65
GBT2AI2	Alcyonidae	06/10/2011	23:14:26	47.62171	-7.53736	772	10.26	35.67
GBT2Na1	Narella	07/10/2011	-	-	-	-	-	-
GBT2Na2	Narella	07/10/2011	-	-	-	-	-	-
CCA5Na1	Narella	07/10/2011	06:48:26	47.62295	-7.52281	749	10.45	35.66
CCA5Na2	Narella	07/10/2011	07:40:19	47.62327	-7.52196	734	10.38	35.67
CCA6NA1	Narella	07/10/2011	05:55:28	47.62153	-7.52733	855	9.77	35.69
CCA6NA2	Narella	07/10/2011	05:57:08	47.62160	-7.52718	855	9.73	35.68
CCA4	Pennatulid	07/10/2011	08:29:52	47.62462	-7.51941	688	10.49	35.66
CCA4	Narella	07/10/2011	10:52:05	47.37759	-6.62545	1138	10.14	35.68

CCA6NA3	Narella	07/10/2011	-	-	-	-	-	-
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Dive PL-479-57-17 - Crozon

GBT1Na1	Narella	08/10/2011	10:02:49	47.37791	-6.62526	1138	-	-
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GBT1Na2	Narella	08/10/2011	00:22:50	47.37435	-6.62267	1247	-	-
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PBT1	Narella	08/10/2011	15:33:45	47.37676	-6.62483	1160	-	-
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CCA7	Narella	08/10/2011	12:25:37	47.37740	-6.62507	1147	-	-
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CCB6	Narella	08/10/2011	18:43:35	47.37641	-6.62498	1164	-	-
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CCA5Na2	Narella	08/10/2011	11:16:47	47.37764	-6.62558	1136	-	-
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CCA5Na3	Narella	08/10/2011	11:16:47	47.37764	-6.62558	1136	-	-
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CCA5Na4	Narella	08/10/2011	11:16:47	47.37764	-6.62558	1136	-	-
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CCB4	Narella	08/10/2011	16:40:22	47.37733	-6.62499	1149	-	-
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CCA4NA2	Narella	08/10/2011	10:52:05	47.37759	-6.62545	1138	-	-
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CCA4NA1	Narella	08/10/2011	10:52:05	47.37759	-6.62545	1138	-	-
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BehindCC1	Narella	08/10/2011	-	-	-	-	-	-
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BehindCC2	Narella	08/10/2011	-	-	-	-	-	-
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CCA1Na3	Narella	08/10/2011	09:22:11	47.37789	-6.62495	1142	-	-
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CCA1Na2	Narella	08/10/2011	09:22:11	47.37789	-6.62495	1142	-	-
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CCA1Na1	Narella	08/10/2011	09:22:11	47.37789	-6.62495	1142	-	-
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CCA2	Octocoral	08/10/2011	09:55:00	47.37791	-6.62524	1138	-	-
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CCA8	Narella	08/10/2011	13:15:50	47.37753	-6.62484	1152	-	-
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CCB8	Narella	08/10/2011	19:16:27	47.37675	-6.62450	1165	-	-
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CCB2	Narella	08/10/2011	17:24:56	47.37745	-6.62506	1145	-	-
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CCB3	Narella	08/10/2011	17:41:02	47.37733	-6.62486	1150	-	-
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CCA3	Narella	08/10/2011	10:14:36	47.37764	-6.62520	1141	-	-
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Dive PL-480-58-18 - CCB6

CCB6	Gorgonian	10/10/2011	02:16:08	47.32391	-6.34892	709	-	-
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CCB6Na1	Narella	10/10/2011	02:21:45	47.32392	-6.34897	710	-	-
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CCB6Na2	Narella	10/10/2011	02:16:08	47.32391	-6.34892	709	-	-
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CCB6Na3	Narella	10/10/2011	02:16:08	47.32391	-6.34892	709	-	-
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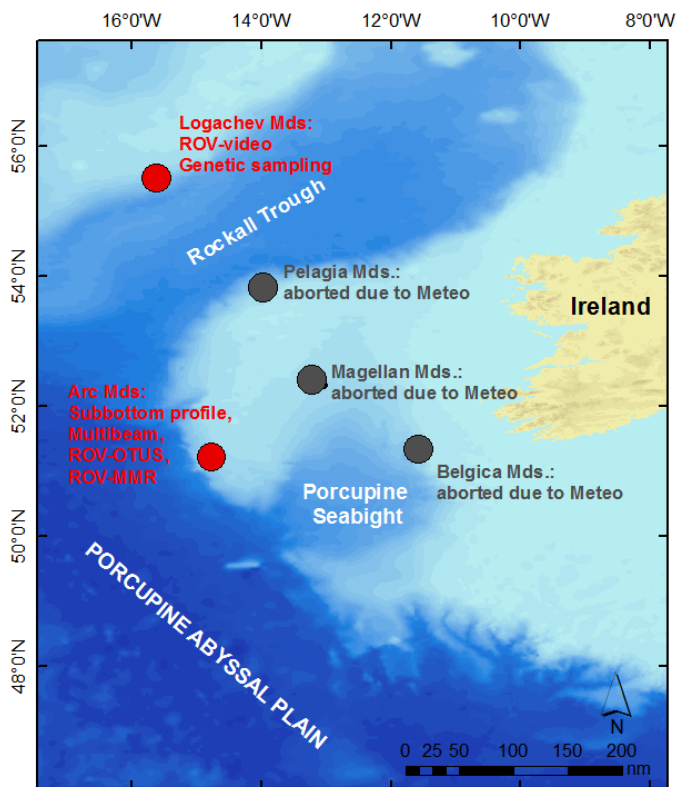
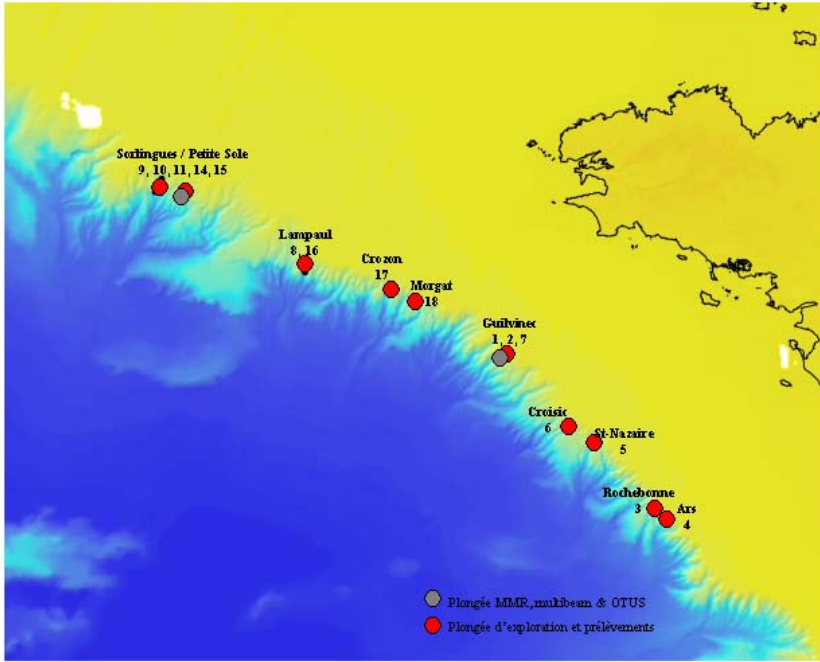
CCB6Na4	Narella	10/10/2011	02:16:08	47.32391	-6.34892	709	-	-
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CCB3	Narella	10/10/2011	00:29:59	47.32371	-6.34882	713	-	-
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CCA6NA	Narella	09/10/2011	19:25:15	47.32266	-6.34967	724	-	-
CCA6AI	Alcyonacea	09/10/2011	19:18:23	47.32266	-6.34968	725	-	-
CCA2Na1	Narella	09/10/2011	18:14:04	47.32289	-6.35028	732	-	-
CCA2Na2	Narella	09/10/2011	18:14:04	47.32289	-6.35028	732	-	-
CCA8	Narella	09/10/2011	19:57:34	47.32321	-6.34946	717	-	-
CCA7	Acanthogorgia	09/10/2011	19:44:53	47.32298	-6.34951	720	-	-
CCA7	Narella	09/10/2011	19:35:55	47.32297	-6.34947	720	-	-
CCA5Na1	Narella	09/10/2011	14:17:53	47.30885	-6.35097	823	-	-
CCA5Na2	Narella	09/10/2011	18:48:32	47.32261	-6.35034	735	-	-
CCA5Na3	Narella	09/10/2011	18:48:32	47.32261	-6.35034	735	-	-
CCA5	Gorgonian	09/10/2011	18:52:44	47.32262	-6.35034	735	-	-
CCA5	Acanthogorgia	09/10/2011	18:55:15	47.32260	-6.35032	735	-	-
CCA4	Narella	09/10/2011	14:52:57	47.31261	-6.35040	811	-	-
CCB2	Narella	10/10/2011	01:56:04	47.32396	-6.34905	711	-	-
CCB5	Narella	10/10/2011	01:04:45	47.32379	-6.34933	712	-	-
GBT3	Narella	09/10/2011	22:06:32	47.32420	-6.34976	709	-	-
CCB7	Narella	10/10/2011	01:34:30	47.32378	-6.34963	714	-	-
CCC3	Narella	10/10/2011	04:53:45	47.32386	-6.34992	715	-	-
CCC5	Narella	10/10/2011	04:45:27	47.32343	-6.35001	723	-	-
CCC7	Narella	10/10/2011	05:39:01	47.32274	-6.35016	733	-	-
CCC8	Narella	10/10/2011	04:14:31	47.32333	-6.34947	717	-	-
CCC8	Gorgonian	10/10/2011	04:26:24	47.32334	-6.34945	717	-	-
CCB6-2	Gorgonian	10/10/2011	-	-	-	-	-	-

VIII. Dives reports

IX. Dive reports



1. Dive report 463 - 1

Submersible : Victor 6000

Starting Dive : 11/09/2011 07:57

Arrival on the bottom: 11/09/2011 08:50

Deprture from the bottom: 11/09/2011 09:23

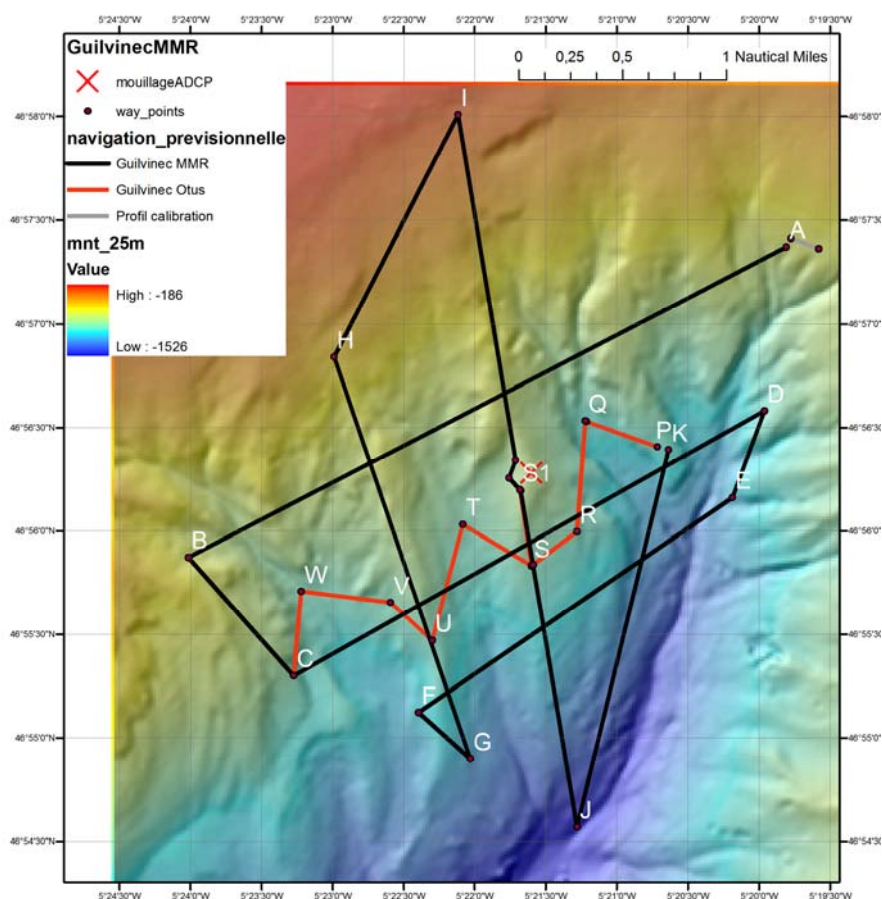
Ending dive : 11/09/2011 10:55

Location : BOB-2

Dives objectives :

BobEco - Dive 463-01 MMR/OTUS

Zone Guilvinec



Important things not to forget:

*Note any beginning and end of transect on MIMOSA and on the paper log book

*Note any change in the plan

Comment:

*Note anything peculiar

*Don't hesitate to take picture if something interesting
you can be quick on the return way S1-S

Total Duration : 47h

Time on the 'bottom' : 46h

Objectives :

- Profils SMF

-Mosaïque OTUS

ABORTED DIVE! TECHNICAL PROBLEMS!

Summary :

Visited locations : BOB-2,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
BROCHERAY Sandra	UNIV BORDEAUX I
LAXENAIRE Remi	INTECHMER

No fauna sample during this dive [\(Up\)](#)

No Water sample during this dive [\(Up\)](#)

No sediment or rock sample during this dive [\(Up\)](#)

Chronological Report of the dive : [\(Up\)](#)

Date Time	Location	Description
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10/09/2011 16:43:28	BOB-2	V. et N. font une pause cig.
11/09/2011 06:39:12	BOB-2	
11/09/2011 08:29:02	BOB-2	
11/09/2011 08:29:02	BOB-2	
11/09/2011 08:29:02	BOB-2	
11/09/2011 08:29:11	BOB-2	
11/09/2011 08:29:11	BOB-2	
11/09/2011 08:29:11	BOB-2	
11/09/2011 08:41:14	BOB-2	
11/09/2011 08:42:21	BOB-2	
11/09/2011 08:59:28	BOB-2	
11/09/2011 08:59:54	BOB-2	test commentaire
11/09/2011 09:04:19	BOB-2	
11/09/2011 09:04:43	BOB-2	crevettes
11/09/2011 09:05:24	BOB-2	Première photo du fond sur Guilvinec
11/09/2011 09:08:12	BOB-2	
11/09/2011 09:08:16	BOB-2	
11/09/2011 09:09:15	BOB-2	
11/09/2011 10:01:13	BOB-2	

2. Dive report 464 - 2

Submersible : Victor 6000

Starting Dive : 11/09/2011 17:14

Arrival on the bottom: 11/09/2011 18:02

Deprture from the bottom: 13/09/2011 08:06

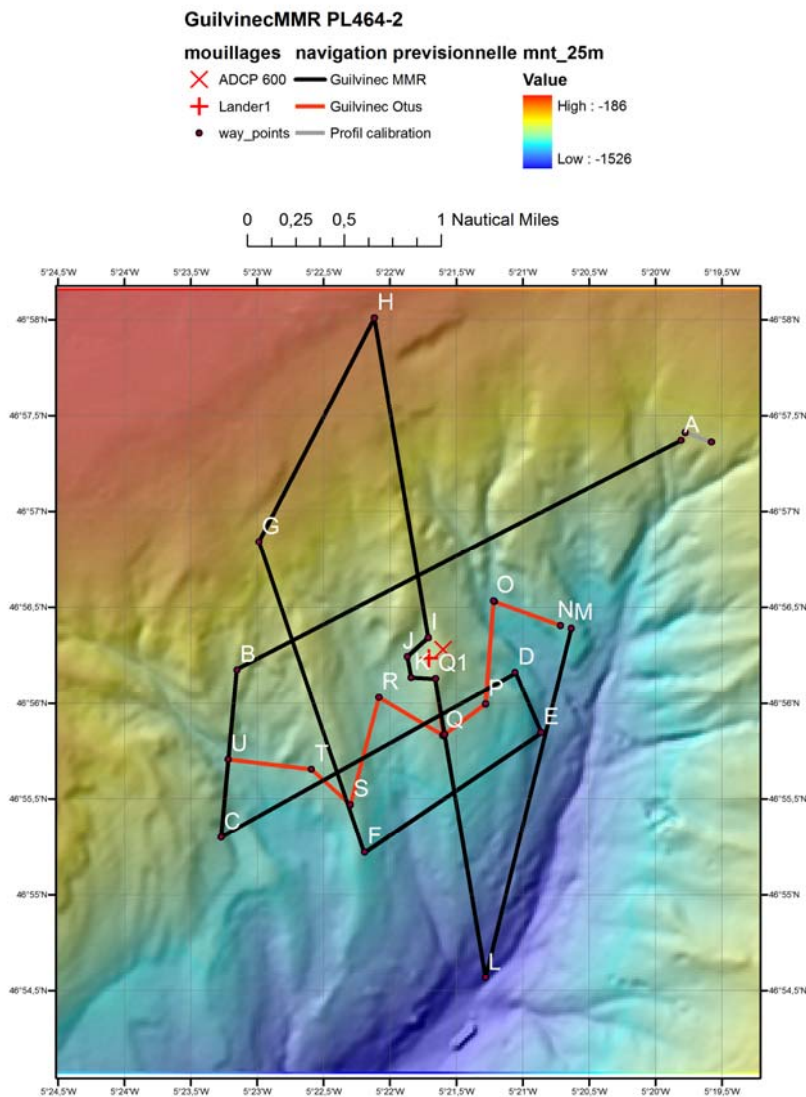
Ending dive : 13/09/2011 09:28

Location : BOB-2

Dives objectives :

BobEco - Dive 464-02 MMR/OTUS

Zone Guilvinec



Important things not to forget:

*Note any beginning and end of transect on MIMOSA and on the paper log book

*Note any change in the plan

*PEP: Don't forget to flush/drain (purger) during ONE MINUTE before each sample

Comment:

*Note anything peculiar

*Don't hesitate to take picture if something interesting
you can be quick on the return way S1-S

Total Duration : 47h

Time on the 'bottom' : 46h

Objectives :

- Profils SMF

-Mosaïque OTUS

-test PEP (water sampling)

Timing:

Day Time beginning TU Approx duration Operation

11/10 17:00 1h30 Leaving the surface-Descente

11/10 17:30 30min Arrival on bottom

11/10 18:00 40min Patch test

11/10 18:39 6h30 SMFsegment AB

12/10 23:49 1h30 SMFsegment BC

12/10 1:34 5h10 SMFsegment CD

12/10 5:03 40min SMFsegment DE

12/10 5:44 PEP1 (bottle) 3 minutes filling during transit

12/10 5:44 PEP2 (bag) 5 minutes filling during transit

12/10 5:44 2h10 SMFsegment EF

12/10 7:56 3h20 SMFsegment FG

12/10 11:21 2h40 SMFsegment GH

12/10 13:58 3h20 SMFsegment HI

12/10 17:20 15min SMFsegment IJ

12/10 17:37 15min -segment JK

12/10 17:50 15 min segment KQ1

12/10 18:04 3h10 segment Q1L

12/10 21:14 3h45 segment LM

13/10 0:58 45min OTUSsegment NO

13/10 1:43 PEP3 (bottle) 4 minutes filling during transit

13/10 1:43 1h OTUSsegment OP

13/10 2:46 30min OTUSsegment PQ

13/10 3:19 35min OTUSsegment QQ1

13/10 3:54 PEP4 (bag) 5 minutes MAX filling during transit on Q1

13/10 3:54 45min OTUSsegment QR
 13/10 5:44 PEP5 (bottle) 4 minutes filling during transit
 13/10 4:39 1h10 OTUSsegment RS
 13/10 5:49 PEP6 (bottle) 4 minutes filling during transit
 13/10 5:49 30min OTUSsegment ST
 13/10 6:21 50min OTUSsegment TU
 13/10 7:13 PEP7 (bottle) 4 minutes filling during transit
 13/10 7:13 50min OTUSsegment UC
 13/10 8:01 1h Leaving the bottom
 13/10 9:01 1h Onboard

Summary :

Visited locations : BOB-2,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
VESLIN Mathieu	IFREMER BREST
STEVENSON Angela	UNIV DUBLIN IRELAND
MARIN Coralyne	IFREMER BREST
GALERON Joelle	IFREMER BREST
KHRIPOUNOFF Alexis	IFREMER BREST
BROCHERAY Sandra	UNIV BORDEAUX I
GUILLAUMONT Brigitte	IFREMER BREST
LAXENAIRE Remi	INTECHMER
DAVIE Jaime	IFREMER BREST
BOAVIDA Joana	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
BELLON Clara	IFREMER BREST
NOEL Philippe	IFREMER BREST
HENRIQUEZ Andreia Braga	IMAR

No fauna sample during this dive [\(Up\)](#)

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
12/09/2011 06:27:00	BOB-2	464 - 2	PEP bottle	PEP	1	N 42 42.925	E 179 10.973	1082	PRELEVEMENT PEP-1
12/09/2011 06:48:29	BOB-2	464 - 2	PEP bottle	PEP	2	N 42 42.977	E 179 10.948	1104	PRELEVEMENT PEP-2
13/09/2011 04:39:00	BOB-2	464 - 2	PEP bottle	PEP	3	N 42 42.763	E 179 11.663	821	PRELEVEMENT PEP-3
13/09/2011 04:43:00	BOB-2	464 - 2	PEP bottle	PEP	4	N 42 42.763	E 179 11.663	821	PRELEVEMENT PEP-4
13/09/2011 05:44:00	BOB-2	464 - 2	PEP bottle	PEP	5	N 42 42.749	E 179 12.055	897	PRELEVEMENT PEP-5
13/09/2011 05:50:00	BOB-2	464 - 2	PEP bottle	PEP	6	N 42 42.768	E 179 12.081	896	PRELEVEMENT PEP-6

No sediment or rock sample during this dive [\(Up\)](#)

Chronological Report of the dive : [\(Up\)](#)

Date Time	Location	Description
11/09/2011 17:22:59	BOB-2	mise a l'eau ROV-Victor
11/09/2011 18:00:00	BOB-2	prise de quart Sandra Boucheray et Rémy Laxenaire
11/09/2011 18:02:10	BOB-2	arrivee ROV-Victor sur le fond
11/09/2011 18:23:00	BOB-2	resolution problemes acquisition. Photos du fond
11/09/2011 18:23:36	BOB-2	crevettes?
11/09/2011 18:24:07	BOB-2	structures sedimentaire

11/09/2011 18:24:18	BOB-2	poisson osseux et structure sedimentaire ?
11/09/2011 18:24:49	BOB-2	objet non identifie
11/09/2011 18:25:19	BOB-2	oursin
11/09/2011 18:25:50	BOB-2	poisson
11/09/2011 18:26:49	BOB-2	requin (roussette)
11/09/2011 18:26:59	BOB-2	poisson
11/09/2011 18:27:34	BOB-2	poisson
11/09/2011 18:27:40	BOB-2	objet non identifie
11/09/2011 18:28:10	BOB-2	poisson ?
11/09/2011 18:28:29	BOB-2	poisson osseux
11/09/2011 18:28:47	BOB-2	poisson cartilagineux benthic , roussette schylliorhinus canicula ?
11/09/2011 18:29:31	BOB-2	objet non identifie
11/09/2011 18:29:38	BOB-2	poisson osseux
11/09/2011 18:30:10	BOB-2	structure sedimentaire
11/09/2011 18:30:43	BOB-2	oursin et objet non identifié
11/09/2011 18:30:51	BOB-2	etoile de mer
11/09/2011 18:31:38	BOB-2	structures sedimentaires
11/09/2011 18:32:54	BOB-2	structures sedimentaires
11/09/2011 18:34:47	BOB-2	oursin
11/09/2011 18:35:11	BOB-2	objet non identifie
11/09/2011 18:36:44	BOB-2	etoile de mer
11/09/2011 18:37:31	BOB-2	poisson , etoile de mer
11/09/2011 18:38:01	BOB-2	poisson
11/09/2011 18:38:44	BOB-2	poisson, etoile de mer

11/09/2011 18:39:26	BOB-2	poisson
11/09/2011 18:39:43	BOB-2	objet non identifie
11/09/2011 18:39:54	BOB-2	etoile de mer
11/09/2011 18:40:05	BOB-2	etoile de mer
11/09/2011 18:41:09	BOB-2	structures sedimentaires
11/09/2011 18:41:13	BOB-2	structures sedimentaires
11/09/2011 18:41:21	BOB-2	structures sedimentaires , etoile de mer
11/09/2011 18:42:17	BOB-2	oursin
11/09/2011 18:42:29	BOB-2	objet non identifie
11/09/2011 18:42:39	BOB-2	structures sedimentaires
11/09/2011 18:42:50	BOB-2	objet non identifie
11/09/2011 18:43:10	BOB-2	poisson
11/09/2011 18:43:20	BOB-2	objet non identifie , poisson
11/09/2011 18:43:56	BOB-2	poisson scintillant
11/09/2011 18:44:12	BOB-2	etoile de mer
11/09/2011 18:44:19	BOB-2	objet non identifie
11/09/2011 18:44:42	BOB-2	poisson cartilagineux
11/09/2011 18:44:56	BOB-2	poisson tripodes ?
11/09/2011 18:45:37	BOB-2	oursin
11/09/2011 18:46:38	BOB-2	poisson
11/09/2011 18:47:19	BOB-2	oursin
11/09/2011 18:48:15	BOB-2	structures sedimentaires
11/09/2011 18:48:40	BOB-2	objet non identifie
11/09/2011 18:48:59	BOB-2	oursin , ligne etrange

11/09/2011 18:50:00	BOB-2	debut de calibration SMF
11/09/2011 18:50:45	BOB-2	oursin
11/09/2011 18:52:22	BOB-2	oursin
11/09/2011 18:52:54	BOB-2	objet non identifie
11/09/2011 18:57:57	BOB-2	organisme non identifie
11/09/2011 19:06:00	BOB-2	fin de premiere phase de calibration. passe en mode acoustique sur balise Victor
11/09/2011 19:13:00	BOB-2	fin test sonar
11/09/2011 19:36:00	BOB-2	début profil 01-segment AB altitude 70 m
11/09/2011 19:36:01	BOB-2	debut fichier Bobeco-Victor-0201A
11/09/2011 19:45:00	BOB-2	petit plantage SMF
11/09/2011 20:00:00	BOB-2	essai a 50 m
11/09/2011 20:44:00	BOB-2	fin premier fichier bathy et début direct du suivant
11/09/2011 20:44:01	BOB-2	debut fichier Bobeco-Victor-0201B
11/09/2011 21:14:00	BOB-2	debut fichier Bobeco-Victor-0201C
11/09/2011 21:44:00	BOB-2	debut fichier Bobeco-Victor-0201D
11/09/2011 22:00:00	BOB-2	debut quart Anna et Coralyne
11/09/2011 22:00:14	BOB-2	debut fichier Bobeco-Victor-0201E
11/09/2011 22:44:00	BOB-2	debut fichier Bobeco-Victor-0201F
11/09/2011 23:04:01	BOB-2	poisson 50 m au dessus du fond
11/09/2011 23:14:00	BOB-2	debut fichier Bobeco-Victor-0201G
11/09/2011 23:38:00	BOB-2	crossing line GF
11/09/2011 23:44:00	BOB-2	debut fichier Bobeco-Victor-0201H
12/09/2011 00:14:00	BOB-2	debut fichier Bobeco-Victor-0201H?

12/09/2011 00:15:00	BOB-2	fin de profil AB
12/09/2011 00:20:00	BOB-2	debut de profil BC Bobeco-Victor-02-02
12/09/2011 00:44:00	BOB-2	debut fichier Bobeco-Victor-0202A
12/09/2011 01:14:00	BOB-2	debut fichier Bobeco-Victor-0202B
12/09/2011 01:29:09	BOB-2	la peche de Karou
12/09/2011 01:44:00	BOB-2	debut fichier Bobeco-Victor-0202C
12/09/2011 01:47:00	BOB-2	ouverture de EM7125 est passee de 128 a 110° et altitude de 50 a 60 m
12/09/2011 01:53:00	BOB-2	fin de profil BC
12/09/2011 01:55:00	BOB-2	debut de profil CD
12/09/2011 02:00:00	BOB-2	Alexis Clara Andrea Jaimie
12/09/2011 02:01:00	BOB-2	128° d'ouverture 125° d'altitude
12/09/2011 02:14:00	BOB-2	debut fichier Bobeco-Victor-0203A
12/09/2011 02:14:27	BOB-2	organisme non-identifie plancton
12/09/2011 02:28:50	BOB-2	organisme non-identifie plancton
12/09/2011 02:34:27	BOB-2	organisme non-identifie
12/09/2011 02:37:47	BOB-2	organisme non-identifie
12/09/2011 02:40:56	BOB-2	crevette d'eau profonde ?
12/09/2011 02:44:00	BOB-2	debut fichier Bobeco-Victor-0203D
12/09/2011 02:44:38	BOB-2	organisme non-identifie
12/09/2011 02:44:47	BOB-2	organisme non-identifie
12/09/2011 02:52:13	BOB-2	crevette
12/09/2011 02:55:00	BOB-2	sur flanc ouest premiere ravine
12/09/2011 03:14:00	BOB-2	debut fichier Bobeco-Victor-0203D
12/09/2011 03:37:00	BOB-2	courant NO/SE dans le sens de la pente

12/09/2011 03:38:07	BOB-2	organisme non identifie
12/09/2011 03:44:00	BOB-2	debut fichier Bobeco-Victor-0203E
12/09/2011 03:52:00	BOB-2	courant tres important au centre ravine
12/09/2011 04:14:00	BOB-2	debut fichier Bobeco-Victor-0203E
12/09/2011 04:44:00	BOB-2	debut fichier Bobeco-Victor-0203F
12/09/2011 05:14:00	BOB-2	debut fichier Bobeco-Victor-0203G
12/09/2011 05:24:00	BOB-2	courant perpendiculaire à la route (toujours dans le sens de la pente)
12/09/2011 05:38:00	BOB-2	arrivee au point D. ROV stoppe fin de profil CD
12/09/2011 05:42:13	BOB-2	banc de poisson ? / krill
12/09/2011 05:44:00	BOB-2	debut fichier Bobeco-Victor-0203H
12/09/2011 05:53:00	BOB-2	debut de profil DE. debut fichier Bobeco-Victor-0204
12/09/2011 05:57:08	BOB-2	crevette haut gauche
12/09/2011 06:14:30	BOB-2	debut de fichier bobeco-victor-0204A
12/09/2011 06:18:21	BOB-2	test 6h18
12/09/2011 06:26:41	BOB-2	Debut purge PEP1
12/09/2011 06:27:00	BOB-2	PRELEVEMENT PEP-1
12/09/2011 06:32:00	BOB-2	fin prelevement PEP-1
12/09/2011 06:35:40	BOB-2	perte controle pression
12/09/2011 06:48:29	BOB-2	PRELEVEMENT PEP-2
12/09/2011 06:54:00	BOB-2	fin prelevement PEP-2 apres 6 min
12/09/2011 06:55:12	BOB-2	début profil EF
12/09/2011 07:01:49	BOB-2	debut profil EF reel
12/09/2011 07:03:34	BOB-2	essai
12/09/2011 07:13:54	BOB-2	en route vers F

12/09/2011 07:14:00	BOB-2	debut de fichier bobeco-victor-0205A
12/09/2011 07:17:01	BOB-2	vue sur poche PEP 2
12/09/2011 07:42:00	BOB-2	debut de fichier bobeco-victor-0205B
12/09/2011 07:44:02	BOB-2	debut fichier BOBECO VICTOR 0201X
12/09/2011 07:48:54	BOB-2	A 1,17 km du point F
12/09/2011 07:50:20	BOB-2	essai photo
12/09/2011 07:50:21	BOB-2	pbm navigation Victor a 7h55
12/09/2011 08:00:00	BOB-2	arrivee en quart Joana et Remy
12/09/2011 08:03:36	BOB-2	pb ROV resolu
12/09/2011 08:10:00	BOB-2	debut de fichier bobeco-victor-0205C
12/09/2011 08:40:00	BOB-2	debut de fichier bobeco-victor-0205D
12/09/2011 08:55:11	BOB-2	poisson
12/09/2011 09:01:00	BOB-2	fin d profil EF
12/09/2011 09:03:17	BOB-2	gros zooplancton
12/09/2011 09:06:00	BOB-2	debut de fichier FG bobeco-victor-0206
12/09/2011 09:09:22	BOB-2	organisme non identifie
12/09/2011 09:10:00	BOB-2	debut de fichier FG bobeco-victor-0206A
12/09/2011 09:40:00	BOB-2	debut de fichier FG bobeco-victor-0206B
12/09/2011 10:10:00	BOB-2	debut de fichier FG bobeco-victor-0206C
12/09/2011 10:27:59	BOB-2	calamar
12/09/2011 10:28:00	BOB-2	montee a 60 m
12/09/2011 10:28:07	BOB-2	calamar
12/09/2011 11:10:00	BOB-2	debut de fichier FG bobeco-victor-0206E
12/09/2011 11:40:00	BOB-2	debut de fichier FG bobeco-victor-0206F

12/09/2011 11:50:00	BOB-2	fin de profil FG, debut de profil GH
12/09/2011 11:55:21	BOB-2	ras
12/09/2011 12:06:30	BOB-2	ras
12/09/2011 12:10:00	BOB-2	debut de fichier FG bobeco-victor-0207A
12/09/2011 12:35:35	BOB-2	ras
12/09/2011 12:40:00	BOB-2	debut de fichier FG bobeco-victor-0207B
12/09/2011 12:55:46	BOB-2	crevettes
12/09/2011 13:10:00	BOB-2	debut de fichier FG bobeco-victor-0207C
12/09/2011 13:12:05	BOB-2	crevettes
12/09/2011 13:20:33	BOB-2	siphonophore
12/09/2011 13:23:15	BOB-2	le nombre de crevette est en train de decroitre
12/09/2011 13:37:00	BOB-2	temp. augmente avec remontée vers point 17
12/09/2011 13:40:00	BOB-2	debut de fichier FG bobeco-victor-0207D
12/09/2011 14:41:00	BOB-2	end of line GH
12/09/2011 14:41:01	BOB-2	start of line HI bobeco-victor-0207B
12/09/2011 14:52:00	BOB-2	debut de fichier bobeco-victor-0208A
12/09/2011 15:22:00	BOB-2	debut de fichier bobeco-victor-0208A
12/09/2011 15:52:00	BOB-2	debut de fichier bobeco-victor-0208B
12/09/2011 16:22:00	BOB-2	debut de fichier bobeco-victor-0208D
12/09/2011 16:52:00	BOB-2	debut de fichier bobeco-victor-0208E
12/09/2011 17:03:13	BOB-2	organismes non identifies
12/09/2011 17:07:35	BOB-2	organismes non identifies
12/09/2011 17:11:28	BOB-2	organismes non identifies
12/09/2011 17:22:00	BOB-2	debut de fichier bobeco-victor-0208F

12/09/2011 17:37:00	BOB-2	fin de la ligne HI
12/09/2011 17:37:01	BOB-2	debut ligne IJ bobeco-victor-0209
12/09/2011 17:41:15	BOB-2	organismes non identifies
12/09/2011 17:41:19	BOB-2	organismes non identifies
12/09/2011 17:41:21	BOB-2	organismes non identifies
12/09/2011 17:48:18	BOB-2	organismes non identifies
12/09/2011 17:52:00	BOB-2	fin de la ligne IJ
12/09/2011 17:52:01	BOB-2	debut de la ligne JK
12/09/2011 18:00:00	BOB-2	arrivee sandra et brigitte
12/09/2011 18:05:00	BOB-2	fin de la ligne JK
12/09/2011 18:05:01	BOB-2	debut de la ligne KQ1 BobEcoVictor0211 arret bateau
12/09/2011 18:07:00	BOB-2	nouveau debut de la ligne KQ1
12/09/2011 18:20:00	BOB-2	fin de la ligne KQ1
12/09/2011 18:22:00	BOB-2	debut de la ligne Q1L BobEco0212 debut fichier BobEcoVictor0212A
12/09/2011 18:52:00	BOB-2	changement de fichier BobEcoVictor0212B
12/09/2011 18:55:00	BOB-2	Stop ROV puis rotation sur place
12/09/2011 19:02:00	BOB-2	redemarrage
12/09/2011 19:22:00	BOB-2	changement de fichier BobEco-Victor0212C
12/09/2011 19:25:00	BOB-2	petites irregularites de temperature de 11
12/09/2011 19:28:00	BOB-2	la temperature redevient constante. le phenomene se repete regulierement
12/09/2011 19:52:00	BOB-2	changement de fichier BobEco-Victor0212D
12/09/2011 20:00:00	BOB-2	prise de quart Joelle Galeron Philippe Noel
12/09/2011 20:16:00	BOB-2	nombreuses petites irregularites de temp jusqu a 20h18
12/09/2011 20:22:00	BOB-2	changement de fichier BobEco-Victor0212F

12/09/2011 20:25:58	BOB-2	essai photo a virer
12/09/2011 20:32:00	BOB-2	t° en baisse 9,6 degres au lieu de 9,9 plus haut
12/09/2011 20:50:00	BOB-2	temperature 9 degres
12/09/2011 20:52:00	BOB-2	changement de fichier BobEco-Victor0212G
12/09/2011 20:58:00	BOB-2	temperature 8,6
12/09/2011 21:01:19	BOB-2	immersion 1295 m, temperature 8.5 degres
12/09/2011 21:13:00	BOB-2	marche arriere du ROV sur environ 100 m
12/09/2011 21:15:59	BOB-2	crevette
12/09/2011 21:22:00	BOB-2	changement de fichier BobEco-Victor0212H profondeur 1285 m temp 8,1 degres
12/09/2011 21:27:21	BOB-2	Animal derivant
12/09/2011 21:31:10	BOB-2	fin de profil QL_temp 8.1
12/09/2011 21:39:15	BOB-2	Debut profil LM temp
12/09/2011 21:39:16	BOB-2	changement de fichier BobEco-Victor0213A
12/09/2011 21:53:30	BOB-2	T 8.1
12/09/2011 22:00:00	BOB-2	Coralyne et Angela
12/09/2011 22:09:00	BOB-2	changement de fichier BobEco-Victor0213B
12/09/2011 22:12:00	BOB-2	perte de PHINS (heure approximative!)
12/09/2011 22:22:00	BOB-2	changement de fichier BobEco-Victor0213C
12/09/2011 22:52:00	BOB-2	changement de fichier BobEco-Victor0212E
12/09/2011 22:58:00	BOB-2	retour sur zone de la perte
12/09/2011 23:22:00	BOB-2	changement de fichier BobEco-Victor0212F
12/09/2011 23:45:00	BOB-2	ROV 60 m 110°
12/09/2011 23:52:00	BOB-2	changement de fichier BobEco-Victor0212G

13/09/2011 00:00:00	BOB-2	arrivee en quart de Anna et Coralyste
13/09/2011 00:01:00	BOB-2	ROV a 50 m 128°
13/09/2011 00:22:00	BOB-2	changement de fichier BobEco-Victor0212H
13/09/2011 00:52:00	BOB-2	debut de fichier BobEco-Victor0212J
13/09/2011 00:52:01	BOB-2	ROV a 60 m
13/09/2011 01:02:00	BOB-2	ROV a 50 m
13/09/2011 01:10:00	BOB-2	fin de profil LH, multifaisceau continue, OTUS va commencer au point N
13/09/2011 01:12:51	BOB-2	fin de profil LM, moving to beginning of OTUS transect point N
13/09/2011 01:16:38	BOB-2	ROV a 10m et etalonnage de OTUS
13/09/2011 01:27:40	BOB-2	Hardground and sand
13/09/2011 01:29:02	BOB-2	Long line?
13/09/2011 01:30:06	BOB-2	Hardground with sediment layer
13/09/2011 01:33:02	BOB-2	Debut de profil NO de OTUS + multibeam
13/09/2011 01:35:44	BOB-2	stop profil due to wrong speed
13/09/2011 01:37:17	BOB-2	Restart profil NO with 0.3 speed, strong current from North to South, pushing the victor out of his direction.
13/09/2011 01:44:23	BOB-2	sediment ripples
13/09/2011 01:45:44	BOB-2	hardground, sediment, sand
13/09/2011 01:50:50	BOB-2	oursins?
13/09/2011 01:53:43	BOB-2	traces chalut?
13/09/2011 01:54:39	BOB-2	hardground with corals
13/09/2011 02:00:00	BOB-2	arrivee en quart jaimie et mathieu depart anna et coralyste
13/09/2011 02:00:17	BOB-2	turning shift
13/09/2011 02:03:43	BOB-2	many sea urchins

13/09/2011 02:09:59	BOB-2	fish
13/09/2011 02:11:41	BOB-2	small ledges
13/09/2011 02:37:48	BOB-2	start of reef
13/09/2011 02:38:14	BOB-2	reef
13/09/2011 02:38:19	BOB-2	reef
13/09/2011 02:38:24	BOB-2	reef
13/09/2011 02:38:28	BOB-2	reef
13/09/2011 02:38:49	BOB-2	abundance of stichopathes
13/09/2011 02:39:08	BOB-2	reef
13/09/2011 02:39:29	BOB-2	reef
13/09/2011 02:39:58	BOB-2	reef
13/09/2011 02:40:03	BOB-2	reef
13/09/2011 02:40:19	BOB-2	reef
13/09/2011 02:40:25	BOB-2	reef
13/09/2011 02:40:30	BOB-2	reef
13/09/2011 02:40:40	BOB-2	reef
13/09/2011 02:41:00	BOB-2	reef
13/09/2011 02:41:38	BOB-2	reef
13/09/2011 02:58:59	BOB-2	Start of reef
13/09/2011 02:59:05	BOB-2	reef
13/09/2011 03:00:38	BOB-2	reef
13/09/2011 03:00:49	BOB-2	reef
13/09/2011 03:01:19	BOB-2	reef and fish
13/09/2011 03:02:00	BOB-2	debut de fichier BobEco-Victor0212M

13/09/2011 03:04:00	BOB-2	petit patch de corail
13/09/2011 03:05:16	BOB-2	reef
13/09/2011 03:05:21	BOB-2	recif
13/09/2011 03:05:26	BOB-2	recif
13/09/2011 03:05:33	BOB-2	recif
13/09/2011 03:05:47	BOB-2	belle vue d une partie plus developpee du recif
13/09/2011 03:05:50	BOB-2	recif
13/09/2011 03:05:54	BOB-2	recif
13/09/2011 03:06:07	BOB-2	recif
13/09/2011 03:08:00	BOB-2	fin du recif de corail mort
13/09/2011 03:09:30	BOB-2	recif mort presence eponges
13/09/2011 03:12:09	BOB-2	zone avec faune
13/09/2011 03:13:01	BOB-2	recif avec poisson
13/09/2011 03:13:08	BOB-2	poisson et eponges
13/09/2011 03:15:56	BOB-2	Dead low-lying coral framework
13/09/2011 03:17:00	BOB-2	Lamellate sponge?
13/09/2011 03:18:23	BOB-2	Narella
13/09/2011 03:18:50	BOB-2	Lamellate sponge?
13/09/2011 03:20:17	BOB-2	dense framework - dead
13/09/2011 03:21:01	BOB-2	Antipatharian?
13/09/2011 03:23:43	BOB-2	Plastic sheet
13/09/2011 03:24:00	BOB-2	fin de profil OP
13/09/2011 03:24:01	BOB-2	debut de profil PQ
13/09/2011 03:25:40	BOB-2	lamellate/cup sponge?

13/09/2011 03:28:52	BOB-2	rides avec differentes orientations
13/09/2011 03:30:11	BOB-2	Dead framework
13/09/2011 03:31:48	BOB-2	white sponge
13/09/2011 03:32:00	BOB-2	debut de fichier BobEco-Victor0213N
13/09/2011 03:32:30	BOB-2	Sponge/coral?
13/09/2011 03:36:25	BOB-2	very sparse framework
13/09/2011 03:37:19	BOB-2	framework building up again
13/09/2011 03:39:22	BOB-2	Narella?
13/09/2011 03:40:38	BOB-2	sparse framework
13/09/2011 03:41:06	BOB-2	80% dead framework coverage
13/09/2011 03:43:55	BOB-2	sponge?
13/09/2011 03:44:17	BOB-2	white sponge center
13/09/2011 03:46:17	BOB-2	fish
13/09/2011 03:47:10	BOB-2	sponge
13/09/2011 03:51:00	BOB-2	fin profil OP debut profil Q-Q1
13/09/2011 03:51:30	BOB-2	bands of coral framework
13/09/2011 03:54:29	BOB-2	Narella
13/09/2011 03:55:02	BOB-2	Narella and antipatharain
13/09/2011 03:59:19	BOB-2	Antipatharian
13/09/2011 04:00:00	BOB-2	debut quart de clara jusqu a 6h00
13/09/2011 04:02:00	BOB-2	nouveau fichier BobEco-Victor0213O
13/09/2011 04:03:25	BOB-2	recif
13/09/2011 04:05:27	BOB-2	sponge_demosponge
13/09/2011 04:05:53	BOB-2	Narella?

13/09/2011 04:08:34	BOB-2	plastic
13/09/2011 04:09:16	BOB-2	antipatharian+fish
13/09/2011 04:11:25	BOB-2	antipatharian+fish
13/09/2011 04:12:58	BOB-2	fish
13/09/2011 04:14:08	BOB-2	unidentified specimens
13/09/2011 04:15:04	BOB-2	sea urchin=cidaris?
13/09/2011 04:17:14	BOB-2	antipatharian
13/09/2011 04:17:35	BOB-2	very dense dead reef with some alive colonies
13/09/2011 04:18:52	BOB-2	nice picture_ Antipatharian like leiopathes
13/09/2011 04:19:14	BOB-2	sea urchin_ cidaris
13/09/2011 04:20:43	BOB-2	colonies vivantes
13/09/2011 04:20:44	BOB-2	live colonies
13/09/2011 04:20:58	BOB-2	colonies vivantes
13/09/2011 04:21:02	BOB-2	colonies vivantes
13/09/2011 04:21:10	BOB-2	trachyscorpia_fish
13/09/2011 04:21:56	BOB-2	sponge_demosponge
13/09/2011 04:23:14	BOB-2	antipatharian+fish
13/09/2011 04:25:40	BOB-2	Antipatharian, several. also whip-corals could be Narella
13/09/2011 04:25:55	BOB-2	faune et recif
13/09/2011 04:27:11	BOB-2	pheronema? +plastic
13/09/2011 04:28:52	BOB-2	faune et recif
13/09/2011 04:32:00	BOB-2	nouveau fichier BobEco-Victor0213P
13/09/2011 04:32:01	BOB-2	trop de courant pas la fin du profil Q1
13/09/2011 04:35:27	BOB-2	white sea urchin

13/09/2011 04:36:17	BOB-2	sponge
13/09/2011 04:37:00	BOB-2	purge PEP3
13/09/2011 04:38:54	BOB-2	antipatharian and live reef-building colonies
13/09/2011 04:39:00	BOB-2	PRELEVEMENT PEP-3
13/09/2011 04:39:01	BOB-2	le PEP-3 n a pas ete fait a l heure
13/09/2011 04:43:00	BOB-2	purge du PEP 4
13/09/2011 04:43:00	BOB-2	PRELEVEMENT PEP-4
13/09/2011 04:46:35	BOB-2	area with several antipatharian colonies (branched)
13/09/2011 04:48:00	BOB-2	fin prelevement PEP-4 OK
13/09/2011 04:58:00	BOB-2	fin de profil Q1
13/09/2011 05:00:00	BOB-2	debut de profil QR
13/09/2011 05:02:00	BOB-2	nouveau fichier BobEco-Victor0213Q
13/09/2011 05:05:18	BOB-2	sea urchin+
13/09/2011 05:10:45	BOB-2	nice fish
13/09/2011 05:15:25	BOB-2	poisson chimere?
13/09/2011 05:17:32	BOB-2	trachyscorpia en haut ? + autre poisson en bas
13/09/2011 05:19:49	BOB-2	fish_trachyrurid
13/09/2011 05:28:00	BOB-2	belle photo geol
13/09/2011 05:32:00	BOB-2	nouveau fichier BobEco-Victor0213R
13/09/2011 05:32:12	BOB-2	fish
13/09/2011 05:32:25	BOB-2	organisme non identifie
13/09/2011 05:36:44	BOB-2	big fish
13/09/2011 05:37:55	BOB-2	fish
13/09/2011 05:42:00	BOB-2	purge PEP5

13/09/2011 05:44:00	BOB-2	PRELEVEMENT PEP-5
13/09/2011 05:45:00	BOB-2	changement de profil RS
13/09/2011 05:45:37	BOB-2	crab, Narella?
13/09/2011 05:47:17	BOB-2	big wall with some live colonies of madrepora/lophelia_need to be checked
13/09/2011 05:48:00	BOB-2	purge PEP 6
13/09/2011 05:50:00	BOB-2	PRELEVEMENT PEP-6
13/09/2011 05:53:00	BOB-2	(et avant) forme speciiiale dans sable belle structure geologique IMG1629-1633-1655
13/09/2011 06:00:00	BOB-2	arrivée en quart Joelle et Remy
13/09/2011 06:02:00	BOB-2	nouveau fichier BobEco-Victor0213S
13/09/2011 06:06:01	BOB-2	trace de drague ou de chalut
13/09/2011 06:12:21	BOB-2	photo otus 1731 coraux
13/09/2011 06:15:16	BOB-2	photo otus 1747 gorgone
13/09/2011 06:16:19	BOB-2	photo otus 1755 massif coraux
13/09/2011 06:17:07	BOB-2	photo otus 1760 coraux blancs
13/09/2011 06:17:39	BOB-2	photo otus 1764 affouillement affaissement sedimentaire
13/09/2011 06:24:00	BOB-2	coraux epars plus ou moins denses tout le long du trajet
13/09/2011 06:25:34	BOB-2	3 ou 4 narella?
13/09/2011 06:26:28	BOB-2	structure sedimentaire
13/09/2011 06:27:14	BOB-2	structure sedimentaire
13/09/2011 06:27:26	BOB-2	coraux structure sedimentaire
13/09/2011 06:27:34	BOB-2	poisson coraux
13/09/2011 06:27:35	BOB-2	poisson coraux
13/09/2011 06:28:46	BOB-2	dans le massif corallien, corail jaune, blanc

13/09/2011 06:30:12	BOB-2	narella
13/09/2011 06:31:02	BOB-2	objet ou organisme non identifie
13/09/2011 06:31:54	BOB-2	nouveau fichier BobEco-Victor0213T
13/09/2011 06:32:30	BOB-2	la densite de coraux decroit
13/09/2011 06:35:08	BOB-2	coraux vivants
13/09/2011 06:35:22	BOB-2	narella
13/09/2011 06:37:06	BOB-2	photo otus 1880 poisson
13/09/2011 06:38:14	BOB-2	crevette
13/09/2011 06:38:47	BOB-2	narella, pennatulaire
13/09/2011 06:39:12	BOB-2	pennatulaire ?
13/09/2011 06:40:13	BOB-2	jolis coraux blancs, blancs jaunatres on voit souvent des boules marrons fonce, oursins?
13/09/2011 06:40:26	BOB-2	corail blanc jaunatre
13/09/2011 06:42:13	BOB-2	crevette
13/09/2011 06:43:10	BOB-2	objet non identifie
13/09/2011 06:43:54	BOB-2	corail
13/09/2011 06:44:07	BOB-2	narella
13/09/2011 06:44:39	BOB-2	oursins ?
13/09/2011 06:46:00	BOB-2	2 narellas?
13/09/2011 06:47:00	BOB-2	coraux relativement denses
13/09/2011 06:52:00	BOB-2	fin de profil RS
13/09/2011 06:53:00	BOB-2	giration
13/09/2011 06:55:00	BOB-2	debut profil ST
13/09/2011 06:57:11	BOB-2	grande structure blanche

13/09/2011 06:58:45	BOB-2	pas mal de coraux vivants
13/09/2011 07:00:00	BOB-2	depart joelle et arrivee brigitte
13/09/2011 07:00:16	BOB-2	poisson
13/09/2011 07:01:00	BOB-2	nouveau fichier BobEco-Victor0213U
13/09/2011 07:02:54	BOB-2	structure sedimentaire
13/09/2011 07:07:22	BOB-2	oursin
13/09/2011 07:10:45	BOB-2	narella
13/09/2011 07:22:02	BOB-2	structure sedimentaire affleurement rocheux
13/09/2011 07:25:36	BOB-2	poisson
13/09/2011 07:28:00	BOB-2	recif peu dense
13/09/2011 07:30:00	BOB-2	affleurement et sediment
13/09/2011 07:32:00	BOB-2	nouveau fichier BobEco-Victor0213V
13/09/2011 07:32:17	BOB-2	corail blanc belle eponge pachystrella
13/09/2011 07:34:18	BOB-2	poisson enregistre voir video sediment oursins
13/09/2011 07:36:00	BOB-2	recif de corail, antipathaire corail vivant
13/09/2011 07:37:04	BOB-2	corail rouge
13/09/2011 07:37:10	BOB-2	beau massif de coraux poissons nombreux anthipathaires
13/09/2011 07:37:18	BOB-2	beau massif de coraux poissons nombreux anthipathaires
13/09/2011 07:37:22	BOB-2	beau massif de coraux poissons nombreux anthipathairesanthipa
13/09/2011 07:37:33	BOB-2	beau massif de coraux poissons nombreux anthipathaires
13/09/2011 07:37:37	BOB-2	beau massif de coraux poissons nombreux anthipathaires
13/09/2011 07:41:00	BOB-2	fin du récif
13/09/2011 07:46:40	BOB-2	poisson
13/09/2011 07:47:32	BOB-2	poisson

13/09/2011 07:48:05	BOB-2	structure sedimentaire affleurement rocheux avec eponge
13/09/2011 07:54:30	BOB-2	poisson
13/09/2011 08:00:00	BOB-2	arrivee en quart sandra et brigitte
13/09/2011 08:00:40	BOB-2	structures sedimentaires
13/09/2011 08:05:59	BOB-2	arret enregistrement OTUS
13/09/2011 08:06:00	BOB-2	debut remontee ROV-Victor

3. Dive report 465 - 3

Submersible : Victor 6000

Starting Dive : 14/09/2011 04:08

Arrival on the bottom: 14/09/2011 05:14

Deprture from the bottom: 14/09/2011 11:02

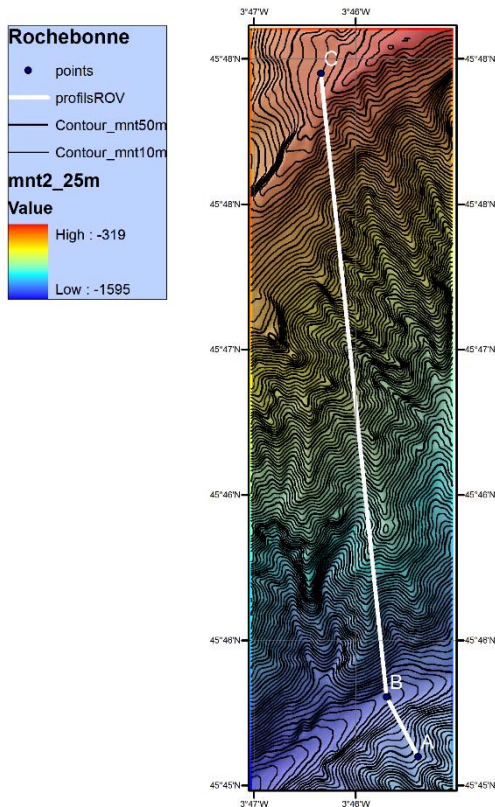
Ending dive : 14/09/2011 11:54

Location : BOB-3

Dives objectives :

BobEco - Dive 465-03 MMR/OTUS

Zone Rochebonne



Important things not to forget:

- *Note in the log books WHO IS ON WATCH AND ALL THE SWITCHES
- *Note any beginning and end of transect on MIMOSA and on the paper log book
- *Note any change in the plan
- *PEP: Don't forget to flush/drain (purger) during ONE MINUTE before each sample.
- *Sampling: any of the targeted corals or sponges taxa encountered

Comment:

*Note anything peculiar

*Don't hesitate to take picture if something alive, interesting

Total Duration : 5h

Time on the 'bottom' : 4h

Objectives :

- Exploration of Rochebonne canyon, starting at 1600m up to 300m

-Sampling if targeted taxa observed

- PEP (water sampling)

Timing of the Dive:

Day Time beginning TU Approx duration Operation

14/10 4:00 30min Leaving the surface-Descente

14/10 4:30 5min Arrival on the bottom

14/10 4:35 4h Transect A-B-CPEP Each 30 minutes, note if bottle or bag, fill bottle 4 min, bag 5 min

14/10 8:35 Leaving the bottom

14/10 8:50 1h Onboard

Summary :

Visited locations : BOB-3,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
STEVENSON Angela	UNIV DUBLIN IRELAND
BROCHERAY Sandra	UNIV BORDEAUX I
BOURILLET Jean-François	IFREMER BREST
VAN DEN BELDE Inge	IFREMER BREST
GUILLAUMONT Brigitte	IFREMER BREST
DAVIE Jaime	IFREMER BREST
HENRIQUEZ Andreia Braga	IMAR

No fauna sample during this dive [\(Up\)](#)

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
14/09/2011 06:39:50	BOB-3	465 - 3	PEP bottle	PEP	1	N 43 56.232	E 177 44.915	1475	PRELEVEMENT PEP-1
14/09/2011 06:51:33	BOB-3	465 - 3	PEP bottle	PEP	2	N 43 56.175	E 177 44.922	1423	PRELEVEMENT PEP-2
14/09/2011 06:56:19	BOB-3	465 - 3	PEP bottle	PEP	3	N 43 56.156	E 177 44.922	1410	PRELEVEMENT PEP-3
14/09/2011 10:45:00	BOB-3	465 - 3	PEP bottle	PEP	4	N 43 54.694	E 177 45.093	605	PRELEVEMENT PEP-4
14/09/2011 10:49:00	BOB-3	465 - 3	PEP bottle	PEP	5	N 43 54.657	E 177 45.099	587	PRELEVEMENT PEP-5
14/09/2011 10:52:00	BOB-3	465 - 3	PEP bottle	PEP	6	N 43 54.624	E 177 45.102	597	PRELEVEMENT PEP-6

No sediment or rock sample during this dive [\(Up\)](#)

Chronological Report of the dive : [\(Up\)](#)

Date Time	Location	Description
14/09/2011 05:14:00	BOB-3	arrivee sur le fond
14/09/2011 05:15:17	BOB-3	Soft sediment habitat with Acanella, Stalked sponges
14/09/2011 06:13:38	BOB-3	rock outcrop
14/09/2011 06:14:08	BOB-3	rock outcrop
14/09/2011 06:15:56	BOB-3	eponge blanche
14/09/2011 06:20:07	BOB-3	debris parsemes, ripplemarks, quelques poissons synaphobranchus

14/09/2011 06:22:04	BOB-3	structure sédimentaire
14/09/2011 06:23:19	BOB-3	poisson
14/09/2011 06:25:03	BOB-3	inconnu
14/09/2011 06:25:46	BOB-3	synaphobranchus
14/09/2011 06:25:52	BOB-3	chimère
14/09/2011 06:25:58	BOB-3	plusieurs synaphobranchus
14/09/2011 06:27:04	BOB-3	fond à pennatulaires
14/09/2011 06:29:20	BOB-3	fond à pennatulaires
14/09/2011 06:32:06	BOB-3	fond à pennatulaires
14/09/2011 06:33:00	BOB-3	ange de mer
14/09/2011 06:33:25	BOB-3	comatule, pennatulaires, belle vue d'ensemble
14/09/2011 06:36:03	BOB-3	empereur
14/09/2011 06:36:09	BOB-3	empereur et acanella
14/09/2011 06:37:22	BOB-3	hyalonema, synaphobranchus
14/09/2011 06:38:22	BOB-3	holothurie
14/09/2011 06:39:50	BOB-3	PRELEVEMENT PEP-1
14/09/2011 06:40:27	BOB-3	octocorallia
14/09/2011 06:41:00	BOB-3	dechet ?
14/09/2011 06:41:35	BOB-3	acanella
14/09/2011 06:42:36	BOB-3	acanella, hyalonema
14/09/2011 06:44:21	BOB-3	poisson macrouride
14/09/2011 06:46:22	BOB-3	poisson macrouride
14/09/2011 06:47:03	BOB-3	caryophylle ?
14/09/2011 06:48:38	BOB-3	xenophyophore

14/09/2011 06:50:32	BOB-3	caryophyllide, scleractiniaire
14/09/2011 06:51:33	BOB-3	PRELEVEMENT PEP-2
14/09/2011 06:55:04	BOB-3	association de plusieurs especes vulnerables
14/09/2011 06:56:19	BOB-3	PRELEVEMENT PEP-3
14/09/2011 06:57:45	BOB-3	dechet et asteride
14/09/2011 06:58:35	BOB-3	synaphobranchus
14/09/2011 06:58:57	BOB-3	dechet
14/09/2011 07:02:42	BOB-3	pennatulaire anthoptilum ?
14/09/2011 07:04:21	BOB-3	poisson ? et chimere
14/09/2011 07:06:59	BOB-3	hyalonema
14/09/2011 07:07:47	BOB-3	tres belle vue d'ensemble jardin d acanella sur pente forte
14/09/2011 07:07:53	BOB-3	belle crete avec acanella
14/09/2011 07:09:38	BOB-3	poisson avec oeil blanc
14/09/2011 07:10:35	BOB-3	pente tres marquee, peu de faune
14/09/2011 07:12:30	BOB-3	eau bien turbide
14/09/2011 07:13:07	BOB-3	comatule camera verticale, juste avant
14/09/2011 07:14:03	BOB-3	structure sedimentologique, cicatrice d'affaissement ?
14/09/2011 07:16:03	BOB-3	belle pente
14/09/2011 07:16:55	BOB-3	hyalonema
14/09/2011 07:17:20	BOB-3	structure morphologique abrupte, larges ondulations, rares acanella et hyalonema
14/09/2011 07:20:25	BOB-3	oursin, pennatulaires, hyalonema
14/09/2011 07:24:43	BOB-3	structure sedimentaire
14/09/2011 07:24:53	BOB-3	belle structure morphologique, vase indurée avec comatule

14/09/2011 07:26:41	BOB-3	structure sedimentaire et poisson
14/09/2011 07:28:43	BOB-3	serie de belles structures morphologiques
14/09/2011 07:31:26	BOB-3	poisson oeil blanc
14/09/2011 07:32:06	BOB-3	comatule
14/09/2011 07:33:27	BOB-3	poisson et acanella
14/09/2011 07:33:48	BOB-3	Trachyscorpia
14/09/2011 07:34:19	BOB-3	synaphobranchus
14/09/2011 07:34:51	BOB-3	asteride et poisson tetard
14/09/2011 07:35:45	BOB-3	caryophyllides
14/09/2011 07:37:02	BOB-3	poulpe
14/09/2011 07:37:22	BOB-3	caryophyllide
14/09/2011 07:39:06	BOB-3	asteride
14/09/2011 07:41:29	BOB-3	cerianthe avec tube
14/09/2011 07:41:54	BOB-3	actinie ?
14/09/2011 07:43:32	BOB-3	poisson macrouride tete pointue
14/09/2011 07:44:13	BOB-3	eponge ?
14/09/2011 07:44:42	BOB-3	comatules, eponges, caryophyllides etc
14/09/2011 07:46:59	BOB-3	magnifique cerianthe
14/09/2011 07:48:15	BOB-3	comatules
14/09/2011 07:50:16	BOB-3	phoronema
14/09/2011 07:51:06	BOB-3	Pheronema carpenteri
14/09/2011 07:51:55	BOB-3	bioturbation importante, gros terriers avec monticules, pente forte
14/09/2011 07:54:29	BOB-3	fond bioturbe
14/09/2011 07:56:23	BOB-3	oursin

14/09/2011 08:03:16	BOB-3	poulpe
14/09/2011 08:03:59	BOB-3	Large bony fish
14/09/2011 08:04:33	BOB-3	pennatulid umbellula ?
14/09/2011 08:05:47	BOB-3	fish
14/09/2011 08:09:13	BOB-3	eponge avec des coraux
14/09/2011 08:13:50	BOB-3	caryophyllid ?
14/09/2011 08:14:38	BOB-3	phoronema
14/09/2011 08:18:15	BOB-3	urchin
14/09/2011 08:19:14	BOB-3	fish and white crinoid or brisingid ?
14/09/2011 08:20:13	BOB-3	phoronema
14/09/2011 08:20:45	BOB-3	white phoronema
14/09/2011 08:22:25	BOB-3	white phoronema with munida
14/09/2011 08:23:13	BOB-3	
14/09/2011 08:24:37	BOB-3	sedimentary structures and sea urchin ?
14/09/2011 08:25:27	BOB-3	sea urchin
14/09/2011 08:29:58	BOB-3	
14/09/2011 08:30:19	BOB-3	
14/09/2011 08:32:17	BOB-3	actinid ?
14/09/2011 08:33:05	BOB-3	fish
14/09/2011 08:33:44	BOB-3	urchin
14/09/2011 08:34:11	BOB-3	ophiuroida
14/09/2011 08:35:13	BOB-3	fish
14/09/2011 08:37:01	BOB-3	macrouridae
14/09/2011 08:38:33	BOB-3	urchin

14/09/2011 08:40:58	BOB-3	lophelia porifera on cerianthid tube
14/09/2011 08:41:11	BOB-3	
14/09/2011 08:44:34	BOB-3	lophelia alcyonid porifera
14/09/2011 08:46:31	BOB-3	eponge hexatinellid
14/09/2011 08:47:58	BOB-3	structure sédimentaire
14/09/2011 08:48:48	BOB-3	cidaris
14/09/2011 08:49:05	BOB-3	burrowing ophiurid
14/09/2011 08:50:15	BOB-3	comatulid
14/09/2011 08:50:32	BOB-3	pennatulids
14/09/2011 08:51:08	BOB-3	sea star
14/09/2011 08:51:18	BOB-3	pennatulid ?
14/09/2011 08:52:26	BOB-3	
14/09/2011 08:53:21	BOB-3	Lophelia / Madrepora + penatulid
14/09/2011 08:53:42	BOB-3	whip penatulid and penatula
14/09/2011 08:54:00	BOB-3	Lophelia / Madrepora + debris
14/09/2011 08:54:15	BOB-3	structure sédimentaire
14/09/2011 08:54:42	BOB-3	coraux
14/09/2011 08:55:20	BOB-3	fish comatulid
14/09/2011 08:55:44	BOB-3	coraux lophelia or madrepora
14/09/2011 08:56:06	BOB-3	penatulid + lophelia / madrepora
14/09/2011 08:58:29	BOB-3	pennatulid
14/09/2011 08:59:03	BOB-3	comatulid and large burrows
14/09/2011 09:00:02	BOB-3	
14/09/2011 09:01:28	BOB-3	

14/09/2011 09:02:05	BOB-3	comatulid
14/09/2011 09:02:20	BOB-3	macrouridae
14/09/2011 09:03:10	BOB-3	structure sedimentaire
14/09/2011 09:07:58	BOB-3	
14/09/2011 09:08:28	BOB-3	fish
14/09/2011 09:08:36	BOB-3	debris de coraux
14/09/2011 09:10:21	BOB-3	urchin
14/09/2011 09:10:44	BOB-3	cnidaria ?
14/09/2011 09:11:07	BOB-3	structure sedimentaire
14/09/2011 09:12:12	BOB-3	camera babord structure sedimentaire
14/09/2011 09:13:31	BOB-3	holothurid ? structure sedimentaire ? oysters
14/09/2011 09:16:13	BOB-3	structures sédimentaires
14/09/2011 09:16:21	BOB-3	coraux ?
14/09/2011 09:17:31	BOB-3	large burrows
14/09/2011 09:18:50	BOB-3	anthipatharia bathypathes ?
14/09/2011 09:23:33	BOB-3	penet raide
14/09/2011 09:23:46	BOB-3	porifera ?
14/09/2011 09:24:22	BOB-3	decapoda bathynectes
14/09/2011 09:25:16	BOB-3	large fish
14/09/2011 09:25:49	BOB-3	debris ?
14/09/2011 09:27:41	BOB-3	debris dentalium ?
14/09/2011 09:28:08	BOB-3	terrier nephrops ?
14/09/2011 09:29:18	BOB-3	shrimps
14/09/2011 09:31:15	BOB-3	small erect coral

14/09/2011 09:33:02	BOB-3	chimaera
14/09/2011 09:34:25	BOB-3	pennatula ?
14/09/2011 09:37:01	BOB-3	sword fish ? sabre ?
14/09/2011 09:39:45	BOB-3	fish
14/09/2011 09:40:57	BOB-3	eremit crab
14/09/2011 09:41:57	BOB-3	oysters ?
14/09/2011 09:42:09	BOB-3	pennatulid ?
14/09/2011 09:42:29	BOB-3	white coral dead with epiphytes
14/09/2011 09:43:46	BOB-3	fish lepidion ?
14/09/2011 09:44:08	BOB-3	fish ling ?
14/09/2011 09:45:47	BOB-3	structure sedimentaire
14/09/2011 09:46:30	BOB-3	decapoda bathynectes
14/09/2011 09:53:56	BOB-3	structure sedimentaire avec ligne ?
14/09/2011 09:56:00	BOB-3	QUART arrivee Inge van den Beld and Angela Stevenson
14/09/2011 10:06:07	BOB-3	pennatulids, cerianthus sp.
14/09/2011 10:07:56	BOB-3	piece of anthozoa
14/09/2011 10:08:18	BOB-3	fish or garbage
14/09/2011 10:10:00	BOB-3	QUART remplacement Angela par JF Bourillet
14/09/2011 10:10:00	BOB-3	Burrows
14/09/2011 10:12:00	BOB-3	Munida in sediment, Synaphobranchus, macrouridae, echinoid
14/09/2011 10:14:20	BOB-3	galeus melastomus
14/09/2011 10:14:23	BOB-3	gastropod
14/09/2011 10:18:01	BOB-3	rocky outcrop with live unidentified species
14/09/2011 10:18:20	BOB-3	grenadier ?

14/09/2011 10:19:19	BOB-3	morphological feature with unidentified species
14/09/2011 10:19:54	BOB-3	macroridés
14/09/2011 10:20:24	BOB-3	garbage
14/09/2011 10:22:58	BOB-3	petite crete
14/09/2011 10:23:43	BOB-3	fork beard
14/09/2011 10:25:00	BOB-3	lebenspurren
14/09/2011 10:26:08	BOB-3	coryphaenoides
14/09/2011 10:26:56	BOB-3	forkbeard
14/09/2011 10:27:19	BOB-3	oursin
14/09/2011 10:30:02	BOB-3	galeus
14/09/2011 10:30:37	BOB-3	eponge
14/09/2011 10:31:02	BOB-3	piece of obus? with oysters
14/09/2011 10:32:05	BOB-3	2eme bloc avec oysters and encrusting sponges
14/09/2011 10:32:17	BOB-3	obus ??
14/09/2011 10:33:00	BOB-3	banc d huitres sur structure changement facies
14/09/2011 10:34:00	BOB-3	change of facies
14/09/2011 10:34:40	BOB-3	huitre sur affleurement
14/09/2011 10:35:16	BOB-3	close up oysters
14/09/2011 10:40:48	BOB-3	huitre vue de dessus
14/09/2011 10:41:13	BOB-3	oursin
14/09/2011 10:41:31	BOB-3	beryx or hoplostethus
14/09/2011 10:42:09	BOB-3	beryx or hoplostethus and greater forkbeard
14/09/2011 10:45:00	BOB-3	PRELEVEMENT PEP-4
14/09/2011 10:45:33	BOB-3	coryphonoides

14/09/2011 10:46:49	BOB-3	meduse
14/09/2011 10:49:00	BOB-3	PRELEVEMENT PEP-5
14/09/2011 10:50:08	BOB-3	bloc, poisson
14/09/2011 10:50:37	BOB-3	beryx or Hoplostethus
14/09/2011 10:51:33	BOB-3	lingue bleue
14/09/2011 10:52:00	BOB-3	PRELEVEMENT PEP-6
14/09/2011 10:52:32	BOB-3	lingue ?
14/09/2011 10:53:03	BOB-3	filet , lingue
14/09/2011 10:54:49	BOB-3	bloc
14/09/2011 10:55:28	BOB-3	obus ? huitre
14/09/2011 10:56:00	BOB-3	obus
14/09/2011 10:57:54	BOB-3	obus 3 a 4 m
14/09/2011 10:59:31	BOB-3	oursin ppoisson beryx, objets
14/09/2011 11:00:48	BOB-3	small scarp with epifauna
14/09/2011 11:01:20	BOB-3	zoom end of transect at 11:01 and end of dive
14/09/2011 11:02:00	BOB-3	depart du fond

4. Dive report 466 - 4

Submersible : Victor 6000

Starting Dive : 14/09/2011 18:02

Arrival on the bottom: 14/09/2011 19:14

Deprture from the bottom: 15/09/2011 01:25

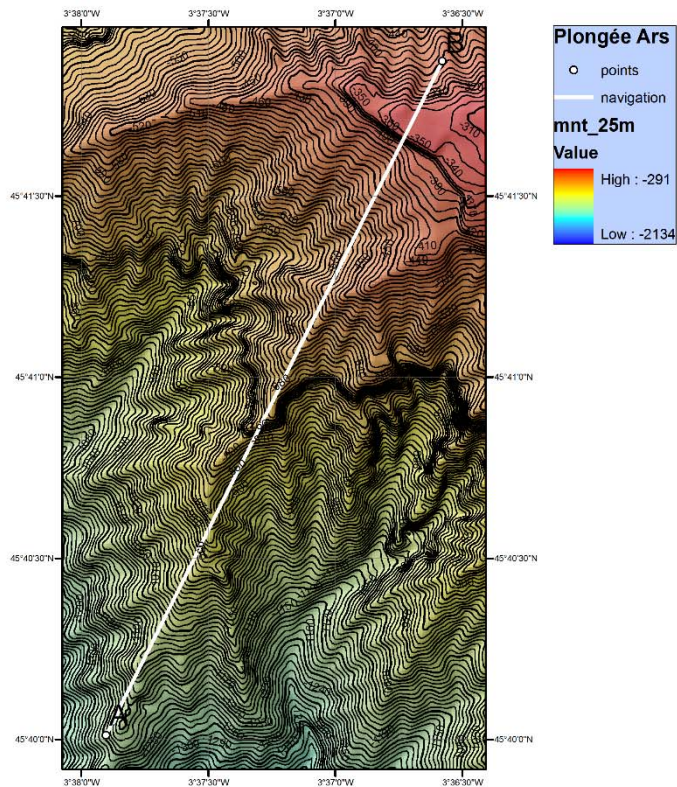
Ending dive : 15/09/2011 02:24

Location : BOB-3

Dives objectives :

BobEco - Dive 466-04 Exploratory, sampling module

Zone Ars



Important things not to forget:

*Note any beginning and end of transect on MIMOSA and on the paper log book

*Note any change in the plan

*PEP: Don't forget to flush/drain (purger) during ONE MINUTE before each sample.

*Sampling: any of the targeted corals or sponges taxa encountered, note on both blogbooks AND on the sample sheet

*If reef is encountered, wake me (Sophie) up to decide whether we get a longer dive to sample.

Comment:

*Note anything peculiar

*Don't hesitate to take picture if something alive, interesting

Total Duration : 8h deck to deck

Time on the 'bottom' : 4h30

Objectives :

- Exploration of Ars canyon, starting at about 1200m up to about 300m

-Sampling if targeted taxa observed

- PEP (water sampling) every hour during transect

Timing of the Dive:

Day Time beginning TU Approx duration Operation

14/10 16:00 2h Leaving the surface-Descente

14/10 20:00 Arrival on the bottom

14/10 20:00 5h Transect A-BPEP (fill bottle 4 min)

14/10 21:00 PEP (fill bottle 4 min)

14/10 22:00 PEP (fill bottle 4 min)

14/10 23:00 PEP (fill bottle 4 min)

14/10 00:00 PEP (fill bottle 4 min)

15/10 01:00 1h Leaving the bottomPEP (fill bottle 4 min)

15/10 02:00 Onboard

Summary :

Visited locations : BOB-3,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
STEVENSON Angela	UNIV DUBLIN IRELAND
ESSIS Karou	UBO BREST
BROCHERAY Sandra	UNIV BORDEAUX I
VAN DEN BELDE Inge	IFREMER BREST
GUILLAUMONT Brigitte	IFREMER BREST

LAXENAIRE Remi	INTECHMER
RENGSTORF Anna Maria	NUIGalway

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
14/09/2011 23:47:00	BOB-3	466 - 4	Coral box A		5	N 45 40.869	W 003 37.281	700	PRELEVEMENT roche CCA5 -1
14/09/2011 23:14:37	BOB-3	466 - 4	Coral box A		8	N 45 40.811	W 003 37.327	792	PRELEVEMENT FAUNE CCA8 : alcyonacae, same as previous CCA8
14/09/2011 22:00:14	BOB-3	466 - 4	ROV big box	GBT	1	N 45 40.614	W 003 37.476	838	PRELEVEMENT GBT-1 gorgone lophelia
14/09/2011 22:14:11	BOB-3	466 - 4	ROV big box	GBT	2	N 45 40.614	W 003 37.476	838	PRELEVEMENT GBT-2 DESMOPHYLLUM
14/09/2011 22:21:50	BOB-3	466 - 4	ROV big box	GBT	3	N 45 40.613	W 003 37.476	838	PRELEVEMENT GBT-3 LOPHELIA BLANC

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
14/09/2011 19:58:00	BOB-3	466 - 4	PEP bottle	PEP	1	N 45 40.123	W 003 37.826	1137	PRELEVEMENT PEP-1
14/09/2011 22:28:00	BOB-3	466 - 4	PEP bottle	PEP	3	N 45 40.624	W 003 37.481	837	PRELEVEMENT PEP-3
14/09/2011 23:18:00	BOB-3	466 - 4	PEP bottle	PEP	4	N 45 40.808	W 003 37.325	794	PRELEVEMENT PEP-4

15/09/2011 00:00:31	BOB-3	466 - 4	PEP bottle	PEP	5	N 45 40.879	W 003 37.266	692	PRELEVEMENT PEP-5
15/09/2011 01:01:08	BOB-3	466 - 4	PEP bottle	PEP	6	N 45 41.223	W 003 37.039	535	PRELEVEMENT PEP-6

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
14/09/2011 18:07:00	BOB-3	Quart B Guillaumont, R Laxenaire
14/09/2011 18:24:25	BOB-3	organisme non identifie
14/09/2011 19:18:54	BOB-3	ROV sur le fond
14/09/2011 19:21:13	BOB-3	poisson
14/09/2011 19:21:43	BOB-3	structure sédimentaire
14/09/2011 19:21:58	BOB-3	poisson
14/09/2011 19:36:04	BOB-3	pheronema
14/09/2011 19:36:19	BOB-3	DEPART TRANSECT
14/09/2011 19:37:01	BOB-3	poissons
14/09/2011 19:37:14	BOB-3	pheronema
14/09/2011 19:37:21	BOB-3	macrourid
14/09/2011 19:37:46	BOB-3	poissons
14/09/2011 19:39:09	BOB-3	oursin ?
14/09/2011 19:39:21	BOB-3	etoile de mer
14/09/2011 19:40:06	BOB-3	pheronema

14/09/2011 19:40:43	BOB-3	structure sedimentaire
14/09/2011 19:41:15	BOB-3	poissons
14/09/2011 19:41:45	BOB-3	ophiure enfoui en bas de l'image
14/09/2011 19:42:39	BOB-3	eponge pheronema
14/09/2011 19:43:07	BOB-3	eponge
14/09/2011 19:43:21	BOB-3	poisson
14/09/2011 19:44:20	BOB-3	pheronema
14/09/2011 19:45:57	BOB-3	organisme non identifie
14/09/2011 19:46:10	BOB-3	organisme non identifie
14/09/2011 19:46:14	BOB-3	organisme non identifie
14/09/2011 19:46:48	BOB-3	poisson
14/09/2011 19:46:54	BOB-3	pheronema
14/09/2011 19:49:16	BOB-3	structure sedimentaire
14/09/2011 19:49:58	BOB-3	anthipathaire
14/09/2011 19:50:19	BOB-3	anthipathaire
14/09/2011 19:50:50	BOB-3	poisson
14/09/2011 19:51:00	BOB-3	poisson
14/09/2011 19:51:13	BOB-3	pheronema
14/09/2011 19:51:23	BOB-3	pheronema
14/09/2011 19:51:26	BOB-3	pheronemas
14/09/2011 19:52:08	BOB-3	synaphobranchus
14/09/2011 19:52:54	BOB-3	ophiure enfoui
14/09/2011 19:53:49	BOB-3	organisme non identifie
14/09/2011 19:53:52	BOB-3	poisson

14/09/2011 19:54:17	BOB-3	structure sedimentaire
14/09/2011 19:54:31	BOB-3	gorgones
14/09/2011 19:54:55	BOB-3	gorgones
14/09/2011 19:55:30	BOB-3	poisson
14/09/2011 19:55:46	BOB-3	tri sedimentaire
14/09/2011 19:56:11	BOB-3	poisson blanc
14/09/2011 19:56:30	BOB-3	affleurement rocheux
14/09/2011 19:56:52	BOB-3	structure sedimentaire
14/09/2011 19:57:38	BOB-3	phoronema
14/09/2011 19:58:00	BOB-3	PRELEVEMENT PEP-1
14/09/2011 19:59:33	BOB-3	ophiure enfoui
14/09/2011 19:59:40	BOB-3	organisme non identifie
14/09/2011 20:00:00	BOB-3	QUART arrivee B Guillaumont, S Brocheray
14/09/2011 20:00:42	BOB-3	organisme non identifie
14/09/2011 20:01:00	BOB-3	fin prelevement PEP-1
14/09/2011 20:01:19	BOB-3	poisson
14/09/2011 20:01:21	BOB-3	phoronema
14/09/2011 20:01:47	BOB-3	organisme non identifie
14/09/2011 20:02:18	BOB-3	phoronema
14/09/2011 20:02:56	BOB-3	poisson anguiliforme
14/09/2011 20:03:31	BOB-3	poisson
14/09/2011 20:04:17	BOB-3	bathypathes
14/09/2011 20:04:30	BOB-3	corail noir bathypathes
14/09/2011 20:05:51	BOB-3	bathypathes poissons anguiliformes

14/09/2011 20:08:34	BOB-3	Ophiures enfouies
14/09/2011 20:08:55	BOB-3	ophiures enfouies
14/09/2011 20:13:22	BOB-3	maquereau ridé
14/09/2011 20:17:16	BOB-3	structures morphologiques, macrouridae
14/09/2011 20:18:05	BOB-3	oursin
14/09/2011 20:18:36	BOB-3	oursin
14/09/2011 20:19:22	BOB-3	oursin
14/09/2011 20:20:04	BOB-3	oursin
14/09/2011 20:22:00	BOB-3	START RECORD VIDEO
14/09/2011 20:23:51	BOB-3	Pheronema
14/09/2011 20:24:25	BOB-3	Pheronema
14/09/2011 20:24:57	BOB-3	Pheronema, comatules, macrouridae
14/09/2011 20:27:41	BOB-3	Umbelulla
14/09/2011 20:29:29	BOB-3	Phelliactis Pheronema
14/09/2011 20:31:53	BOB-3	bathynectes?
14/09/2011 20:33:40	BOB-3	Oursins
14/09/2011 20:34:02	BOB-3	crête
14/09/2011 20:36:33	BOB-3	crête
14/09/2011 20:37:43	BOB-3	Pheronema
14/09/2011 20:38:31	BOB-3	Munida
14/09/2011 20:39:26	BOB-3	Pheronema
14/09/2011 20:40:15	BOB-3	crevette
14/09/2011 20:42:17	BOB-3	Phycis
14/09/2011 20:45:15	BOB-3	Pennatule

14/09/2011 20:46:46	BOB-3	poisson
14/09/2011 20:47:15	BOB-3	structure ?
14/09/2011 20:47:50	BOB-3	relief
14/09/2011 20:48:15	BOB-3	munida ophiure enfouies
14/09/2011 20:48:38	BOB-3	structures
14/09/2011 20:50:18	BOB-3	cerianthe en tube
14/09/2011 20:50:19	BOB-3	Lophelia ou madrepora sur plaque rocheuse isolée
14/09/2011 20:53:38	BOB-3	madrepora et stichopathes
14/09/2011 20:58:34	BOB-3	poisson
14/09/2011 21:00:34	BOB-3	niveau induré
14/09/2011 21:07:19	BOB-3	rides sur un seul versant
14/09/2011 21:09:48	BOB-3	petit empereur, colonie isolée de lophelia / madrepora
14/09/2011 21:11:00	BOB-3	colonie isolée de lophelia et madrepora , quelques petites exactinelides
14/09/2011 21:14:15	BOB-3	debris de lophelia (?) ou madrepora
14/09/2011 21:19:45	BOB-3	cerianthes
14/09/2011 21:20:57	BOB-3	actinides
14/09/2011 21:23:10	BOB-3	petit requin galeus melanostomus ?
14/09/2011 21:24:16	BOB-3	galeus melanostomus ?
14/09/2011 21:24:53	BOB-3	beaucoup de debris
14/09/2011 21:25:12	BOB-3	Phycis
14/09/2011 21:25:52	BOB-3	Cidaris
14/09/2011 21:29:39	BOB-3	relief
14/09/2011 21:33:30	BOB-3	cordage ou cable colonisé par gorgones
14/09/2011 21:45:09	BOB-3	debris

14/09/2011 21:45:50	BOB-3	eponges
14/09/2011 21:47:22	BOB-3	eponges pachestrella lophelia madrepora
14/09/2011 21:48:32	BOB-3	debris
14/09/2011 21:49:02	BOB-3	Lophius narella pachestrella lophelia madrepora
14/09/2011 21:52:53	BOB-3	recif epars
14/09/2011 21:55:07	BOB-3	recif epars beaucoup de mort
14/09/2011 21:56:08	BOB-3	eponges encroutantes
14/09/2011 21:56:50	BOB-3	eponges encroutantes
14/09/2011 22:00:14	BOB-3	PRELEVEMENT GBT-1 gorgone lophelia
14/09/2011 22:10:45	BOB-3	depot du PRELEVEMENT GBT
14/09/2011 22:14:11	BOB-3	PRELEVEMENT GBT-2 DESMOPHYLLUM
14/09/2011 22:20:13	BOB-3	Sample of Desmophyllum same as previous GBT
14/09/2011 22:21:50	BOB-3	PRELEVEMENT GBT-3 LOPHELIA BLANC
14/09/2011 22:23:29	BOB-3	Sample of white Lophelia same as previous GBT
14/09/2011 22:26:51	BOB-3	unidentified species
14/09/2011 22:27:22	BOB-3	rocky outcrops
14/09/2011 22:27:34	BOB-3	rocky outcrop with oysters, sand, dead coral, synaphobranchus
14/09/2011 22:28:00	BOB-3	PRELEVEMENT PEP-3
14/09/2011 22:28:48	BOB-3	Rocky outcrops
14/09/2011 22:29:00	BOB-3	Stop PEP bottle 3
14/09/2011 22:30:44	BOB-3	Change of substrate, bolocera, mora ? on vertical camera
14/09/2011 22:33:38	BOB-3	Sponges, rocky outcrop with sponges, macrouridae
14/09/2011 22:33:59	BOB-3	Rocky outcrop with white lobose sponges
14/09/2011 22:34:33	BOB-3	ledge with epifauna, ink from squid

14/09/2011 22:40:05	BOB-3	Step with little overhang, oysters and sponges on outcrop
14/09/2011 22:40:18	BOB-3	lepidion
14/09/2011 22:43:45	BOB-3	macrouridae, asteroids, echinoid
14/09/2011 22:45:52	BOB-3	Scarp with Bathynectes
14/09/2011 22:47:23	BOB-3	overhang with small epifauna
14/09/2011 22:50:05	BOB-3	Anthomastus
14/09/2011 22:53:41	BOB-3	Blocks of rocks with oysters, Lepidion
14/09/2011 22:56:01	BOB-3	Overhang
14/09/2011 22:58:14	BOB-3	rocky outcrops with pennatulid
14/09/2011 22:58:52	BOB-3	rock with oysters
14/09/2011 22:59:15	BOB-3	Sample Alcyonacea
14/09/2011 23:06:11	BOB-3	Sample alcyonaceae, same as previous
14/09/2011 23:14:37	BOB-3	PRELEVEMENT FAUNE CCA8 : alcyonaceae, same as previous CCA8
14/09/2011 23:18:00	BOB-3	PRELEVEMENT PEP-4
14/09/2011 23:22:17	BOB-3	Blocks of rocks with sponges and Stichopathes
14/09/2011 23:23:17	BOB-3	Stichopathes
14/09/2011 23:23:33	BOB-3	Sponges on rocky outcrops
14/09/2011 23:23:58	BOB-3	Cidaris, alcyonacea
14/09/2011 23:24:55	BOB-3	anthomastus, gorgonian ?, Bathynectes on vertical camera
14/09/2011 23:26:10	BOB-3	Still images gorgonian?
14/09/2011 23:26:47	BOB-3	Bathynectes
14/09/2011 23:28:35	BOB-3	Broken oyster and coral framework
14/09/2011 23:29:46	BOB-3	Old framework (oyster and coral), Bolocera, Stichopathes, Lepidion, Cerianthid

14/09/2011 23:32:00	BOB-3	cidaris
14/09/2011 23:32:34	BOB-3	Rocky outcrop, cidaris
14/09/2011 23:32:56	BOB-3	Old broken coral and oyster framework
14/09/2011 23:34:08	BOB-3	Cliff with oysters
14/09/2011 23:43:00	BOB-3	Anthomastus, yellow gorgonian, white gorgonian
14/09/2011 23:44:48	BOB-3	Ledge with epifauna
14/09/2011 23:45:17	BOB-3	Rocky outcrops, urchin, cerianthids and burrows on vertical camera
14/09/2011 23:47:00	BOB-3	PRELEVEMENT roche CCA5 -1
14/09/2011 23:48:49	BOB-3	Banded crinoid on vertical camera
14/09/2011 23:58:13	BOB-3	Ledge with epifauna
14/09/2011 23:59:08	BOB-3	sand with cerianthids
15/09/2011 00:00:00	BOB-3	Quart arrivee de Anna et Angela
15/09/2011 00:00:31	BOB-3	PRELVEVEMENT PEP-5
15/09/2011 00:03:24	BOB-3	fishing gear
15/09/2011 00:06:50	BOB-3	still i,amage taken, anemone lophelia
15/09/2011 00:12:47	BOB-3	hardground cerianthidae fish
15/09/2011 00:14:51	BOB-3	lophius sp.
15/09/2011 00:18:33	BOB-3	fishing gear
15/09/2011 00:22:59	BOB-3	muddy sand epizoanthus
15/09/2011 00:25:02	BOB-3	Chimaera
15/09/2011 00:26:45	BOB-3	Decapoda
15/09/2011 00:30:26	BOB-3	Lepidion?
15/09/2011 00:33:16	BOB-3	muddy sand
15/09/2011 00:34:45	BOB-3	fish

15/09/2011 00:36:27	BOB-3	fish, still image taken
15/09/2011 00:37:40	BOB-3	field of cerianthidae
15/09/2011 00:41:53	BOB-3	Molva sp.
15/09/2011 00:43:15	BOB-3	top of ridge
15/09/2011 00:50:24	BOB-3	top of ridge, Cerianthidae
15/09/2011 00:54:14	BOB-3	Molva sp. and other fish
15/09/2011 00:56:20	BOB-3	Molva sp.
15/09/2011 01:01:08	BOB-3	PRELEVEMENT PEP-6
15/09/2011 01:03:00	BOB-3	Helicolenus
15/09/2011 01:07:11	BOB-3	muddy sand fish
15/09/2011 01:08:19	BOB-3	muddy sand cerianthidae urchin
15/09/2011 01:15:43	BOB-3	interesting fish
15/09/2011 01:16:34	BOB-3	muddy sand calveriosoma cerianthidae
15/09/2011 01:17:34	BOB-3	Lophius sp.
15/09/2011 01:21:32	BOB-3	fish
15/09/2011 01:22:33	BOB-3	chimaera with tail bitten of

5. Dive report 467 - 5

Submersible : Victor 6000

Starting Dive : 15/09/2011 10:58

Arrival on the bottom: 15/09/2011 11:54

Deprture from the bottom: 15/09/2011 17:50

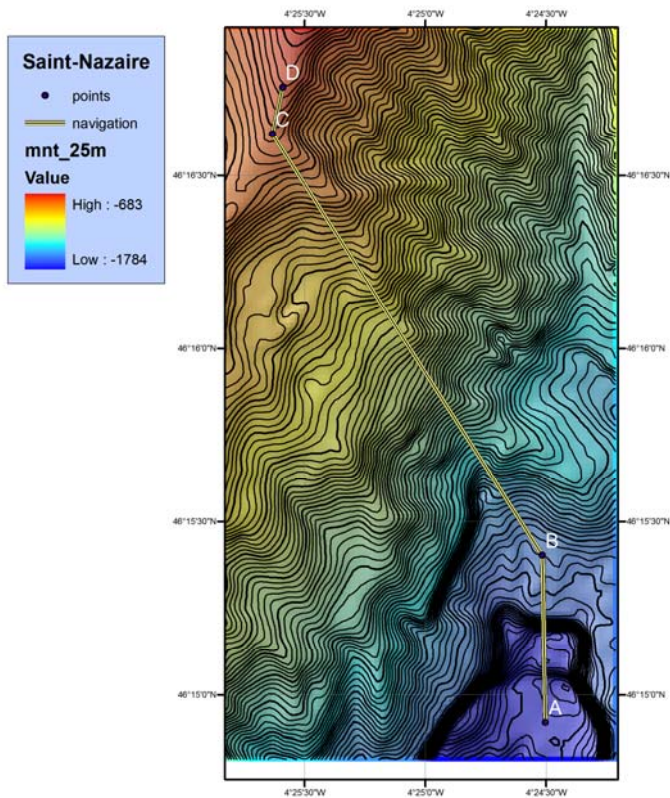
Ending dive : 15/09/2011 19:06

Location : BOB-2

Dives objectives :

BobEco - Dive 467-05 Exploratory, sampling module

Zone Saint Nazaire



Important things not to forget:

*Note beginning and end of transect on MIMOSA and on the paper log book

*Note any change in the plan

*PEP: Don't forget to flush/drain (purger) during ONE MINUTE before each sample.

*Sampling: any of the targeted corals or sponges taxa encountered, note on both logbooks AND on the sample sheet

*If reef is encountered, wake me (Sophie) up to decide whether we get a longer dive to sample.

*CHECK THE VIDEO IS ON WHEN STARTIONG THE DIVE!!!

Comment:

*Note anything peculiar

*Don't hesitate to take picture if something alive, interesting

Total Duration : 8h30 deck to deck

Time on the 'bottom' : 6h00

Objectives :

- Exploration of Saint-Nazaire canyon, starting at about 1750m up to about 700m

-Sampling if targeted taxa observed

- PEP (water sampling) every hour during transect. BUT if reef encountered use the bottles remaining at the moment of discovery to do triplicates on several points

Timing of the Dive:

Day Time beginning TU Approx duration Operation

15/10 10:30 1h30 Deck-Leaving the surface-Descente

15/10 12:00 Arrival on the bottomPEP1 (fill bottle 4 min) at point A

15/10 12:30 PEP2 (fill bottle 4 min)

15/10 13:20 1h20 Transect A-BPEP3 (fill bottle 4 min) at point B

15/10 14:00 PEP4 (fill bottle 4 min)

15/10 14:30 PEP5 (fill bottle 4 min)

15/10 15:00 PEP6 (fill bag 5 min max)

15/10 16:00 PEP7 (fill bottle 4 min)

15/10 16:30 PEP8 (fill bottle 4 min)

15/10 17:10 3h50 Transect B-CPEP9 (fill bottle 4 min) at point C

15/10 18:00 50min Transect C-DPEP10 (fill bottle 4 min)

15/10 PEP11 (fill bottle 4 min)

15/10 18:00 1h Leaving the bottomPEP 12 (fill bag 5 min max)

15/10 19:00 Onboard

Summary :

Visited locations : BOB-2,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
BOURILLET Jean-François	IFREMER BREST
VAN DEN BELDE Inge	IFREMER BREST
DAVIE Jaime	IFREMER BREST
HENRIQUEZ Andreia Braga	IMAR

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
15/09/2011 15:05:44	BOB-2	467 - 5	Coral box A		3	N 46 15.209	W 004 24.500	1658	PRELEVEMENT FAUNE CCA3
15/09/2011 16:43:44	BOB-2	467 - 5	Coral box A		6	N 46 15.659	W 004 24.770	1392	PRELEVEMENT FAUNE CCA6 Enallopsammia
15/09/2011 15:24:09	BOB-2	467 - 5	Coral box A		7	N 46 15.211	W 004 24.508	1618	PRELEVEMENT FAUNE CCA7 yellow gorgonian,
15/09/2011 15:19:45	BOB-2	467 - 5	Coral box A		8	N 46 15.210	W 004 24.506	1592	PRELEVEMENT FAUNE CCA8 lamellate sponge
15/09/2011 13:33:43	BOB-2	467 - 5	ROV big box	GBT	1	N 46 15.065	W 004 24.513	1762	PRELEVEMENT GBT-1 anemone
15/09/2011 14:28:30	BOB-2	467 - 5	ROV big box	GBT	2	N 46 15.209	W 004 24.495	1661	PRELEVEMENT GBT-2 Gorgonian

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
15/09/2011 13:05:00	BOB-2	467 - 5	PEP bottle	PEP	1	N 46 15.004	W 004 24.515	1761	PRELEVEMENT PEP-1

15/09/2011 13:53:00	BOB-2	467 - 5	PEP bottle	PEP	2	N 46 15.083	W 004 24.523	1716	PRELEVEMENT PEP-2
15/09/2011 14:50:05	BOB-2	467 - 5	PEP bottle	PEP	4	N 46 15.209	W 004 24.493	1658	PRELEVEMENT PEP-4
15/09/2011 14:52:00	BOB-2	467 - 5	PEP bottle	PEP	5	N 46 15.210	W 004 24.495	1658	PRELEVEMENT PEP 5
15/09/2011 14:54:33	BOB-2	467 - 5	PEP bottle	PEP	6	N 46 15.209	W 004 24.494	1658	PRELEVEMENT PEP-6
15/09/2011 14:57:00	BOB-2	467 - 5	PEP bottle	PEP	7	N 46 15.209	W 004 24.492	1658	PRELEVEMENT PEP-7
15/09/2011 17:37:00	BOB-2	467 - 5	PEP bottle	PEP	8	N 46 15.868	W 004 24.932	1187	PRELEVEMENT PEP-8
15/09/2011 17:44:18	BOB-2	467 - 5	PEP bottle	PEP	12	N 46 15.908	W 004 24.970	1158	PRELEVEMENT PEP-12

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
15/09/2011 11:01:00	BOB-2	QUART: arrivee de I van den Beld et JF Bourillet
15/09/2011 12:41:53	BOB-2	ROV au fond
15/09/2011 12:47:36	BOB-2	macrourides
15/09/2011 12:54:00	BOB-2	Recording oblique and vertical camera
15/09/2011 12:56:00	BOB-2	Plastic, metallic plastic, gorgonian
15/09/2011 12:59:35	BOB-2	eponge
15/09/2011 13:00:00	BOB-2	Anthropogenic impact on vertical camera

15/09/2011 13:01:16	BOB-2	eponge, rocky outcrops, ray
15/09/2011 13:02:35	BOB-2	affleureemnt
15/09/2011 13:03:09	BOB-2	debris anthropogenic impact (fishline and can)
15/09/2011 13:03:34	BOB-2	bloc ou base fazlaise
15/09/2011 13:05:00	BOB-2	PRELEVEMENT PEP-1
15/09/2011 13:07:03	BOB-2	holothurie, plastic
15/09/2011 13:07:21	BOB-2	rocky outcrops with sponges
15/09/2011 13:07:25	BOB-2	dechet
15/09/2011 13:07:42	BOB-2	dead coral colonies on vertical
15/09/2011 13:07:56	BOB-2	PEP bottle 1 finish
15/09/2011 13:07:57	BOB-2	Big rocky blocks
15/09/2011 13:09:08	BOB-2	dechet
15/09/2011 13:09:28	BOB-2	filet fantome
15/09/2011 13:09:43	BOB-2	filet
15/09/2011 13:10:00	BOB-2	Synaphobranchus, sediment drape on rocks, lots of particles in the water
15/09/2011 13:11:31	BOB-2	macrourides
15/09/2011 13:11:49	BOB-2	affleurement
15/09/2011 13:12:52	BOB-2	macrourides
15/09/2011 13:13:38	BOB-2	acanella on vertical camera
15/09/2011 13:13:55	BOB-2	rocky outcrops with black coral?
15/09/2011 13:14:17	BOB-2	bouteille
15/09/2011 13:14:25	BOB-2	Big blocks
15/09/2011 13:15:34	BOB-2	Big block with Euplectella, Brisinga, sponge, coral colonies
15/09/2011 13:16:58	BOB-2	Lepidisis on vertical camera

15/09/2011 13:19:00	BOB-2	Still camera is not working anymore
15/09/2011 13:23:19	BOB-2	bloc epifaune
15/09/2011 13:25:49	BOB-2	corail, Brisingid, gorgonian
15/09/2011 13:26:28	BOB-2	spider, Solonesmilia, Solitary coral, brisingid, gorgonian
15/09/2011 13:28:01	BOB-2	ped falaise, Macrouridae, Synaphobranchus
15/09/2011 13:29:05	BOB-2	nottacanthus
15/09/2011 13:29:37	BOB-2	Beginning of cliff
15/09/2011 13:30:08	BOB-2	Brisingid, coral colonies
15/09/2011 13:32:04	BOB-2	17 m au dessus du pied de falaise
15/09/2011 13:33:43	BOB-2	PRELEVEMENT GBT-1 anemone
15/09/2011 13:37:46	BOB-2	bamboo coral
15/09/2011 13:38:27	BOB-2	Chimaera, nottacanthus
15/09/2011 13:39:51	BOB-2	Yellow coral
15/09/2011 13:41:00	BOB-2	prelevement gorgonian perdu
15/09/2011 13:46:20	BOB-2	Cliff Brisingid, nottacanthus
15/09/2011 13:47:04	BOB-2	caryophyllia, plastic, lepidisis brisingid, solenosmilia
15/09/2011 13:47:44	BOB-2	chimere
15/09/2011 13:50:27	BOB-2	dechet sur surplomb, plastic, corals
15/09/2011 13:53:00	BOB-2	PRELEVEMENT PEP-2
15/09/2011 13:53:34	BOB-2	sommet falaise
15/09/2011 13:53:55	BOB-2	top of the cliff, fish, crinoid
15/09/2011 13:54:00	BOB-2	PEP bottle 2 finished
15/09/2011 13:54:15	BOB-2	poisson
15/09/2011 13:55:35	BOB-2	Top of cliff with corals, Brisingid, gorgonian, Parantipathes

15/09/2011 13:55:45	BOB-2	Neocyttus and macrouridae
15/09/2011 13:56:58	BOB-2	Macrouridae, Lepidisis on vertical camera
15/09/2011 13:57:12	BOB-2	corail sur bloc metrique crabe, lepididisis
15/09/2011 13:57:50	BOB-2	Rocky outcrops, sand veneer, Brisingid
15/09/2011 13:58:02	BOB-2	replat entre 2 falaises, dead coral
15/09/2011 14:00:07	BOB-2	Rocky outcrops, Brisingid, caryophylid
15/09/2011 14:00:34	BOB-2	Can and plastic on vertical
15/09/2011 14:02:12	BOB-2	Nottacanthus
15/09/2011 14:03:10	BOB-2	QUART: arrivee de Jaime D et Andreia HB
15/09/2011 14:04:03	BOB-2	fish synaphobranchus
15/09/2011 14:05:22	BOB-2	fish (grenadier ?)
15/09/2011 14:06:17	BOB-2	cliff
15/09/2011 14:08:31	BOB-2	Lepidisis and other gorgonian sp.
15/09/2011 14:09:02	BOB-2	rabbit fish
15/09/2011 14:10:11	BOB-2	Coryophornoides
15/09/2011 14:11:14	BOB-2	gorgonian
15/09/2011 14:11:33	BOB-2	Primnoid coral - branched
15/09/2011 14:12:58	BOB-2	Bamboo coral?
15/09/2011 14:15:00	BOB-2	wall with Acesta clavata, crinoids, bamboo coral branched, Solenosmilia variabilis, Bathypathes, brachyopoda
15/09/2011 14:15:08	BOB-2	bamboo coral branched, brachiopoda
15/09/2011 14:15:36	BOB-2	Bathypathes, crinoids, bamboo coral branched, Solenosmilia variabilis
15/09/2011 14:16:07	BOB-2	coraux et faune associée
15/09/2011 14:18:35	BOB-2	Acesta clavata, crinoids, Primnoid gorgonian

15/09/2011 14:18:54	BOB-2	Acesta clavata, primnoid gorgonian-branched-white, Solenosmilia variabilis
15/09/2011 14:21:07	BOB-2	Wall with coral fauna and a sponge Farrea occa
15/09/2011 14:28:30	BOB-2	PRELEVEMENT GBT-2 Gorgonian
15/09/2011 14:36:12	BOB-2	depot du prelevement GBT GO1
15/09/2011 14:41:46	BOB-2	PRELEVEMENT failed - yellow coral
15/09/2011 14:45:29	BOB-2	PRELEVEMENT failed - gorgonian
15/09/2011 14:47:11	BOB-2	PeP-3 failed
15/09/2011 14:50:05	BOB-2	PRELEVEMENT PEP-4
15/09/2011 14:51:00	BOB-2	FIN PEP - 4
15/09/2011 14:52:00	BOB-2	PRELEVEMENT PEP 5
15/09/2011 14:53:00	BOB-2	FIN PEP 5
15/09/2011 14:54:33	BOB-2	PRELEVEMENT PEP-6
15/09/2011 14:56:00	BOB-2	FIN PEP-6
15/09/2011 14:57:00	BOB-2	PRELEVEMENT PEP-7
15/09/2011 14:58:00	BOB-2	FIN PEP-7
15/09/2011 15:04:41	BOB-2	SAMPLING CCA3 - 1: sea urchin-Echinus sp., Solenosmilia variabilis
15/09/2011 15:05:44	BOB-2	PRELEVEMENT FAUNE CCA3
15/09/2011 15:09:25	BOB-2	Parantipathes sp.
15/09/2011 15:10:11	BOB-2	Bathypathes sp., crinoids
15/09/2011 15:17:45	BOB-2	End of the cliff
15/09/2011 15:19:45	BOB-2	PRELEVEMENT FAUNE CCA8 lamellate sponge
15/09/2011 15:22:10	BOB-2	sample in the box CCA8
15/09/2011 15:22:51	BOB-2	sample of small piece of scleractinian
15/09/2011 15:24:09	BOB-2	PRELEVEMENT FAUNE CCA7 yellow gorgonian,

15/09/2011 15:27:39	BOB-2	sample of dead scleractinian and bamboo coral
15/09/2011 15:30:48	BOB-2	sample of pink gorgonian
15/09/2011 15:32:46	BOB-2	Venus basket sponge
15/09/2011 15:35:19	BOB-2	Black stalked crinoids
15/09/2011 15:37:06	BOB-2	Flabellum sp.
15/09/2011 15:38:00	BOB-2	Bedrock with sand veneer
15/09/2011 15:41:35	BOB-2	sand ripples
15/09/2011 15:45:41	BOB-2	acanella
15/09/2011 15:47:55	BOB-2	stalked sponge
15/09/2011 15:49:26	BOB-2	Sand ripples
15/09/2011 15:51:31	BOB-2	asteroid
15/09/2011 15:52:14	BOB-2	ray
15/09/2011 15:52:44	BOB-2	Sandy bottom with Acanella arbuscula
15/09/2011 15:53:06	BOB-2	abundant stalked sponges
15/09/2011 15:53:09	BOB-2	tripod fish
15/09/2011 15:56:09	BOB-2	asteroid
15/09/2011 15:57:11	BOB-2	fish
15/09/2011 15:58:27	BOB-2	bedrock with sand veneer
15/09/2011 16:00:17	BOB-2	staked sponges
15/09/2011 16:01:16	BOB-2	sea pen
15/09/2011 16:02:46	BOB-2	sea pen
15/09/2011 16:03:34	BOB-2	cerianthids
15/09/2011 16:04:28	BOB-2	acanella
15/09/2011 16:04:38	BOB-2	sea pen

15/09/2011 16:06:10	BOB-2	fish
15/09/2011 16:09:23	BOB-2	fish
15/09/2011 16:10:14	BOB-2	fish
15/09/2011 16:12:37	BOB-2	3 fish
15/09/2011 16:14:31	BOB-2	abundant fish
15/09/2011 16:16:13	BOB-2	sea pen and fish
15/09/2011 16:17:36	BOB-2	staked sponge
15/09/2011 16:18:18	BOB-2	staked sponge and fish
15/09/2011 16:18:30	BOB-2	coryophornides
15/09/2011 16:20:53	BOB-2	sea pen
15/09/2011 16:22:15	BOB-2	fish
15/09/2011 16:23:07	BOB-2	lots of marine snow
15/09/2011 16:23:21	BOB-2	sand ripples
15/09/2011 16:23:39	BOB-2	start of cliff
15/09/2011 16:24:02	BOB-2	cerianthids?
15/09/2011 16:27:22	BOB-2	asteroid
15/09/2011 16:33:04	BOB-2	coral pieces
15/09/2011 16:34:25	BOB-2	change in topography
15/09/2011 16:35:06	BOB-2	Wall with <i>Enallopsammia rostrata</i> , <i>Sticopathes</i>
15/09/2011 16:43:44	BOB-2	PRELEVEMENT FAUNE CCA6 <i>Enallopsammia</i>
15/09/2011 16:52:29	BOB-2	soft sediment habitat
15/09/2011 16:56:34	BOB-2	escarpment
15/09/2011 16:58:21	BOB-2	acanella
15/09/2011 17:00:03	BOB-2	cerianthids

15/09/2011 17:03:30	BOB-2	fish
15/09/2011 17:04:01	BOB-2	cerianthids
15/09/2011 17:04:12	BOB-2	fish
15/09/2011 17:09:16	BOB-2	fish
15/09/2011 17:09:39	BOB-2	slight ripples
15/09/2011 17:11:54	BOB-2	Ceriantharia on sandy bottom with ripple marks
15/09/2011 17:12:50	BOB-2	staked sponge
15/09/2011 17:15:38	BOB-2	Lepidion
15/09/2011 17:20:09	BOB-2	consolidated sediment with cerianthids
15/09/2011 17:25:01	BOB-2	epizoanthus
15/09/2011 17:25:21	BOB-2	ripples
15/09/2011 17:29:52	BOB-2	fish
15/09/2011 17:32:18	BOB-2	Acanella
15/09/2011 17:37:00	BOB-2	PRELEVEMENT PEP-8
15/09/2011 17:37:55	BOB-2	fin de PEP-8
15/09/2011 17:40:07	BOB-2	Acanella?
15/09/2011 17:44:18	BOB-2	PRELEVEMENT PEP-12
15/09/2011 17:48:00	BOB-2	fin de PEP-12
15/09/2011 17:48:30	BOB-2	ROV leave bottom

6. Dive report 468 - 6

Submersible : Victor 6000

Starting Dive : 16/09/2011 04:05

Arrival on the bottom: 16/09/2011 06:29

Deprture from the bottom: 17/09/2011 12:53

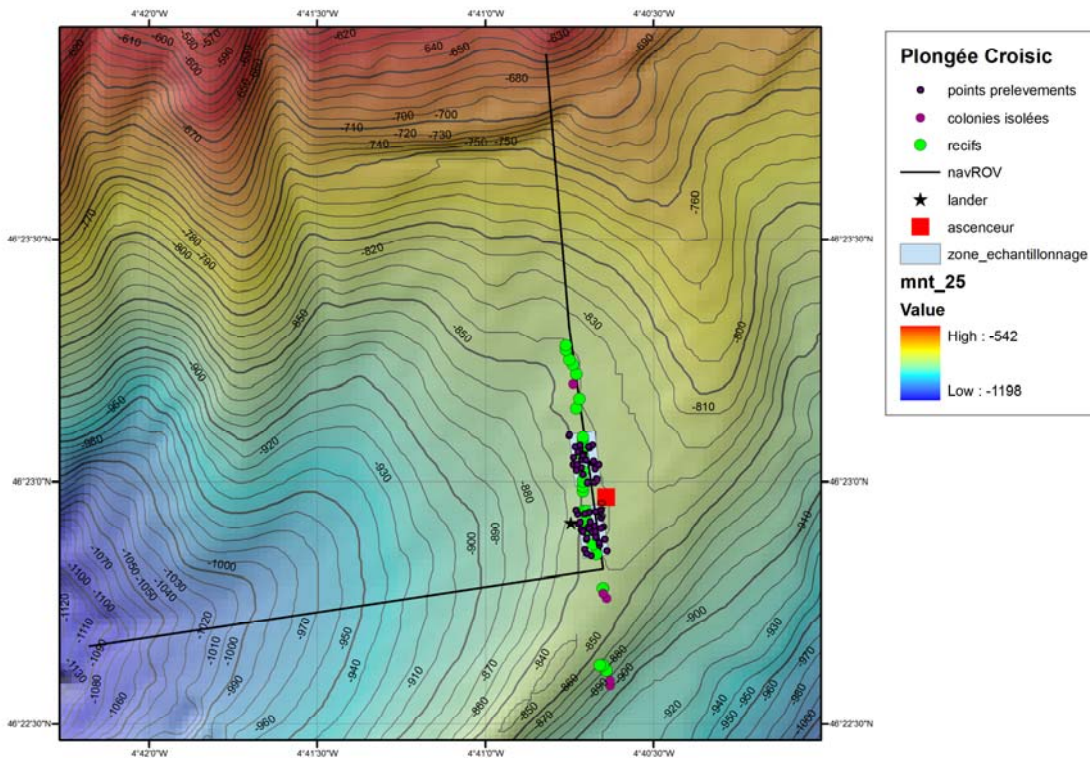
Ending dive : 17/09/2011 13:53

Location : BOB-2

Dives objectives :

BobEco - Dive 468-06 Sampling dive

Croizic



Total Duration : 34h deck to deck

Time on the 'bottom' : 30

Objectives :

- Exploration of Croizic canyon, from 1100m up to about 840m before sampling, then 840 to about 650 after sampling

-Sampling of priority samples:

-Lophelia pertusa in two defined quadrats according to random coordinates when possible. When no Lophelia at pre-defined coordinate, pick the closest colony and write down the change in the sampling sheet. Most are

stored in Coral racks, two in special boxes for microbiology

-Octocorals

-Sponges listed in the species facebook if observed

-Sea urchins listed in the species facebook if observed

-Respiration measure with CALMAR. Sample Lophelia to place in the CALMAR, and sample small colonies as well to bring back onboard

Estimated timing of the Dive:

Summary :

Visited locations : BOB-2,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
CUEFF Valerie	IFREMER BREST
STEVENSON Angela	UNIV DUBLIN IRELAND
MARIN Coralyne	IFREMER BREST
GALERON Joelle	IFREMER BREST
BOURILLET Jean-François	IFREMER BREST
VAN DEN BELDE Inge	IFREMER BREST
GUILLAUMONT Brigitte	IFREMER BREST
BECHELER Ronan	IFREMER BREST
DAVIE Jaime	IFREMER BREST
BOAVIDA Joana	IFREMER BREST
ARNAUD Sophie	IFREMER BREST
RENGSTORF Anna Maria	NUI Galway
HENRIQUEZ Andreia Braga	IMAR
FRANCK Norbert	LSCE

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
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17/09/2011 07:31:16	BOB-2	468 - 6	Slurp gun bottle	ASPI	1	N 46 22.907	W 004 40.648	840	PRELEVEMENT ASPI-1
16/09/2011 10:07:44	BOB-2	468 - 6	Coral box A		1	N 46 22.853	W 004 40.652	737	PRELEVEMENT FAUNE CCA1 Lophelia
16/09/2011 10:28:41	BOB-2	468 - 6	Coral box A		2	N 46 22.847	W 004 40.683	841	PRELEVEMENT FAUNE CCA2 Narella and Madrepora and probably swiftia
16/09/2011 10:46:06	BOB-2	468 - 6	Coral box A		3	N 46 22.851	W 004 40.694	741	PRELEVEMENT FAUNE CCA3 Lophelia, Madrepora and gorgonian (probably Narella belissima)
16/09/2011 11:12:26	BOB-2	468 - 6	Coral box A		4	N 46 22.862	W 004 40.705	746	PRELEVEMENT FAUNE CCA4 Lophelia
16/09/2011 12:36:54	BOB-2	468 - 6	Coral box A		5	N 46 22.861	W 004 40.639	837	PRELEVEMENT FAUNE CCA5 Madrepora
16/09/2011 13:13:03	BOB-2	468 - 6	Coral box A		6	N 46 22.878	W 004 40.605	837	PRELEVEMENT FAUNE CCA6 anémone (Pheliactis)
16/09/2011 13:56:08	BOB-2	468 - 6	Coral box A		7	N 46 22.877	W 004 40.660	839	PRELEVEMENT FAUNE CCA7, AZTT9
16/09/2011 14:16:23	BOB-2	468 - 6	Coral box A		8	N 46 22.887	W 004 40.646	737	PRELEVEMENT FAUNE CCA8 Madrepora and Lophelia AUTT10

17/09/2011 08:34:10	BOB-2	468 - 6	Coral box AA		1	N 46 22.902	W 004 40.688	955	PRELEVEMENT FAUNE CCAA-1 lophelia pertusa AUTT31 and zoanths
17/09/2011 08:01:58	BOB-2	468 - 6	Coral box AA		2	N 46 22.907	W 004 40.651	840	PRELEVEMENT FAUNE CCAA-2 madrepora flash is not working
17/09/2011 06:34:52	BOB-2	468 - 6	Coral box AA		3	N 46 23.004	W 004 40.702	845	PRELEVEMENT FAUNE CCAA-3 lophelia pertusa on AUTT29
17/09/2011 10:23:53	BOB-2	468 - 6	Coral box AA		4	N 46 22.864	W 004 40.740	849	PRELEVEMENT FAUNE CCAA-4 antipatharian in AUTT35 (AUTT35 later accidentally deleted)
17/09/2011 09:11:32	BOB-2	468 - 6	Coral box AA		5	N 46 22.891	W 004 40.695	843	PRELEVEMENT FAUNE CCAA-5 madrepora in situ
17/09/2011 08:54:36	BOB-2	468 - 6	Coral box AA		6	N 46 22.879	W 004 40.694	844	PRELEVEMENT FAUNE CCAA-6 madrepora lophelia
17/09/2011 11:53:00	BOB-2	468 - 6	Coral box AA		7	N 46 23.490	W 004 40.762	796	PRELEVEMENT FAUNE CCAA-7 Calveriosoma fenestratum
17/09/2011 09:33:51	BOB-2	468 - 6	Coral box AA		8	N 46 22.887	W 004 40.673	841	PRELEVEMENT FAUNE CCAA-8 cidaris in situ
16/09/2011 15:42:37	BOB-2	468 - 6	Coral box B		3	N 46 22.925	W 004 40.660	740	PRELEVEMENT FAUNE CCB3 Lophelia,

									Madrepora and skelton of Antipatharian AUTT11
16/09/2011 15:49:02	BOB-2	468 - 6	Coral box B		5	N 46 22.935	W 004 40.680	844	PRELEVEMENT FAUNE CCBS Lophelia
16/09/2011 21:37:34	BOB-2	468 - 6	Coral box BB		1	N 46 22.941	W 004 40.730	850	PRELEVEMENT FAUNE CCBB-1 lophelia sur point remarquable AUTT_18
16/09/2011 20:32:17	BOB-2	468 - 6	Coral box BB		2	N 46 22.943	W 004 40.653	839	PRELEVEMENT FAUNE CCBB-2 madrepora + lophelia + ? sur point remarquable AUTT_14
16/09/2011 22:48:18	BOB-2	468 - 6	Coral box BB		3	N 46 22.918	W 004 40.721	849	PRELEVEMENT FAUNE CCBB-3 Madrepora, Narella and gorgonian on ATT20
16/09/2011 22:18:53	BOB-2	468 - 6	Coral box BB		4	N 46 22.934	W 004 40.716	747	PRELEVEMENT FAUNE CCBB-4 Lophelia, Madrepora AUTT 19
16/09/2011 21:03:33	BOB-2	468 - 6	Coral box BB		5	N 46 22.937	W 004 40.697	844	PRELEVEMENT FAUNE CCBB-5 lophelia sur point remarquable AUTT_16
16/09/2011 23:08:53	BOB-2	468 - 6	Coral box BB		6	N 46 22.911	W 004 40.726	748	PRELEVEMENT FAUNE CCBB-6

									Madrepora rose Lophelia Gorgone AUTT21
16/09/2011 21:18:33	BOB-2	468 - 6	Coral box BB		7	N 46 22.934	W 004 40.708	847	PRELEVEMENT FAUNE CCBB-7 sur point remarquable AUTT_17 madrepora + narella
16/09/2011 20:48:58	BOB-2	468 - 6	Coral box BB		8	N 46 22.937	W 004 40.668	742	PRELEVEMENT FAUNE CCBB-8 lophelia - doute sur vivacité
17/09/2011 01:10:53	BOB-2	468 - 6	Coral box C		1	N 46 22.908	W 004 40.678	842	PRELEVEMENT FAUNE CCC1 Madrepora in (point AUTT-23)
17/09/2011 01:36:44	BOB-2	468 - 6	Coral box C		2	N 46 22.907	W 004 40.693	843	PRELEVEMENT FAUNE CCC2 genetic sample of Lophelia + Crinoid (AUTT-24)
17/09/2011 03:44:21	BOB-2	468 - 6	Coral box C		3	N 46 22.899	W 004 40.667	843	PRELEVEMENT FAUNE CCC3 genetic sample Lophelia and Madrepora to be in CCC-3, AUTT-28
17/09/2011 01:47:37	BOB-2	468 - 6	Coral box C		4	N 46 22.906	W 004 40.694	843	PRELEVEMENT FAUNE CCC4 fossil coral + Crinoid for N. Frank
17/09/2011 03:19:41	BOB-2	468 - 6	Coral box C		5	N 46 22.893	W 004 40.680	845	PRELEVEMENT FAUNE CCC5 genetic sample

									Acanthogorgia, Lophelia, Madrepora to be in CCC-5 and 8 (fragments), AUTT- 27
17/09/2011 02:47:13	BOB-2	468 - 6	Coral box C		6	N 46 22.904	W 004 40.717	847	PRELEVEMENT FAUNE CCC6 genetic sample Lophelia pertusa to be in CCC-6 AUTT- 25, also with other Madrepora specimen
17/09/2011 02:58:01	BOB-2	468 - 6	Coral box C		7	N 46 22.898	W 004 40.714	848	PRELEVEMENT FAUNE CCC7 genetic sample Lophelia pertusa (specimen1) to be in CCC-7 AUTT-26
16/09/2011 11:45:58	BOB-2	468 - 6	ROV big box	GBT	1	N 46 22.816	W 004 40.626	837	PRELEVEMENT FAUNE GBT-1 Sponge (Geodia?) for Julie?
16/09/2011 11:58:59	BOB-2	468 - 6	ROV big box	GBT	2	N 46 22.810	W 004 40.621	838	PRELEVEMENT FAUNE GBT-2 Hexadella on other cup sponge
16/09/2011 12:20:07	BOB-2	468 - 6	ROV big box	GBT	3	N 46 22.823	W 004 40.642	837	PRELEVEMENT FAUNE GBT-3 asteroid and coral fragment
16/09/2011 09:30:00	BOB-2	468 - 6	Basket	PANIER	1	N 46 22.854	W 004 40.645	838	PRELEVEMENT FAUNE PANIER 1 leiopathes on

									lophelia coral reef PANIER
17/09/2011 00:26:20	BOB-2	468 - 6	Little Collection Box	PBT	2	N 46 22.908	W 004 40.679	841	PRELEVEMENT FAUNE PBT-2 (Lophelia + sediment)
17/09/2011 00:35:43	BOB-2	468 - 6	Little Collection Box	PBT	4	N 46 22.908	W 004 40.680	741	PRELEVEMENT FAUNE PBT-4 (Madrepora growing on Lophelia)

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
16/09/2011 08:05:56	BOB-2	468 - 6	PEP bottle	PEP	1	N 46 22.732	W 004 41.473	965	PRELEVEMENT PEP-1
16/09/2011 09:20:04	BOB-2	468 - 6	PEP bottle	PEP	2	N 46 22.838	W 004 40.650	838	PRELEVEMENT PEP-2
16/09/2011 17:51:05	BOB-2	468 - 6	PEP bottle	PEP	3	N 46 22.904	W 004 40.645	740	PRELEVEMENT PEP-3
16/09/2011 17:52:18	BOB-2	468 - 6	PEP bottle	PEP	4	N 46 22.904	W 004 40.645	740	PRELEVEMENT PEP-4
16/09/2011 17:53:30	BOB-2	468 - 6	PEP bottle	PEP	5	N 46 22.905	W 004 40.646	740	PRELEVEMENT PEP-5
17/09/2011 00:43:03	BOB-2	468 - 6	PEP bottle	PEP	6	N 46 22.908	W 004 40.679	841	PRELEVEMENT PEP-6
17/09/2011 00:53:55	BOB-2	468 - 6	PEP bottle	PEP	7	N 46 22.908	W 004 40.679	842	PRELEVEMENT PEP-7

17/09/2011 00:56:24	BOB-2	468 - 6	PEP bottle	PEP	8	N 46 22.908	W 004 40.679	842	PRELEVEMENT PEP-8
17/09/2011 00:57:31	BOB-2	468 - 6	PEP bottle	PEP	9	N 46 22.908	W 004 40.679	842	PRELEVEMENT PEP-9

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
16/09/2011 06:00:00	BOB-2	QUART brigitte guillaumont joana boavida
16/09/2011 06:00:00	BOB-2	erreur de localisation du point de depart A , nouveau A
16/09/2011 07:24:08	BOB-2	arrivee sur le fond, fond sédimentaire avec ripplemarks
16/09/2011 07:30:20	BOB-2	serie de photos avec petits poissons argentés frétilants
16/09/2011 07:31:00	BOB-2	begining of vertical HD camera transect
16/09/2011 07:31:57	BOB-2	belle vue du fond sédimentaire avec ripplemarks et quelques debris, heterogene
16/09/2011 07:34:10	BOB-2	meme fond avec roche
16/09/2011 07:36:52	BOB-2	autre roche
16/09/2011 07:38:14	BOB-2	ripplemarks moins marques, passage vers fonds plus vaseux
16/09/2011 07:40:45	BOB-2	acanella
16/09/2011 07:42:42	BOB-2	meme fond, buccin
16/09/2011 07:46:22	BOB-2	meme fond, asteride
16/09/2011 07:47:12	BOB-2	fond tres heterogene
16/09/2011 07:47:50	BOB-2	quelques synphobranchus, un autre poisson
16/09/2011 07:50:11	BOB-2	asteride

16/09/2011 07:51:35	BOB-2	changement de nature de fond, plus de ripplemarks visibles
16/09/2011 07:55:32	BOB-2	narella ? et lophelia/madrepora ? sur roche
16/09/2011 08:00:30	BOB-2	eponge euplectella ?
16/09/2011 08:02:42	BOB-2	blocs avec narella et lophelia/madrepora ?
16/09/2011 08:03:38	BOB-2	poisson
16/09/2011 08:05:56	BOB-2	PRELEVEMENT PEP-1
16/09/2011 08:08:40	BOB-2	oursin
16/09/2011 08:09:28	BOB-2	narella
16/09/2011 08:10:29	BOB-2	poisson Mora ?
16/09/2011 08:11:04	BOB-2	eponges euplectella
16/09/2011 08:11:58	BOB-2	antipathaire
16/09/2011 08:13:31	BOB-2	eponge euplectella
16/09/2011 08:14:22	BOB-2	poisson mora ?
16/09/2011 08:15:38	BOB-2	deux eponges euplectella
16/09/2011 08:16:34	BOB-2	narella et oursin
16/09/2011 08:21:05	BOB-2	arrivee sur zone de petits blocs et galets, densification colonies lophelia/madrepora, narella, eponges
16/09/2011 08:24:54	BOB-2	on s eloigne de la zone colonisee meme type d habitat qu avant la crete
16/09/2011 08:27:06	BOB-2	redensification
16/09/2011 08:31:47	BOB-2	trace lineaire sur le fond ?
16/09/2011 08:32:19	BOB-2	traces et oursin
16/09/2011 08:36:55	BOB-2	serie de photos avec colonies denses de scleractiniaires et autres especes
16/09/2011 08:39:47	BOB-2	colonies plus rares
16/09/2011 08:40:35	BOB-2	haut de mega ride bien colonisee

16/09/2011 08:41:08	BOB-2	avec dechet, on approche du recif
16/09/2011 08:41:45	BOB-2	accumulation de parties dures pour substrat
16/09/2011 08:42:45	BOB-2	creux de ride peu colonise
16/09/2011 08:43:30	BOB-2	nouvelle crete de ride
16/09/2011 08:43:53	BOB-2	idem
16/09/2011 08:45:00	BOB-2	sommet de ride, debut de recif, cidarides
16/09/2011 08:45:41	BOB-2	nouvelle ride, plus forte densite de colonies vivantes
16/09/2011 08:47:09	BOB-2	nouveau creux de ride
16/09/2011 08:47:44	BOB-2	nouvelle ride
16/09/2011 08:48:30	BOB-2	creux
16/09/2011 08:48:57	BOB-2	rides moins marquees, attenuation du relief, colonisation moins dense mais plus continue, reguliere
16/09/2011 08:50:44	BOB-2	colonisation plus dense avec leiopathes
16/09/2011 08:52:38	BOB-2	trace de chalutage ?
16/09/2011 08:53:06	BOB-2	nouvelle crete, recif assez dense
16/09/2011 08:54:38	BOB-2	nouvelle ride colonisee
16/09/2011 08:56:38	BOB-2	nouvelle crete
16/09/2011 08:57:04	BOB-2	oursin cidaride
16/09/2011 08:59:13	BOB-2	leiopathes
16/09/2011 08:59:23	BOB-2	lophelia reef medium density with anthipatharian crinoid and cidaris
16/09/2011 09:01:12	BOB-2	euplectella
16/09/2011 09:09:31	BOB-2	man made object garbage ? on lophelia pertusa medium to low density reef
16/09/2011 09:13:28	BOB-2	trawl marks on lophelia pertusa reef with evidence of reef destruction
16/09/2011 09:18:10	BOB-2	rectangular block colonized , artificial reef

16/09/2011 09:20:03	BOB-2	Coral debris
16/09/2011 09:20:04	BOB-2	PRELEVEMENT PEP-2
16/09/2011 09:20:22	BOB-2	Destruction marks on top of coral reef crest
16/09/2011 09:22:30	BOB-2	end of PEP2
16/09/2011 09:25:44	BOB-2	arrivée sur la zone d'échantillonnage
16/09/2011 09:30:00	BOB-2	PRELEVEMENT FAUNE PANIER 1 leiopathes on lophelia coral reef PANIER
16/09/2011 09:33:34	BOB-2	leiopathes collected on lophelia pertusa reef
16/09/2011 10:00:00	BOB-2	QUART Sophie and Inge
16/09/2011 10:07:44	BOB-2	PRELEVEMENT FAUNE CCA1 Lophelia
16/09/2011 10:09:37	BOB-2	Previous sample of Lophelia and Coral rack
16/09/2011 10:12:14	BOB-2	sample of Madrepora CCA1
16/09/2011 10:14:10	BOB-2	Previous sample of Madrepora
16/09/2011 10:28:41	BOB-2	PRELEVEMENT FAUNE CCA2 Narella and Madrepora and probably swiftia
16/09/2011 10:30:37	BOB-2	Madrepora, Narella and probably swiftia CCA2
16/09/2011 10:36:31	BOB-2	sample of Lophelia CCA2
16/09/2011 10:38:53	BOB-2	Sample of previous Lophelia CCA2
16/09/2011 10:40:24	BOB-2	Previous sample of Lophelia CCA2
16/09/2011 10:46:06	BOB-2	PRELEVEMENT FAUNE CCA3 Lophelia, Madrepora and gorgonian (probably Narella bellissima)
16/09/2011 10:49:14	BOB-2	Previous sample of Lophelia, Madrepora, gorgonian (probably Narella bellissima) and crinoid CCA3
16/09/2011 10:50:19	BOB-2	Previous sample Lophelia, Madrepora, gorgonian, and crinoid CCA3
16/09/2011 11:12:01	BOB-2	Lepidion
16/09/2011 11:12:26	BOB-2	PRELEVEMENT FAUNE CCA4 Lophelia
16/09/2011 11:16:42	BOB-2	Previous sample Lophelia and gorgonian?

16/09/2011 11:18:01	BOB-2	Madrepora CCA4
16/09/2011 11:18:23	BOB-2	Previous sample of Madrepora CCA4
16/09/2011 11:20:17	BOB-2	Previous sample Madrepora CCA4
16/09/2011 11:26:31	BOB-2	Antipatharians, asteroid, cidaris
16/09/2011 11:27:14	BOB-2	Cidaris, Brisingid, scleractinian
16/09/2011 11:27:45	BOB-2	Nice reef with antipatharian
16/09/2011 11:29:44	BOB-2	Trachyscorpia?
16/09/2011 11:30:00	BOB-2	Ascenseur large
16/09/2011 11:32:00	BOB-2	Sandwave with coral reef, antipatharia, Narella
16/09/2011 11:32:58	BOB-2	End of sandwave with reef
16/09/2011 11:34:32	BOB-2	Sandwave with reef
16/09/2011 11:34:41	BOB-2	Sandwave with reef
16/09/2011 11:34:53	BOB-2	Trawled?
16/09/2011 11:35:16	BOB-2	Start live reef again
16/09/2011 11:36:39	BOB-2	Trawled with start of reef, same point as CE2009 ?
16/09/2011 11:41:44	BOB-2	Reef
16/09/2011 11:43:21	BOB-2	Reef with live scleractinian and
16/09/2011 11:43:27	BOB-2	Sponge
16/09/2011 11:43:52	BOB-2	Greater forkbeard
16/09/2011 11:44:04	BOB-2	Trachyscorpia
16/09/2011 11:44:59	BOB-2	parantipathes
16/09/2011 11:45:58	BOB-2	PRELEVEMENT FAUNE GBT-1 Sponge (Geodia?) for Julie?
16/09/2011 11:54:36	BOB-2	Sponge for Julie GBT-1
16/09/2011 11:55:45	BOB-2	Piece of sponge (Hexadella?) GBT-1

16/09/2011 11:58:59	BOB-2	PRELEVEMENT FAUNE GBT-2 Hexadella on other cup sponge
16/09/2011 12:05:27	BOB-2	Reef with epifauna
16/09/2011 12:08:28	BOB-2	Reef with trawled ares, same as previous
16/09/2011 12:09:15	BOB-2	Boundary of trawlmark
16/09/2011 12:12:06	BOB-2	still trawled area
16/09/2011 12:12:57	BOB-2	other sandwave,same trawl mark
16/09/2011 12:15:43	BOB-2	End of trawlmark width is 16.5 meter
16/09/2011 12:18:31	BOB-2	Debris because of trawl
16/09/2011 12:20:07	BOB-2	PRELEVEMENT FAUNE GBT-3 asteroid and coral fragment
16/09/2011 12:23:04	BOB-2	Ceramaster species 2 in GBT 3
16/09/2011 12:25:41	BOB-2	sample Madrepora alive, crinoid GBT2
16/09/2011 12:28:58	BOB-2	sample Madrepora and crinoid from trawled area in GBT2
16/09/2011 12:33:32	BOB-2	Ripples
16/09/2011 12:34:09	BOB-2	Different trawl mark, perhaps same trawler
16/09/2011 12:35:39	BOB-2	debris from trawlmark
16/09/2011 12:36:21	BOB-2	reef, next sampling point
16/09/2011 12:36:54	BOB-2	PRELEVEMENT FAUNE CCA5 Madrepora
16/09/2011 12:38:13	BOB-2	Sampling previous Madrepora CCA5
16/09/2011 12:46:54	BOB-2	sample antipatharian (parantipathes) CCA5
16/09/2011 12:51:38	BOB-2	sample Lophelia and cidaris CCA5
16/09/2011 12:55:26	BOB-2	Cidaris CCA5
16/09/2011 12:57:00	BOB-2	Gastropod, Cidaris, Euplectella, Munida, sponge, Leiopathes
16/09/2011 12:59:15	BOB-2	Sampling previous Lophelia CCA5
16/09/2011 13:06:11	BOB-2	Départ de la zone d'echt 5 ATT7 vers point d'échantillonnage 6 ATT7

16/09/2011 13:13:03	BOB-2	PRELEVEMENT FAUNE CCA6 anémone (Pheiliactis)
16/09/2011 13:25:47	BOB-2	sample Lophelia + Crinoid+ Ophiurid CCA6
16/09/2011 13:29:35	BOB-2	Fin Echantillonnage Lophelia: Ophirurid likely lost
16/09/2011 13:31:15	BOB-2	Lophelia in box
16/09/2011 13:37:54	BOB-2	sample Narella et Madrepora + sediment pour Norbert CCA6
16/09/2011 13:40:53	BOB-2	Echantillonnage Madrepora + Narella+Sed avec pince
16/09/2011 13:45:35	BOB-2	Echantillonnage dans CCA06
16/09/2011 13:47:34	BOB-2	Crabe Chaceon
16/09/2011 13:49:34	BOB-2	Creusé le sédiment pour voir les couches en dessous de la superficielle
16/09/2011 13:51:03	BOB-2	Pince enfoncée et fermée
16/09/2011 13:51:26	BOB-2	Sortie pince
16/09/2011 13:51:57	BOB-2	Sédiment avec morceau de coraux observé à la retombe
16/09/2011 13:53:37	BOB-2	Dune
16/09/2011 13:56:08	BOB-2	PRELEVEMENT FAUNE CCA7, AZTT9
16/09/2011 14:09:35	BOB-2	general view of reef
16/09/2011 14:16:23	BOB-2	PRELEVEMENT FAUNE CCA8 Madrepora and Lophelia AUTT10
16/09/2011 14:18:35	BOB-2	still, sampling 8th CCA8
16/09/2011 14:19:48	BOB-2	4mn
16/09/2011 14:22:53	BOB-2	sample in ROV CCA8
16/09/2011 14:23:56	BOB-2	4mn
16/09/2011 14:25:58	BOB-2	antipatharian
16/09/2011 14:27:27	BOB-2	4mn
16/09/2011 14:27:29	BOB-2	change in habitat, boundary between reef and sand
16/09/2011 14:28:28	BOB-2	Sponge

16/09/2011 14:31:36	BOB-2	4mn, high elevation from reef
16/09/2011 14:34:15	BOB-2	samples being transported to lift
16/09/2011 14:43:44	BOB-2	4mn
16/09/2011 14:44:38	BOB-2	general view of reef
16/09/2011 14:51:56	BOB-2	4mn
16/09/2011 14:53:00	BOB-2	abundant leiopathes
16/09/2011 15:02:00	BOB-2	close up of reef
16/09/2011 15:02:25	BOB-2	antipatharian
16/09/2011 15:02:39	BOB-2	abundant leiopathes
16/09/2011 15:07:28	BOB-2	change of coral case
16/09/2011 15:20:20	BOB-2	CCA being placed in lift
16/09/2011 15:31:51	BOB-2	antipatharian and cobbles
16/09/2011 15:32:50	BOB-2	boulder with Lophelia, antipatharians on cobbles
16/09/2011 15:36:46	BOB-2	re-start of transect after chnages coral case (lift left)
16/09/2011 15:38:54	BOB-2	4mn
16/09/2011 15:42:37	BOB-2	PRELEVEMENT FAUNE CCB3 Lophelia, Madrepora and skelton of Antipatharian AUTT11
16/09/2011 15:46:35	BOB-2	4mn
16/09/2011 15:47:44	BOB-2	still
16/09/2011 15:49:02	BOB-2	PRELEVEMENT FAUNE CCB5 Lophelia
16/09/2011 15:49:45	BOB-2	squat lobster
16/09/2011 15:52:28	BOB-2	sample of fragments of lophelia
16/09/2011 15:54:03	BOB-2	sample placed in CCB5
16/09/2011 15:55:24	BOB-2	4mn

16/09/2011 15:58:00	BOB-2	4mn
16/09/2011 15:59:49	BOB-2	Taking coral case B to lift
16/09/2011 16:03:00	BOB-2	Arrivée ascenceur
16/09/2011 16:19:57	BOB-2	CALMAR being placed in ROV
16/09/2011 16:30:45	BOB-2	release of lift
16/09/2011 16:38:58	BOB-2	sponges
16/09/2011 16:55:08	BOB-2	calmar+gamelle dans tiroir du Victor
16/09/2011 17:11:25	BOB-2	lophelia dans pince 1er morceau rejeté
16/09/2011 17:17:18	BOB-2	madrepora pour calmar 2 eme morceau
16/09/2011 17:23:13	BOB-2	madrepora pour calmar 3 eme morceau
16/09/2011 17:24:20	BOB-2	madrepora pour calmar 4 eme morceau
16/09/2011 17:27:02	BOB-2	fin collecte fragment de madrepora dans la gamelle du calmar
16/09/2011 17:34:36	BOB-2	debut depose calmar dans sa gamelle
16/09/2011 17:37:59	BOB-2	sandow de solidarisation
16/09/2011 17:39:52	BOB-2	soupape du calmar fermée
16/09/2011 17:41:06	BOB-2	mise en route, aimant enlevé
16/09/2011 17:44:02	BOB-2	calmar dans panier du victor
16/09/2011 17:51:05	BOB-2	PRELEVEMENT PEP-3
16/09/2011 17:51:32	BOB-2	fin PEP 3
16/09/2011 17:52:18	BOB-2	PRELEVEMENT PEP-4
16/09/2011 17:52:50	BOB-2	fin PEP 4
16/09/2011 17:53:30	BOB-2	PRELEVEMENT PEP-5
16/09/2011 17:53:47	BOB-2	fin PEP 5
16/09/2011 18:10:00	BOB-2	QUART joelle et valerie

16/09/2011 18:13:37	BOB-2	depart vers ascenseur pour déposer CALMAR
16/09/2011 18:21:04	BOB-2	ascenseur en vue
16/09/2011 18:29:48	BOB-2	depot CALMAR a cote ascenseur
16/09/2011 18:39:28	BOB-2	saisie de l'ascenseur
16/09/2011 18:44:26	BOB-2	sherpa pousse l ascenseur
16/09/2011 18:49:30	BOB-2	systeme ouverture ascenseur casse
16/09/2011 18:57:11	BOB-2	essai recup couteau pour tenter ouverture ascenseur
16/09/2011 19:04:34	BOB-2	utilisation sonde a temperature pour ouvrir ascenseur
16/09/2011 19:05:31	BOB-2	essai ouverture ascenseur reussi grace a sonde temperature autonome
16/09/2011 19:08:10	BOB-2	essai ouverture caisson 2 ascenseur reussi
16/09/2011 19:10:05	BOB-2	sonde remise a sa place
16/09/2011 19:29:15	BOB-2	difficulte rov a se positionner pour recuperer casier a coral dans ascenseur
16/09/2011 19:48:24	BOB-2	saisie casier coraux CCAA apres avoir mis casier a coraux CCBB dans panier rov
16/09/2011 19:54:29	BOB-2	pose casier coraux CCAA a cote CALMAR au sol
16/09/2011 20:03:43	BOB-2	direction point de prelevement nord est
16/09/2011 20:06:58	BOB-2	vue generale de prochain point de prelevement
16/09/2011 20:07:50	BOB-2	rapprochement du point de prelevement
16/09/2011 20:12:05	BOB-2	POINT REMARQUABLE AUTT_14 pour echantillonnage CCBB-2
16/09/2011 20:12:57	BOB-2	vue du site de prelevement AUTT_14
16/09/2011 20:13:24	BOB-2	madrepora
16/09/2011 20:17:10	BOB-2	saisie fourche avec maestro pour echantillonnage sur point remarquable AUTT_14
16/09/2011 20:31:40	BOB-2	madrepora
16/09/2011 20:32:17	BOB-2	PRELEVEMENT FAUNE CCBB-2 madrepora + lophelia + ? sur point remarquable AUTT_14

16/09/2011 20:35:18	BOB-2	fin prelevement CCBB-2
16/09/2011 20:37:56	BOB-2	arrivee sur zone point de prelevement suivant
16/09/2011 20:40:25	BOB-2	POINT REMARQUABLE AUTT_15 pour echantillonnage genetique CCBB-8
16/09/2011 20:43:40	BOB-2	tentative de prelevement de lophelia
16/09/2011 20:45:10	BOB-2	tentative avortee de prelevement
16/09/2011 20:46:18	BOB-2	choix prelevement suivant
16/09/2011 20:48:58	BOB-2	PRELEVEMENT FAUNE CCBB-8 lophelia - doute sur vivacité
16/09/2011 20:50:26	BOB-2	galathee
16/09/2011 20:51:32	BOB-2	fin prelevement CCBB_8 lophelia mort?
16/09/2011 20:52:58	BOB-2	changement outil echantillonnage, on passe de la fourche a la pince
16/09/2011 20:53:44	BOB-2	fourche stockee dans CCBB-3
16/09/2011 20:54:16	BOB-2	Prélèvement CCBB-8 madrepora avec lophelia precedent pres de poisson sur point remarquable AUTT_15
16/09/2011 20:55:39	BOB-2	fin prelevement CCBB-8 madrepora
16/09/2011 20:56:31	BOB-2	belle zone avec narella et 2 poissons
16/09/2011 20:59:32	BOB-2	POINT REMARQUABLE AUTT_16 pour prelevement dans CCBB-5
16/09/2011 21:03:18	BOB-2	colonie de lophelia a prelever
16/09/2011 21:03:33	BOB-2	PRELEVEMENT FAUNE CCBB-5 lophelia sur point remarquable AUTT_16
16/09/2011 21:05:21	BOB-2	fin prelevement CCBB-5 lophelia sur point remarquable AUTT_16
16/09/2011 21:07:32	BOB-2	choix madrepora a prelever CCBB-5
16/09/2011 21:08:25	BOB-2	prelevement CCBB-5 madrepora + crinoide
16/09/2011 21:09:23	BOB-2	un petit fragment est tombe de la pince a cote
16/09/2011 21:11:11	BOB-2	fin prelevement CCBB-5 madrepora + crinoide sur point remarquable AUTT_16
16/09/2011 21:13:15	BOB-2	POINT REMARQUABLE AUTT17 pour prelevement dans CCBB-7

16/09/2011 21:15:13	BOB-2	poisson
16/09/2011 21:16:50	BOB-2	narella + eponge
16/09/2011 21:17:19	BOB-2	narella + madrepora + lithode portant sorte d eponge
16/09/2011 21:18:33	BOB-2	PRELEVEMENT FAUNE CCBB-7 sur point remarquable AUTT_17 madrepora + narella
16/09/2011 21:19:21	BOB-2	lithode avec eponge epibionte se sauvant
16/09/2011 21:20:57	BOB-2	bouts tombés dans CCBB-8 au lieu de CCBB-7
16/09/2011 21:21:44	BOB-2	fin prelevement CCBB-7 de madrepora sur point remarquable AUTT_17
16/09/2011 21:24:03	BOB-2	zone de prelevement pour lophelia pour CCBB-7
16/09/2011 21:25:16	BOB-2	prelevement CCBB-7 lophelia sur point remarquable AUTT_17
16/09/2011 21:26:52	BOB-2	petit bout lophelia tombe dans CCBB-8 au lieu de CCBB-7
16/09/2011 21:28:57	BOB-2	fin prelevement CCBB-7 lophelia sur point remarquable AUTT_17
16/09/2011 21:30:16	BOB-2	roussette
16/09/2011 21:34:00	BOB-2	POINT REMARQUABLE AUTT_18 pour prelevement CCBB-1
16/09/2011 21:35:36	BOB-2	choix lophelia a prelever
16/09/2011 21:37:34	BOB-2	PRELEVEMENT FAUNE CCBB-1 lophelia sur point remarquable AUTT_18
16/09/2011 21:40:17	BOB-2	fin prelevement CCBB-1 lophelia
16/09/2011 21:41:48	BOB-2	choix colonie madrepora pour CCBB-1
16/09/2011 21:42:26	BOB-2	prelevement CCBB-1 de madrepora sur point remarquable AUTT_18
16/09/2011 21:45:14	BOB-2	fin prelevement CCBB-1 madrepora sur AUTT_18
16/09/2011 21:46:00	BOB-2	tentative prelevement oursin
16/09/2011 21:48:03	BOB-2	prelevement CCBB1- oursin cidaride
16/09/2011 21:51:22	BOB-2	crabe et crevettes
16/09/2011 21:52:27	BOB-2	fin prelevement CCBB1 oursin cidaride

16/09/2011 22:04:38	BOB-2	POINT REMARQUABLE AUTT_19 pour prelevement CCBB4
16/09/2011 22:12:19	BOB-2	changement outil prelevement- recuperation fourche pour echantillonner colonies
16/09/2011 22:13:02	BOB-2	changement quart joelle remplacee par inge, valerie reste jusqu'a ce que prelevements microbio faits, sophie vient aussi
16/09/2011 22:15:00	BOB-2	Sandy substrate with cobbles and pebbles and single coral colonies of Lophelia and Madrepora. Cerianthids, Leiopathes, crinoids, Pandalus, echinoids and gastropods
16/09/2011 22:18:53	BOB-2	PRELEVEMENT FAUNE CCBB-4 Lophelia, Madrepora AUTT 19
16/09/2011 22:25:00	BOB-2	Chaceon, small spider crab, Lepdion
16/09/2011 22:42:00	BOB-2	Sand with pebbles and single colonies of Lophelia and Madrepora, Parantipathes
16/09/2011 22:42:40	BOB-2	We leave to reach next point
16/09/2011 22:44:00	BOB-2	'Sandwave' with corals, Narella, antipatharians, Leipdion, Antipathes, Euplectella, crinoids, gorgonians and gastropods
16/09/2011 22:48:18	BOB-2	PRELEVEMENT FAUNE CCBB-3 Madrepora, Narella and gorgonian on ATT20
16/09/2011 22:49:15	BOB-2	sampling Madrepora, Narella and gorgonians
16/09/2011 22:53:00	BOB-2	QUART Valeria, Sophie, Inge, Norbert
16/09/2011 22:55:06	BOB-2	Lophelia
16/09/2011 22:57:59	BOB-2	sample CCBB3 Lophelia associée à Madrepora, tentative de les dissocier pour les ajouter aux Narella+ Madrepora du CCBB3 pour ce point remarquable AUTT20 ATTENTION donc il est possible qu'il y ait un mélange de Madrepora dans cet échantillon, bien regarder les cou
16/09/2011 23:08:53	BOB-2	PRELEVEMENT FAUNE CCBB-6 Madrepora rose Lophelia Gorgone AUTT21
16/09/2011 23:12:20	BOB-2	Sampling de Lophelia sur AUTT21, avec une seconde madrepora blanche, donc reconnaissable
16/09/2011 23:15:00	BOB-2	Leave to ascenseur 2
16/09/2011 23:15:51	BOB-2	cailloux et sédiment

16/09/2011 23:16:35	BOB-2	cailloux et sédiment pour départ sur ascenseur 2 et dépôt du CCB
16/09/2011 23:17:00	BOB-2	Galeus
16/09/2011 23:18:01	BOB-2	Trachyscorbia
16/09/2011 23:22:41	BOB-2	Sol fragments de coraux finement brisés
16/09/2011 23:28:09	BOB-2	Dépôt casier BB sous ascenseur 2 à côté du CALMAR
16/09/2011 23:35:23	BOB-2	Leiopathes, fish
16/09/2011 23:40:10	BOB-2	Chaceon on coral rack C on the bottom. PBTs on bottom as well
16/09/2011 23:46:18	BOB-2	Récupération du casier à coraux CC-C et des boîtes de prélèvement au point de l'ascenseur 1.
17/09/2011 00:08:22	BOB-2	sample PBT 2 and PBT4
17/09/2011 00:15:08	BOB-2	high resolution image of Lophelia + sponge
17/09/2011 00:26:20	BOB-2	PRELEVEMENT FAUNE PBT-2 (Lophelia + sediment)
17/09/2011 00:35:43	BOB-2	PRELEVEMENT FAUNE PBT-4 (Madrepora growing on Lophelia)
17/09/2011 00:40:25	BOB-2	temperature measurement
17/09/2011 00:43:03	BOB-2	PRELEVEMENT PEP-6
17/09/2011 00:53:55	BOB-2	PRELEVEMENT PEP-7
17/09/2011 00:56:24	BOB-2	PRELEVEMENT PEP-8
17/09/2011 00:57:31	BOB-2	PRELEVEMENT PEP-9
17/09/2011 01:08:05	BOB-2	Proceeding with sampling for genetics (Lophelia and Madrepora, point AUTT-23)
17/09/2011 01:10:53	BOB-2	PRELEVEMENT FAUNE CCC1 Madrepora in (point AUTT-23)
17/09/2011 01:18:18	BOB-2	sample for genetics: Lophelia for CCC1 (point AUTT-23)
17/09/2011 01:36:44	BOB-2	PRELEVEMENT FAUNE CCC2 genetic sample of Lophelia + Crinoid (AUTT-24)
17/09/2011 01:41:19	BOB-2	sample for genetics: Madrepora in CCC2 (AUTT-24)
17/09/2011 01:47:37	BOB-2	PRELEVEMENT FAUNE CCC4 fossil coral + Crinoid for N. Frank

17/09/2011 01:57:03	BOB-2	sample Narella in CCC4
17/09/2011 02:09:00	BOB-2	Quart: Andreia BH et Ronan B
17/09/2011 02:13:41	BOB-2	fossil colonies and alive lophelia, Madrepora, Leiopathes, crinoids, Sticopathes
17/09/2011 02:23:18	BOB-2	sample - genetic sample to be in CCC4 -AUTT-25
17/09/2011 02:30:03	BOB-2	sample - genetic sample-Madrepora in CCC4 -AUTT-25
17/09/2011 02:32:48	BOB-2	sample - genetic sample Madrepora (second specimen) to be in CCC4 -AUTT-25
17/09/2011 02:34:46	BOB-2	sample - genetic sample Madrepora (second specimen) in CCC4 -AUTT-25
17/09/2011 02:38:25	BOB-2	sample - sea urchin- Cidaris cidaris and dead reef in CCC4 -AUTT-25
17/09/2011 02:40:34	BOB-2	sample - sea urchin- Cidaris cidaris and dead reef in CCC4 -AUTT-25
17/09/2011 02:47:13	BOB-2	PRELEVEMENT FAUNE CCC6 genetic sample Lophelia pertusa to be in CCC-6 AUTT-25, also with other Madrepora specimen
17/09/2011 02:49:36	BOB-2	sample - genetic sample Lophelia pertusa in CCC-6 AUTT-25 (photo1), also with other Madrepora specimen
17/09/2011 02:50:16	BOB-2	sample - genetic sample Lophelia pertusa in CCC-6 AUTT-25 (photo2), also with other Madrepora specimen
17/09/2011 02:51:00	BOB-2	sample - genetic sample Lophelia pertusa in CCC-6 AUTT-25 (photo3), also with other Madrepora specimen
17/09/2011 02:51:11	BOB-2	sample - genetic sample Lophelia pertusa in CCC-6 AUTT-25 (photo4), also with other Madrepora specimen
17/09/2011 02:54:37	BOB-2	reef with alive and dead colonies of Lophelia and Madrepora, asteroids
17/09/2011 02:58:01	BOB-2	PRELEVEMENT FAUNE CCC7 genetic sample Lophelia pertusa (specimen1) to be in CCC-7 AUTT-26
17/09/2011 02:59:30	BOB-2	sample - genetic sample Lophelia pertusa (specimen1) in CCC-7, AUTT-26
17/09/2011 03:02:23	BOB-2	sample - genetic sample Madrepora and Narella in CCC-7, AUTT-26
17/09/2011 03:03:24	BOB-2	sample - genetic sample Madrepora and Narella to be in CCC-7, AUTT-26
17/09/2011 03:04:21	BOB-2	sample - genetic sample Madrepora and Narella in CCC-7, AUTT-26

17/09/2011 03:09:50	BOB-2	sample - genetic sample Acanthogorgia and Lophelia (specimen2) to be in CCC-7, AUTT-26
17/09/2011 03:11:23	BOB-2	sample - genetic sample Acanthogorgia and Lophelia (specimen2) in CCC-7, AUTT-26
17/09/2011 03:14:21	BOB-2	few Leiopathes
17/09/2011 03:14:30	BOB-2	Parantipathes?
17/09/2011 03:17:37	BOB-2	Antipatharians, Lophelia, Madrepora
17/09/2011 03:19:41	BOB-2	PRELEVEMENT FAUNE CCC5 genetic sample Acanthogorgia, Lophelia, Madrepora to be in CCC-5 and 8 (fragments), AUTT-27
17/09/2011 03:26:19	BOB-2	sample - genetic sample Acanthogorgia, Lophelia, Madrepora in CCC-5 and 8 (fragments), AUTT-27 (photo1)
17/09/2011 03:26:30	BOB-2	sample - genetic sample Acanthogorgia, Lophelia, Madrepora in CCC-5 and 8 (fragments), AUTT-27 (photo2)
17/09/2011 03:35:09	BOB-2	sample - genetic sample Antipatharian-Trisopathes?, Sticopathes, crustacean-Galatheid to be in CCC-8, AUTT-27 ----we lost the antipatharian when we put the CCC box in the lift -failed
17/09/2011 03:37:07	BOB-2	sample - genetic sample Antipatharian, Sticopathes, crustacean-Galatheid in CCC-8, AUTT-27 ----we lost the antipatharian when we put the CCC box in the lift-failed
17/09/2011 03:40:33	BOB-2	reef with Phelliactis, Ceriantharia, antipatharians
17/09/2011 03:44:21	BOB-2	PRELEVEMENT FAUNE CCC3 genetic sample Lophelia and Madrepora to be in CCC-3, AUTT-28
17/09/2011 03:46:33	BOB-2	sample - genetic sample Lophelia and Madrepora in CCC-3, AUTT-28
17/09/2011 03:47:55	BOB-2	sample - genetic sample Antipatharian branched orange to be in CCC-3, AUTT-28
17/09/2011 03:50:58	BOB-2	sample - genetic sample Antipatharian branched orange to be in CCC-3, AUTT-28 (photo2)
17/09/2011 03:55:58	BOB-2	sample - genetic sample Antipatharian branched orange to be in CCC-3, AUTT-28 (photo3)-failed on box storage

17/09/2011 03:56:32	BOB-2	sample - genetic sample Antipatharian branched orange was stored outside CCC-3 (we lost it) , AUTT-28 (photo2) - failed on box storage
17/09/2011 03:58:43	BOB-2	Collection of Valerie boxes
17/09/2011 03:59:52	BOB-2	Parantipathes, crinoids, Madrepora and Lophelia, Sticopathes, unidentified antipatharian
17/09/2011 04:12:22	BOB-2	Arriving to the lift
17/09/2011 04:27:32	BOB-2	box 2 in the Rov box ready to go to the lift
17/09/2011 04:34:18	BOB-2	box 4 in the lift
17/09/2011 04:35:20	BOB-2	box 2 in the lift
17/09/2011 04:37:03	BOB-2	attempt to collected the lost antipatharian and put it in CCC-3- sucess!!!
17/09/2011 04:50:55	BOB-2	Narella bellissima, Leiopathes, reef, crinoids, branched antipatharian
17/09/2011 05:34:43	BOB-2	closed -the two boxes of the lift
17/09/2011 05:40:46	BOB-2	time of the release of the lift
17/09/2011 05:46:28	BOB-2	Antipatharian
17/09/2011 05:49:02	BOB-2	Antipatharian (photo2)
17/09/2011 05:52:50	BOB-2	shrimp
17/09/2011 06:05:32	BOB-2	Second CCCA box- Named CCCAA box
17/09/2011 06:12:31	BOB-2	SHIFT changed - joelle joana
17/09/2011 06:22:01	BOB-2	lophelia coral reef with fish on the way to sampling point
17/09/2011 06:23:01	BOB-2	riple marks on lophelia coral reef with cidarid on the way to sampling point
17/09/2011 06:26:06	BOB-2	plastic bag or very large sponge on the way to sampling point
17/09/2011 06:27:44	BOB-2	bottom topography overview on lophelia reef on the way to sampling point
17/09/2011 06:34:04	BOB-2	Generic view of AUTT29 site
17/09/2011 06:34:52	BOB-2	PRELEVEMENT FAUNE CCAA-3 lophelia pertusa on AUTT29
17/09/2011 06:35:40	BOB-2	still sample lophelia pertusa on AUTT29

17/09/2011 06:38:12	BOB-2	electric or electronic problem all screens in roV except mimosa container black saying no sync and roV away from sampling point moving fast
17/09/2011 06:42:51	BOB-2	image on screens return roV continues to drift away NO SYNC message on screens again - intermitent
17/09/2011 06:52:31	BOB-2	sample lophelia pertusa on CCAA3
17/09/2011 06:55:31	BOB-2	end of sampling CASIER AUTT29 travel to sampling point
17/09/2011 06:55:43	BOB-2	medusa during travel to sampling point
17/09/2011 07:27:04	BOB-2	still lophelia pertusa at site AUTT30
17/09/2011 07:31:16	BOB-2	PRELEVEMENT ASPI-1
17/09/2011 07:34:17	BOB-2	sample gastropod galatheid actiniaria or cerianthid ASPI-1
17/09/2011 08:00:01	BOB-2	AUTT30 sampling site overview with madrepora sample
17/09/2011 08:01:58	BOB-2	PRELEVEMENT FAUNE CCAA-2 madrepora flash is not working
17/09/2011 08:08:12	BOB-2	sample madrepora in container CCAA2
17/09/2011 08:10:54	BOB-2	sample lophelia pertusa CCAA2
17/09/2011 08:15:36	BOB-2	sample GBT anthipatharia
17/09/2011 08:20:05	BOB-2	sample GBT anthipatharia in the container
17/09/2011 08:21:19	BOB-2	end of sampling GBT
17/09/2011 08:32:53	BOB-2	still flash test AUTT31
17/09/2011 08:34:10	BOB-2	PRELEVEMENT FAUNE CCAA-1 lophelia pertusa AUTT31 and zoanthids
17/09/2011 08:38:42	BOB-2	sample CCAA1 lophelia pertusa in roV container
17/09/2011 08:40:06	BOB-2	still sample madrepora oculata
17/09/2011 08:40:29	BOB-2	sample madrepora oculata CCAA1
17/09/2011 08:44:27	BOB-2	sample madrepora oculata in CCAA1
17/09/2011 08:54:36	BOB-2	PRELEVEMENT FAUNE CCAA-6 madrepora lophelia
17/09/2011 08:55:06	BOB-2	still sample madrepora lophelia

17/09/2011 08:59:38	BOB-2	sample lophelia madrepora in CASIER CCAA6
17/09/2011 09:01:12	BOB-2	sample cerianthid ? in situ
17/09/2011 09:04:11	BOB-2	sample cerianthid in CCAA6
17/09/2011 09:04:43	BOB-2	end of sampling CCAA
17/09/2011 09:10:30	BOB-2	still AUTT33
17/09/2011 09:10:56	BOB-2	still lophelia madrepora sample in situ
17/09/2011 09:11:32	BOB-2	PRELEVEMENT FAUNE CCAA-5 madrepora in situ
17/09/2011 09:15:50	BOB-2	sample madrepora CASIER CCAA5
17/09/2011 09:17:57	BOB-2	sample lophelia CASIER CCAA5 in situ
17/09/2011 09:21:15	BOB-2	sample lophelia in CASIER CCAA5
17/09/2011 09:24:47	BOB-2	sample ceramaster CASIER GBT1
17/09/2011 09:28:13	BOB-2	end of sampling
17/09/2011 09:33:08	BOB-2	AUTT34
17/09/2011 09:33:51	BOB-2	PRELEVEMENT FAUNE CCAA-8 cidaris in situ
17/09/2011 09:34:07	BOB-2	sample lophelia madrepora CCAA8
17/09/2011 09:41:32	BOB-2	cidaris in CCAA8
17/09/2011 09:43:15	BOB-2	sample narella CCAA8
17/09/2011 09:44:39	BOB-2	still narella in CCAA8
17/09/2011 09:46:10	BOB-2	narella with galatheid
17/09/2011 09:46:54	BOB-2	still narella with galatheid
17/09/2011 09:47:58	BOB-2	sample narella in CCAA8
17/09/2011 09:55:30	BOB-2	sample anthipatharia in situ GBT2
17/09/2011 09:56:00	BOB-2	still anthipatharia in GBT2
17/09/2011 09:56:37	BOB-2	still

17/09/2011 09:59:55	BOB-2	sample anthipatharia GBT2
17/09/2011 10:00:41	BOB-2	end of sampling CASIER at AUTT34
17/09/2011 10:05:48	BOB-2	fish
17/09/2011 10:08:00	BOB-2	QUART: Colralyne et Ana
17/09/2011 10:23:53	BOB-2	PRELEVEMENT FAUNE CCAA-4 antipatharian in AUTT35 (AUTT35 later accidentally deleted)
17/09/2011 10:30:00	BOB-2	QUART Angela Stevenson - JF Bourillet
17/09/2011 11:34:52	BOB-2	4 min
17/09/2011 11:36:16	BOB-2	Lots of black pebbles
17/09/2011 11:36:36	BOB-2	Pebbles, sponge, lophelia
17/09/2011 11:38:10	BOB-2	Block
17/09/2011 11:38:46	BOB-2	4 min
17/09/2011 11:39:37	BOB-2	Flat rock on right side
17/09/2011 11:41:21	BOB-2	Not much coral, mostly tube sponges, some Narella
17/09/2011 11:43:02	BOB-2	Strat et debris flow, Narella, tube sponges, pebbles, not much coral
17/09/2011 11:45:29	BOB-2	Still: Interesting block (on bottom right hand corner)
17/09/2011 11:46:17	BOB-2	Steep, coral rubble, Narella, some scleractinian
17/09/2011 11:48:51	BOB-2	4 min
17/09/2011 11:49:50	BOB-2	Boulders, sponges
17/09/2011 11:50:45	BOB-2	Block, some scleractinian
17/09/2011 11:52:07	BOB-2	Narella bellissima, Narella sp, Calveriosoma fenestratum, madrepora, lophelia, antipatherian
17/09/2011 11:53:00	BOB-2	PRELEVEMENT FAUNE CCAA-7 Calveriosoma fenestratum
17/09/2011 11:59:37	BOB-2	4min
17/09/2011 12:01:03	BOB-2	Scleractinian

17/09/2011 12:01:21	BOB-2	Interesting scenery - faulted blocks
17/09/2011 12:02:53	BOB-2	Sand dunes
17/09/2011 12:03:38	BOB-2	4min
17/09/2011 12:05:01	BOB-2	Narella, tube sponge, madrepora
17/09/2011 12:06:11	BOB-2	Narella, lophelia, madrepora, sponge, not much live coral
17/09/2011 12:07:07	BOB-2	Chimeras, Echinothuriidae, sponge, coral
17/09/2011 12:07:52	BOB-2	4min
17/09/2011 12:08:14	BOB-2	Boulder, sandy bottom
17/09/2011 12:08:43	BOB-2	Top of dune with coral, scleractinian, antipatherian, Narella
17/09/2011 12:09:54	BOB-2	4min
17/09/2011 12:11:11	BOB-2	Madrepora, lophelia, sponge, antipatherian
17/09/2011 12:11:48	BOB-2	Sand dune
17/09/2011 12:12:55	BOB-2	Trough, Calveriosoma fenestratum, Narella belissima, scleractinian
17/09/2011 12:14:18	BOB-2	4 min
17/09/2011 12:15:10	BOB-2	Back to coral garden scenery, lophelia
17/09/2011 12:15:41	BOB-2	Strange lineation
17/09/2011 12:16:12	BOB-2	Possible evidence of dredging in area, lots of coral debris
17/09/2011 12:17:30	BOB-2	Coral debris
17/09/2011 12:18:24	BOB-2	Back to living coral, Narella, Acanella
17/09/2011 12:19:45	BOB-2	4min
17/09/2011 12:20:59	BOB-2	Comparing coral debris and living coral in image
17/09/2011 12:22:16	BOB-2	Still: coral debris and some live coral in dredged area
17/09/2011 12:22:58	BOB-2	Coral debris
17/09/2011 12:23:58	BOB-2	Sandy bottom

17/09/2011 12:25:00	BOB-2	Absence de corail, oursin
17/09/2011 12:26:36	BOB-2	4min
17/09/2011 12:27:32	BOB-2	Ripples showing current flow
17/09/2011 12:28:39	BOB-2	Bottom of cliff showing layers
17/09/2011 12:29:07	BOB-2	Bottom layers of cliff
17/09/2011 12:32:27	BOB-2	Collection of Cidaris cidaris and antipaterian
17/09/2011 12:33:35	BOB-2	sample of Cidaris CCAA4
17/09/2011 12:40:19	BOB-2	Attempt to collect antipaterian but floated away
17/09/2011 12:47:00	BOB-2	Strat en place (704m)
17/09/2011 12:47:48	BOB-2	Collection of boulder
17/09/2011 12:49:11	BOB-2	sample of boulder CCAA7
17/09/2011 12:52:44	BOB-2	End of dive, leaving bottom

7. Dive report 469 - 7

Submersible : Victor 6000

Starting Dive : 18/09/2011 06:10

Arrival on the bottom: 18/09/2011 08:00

Deprture from the bottom: 19/09/2011 19:58

Ending dive : 19/09/2011 21:05

Location : BOB-2

Dives objectives :

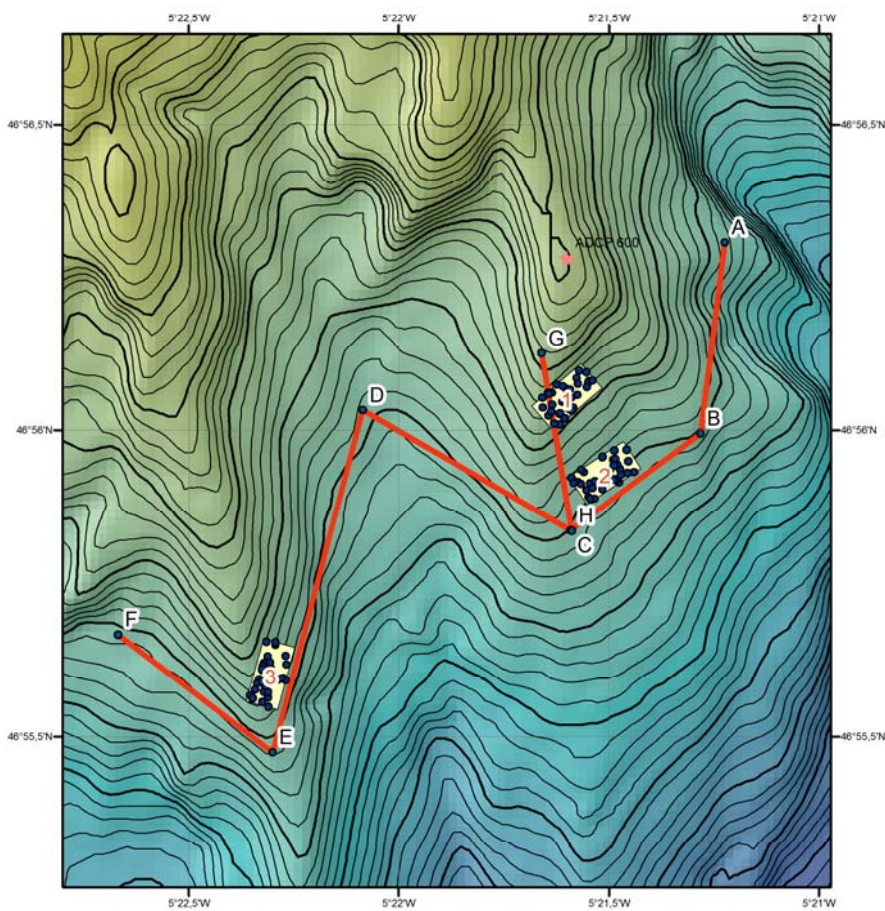
BobEco - Dive 469-07 Sampling dive

Guilvinec

Guilvinec PL469-7

- sampling points — isobaths_10m mnt_25m
 - way points — isobaths_50m Value
 - ★ ADCP 600
 - nav ROV
 - quadra
- High : -186
Low : -1526

0 0,125 0,25 0,5 Nautical Miles



Point d'immersion et début de transect ABCDE: 46° 56.3071 5°21.2289 Sonde 900m

TU: 17/09 22:00 à 19/09 16:00

Important things not to forget:

*Within the sampling quadrat, take a picture for each sample and don't forget the name of the cell in coral rack (CCA1, CCA2): Create a Point remarquable (small windows on the bottom of the screen dedicated to this) and in the comment of this point list the species sampled and the name of the rack cell they were stored in

* Try not to mix samples of the same species in a coral rack cell: One Lophelia, one other species usually.

When more than one Lophelia will have to be accommodated, try to make good pictures to try to sort them onboard

*Call Alexis for the Calmar

*Call Valérie for the microbiology sampling

* Sampling box 2 and 4 for microbiology, sampling box 1 for other (this one is not disinfected)

Comment:

* Coral rack A is CCA If this is the second time the rack is used during the dive call the coral case A AA: CCAA1, CCAA2, etc.)

Total Duration : 42h deck to deck

Time on the 'bottom' : 39

Objectives :

- Colour survey of a transect followed with SMF and MMR OTUS during the first dive.

-Sampling of priority samples:

-Lophelia pertusa and Madrepora oculata in two defined quadrats according to random coordinates when possible. Most are stored in Coral racks, two in special boxes for microbiology

-Narella if observed

-Octocorals

-Sponges listed in the species facebook if observed

-Sea urchins listed in the species facebook if observed

-Respiration measure with CALMAR. Sample Lophelia to place in the CALMAR, and sample small colonies as well to bring back onboard

Summary :

Visited locations : BOB-2,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
MOALIC Yann	IFREMER BREST
CUEFF Valerie	IFREMER BREST
STEVENSON Angela	UNIV DUBLIN IRELAND
GALERON Joelle	IFREMER BREST
BOURILLET Jean-François	IFREMER BREST
VAN DEN BELDE Inge	IFREMER BREST
GUILLAUMONT Brigitte	IFREMER BREST
BECHELER Ronan	IFREMER BREST
DAVIE Jaime	IFREMER BREST
BOAVIDA Joana	IFREMER BREST
ARNAUD Sophie	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
CAPRAIS Jean-Claude	IFREMER BREST
BELLON Clara	IFREMER BREST
HENRIQUEZ Andreia Braga	IMAR
FRANCK Norbert	LSCE

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
19/09/2011 08:57:52	BOB-2	469 - 7	Slurp gun bottle	ASPI	3	N 46 55.914	W 005 21.591	882	PRELEVEMENT FAUNE ASPI-3 cerianthid
18/09/2011 10:12:30	BOB-2	469 - 7	Coral box A		1	N 46 55.966	W 005 21.604	864	PRELEVEMENT FAUNE CCA1 Cidaris
18/09/2011 16:11:18	BOB-2	469 - 7	Coral box A		2	N 46 56.043	W 005 21.637	816	PRELEVEMENT FAUNE CCA2 Lophelia, Autt6
18/09/2011 16:29:54	BOB-2	469 - 7	Coral box A		3	N 46 56.032	W 005 21.634	824	PRELEVEMENT FAUNE CCA3 Madrepora and Lophelia, Autt7

18/09/2011 15:23:44	BOB-2	469 - 7	Coral box A		4	N 46 56.024	W 005 21.645	822	PRELEVEMENT FAUNE CCA4 Madrepora,Autt3
18/09/2011 16:43:17	BOB-2	469 - 7	Coral box A		5	N 46 56.024	W 005 21.621	834	PRELEVEMENT FAUNE CCA5 Madrepora, Autt8
18/09/2011 15:39:49	BOB-2	469 - 7	Coral box A		6	N 46 56.038	W 005 21.660	812	PRELEVEMENT FAUNE CCA6 Madrepora, Autt4
18/09/2011 15:54:25	BOB-2	469 - 7	Coral box A		7	N 46 56.052	W 005 21.657	809	PRELEVEMENT FAUNE CCA7 Madrepora, Autt5
18/09/2011 17:04:24	BOB-2	469 - 7	Coral box A		8	N 46 56.017	W 005 21.613	840	PRELEVEMENT FAUNE CCA8 Madrepora, Autt9
19/09/2011 13:35:51	BOB-2	469 - 7	Coral box AA		1	N 46 55.913	W 005 21.564	884	PRELEVEMENT FAUNE CCAA-1 Lophelia
19/09/2011 13:53:44	BOB-2	469 - 7	Coral box AA		2	N 46 55.902	W 005 21.553	886	PRELEVEMENT FAUNE CCAA-2 Lophelia, Madrepora AUTT_28
19/09/2011 14:07:43	BOB-2	469 - 7	Coral box AA		3	N 46 55.891	W 005 21.544	1007	PRELEVEMENT FAUNE CCAA-3 Madrepora AUTT29
19/09/2011 14:54:51	BOB-2	469 - 7	Coral box AA		4	N 46 55.906	W 005 21.537	886	PRELEVEMENT FAUNE CCAA-4 Madrepora AUTT33
19/09/2011 14:15:27	BOB-2	469 - 7	Coral box AA		5	N 46 55.886	W 005 21.541	894	PRELEVEMENT FAUNE CCAA-5 Madrepora AUTT30

19/09/2011 15:12:54	BOB-2	469 - 7	Coral box AA		6	N 46 55.914	W 005 21.544	999	PRELEVEMENT FAUNE CCAA-6 Lophelia AUTT34
19/09/2011 14:35:51	BOB-2	469 - 7	Coral box AA		7	N 46 55.903	W 005 21.515	895	PRELEVEMENT FAUNE CCAA-7 Madrepora AUTT32
19/09/2011 14:25:27	BOB-2	469 - 7	Coral box AA		8	N 46 55.889	W 005 21.533	1007	PRELEVEMENT FAUNE CCAA-8 Madrepora AUTT31
18/09/2011 19:15:41	BOB-2	469 - 7	Coral box B		1	N 46 56.042	W 005 21.584	839	PRELEVEMENT FAUNE CCB1 Lophelia AUTT_13
18/09/2011 18:32:51	BOB-2	469 - 7	Coral box B		2	N 46 56.033	W 005 21.587	840	PRELEVEMENT FAUNE CCB2 madrepora autt10
18/09/2011 18:56:59	BOB-2	469 - 7	Coral box B		3	N 46 56.040	W 005 21.595	838	PRELEVEMENT FAUNE CCB3 Madrepora sur site AUTT_11
18/09/2011 19:36:16	BOB-2	469 - 7	Coral box B		4	N 46 56.057	W 005 21.577	832	PRELEVEMENT FAUNE CCB4 Lophelia et Madrepora site AUTT_14
18/09/2011 19:49:40	BOB-2	469 - 7	Coral box B		5	N 46 56.055	W 005 21.596	832	PRELEVEMENT FAUNE CCB5 Lophelia et Madrepora sur site AUTT_15
18/09/2011 20:18:35	BOB-2	469 - 7	Coral box B		6	N 46 56.049	W 005 21.603	831	PRELEVEMENT FAUNE CCB6 Lophelia sur site AUTT_16

18/09/2011 20:48:42	BOB-2	469 - 7	Coral box B		7	N 46 56.046	W 005 21.611	829	PRELEVEMENT FAUNE CCB7 Lophelia, Narella sur site AUTT_17, depose dans
18/09/2011 21:22:39	BOB-2	469 - 7	Coral box B		8	N 46 56.058	W 005 21.635	812	PRELEVEMENT FAUNE CCB8 Eponge, sur site AUTT_18
19/09/2011 16:26:13	BOB-2	469 - 7	Coral box BB		5	N 46 55.931	W 005 21.516	884	PRELEVEMENT FAUNE CCBB-5 Lophelia + Madrepora AUTT38
19/09/2011 16:02:11	BOB-2	469 - 7	Coral box BB		6	N 46 55.915	W 005 21.482	897	PRELEVEMENT FAUNE CCBB-6 Lophelia + Madrepora + crinoid AUTT35
19/09/2011 16:10:32	BOB-2	469 - 7	Coral box BB		7	N 46 55.922	W 005 21.493	894	PRELEVEMENT FAUNE CCBB-7 Lophelia + Madrepora AUTT36
19/09/2011 16:17:57	BOB-2	469 - 7	Coral box BB		8	N 46 55.930	W 005 21.501	890	PRELEVEMENT FAUNE CCBB-8 Lophelia + Madrepora AUTT37
19/09/2011 00:35:36	BOB-2	469 - 7	Coral box C		1	N 46 56.097	W 005 21.573	813	PRELEVEMENT FAUNE CCC1 Lophelia at AUTT19
19/09/2011 01:04:05	BOB-2	469 - 7	Coral box C		2	N 46 56.097	W 005 21.551	821	PRELEVEMENT FAUNE CCC2 Lophelia at AUTT20

19/09/2011 01:41:44	BOB-2	469 - 7	Coral box C		3	N 46 56.080	W 005 21.549	831	PRELEVEMENT FAUNE CCC3 Lophelia at AUTT21
19/09/2011 02:49:48	BOB-2	469 - 7	Coral box C		4	N 46 56.089	W 005 21.576	817	PRELEVEMENT FAUNE CCC4 Lophelia AUTT24
19/09/2011 01:22:33	BOB-2	469 - 7	Coral box C		5	N 46 56.099	W 005 21.551	821	PRELEVEMENT FAUNE CCC5 bamboo coral at AUTT20
19/09/2011 03:05:02	BOB-2	469 - 7	Coral box C		6	N 46 56.094	W 005 21.572	816	PRELEVEMENT FAUNE CCC6 Acanalla
19/09/2011 02:38:13	BOB-2	469 - 7	Coral box C		7	N 46 56.077	W 005 21.575	822	PRELEVEMENT FAUNE CCC7 Lophelia AUTT23
19/09/2011 02:22:35	BOB-2	469 - 7	Coral box C		8	N 46 56.066	W 005 21.554	833	PRELEVEMENT FAUNE CCC8 Lophelia AUTT_22
18/09/2011 08:53:33	BOB-2	469 - 7	ROV big box	GBT	1	N 46 56.197	W 005 21.252	928	PRELEVEMENT FAUNE GBT-1 comatula sp2
19/09/2011 05:21:24	BOB-2	469 - 7	Little Collection Box	PBT	1	N 46 56.000	W 005 21.598	960	PRELEVEMENT FAUNE PBT-1 Cidaris
18/09/2011 14:03:49	BOB-2	469 - 7	Little Collection Box	PBT	2	N 46 56.010	W 005 21.629	838	PRELEVEMENT FAUNE PBT-2 Madrepora at AUTT1
19/09/2011 12:00:27	BOB-2	469 - 7	Little Collection Box	PBT	3	N 46 55.916	W 005 21.573	882	PRELEVEMENT FAUNE PBT-3 : taking Lophelia and

									sediment sample for PBT3. AUTT_26
18/09/2011 13:47:54	BOB-2	469 - 7	Little Collection Box	PBT	4	N 46 56.011	W 005 21.630	838	PRELEVEMENT FAUNE PBT-4 Lophelia at AUTT1
19/09/2011 12:20:31	BOB-2	469 - 7	Little Collection Box	PBT	5	N 46 55.915	W 005 21.573	882	PRELEVEMENT FAUNE PBT-5 Madrepora +subrat. Crinoide

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
18/09/2011 12:35:43	BOB-2	469 - 7	PEP bottle	PEP	1	N 46 55.963	W 005 21.589	858	PRELEVEMENT PEP-1 for Calmar B
18/09/2011 12:44:26	BOB-2	469 - 7	PEP bottle	PEP	2	N 46 55.964	W 005 21.588	858	PRELEVEMENT PEP-2 for Calmar B
18/09/2011 12:45:26	BOB-2	469 - 7	PEP bottle	PEP	3	N 46 55.965	W 005 21.588	858	PRELEVEMENT PEP-3 for Calmar B
18/09/2011 14:11:05	BOB-2	469 - 7	PEP bottle	PEP	4	N 46 56.010	W 005 21.629	838	PRELEVEMENT PEP-4
18/09/2011 14:13:55	BOB-2	469 - 7	PEP bottle	PEP	5	N 46 56.010	W 005 21.629	838	PRELEVEMENT PEP-5
18/09/2011 14:15:34	BOB-2	469 - 7	PEP bottle	PEP	6	N 46 56.010	W 005 21.630	838	PRELEVEMENT PEP-6 bag for microbiology
18/09/2011 14:24:41	BOB-2	469 - 7	PEP bottle	PEP	7	N 46 56.008	W 005 21.629	838	PRELEVEMENT PEP-7

19/09/2011 11:23:40	BOB-2	469 - 7	PEP bottle	PEP	9	N 46 55.907	W 005 21.578	997	PRELEVEMENT PEP-9 début remplissage
19/09/2011 12:31:31	BOB-2	469 - 7	PEP bottle	PEP	10	N 46 55.916	W 005 21.573	882	PRELEVEMENT PEP-10
19/09/2011 12:33:19	BOB-2	469 - 7	PEP bottle	PEP	11	N 46 55.916	W 005 21.573	882	PRELEVEMENT PEP-11
19/09/2011 12:42:23	BOB-2	469 - 7	PEP bottle	PEP	12	N 46 55.916	W 005 21.573	882	PRELEVEMENT PEP-12
19/09/2011 12:43:58	BOB-2	469 - 7	PEP bottle	PEP	13	N 46 55.916	W 005 21.573	882	PRELEVEMENT PEP-13

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
18/09/2011 06:10:38	BOB-2	debut quart b. guillaumont, j galeron
18/09/2011 06:20:13	BOB-2	ROV a l'eau
18/09/2011 07:27:23	BOB-2	demarrage enregistrements video
18/09/2011 08:05:20	BOB-2	debut du profil
18/09/2011 08:11:05	BOB-2	relief , presence de Lophelia -Madrepora
18/09/2011 08:14:33	BOB-2	huitres sur paroi verticale
18/09/2011 08:15:55	BOB-2	zone indurée avec faible couverture sedimentaire
18/09/2011 08:16:49	BOB-2	zone induree faible couverture sedimentaire
18/09/2011 08:18:00	BOB-2	zone induree
18/09/2011 08:18:21	BOB-2	fond sedimentaire quelques calveriosoma quelques colonies de lophelia

18/09/2011 08:20:52	BOB-2	fond sedimentaire heterogene rares colonies de coraux
18/09/2011 08:22:06	BOB-2	sediment cidaris
18/09/2011 08:25:35	BOB-2	cidaris, calveriosoma
18/09/2011 08:29:12	BOB-2	structures sedimentaire, rares colonies coralliennes
18/09/2011 08:29:50	BOB-2	narella lophelia-madrepora
18/09/2011 08:31:00	BOB-2	narella,crinoides, lophelia-madrepora faible densité
18/09/2011 08:32:23	BOB-2	recif corallien densite moyenne
18/09/2011 08:33:24	BOB-2	recif corallien hexactinellide
18/09/2011 08:34:21	BOB-2	cerianthes, recif corallien, sediment
18/09/2011 08:34:48	BOB-2	zone induree, phycis
18/09/2011 08:36:15	BOB-2	densification du recif corallien, crinoides
18/09/2011 08:43:03	BOB-2	zone de prelevement, crinoides, recif corallien densite moyenne
18/09/2011 08:49:28	BOB-2	still image prelevement comatula gbt
18/09/2011 08:53:30	BOB-2	munida
18/09/2011 08:53:33	BOB-2	PRELEVEMENT FAUNE GBT-1 comatula sp2
18/09/2011 08:55:31	BOB-2	lepidion, calveriosoma, recif corallien
18/09/2011 09:02:31	BOB-2	reprise du transect vitesse 0.5n
18/09/2011 09:03:27	BOB-2	recif corallien beaucoup de mort
18/09/2011 09:04:09	BOB-2	recif de coraux en partie vivant
18/09/2011 09:04:39	BOB-2	passage d'une crete avec recif corallien
18/09/2011 09:07:16	BOB-2	recif corallien envasé
18/09/2011 09:08:36	BOB-2	galets de vase ?
18/09/2011 09:08:40	BOB-2	trajetvers point de mouillage ascenseur pres du quadrat d'echantillonnage 1
18/09/2011 09:09:21	BOB-2	zone envasee

18/09/2011 09:11:37	BOB-2	vase, chimere ?
18/09/2011 09:11:50	BOB-2	reprise recif corallien
18/09/2011 09:13:37	BOB-2	recif corallien, dechet, phycis
18/09/2011 09:14:50	BOB-2	recif corallien dense
18/09/2011 09:17:05	BOB-2	recif assez dense mais peu de coraux vivant, comatula
18/09/2011 09:18:50	BOB-2	antipathaires, recif corallien plus claireseme
18/09/2011 09:19:41	BOB-2	recif corallien beuacoup de morts,
18/09/2011 09:21:38	BOB-2	le recif se densifie, plus de vivants
18/09/2011 09:22:07	BOB-2	antipathaire
18/09/2011 09:24:14	BOB-2	recif corallien beaucoup de morts
18/09/2011 09:28:22	BOB-2	recif corallien peu dense sediment
18/09/2011 09:28:50	BOB-2	sediment avec ripple marks majoritaire
18/09/2011 09:30:29	BOB-2	galeus melanostomus rares colonies, sediment
18/09/2011 09:31:39	BOB-2	sediment ripple marks
18/09/2011 09:32:55	BOB-2	bathynectes sur sediment
18/09/2011 09:33:54	BOB-2	recif, plus de vivant
18/09/2011 09:34:38	BOB-2	recif plus dense, antipathaires
18/09/2011 09:35:49	BOB-2	sediment
18/09/2011 09:37:06	BOB-2	recif corallien peu dense beaucoup de morts
18/09/2011 09:39:31	BOB-2	recif corallien, leiopathes
18/09/2011 09:41:19	BOB-2	reprise du recif dense
18/09/2011 09:42:01	BOB-2	leiopathes
18/09/2011 09:45:45	BOB-2	recif corallien dense, narella
18/09/2011 09:47:15	BOB-2	recif corallien dense, narella cidaris, leiopathes

18/09/2011 09:48:00	BOB-2	arret transect. on attend que l'ascenseur atterrisse
18/09/2011 09:48:12	BOB-2	stichopathes
18/09/2011 09:53:34	BOB-2	leiopathes et chirostylus,
18/09/2011 09:54:20	BOB-2	recif corallien dense, antipathaires dont leiopathes, comatula, cidaris, lepidion, eponge massive et encroutante jaune
18/09/2011 09:57:22	BOB-2	still antipathaire
18/09/2011 09:59:07	BOB-2	sample antipathaire
18/09/2011 10:00:00	BOB-2	QUART Jean Claude and Inge
18/09/2011 10:12:30	BOB-2	PRELEVEMENT FAUNE CCA1 Cidaris
18/09/2011 10:16:25	BOB-2	Sample of previous cidaris and crinoid
18/09/2011 10:19:30	BOB-2	Lepidion?
18/09/2011 10:21:12	BOB-2	In situ picture sampling
18/09/2011 10:23:26	BOB-2	sample Aphrocallistes with green fluorescent zoonthidea GBT
18/09/2011 10:26:14	BOB-2	Aphrocallistes with zooanthidae
18/09/2011 10:31:42	BOB-2	sample Geodia sponge for Julie Reveillaud GBT
18/09/2011 10:35:28	BOB-2	Sample sponge Julie Reveillaud and Madrepora
18/09/2011 10:36:53	BOB-2	Geodia sponge Julie Reveillaud in box
18/09/2011 10:40:07	BOB-2	Sand ripples with single coral colonies, Narella and antipatharian
18/09/2011 10:40:23	BOB-2	Bottle
18/09/2011 10:41:07	BOB-2	Lepidion
18/09/2011 10:41:15	BOB-2	Start small patchy coral area
18/09/2011 10:42:41	BOB-2	Soft coral
18/09/2011 10:43:08	BOB-2	Patchy coral colonies with sponges, Cidaris, antipatharian, Narella, crinoids, other echinoids
18/09/2011 10:47:16	BOB-2	Ascenseur

18/09/2011 10:50:06	BOB-2	ascenseur ouvert
18/09/2011 11:10:00	BOB-2	Cerianthids, Bolocera
18/09/2011 11:14:57	BOB-2	Broken Lophelia and Madrepora pieces between life colonies
18/09/2011 11:23:45	BOB-2	Brisingid
18/09/2011 11:32:25	BOB-2	Place for Calmar
18/09/2011 11:35:21	BOB-2	Bathynectes, Stichopathes, live Lophelia and Madrepora, crinoids, Callistoma
18/09/2011 11:52:27	BOB-2	CALMAR Lophelia 1
18/09/2011 11:54:40	BOB-2	CALMAR Lophelia 2
18/09/2011 11:57:38	BOB-2	CALMAR Lophelia 2
18/09/2011 11:59:10	BOB-2	CALMAR Lophelia 3
18/09/2011 12:02:41	BOB-2	CALMAR All Lophelia in Calmar, closing lid now
18/09/2011 12:19:32	BOB-2	
18/09/2011 12:25:48	BOB-2	sadow sur calmar B
18/09/2011 12:27:59	BOB-2	sample CALMAR B
18/09/2011 12:35:43	BOB-2	PRELEVEMENT PEP-1 for Calmar B
18/09/2011 12:44:26	BOB-2	PRELEVEMENT PEP-2 for Calmar B
18/09/2011 12:45:26	BOB-2	PRELEVEMENT PEP-3 for Calmar B
18/09/2011 12:49:05	BOB-2	end of sampling PEP and Calmar
18/09/2011 13:11:35	BOB-2	putting CALMAR down beside elevator, end of shift for JC start of shift for Valerie
18/09/2011 13:16:16	BOB-2	picking up PBT2 and PBT4 from elevator
18/09/2011 13:38:13	BOB-2	anthropogenic impact: bottle
18/09/2011 13:47:54	BOB-2	PRELEVEMENT FAUNE PBT-4 Lophelia at AUTT1
18/09/2011 13:52:07	BOB-2	sample sediment for PBT4 at AUTT1

18/09/2011 13:54:59	BOB-2	end of sampling PBT4
18/09/2011 14:03:49	BOB-2	PRELEVEMENT FAUNE PBT-2 Madrepora at AUTT1
18/09/2011 14:11:05	BOB-2	PRELEVEMENT PEP-4
18/09/2011 14:13:55	BOB-2	PRELEVEMENT PEP-5
18/09/2011 14:15:34	BOB-2	PRELEVEMENT PEP-6 bag for microbiology
18/09/2011 14:24:41	BOB-2	PRELEVEMENT PEP-7
18/09/2011 14:38:43	BOB-2	end of sampling PBT2, moving to elevator
18/09/2011 14:45:30	BOB-2	arriving at elevator, end of shift for Anna and start of Andrea shift
18/09/2011 14:51:57	BOB-2	Box of Valerie Pbt2 in the lift-1
18/09/2011 14:53:22	BOB-2	Box of Valerie Pbt4 in the lift
18/09/2011 14:54:00	BOB-2	Start of the shift of Sophie (Andreia continues)
18/09/2011 14:54:44	BOB-2	Box of Valerie Pbt4 in the lift-1
18/09/2011 14:57:54	BOB-2	Narella verlusyi
18/09/2011 15:01:00	BOB-2	Autt 2
18/09/2011 15:07:34	BOB-2	sample lophelia to be in CCA1, Autt2
18/09/2011 15:09:29	BOB-2	sample Madrepora and crinoid to be in CCA1, Autt2
18/09/2011 15:10:09	BOB-2	sample Madrepora and crinoid in CCA1, Autt2
18/09/2011 15:10:56	BOB-2	sample sea-urchin to be in CCA1, Autt2
18/09/2011 15:12:51	BOB-2	sample sea-urchin in CCA1, Autt2
18/09/2011 15:16:14	BOB-2	Antipatharian Trissopathes?
18/09/2011 15:20:16	BOB-2	Autt-3
18/09/2011 15:22:07	BOB-2	sample_ Autt3
18/09/2011 15:23:44	BOB-2	PRELEVEMENT FAUNE CCA4 Madrepora,Autt3
18/09/2011 15:24:55	BOB-2	sample Madrepora to be in CCA4, Autt3_ some pieces in CCA1, CCA2 and CCA6

18/09/2011 15:26:06	BOB-2	sample two Narella specimens to be in CCA4, Autt3
18/09/2011 15:27:30	BOB-2	sample two Narella specimens in CCA4, Autt3
18/09/2011 15:31:01	BOB-2	sample Alcyonid in GBT, Autt3
18/09/2011 15:34:42	BOB-2	Leiopathes, sea urchin, Trissopathes?
18/09/2011 15:36:31	BOB-2	fish, antipatharian, reef
18/09/2011 15:37:52	BOB-2	Autt4
18/09/2011 15:39:49	BOB-2	PRELEVEMENT FAUNE CCA6 Madrepora, Autt4
18/09/2011 15:41:30	BOB-2	sample Madrepora be in CCA6, Autt4
18/09/2011 15:42:34	BOB-2	sample Lophelia to be in CCA6, Autt4
18/09/2011 15:43:30	BOB-2	sample Lophelia in CCA6, Autt4
18/09/2011 15:45:33	BOB-2	sample Antipatharian to be in CCA6, Autt4
18/09/2011 15:46:42	BOB-2	sample Antipatharian in CCA6, Autt4
18/09/2011 15:50:37	BOB-2	Autt5- reef with Madrepora, Lophelia, Cidaris
18/09/2011 15:54:25	BOB-2	PRELEVEMENT FAUNE CCA7 Madrepora, Autt5
18/09/2011 15:55:38	BOB-2	sample Madrepora in CCA7, Autt5_if there is any Lophelia attached to the Madrepora it different of the one we sampled after
18/09/2011 15:56:49	BOB-2	sample Lophelia to be in CCA7, Autt5
18/09/2011 15:58:23	BOB-2	sample Lophelia in CCA7, Autt7
18/09/2011 16:00:17	BOB-2	sample Cidaris to be in CCA7, Autt5
18/09/2011 16:01:10	BOB-2	sample Cidaris in CCA7, Autt5
18/09/2011 16:03:44	BOB-2	Rotating the CCA box
18/09/2011 16:09:33	BOB-2	Autt6
18/09/2011 16:11:18	BOB-2	PRELEVEMENT FAUNE CCA2 Lophelia, Autt6
18/09/2011 16:13:16	BOB-2	sample Lophelia in CCA2, Autt6

18/09/2011 16:15:35	BOB-2	sample Madrepora to be in CCA2, Autt6
18/09/2011 16:17:11	BOB-2	sample Madrepora and Corallymorpharia? to be in CCA2, Autt6
18/09/2011 16:25:48	BOB-2	Autt7
18/09/2011 16:26:55	BOB-2	sample Madrepora to be in CCA7, Autt5
18/09/2011 16:29:54	BOB-2	PRELEVEMENT FAUNE CCA3 Madrepora and Lophelia, Autt7
18/09/2011 16:32:19	BOB-2	sample Madrepora and Lophelia in CCA3, Autt7
18/09/2011 16:33:05	BOB-2	sample Cidaris to be in CCA3, Autt7
18/09/2011 16:34:49	BOB-2	sample Cidaris in CCA3, Autt7
18/09/2011 16:41:59	BOB-2	Autt8
18/09/2011 16:43:17	BOB-2	PRELEVEMENT FAUNE CCA5 Madrepora, Autt8
18/09/2011 16:45:59	BOB-2	sample Madrepora in CCA5, Autt8
18/09/2011 16:50:11	BOB-2	sample Lophelia in CCA5, Autt8
18/09/2011 16:54:33	BOB-2	sample Trissopathes to be in CCA5, Autt8
18/09/2011 16:58:25	BOB-2	sample Trissopathes in CCA5, Autt8
18/09/2011 17:02:28	BOB-2	Autt9
18/09/2011 17:04:24	BOB-2	PRELEVEMENT FAUNE CCA8 Madrepora, Autt9
18/09/2011 17:06:24	BOB-2	sample Madrepora in CCA8, Autt9
18/09/2011 17:08:25	BOB-2	sample Narella in CCA8, Autt9
18/09/2011 17:15:21	BOB-2	sample Lophelia to be in CCA8, Autt9
18/09/2011 17:17:03	BOB-2	sample Lophelia in CCA8, Autt9
18/09/2011 17:19:18	BOB-2	going to the lift to drop the samples of CCA
18/09/2011 17:23:54	BOB-2	Arriving to the lift, box-2
18/09/2011 17:45:13	BOB-2	taking box1-Valerie
18/09/2011 17:49:14	BOB-2	Taking out CCC

18/09/2011 17:53:59	BOB-2	Valerie box Pbt1 in the bottom
18/09/2011 17:59:00	BOB-2	End of shift of Andreia and Sophie
18/09/2011 18:00:00	BOB-2	QUART: Ronan et Joelle
18/09/2011 18:19:33	BOB-2	CC B déposé dans ROV
18/09/2011 18:24:06	BOB-2	narella avec un plumeau au bout...
18/09/2011 18:29:17	BOB-2	pt AUTT 10
18/09/2011 18:32:51	BOB-2	PRELEVEMENT FAUNE CCB2 madrepora autt10
18/09/2011 18:36:19	BOB-2	sample Mo ds B2
18/09/2011 18:37:47	BOB-2	sample de lophelia autt10 CCB2
18/09/2011 18:44:35	BOB-2	dépot du lophelia dans B2
18/09/2011 18:47:00	BOB-2	sample second Madrepora AUTT10 CCB2
18/09/2011 18:48:06	BOB-2	dépot du 2nd madrepora ds B2
18/09/2011 18:51:16	BOB-2	trace bizare
18/09/2011 18:56:59	BOB-2	PRELEVEMENT FAUNE CCB3 Madrepora sur site AUTT_11
18/09/2011 18:58:54	BOB-2	Madrepora AUTT_11 depose dans CC B3
18/09/2011 19:02:24	BOB-2	sample Lophelia sur site AUTT_12
18/09/2011 19:06:05	BOB-2	depot Lophelia dans CC B3
18/09/2011 19:07:22	BOB-2	sample Narella et comatule sur site AUTT_13
18/09/2011 19:10:16	BOB-2	Narella coupe a la base
18/09/2011 19:14:54	BOB-2	Vue du site AUTT_13
18/09/2011 19:15:41	BOB-2	PRELEVEMENT FAUNE CCB1 Lophelia AUTT_13
18/09/2011 19:17:30	BOB-2	Depot Lophelia dans CC B1
18/09/2011 19:19:17	BOB-2	sample Madrepora AUTT_13 CCB1
18/09/2011 19:20:39	BOB-2	Depot Madrepora dans CC B1

18/09/2011 19:22:36	BOB-2	sample Eponge blanc-jaune site AUTT_13 CCB1
18/09/2011 19:24:06	BOB-2	Depot eponge dans CC B1
18/09/2011 19:26:19	BOB-2	Objet noir, dechet ?
18/09/2011 19:27:10	BOB-2	trajet vers point suivant
18/09/2011 19:27:52	BOB-2	dechet plastique blanc
18/09/2011 19:28:04	BOB-2	poisson
18/09/2011 19:30:38	BOB-2	Vue du site AUTT_14
18/09/2011 19:32:42	BOB-2	Lophelia et Madrepora cibles de l'echantillonnage
18/09/2011 19:36:16	BOB-2	PRELEVEMENT FAUNE CCB4 Lophelia et Madrepora site AUTT_14
18/09/2011 19:38:42	BOB-2	Depot Lophelia et Madrepora dans CC B4
18/09/2011 19:40:40	BOB-2	depart pour site suivant
18/09/2011 19:41:46	BOB-2	dechet plastique
18/09/2011 19:42:36	BOB-2	deux oursins Calveriosoma
18/09/2011 19:43:43	BOB-2	arrivee sur site AUTT_15
18/09/2011 19:46:49	BOB-2	Lophelia et Madrepora cibles pour echantillonnage
18/09/2011 19:49:40	BOB-2	PRELEVEMENT FAUNE CCB5 Lophelia et Madrepora sur site AUTT_15
18/09/2011 19:52:55	BOB-2	Depot dans CC B5
18/09/2011 19:55:54	BOB-2	sample Lophelia en complement sur site AUTT_15 CCB5
18/09/2011 19:57:39	BOB-2	depot dans CC B5
18/09/2011 19:59:57	BOB-2	sample antipathaire site AUTT_15
18/09/2011 20:02:01	BOB-2	depot dans CC B5
18/09/2011 20:04:16	BOB-2	sample Asteride sur site AUTT_15 CCB5
18/09/2011 20:07:39	BOB-2	depot asteride dans CC B5
18/09/2011 20:10:54	BOB-2	vue generale du site AUTT_16

18/09/2011 20:11:58	BOB-2	poisson
18/09/2011 20:12:14	BOB-2	poisson
18/09/2011 20:13:18	BOB-2	Lophelia cible pour echantillonnage
18/09/2011 20:16:31	BOB-2	poisson
18/09/2011 20:17:50	BOB-2	changement cible echantillonnage Lophelia
18/09/2011 20:18:35	BOB-2	PRELEVEMENT FAUNE CCB6 Lophelia sur site AUTT_16
18/09/2011 20:20:30	BOB-2	depot Lophelia das CC B6
18/09/2011 20:22:19	BOB-2	sample Madrepora sur site AUTT_16, depose dans CC B6
18/09/2011 20:27:23	BOB-2	sampling rate crinoide pedoncule sur site AUTT_16
18/09/2011 20:31:31	BOB-2	sample crinoide pedoncule sur site AUTT_16 , depose dans CC B6
18/09/2011 20:35:51	BOB-2	sample Cidaris sur AUTT_16 depose dans CC B6
18/09/2011 20:42:53	BOB-2	dechet plastique (commentaire de ronan : les bretons du sud finistere sont des cochons....)
18/09/2011 20:45:26	BOB-2	vue d'ensemble du site AUTT_17
18/09/2011 20:48:42	BOB-2	PRELEVEMENT FAUNE CCB7 Lophelia, Narella sur site AUTT_17, depose dans
18/09/2011 20:55:05	BOB-2	sample Madrepora sur site AUTT_17, range dans CC B7
18/09/2011 21:00:46	BOB-2	sample Antipathaire, depose dans CC B7
18/09/2011 21:07:53	BOB-2	sample Narella sur site AUTT_17, depose dans GBT
18/09/2011 21:14:23	BOB-2	route vers point suivant
18/09/2011 21:16:52	BOB-2	dechet plastique noir
18/09/2011 21:18:15	BOB-2	oursin
18/09/2011 21:20:43	BOB-2	Vue d'ensemble du site AUTT_18
18/09/2011 21:22:39	BOB-2	PRELEVEMENT FAUNE CCB8 Eponge, sur site AUTT_18
18/09/2011 21:25:40	BOB-2	Depot Eponge dans CC B8

18/09/2011 21:28:05	BOB-2	Lophelia et Madrepora cibles pour echantillonnage
18/09/2011 21:30:01	BOB-2	sample Lophelia sur site AUTT_18, depose dans CC B8
18/09/2011 21:31:34	BOB-2	sample Madrepora sur site AUTT-18, depose dans CC B8
18/09/2011 21:35:20	BOB-2	sample oursin, depose dans CC B7
18/09/2011 21:39:21	BOB-2	sample Narella sur site AUTT_18, depose dans CC B8
18/09/2011 21:42:39	BOB-2	l'oursin depose dans le CC B7 cherche a s'echapper, de meme que l'asteride du CC B5
18/09/2011 21:45:48	BOB-2	route vers l'ascenseur
18/09/2011 21:51:01	BOB-2	arrivee sur ascenseur
18/09/2011 22:07:07	BOB-2	Collecting basket A
18/09/2011 22:35:22	BOB-2	Trying to close elevator basket
19/09/2011 00:17:41	BOB-2	Back to dive, going to north end of rectangle to collect coral
19/09/2011 00:21:02	BOB-2	Garbage
19/09/2011 00:22:14	BOB-2	fish, Narella, scleractinian
19/09/2011 00:23:20	BOB-2	Narella, fish, lophelia, madrepora, antipatherians
19/09/2011 00:25:13	BOB-2	Lush coral garden, Narella, echinoids, lophelia, madrepora, antipatherians
19/09/2011 00:26:37	BOB-2	Fish in coral garden
19/09/2011 00:27:58	BOB-2	fish, Cidaris cidaris, antipatherians, lophelia
19/09/2011 00:35:36	BOB-2	PRELEVEMENT FAUNE CCC1 Lophelia at AUTT19
19/09/2011 00:39:28	BOB-2	sample Madrepora at AUTT19 placed in ROV CC C1
19/09/2011 00:41:56	BOB-2	continue sampling Madrepora
19/09/2011 00:44:36	BOB-2	sample of Cidaris cidaris at AUTT19 placed in CCC1
19/09/2011 00:46:10	BOB-2	Cidaris cidaris at AUTT19 placed in CCC1
19/09/2011 00:47:52	BOB-2	Nudibranch

19/09/2011 00:49:23	BOB-2	Close up of nudibranch
19/09/2011 00:50:13	BOB-2	Aeolid nudibranch
19/09/2011 00:51:52	BOB-2	Garbage
19/09/2011 00:53:43	BOB-2	fish
19/09/2011 01:01:42	BOB-2	Anemone
19/09/2011 01:04:05	BOB-2	PRELEVEMENT FAUNE CCC2 Lophelia at AUTT20
19/09/2011 01:07:17	BOB-2	Lophelia at AUTT20 placed in ROV CC C2
19/09/2011 01:09:31	BOB-2	sample of Madrepora at AUTT20 placed in ROV CC C2
19/09/2011 01:12:39	BOB-2	Madrepora at AUTT20 placed in ROV CC C2
19/09/2011 01:14:51	BOB-2	Crab
19/09/2011 01:15:57	BOB-2	sample of Narella at AUTT20 placed in ROV CC C2
19/09/2011 01:18:47	BOB-2	Narella at AUTT20 placed in ROV CC C2
19/09/2011 01:22:33	BOB-2	PRELEVEMENT FAUNE CCC5 bamboo coral at AUTT20
19/09/2011 01:32:03	BOB-2	Narella bellissima
19/09/2011 01:35:28	BOB-2	Anemone
19/09/2011 01:39:38	BOB-2	Madrepora and snail at AUTT21
19/09/2011 01:40:45	BOB-2	snail
19/09/2011 01:41:44	BOB-2	PRELEVEMENT FAUNE CCC3 Lophelia at AUTT21
19/09/2011 01:45:28	BOB-2	Lophelia at AUTT21 placed in ROV CC C3
19/09/2011 01:47:17	BOB-2	sample of Madrepora at AUTT21 placed in ROV CC C3
19/09/2011 01:54:28	BOB-2	Madrepora at AUTT21 placed in ROV CC C3
19/09/2011 01:56:58	BOB-2	fish and crinoids
19/09/2011 02:07:45	BOB-2	Jaime and Tom start shift
19/09/2011 02:22:35	BOB-2	PRELEVEMENT FAUNE CCC8 Lophelia AUTT_22

19/09/2011 02:26:10	BOB-2	sample Madrepora AUTT22 CCC8
19/09/2011 02:38:13	BOB-2	PRELEVEMENT FAUNE CCC7 Lophelia AUTT23
19/09/2011 02:40:21	BOB-2	sample Madrepora AUTT23 CCC7
19/09/2011 02:41:16	BOB-2	
19/09/2011 02:43:29	BOB-2	Still, squat lobsters
19/09/2011 02:44:08	BOB-2	Still
19/09/2011 02:45:34	BOB-2	Trachyscorpia
19/09/2011 02:45:51	BOB-2	Still
19/09/2011 02:46:27	BOB-2	Fishing gear
19/09/2011 02:49:48	BOB-2	PRELEVEMENT FAUNE CCC4 Lophelia AUTT24
19/09/2011 02:54:14	BOB-2	
19/09/2011 02:56:15	BOB-2	sample Madrepora AUTT24 CCC4
19/09/2011 03:00:55	BOB-2	Stilll, gorgonians
19/09/2011 03:05:02	BOB-2	PRELEVEMENT FAUNE CCC6 Acanalla
19/09/2011 03:10:04	BOB-2	sample gorgonian CCC6
19/09/2011 03:11:29	BOB-2	
19/09/2011 03:12:54	BOB-2	Lepidion
19/09/2011 03:35:38	BOB-2	Litter
19/09/2011 03:47:36	BOB-2	Litter
19/09/2011 03:57:30	BOB-2	sample Lophelia AUTT25 CCC5
19/09/2011 04:01:04	BOB-2	sample Madrepora AUTT25 CCC5
19/09/2011 04:03:34	BOB-2	Finished sampling, starting transect
19/09/2011 04:33:50	BOB-2	Staring transect, not enough time to go to point B so started further along line
19/09/2011 04:36:03	BOB-2	4mn, problem starting vertical camera recording

19/09/2011 04:40:51	BOB-2	4mn
19/09/2011 04:44:58	BOB-2	Science camera is recording, principale currently not
19/09/2011 04:45:49	BOB-2	4mn
19/09/2011 04:46:50	BOB-2	Sponge
19/09/2011 04:48:32	BOB-2	4mn
19/09/2011 04:48:56	BOB-2	Litter
19/09/2011 04:51:08	BOB-2	4mn
19/09/2011 04:55:56	BOB-2	Transect H-G
19/09/2011 04:56:42	BOB-2	4mn
19/09/2011 04:59:54	BOB-2	4mn
19/09/2011 05:00:37	BOB-2	Antipatharians
19/09/2011 05:00:40	BOB-2	Cat shark
19/09/2011 05:01:48	BOB-2	Sponge
19/09/2011 05:02:48	BOB-2	Geodia
19/09/2011 05:05:59	BOB-2	4mn
19/09/2011 05:08:37	BOB-2	Off transect, going to lift
19/09/2011 05:11:03	BOB-2	Litter
19/09/2011 05:21:24	BOB-2	PRELEVEMENT FAUNE PBT-1 Cidaris
19/09/2011 05:22:51	BOB-2	Fish
19/09/2011 05:24:59	BOB-2	sample Asteroid - sampling pot
19/09/2011 05:27:32	BOB-2	sample Narella (small bit)- sampling pot
19/09/2011 05:36:11	BOB-2	Sampling pot placed in lift
19/09/2011 05:48:52	BOB-2	Back on transect HG
19/09/2011 05:49:59	BOB-2	4mn

19/09/2011 05:51:43	BOB-2	Leiopathes
19/09/2011 05:54:43	BOB-2	Wait for lift released, ROV waiting off the transect line
19/09/2011 05:54:44	BOB-2	4mn
19/09/2011 05:57:35	BOB-2	4mn
19/09/2011 05:59:16	BOB-2	Fish
19/09/2011 06:01:28	BOB-2	4mn
19/09/2011 06:03:54	BOB-2	Jaime and Thomas off shift.
19/09/2011 06:04:00	BOB-2	Quart Joelle Galeron et Brigitte Guillaumont
19/09/2011 06:18:32	BOB-2	lift release
19/09/2011 06:24:08	BOB-2	coral reef hors profil
19/09/2011 06:30:07	BOB-2	reprise du transect CG coral reef
19/09/2011 06:33:58	BOB-2	coral reef lepidion
19/09/2011 06:34:40	BOB-2	narella calveriosoma coral reef
19/09/2011 06:36:23	BOB-2	coral reef medium density
19/09/2011 06:36:56	BOB-2	dense coral reef
19/09/2011 06:39:28	BOB-2	dense coral reef mostly dead
19/09/2011 06:41:01	BOB-2	dense coral reef alive colonies koelhermetra
19/09/2011 06:43:30	BOB-2	idem zoom
19/09/2011 06:46:54	BOB-2	antipathes
19/09/2011 06:47:31	BOB-2	coral reef acanella rov arrete
19/09/2011 06:48:43	BOB-2	changement de camera de camera bras 2 à camera babord
19/09/2011 06:52:53	BOB-2	coral reef lepidion
19/09/2011 06:53:28	BOB-2	coral reef, Cidaris
19/09/2011 06:53:29	BOB-2	reprise profil dense coral reef

19/09/2011 06:53:52	BOB-2	dense coral reef
19/09/2011 06:54:16	BOB-2	lepidion
19/09/2011 06:55:04	BOB-2	phycis
19/09/2011 06:55:36	BOB-2	dense coral reef colonies vivantes et de grande taille
19/09/2011 06:57:22	BOB-2	very dense, living and elevated coral reef
19/09/2011 06:58:29	BOB-2	litter
19/09/2011 06:59:17	BOB-2	litter
19/09/2011 06:59:30	BOB-2	dense coral reef sponges
19/09/2011 07:00:07	BOB-2	dense coral reef leiopathes
19/09/2011 07:00:47	BOB-2	leiopathes coral reef and sediment, ripple marks
19/09/2011 07:01:36	BOB-2	coral reef lepidion narella
19/09/2011 07:02:05	BOB-2	sediment ripple marks, rares colonies, debris
19/09/2011 07:03:16	BOB-2	sediment ripple marks, rares colonies, debris
19/09/2011 07:04:27	BOB-2	coral reef nombreux antipathaires
19/09/2011 07:05:08	BOB-2	coral reef oursins
19/09/2011 07:05:38	BOB-2	coral reef medium density
19/09/2011 07:07:28	BOB-2	alcyoniina fin transect point G
19/09/2011 07:14:25	BOB-2	retour transect pleine eau coral reef
19/09/2011 07:44:28	BOB-2	restart camera principale HD et science HD
19/09/2011 07:46:42	BOB-2	phycis
19/09/2011 07:50:15	BOB-2	medium dense coral reef
19/09/2011 07:54:01	BOB-2	serpule ? sur madrepora
19/09/2011 07:55:00	BOB-2	crevette
19/09/2011 07:55:56	BOB-2	calliostomes, Rov arrete attente ascenseur, essai prelevement

19/09/2011 07:57:13	BOB-2	corail mort ? + actinid ? essai de prelevement
19/09/2011 07:59:18	BOB-2	munida bathynectes
19/09/2011 08:03:47	BOB-2	sample bathynectes GBT
19/09/2011 08:08:00	BOB-2	bathynectes dans GBT
19/09/2011 08:09:44	BOB-2	STILL corallimorpharia
19/09/2011 08:11:53	BOB-2	sample corallimorpharia,actinid sp (peut être tombee) , sponge on lophelia 879m
19/09/2011 08:16:07	BOB-2	Prelevement depose dans GBT
19/09/2011 08:18:54	BOB-2	brisingid for sample
19/09/2011 08:23:59	BOB-2	sample brisingid with a lot of dead lophelia GBT
19/09/2011 08:29:24	BOB-2	gorgone double jaune souple
19/09/2011 08:57:52	BOB-2	PRELEVEMENT FAUNE ASPI-3 cerianthid
19/09/2011 09:18:26	BOB-2	calliostome
19/09/2011 09:20:44	BOB-2	coral reef route vers l'ascenseur
19/09/2011 10:00:22	BOB-2	QUART Yann, Anna and Valerie
19/09/2011 10:37:54	BOB-2	Trachyscorpia cristulata echinata
19/09/2011 10:47:14	BOB-2	
19/09/2011 10:49:12	BOB-2	Madrepora dans gamelle calmar
19/09/2011 10:52:23	BOB-2	Prévèlement deuxième Madrepora
19/09/2011 10:55:28	BOB-2	
19/09/2011 10:59:37	BOB-2	Troisième Madrepora
19/09/2011 11:01:02	BOB-2	
19/09/2011 11:14:33	BOB-2	Mise en palce du tendeur.
19/09/2011 11:15:16	BOB-2	Purge de Calmar.

19/09/2011 11:23:40	BOB-2	PRELEVEMENT PEP-9 début remplissage
19/09/2011 11:26:26	BOB-2	retour vers ascenseur
19/09/2011 11:34:57	BOB-2	zone impactée
19/09/2011 11:37:39	BOB-2	depot Calmar sur le fond a proximite de l'ascenseur
19/09/2011 11:48:30	BOB-2	recording VERTICAL camera again
19/09/2011 11:59:02	BOB-2	Putting PBT3 on bottom at point AUTT26
19/09/2011 12:00:27	BOB-2	PRELEVEMENT FAUNE PBT-3 : taking Lophelia and sediment sample for PBT3. AUTT_26
19/09/2011 12:07:39	BOB-2	Fin prelevement PBT3.
19/09/2011 12:14:31	BOB-2	Dead Bamboo coral
19/09/2011 12:20:31	BOB-2	PRELEVEMENT FAUNE PBT-5 Madrepora +subrat. Crinoide
19/09/2011 12:26:02	BOB-2	Depot sediments dans PBT5
19/09/2011 12:26:46	BOB-2	Fin prelevement PBT5
19/09/2011 12:31:31	BOB-2	PRELEVEMENT PEP-10
19/09/2011 12:33:19	BOB-2	PRELEVEMENT PEP-11
19/09/2011 12:42:23	BOB-2	PRELEVEMENT PEP-12
19/09/2011 12:43:58	BOB-2	PRELEVEMENT PEP-13
19/09/2011 12:46:00	BOB-2	QUART Yann and Inge
19/09/2011 12:47:15	BOB-2	Chaceon
19/09/2011 12:51:22	BOB-2	PBT5 dans Panier 1 Ascenseur.
19/09/2011 12:55:41	BOB-2	PBT3 dans Panier 1 Ascenseur
19/09/2011 13:04:00	BOB-2	coral case AA and BB out of ascenseur
19/09/2011 13:05:49	BOB-2	Chaceon, fishing net and forkbeard
19/09/2011 13:14:18	BOB-2	Aphrocallistes with zooanthidae

19/09/2011 13:15:18	BOB-2	calmar and two coral cases on bottom
19/09/2011 13:20:28	BOB-2	Coral case C dans panier 2 from ascenseur
19/09/2011 13:24:09	BOB-2	Coral debris with corallimorphia and Stichopathes
19/09/2011 13:25:55	BOB-2	CCAA dans ROV
19/09/2011 13:27:00	BOB-2	Patchy live coral colonies with Narella, antipatharians, crinoids, Aphrocallistes and zooanthidae, echinoids, cerianthus, sponges, encrusting sponges and Bathynectes
19/09/2011 13:33:03	BOB-2	Début AUTT_27
19/09/2011 13:35:51	BOB-2	PRELEVEMENT FAUNE CCAA-1 Lophelia
19/09/2011 13:39:29	BOB-2	sample Lophelia in coral case
19/09/2011 13:41:43	BOB-2	prelevement Madrepora CCAA1
19/09/2011 13:41:54	BOB-2	sample Madrepora in coral case
19/09/2011 13:43:19	BOB-2	Antipatharian
19/09/2011 13:53:44	BOB-2	PRELEVEMENT FAUNE CCAA-2 Lophelia, Madrepora AUTT_28
19/09/2011 13:54:00	BOB-2	QUART Clara and Inge
19/09/2011 14:07:43	BOB-2	PRELEVEMENT FAUNE CCAA-3 Madrepora AUTT29
19/09/2011 14:11:45	BOB-2	sample Lophelia AUTT29 CCAA3
19/09/2011 14:15:27	BOB-2	PRELEVEMENT FAUNE CCAA-5 Madrepora AUTT30
19/09/2011 14:17:15	BOB-2	sample Lophelia AUTT30 CCAA5
19/09/2011 14:21:18	BOB-2	sample coral AUTT30 CCAA5
19/09/2011 14:23:24	BOB-2	Plastic bag
19/09/2011 14:25:14	BOB-2	sample Madrepora AUTT31
19/09/2011 14:25:27	BOB-2	PRELEVEMENT FAUNE CCAA-8 Madrepora AUTT31
19/09/2011 14:27:58	BOB-2	sample Lophelia AUTT31 CCAA8
19/09/2011 14:35:51	BOB-2	PRELEVEMENT FAUNE CCAA-7 Madrepora AUTT32

19/09/2011 14:40:43	BOB-2	sample Lophelia AUTT32 CCAA7
19/09/2011 14:42:44	BOB-2	Still image of coral
19/09/2011 14:48:07	BOB-2	sample coral AUTT32 CCAA7
19/09/2011 14:51:11	BOB-2	dense reef with Cidaris, Leiopathes, Calveriosoma, Cerianthidae
19/09/2011 14:54:51	BOB-2	PRELEVEMENT FAUNE CCAA-4 Madrepora AUTT33
19/09/2011 15:01:17	BOB-2	sample Lophelia AUTT33 CCAA4
19/09/2011 15:12:54	BOB-2	PRELEVEMENT FAUNE CCAA-6 Lophelia AUTT34
19/09/2011 15:18:36	BOB-2	sample Madrepora AUTT34 CCAA6
19/09/2011 15:23:57	BOB-2	arrival elevator
19/09/2011 15:28:59	BOB-2	storing CCAA in elevator
19/09/2011 15:36:30	BOB-2	storing CCBB in VICTOR
19/09/2011 15:42:47	BOB-2	storing CALMAR in VICTOR
19/09/2011 15:46:50	BOB-2	release of elevator and moving to next sampling point
19/09/2011 15:56:35	BOB-2	plastic bag
19/09/2011 16:01:30	BOB-2	dense living coral with a lot of crinoids
19/09/2011 16:02:11	BOB-2	PRELEVEMENT FAUNE CCBB-6 Lophelia + Madrepora + crinoid AUTT35
19/09/2011 16:10:32	BOB-2	PRELEVEMENT FAUNE CCBB-7 Lophelia + Madrepora AUTT36
19/09/2011 16:12:23	BOB-2	plastic bag
19/09/2011 16:17:57	BOB-2	PRELEVEMENT FAUNE CCBB-8 Lophelia + Madrepora AUTT37
19/09/2011 16:19:08	BOB-2	fishing net
19/09/2011 16:19:27	BOB-2	fishing net
19/09/2011 16:25:10	BOB-2	sample Lophelia + Madrepora AUTT37 CCBB8
19/09/2011 16:26:13	BOB-2	PRELEVEMENT FAUNE CCBB-5 Lophelia + Madrepora AUTT38
19/09/2011 16:31:46	BOB-2	finish genetic sampling, change of shift: clara and brigitte

19/09/2011 16:34:00	BOB-2	route vers un point à 220m avant B en direction de A (rejoint le point où le ROV s'était arrêté)
19/09/2011 16:38:26	BOB-2	zone majoritairement sédimentaire, qq coraux et ripple marks
19/09/2011 16:39:33	BOB-2	Lépidion sur récif corail
19/09/2011 16:41:01	BOB-2	lépidion
19/09/2011 16:41:39	BOB-2	recif de coraux densité moyenne
19/09/2011 16:42:36	BOB-2	déchets
19/09/2011 16:43:26	BOB-2	déchet, colonies isolées, ripple marks
19/09/2011 16:43:51	BOB-2	déchet
19/09/2011 16:44:56	BOB-2	lépidion+déchet
19/09/2011 16:45:09	BOB-2	lépidion
19/09/2011 16:46:10	BOB-2	corail bambou
19/09/2011 16:47:37	BOB-2	lophius+lépidion
19/09/2011 16:48:11	BOB-2	phycis
19/09/2011 16:50:00	BOB-2	densité moyenne de corail
19/09/2011 16:52:07	BOB-2	oursin calveriosoma
19/09/2011 16:53:10	BOB-2	poubelle
19/09/2011 16:54:35	BOB-2	recif corail forte densité
19/09/2011 16:58:16	BOB-2	bcp corail mort
19/09/2011 16:59:50	BOB-2	déchet
19/09/2011 17:02:31	BOB-2	structure sédimentaire?
19/09/2011 17:04:46	BOB-2	narella bellissima
19/09/2011 17:05:27	BOB-2	leiopteres
19/09/2011 17:08:50	BOB-2	requin?

19/09/2011 17:12:00	BOB-2	arrivee au point remarquable, retour en pleine eau pour rejoindre c
19/09/2011 17:15:01	BOB-2	actinides ? blanche grde taille sur antipathaire
19/09/2011 17:24:50	BOB-2	dechets, recif de coraux
19/09/2011 17:36:06	BOB-2	crabe, recif de coraux
19/09/2011 17:37:38	BOB-2	mora moro a confirmer?
19/09/2011 17:54:42	BOB-2	lepidion+galeus, forkbeard, calveriosoma
19/09/2011 17:55:05	BOB-2	galeus, slope with sandripples
19/09/2011 17:56:07	BOB-2	lepidion
19/09/2011 17:57:08	BOB-2	corail sur bute
19/09/2011 17:58:21	BOB-2	creux
19/09/2011 17:58:55	BOB-2	corail sur bute, sandripples on other site
19/09/2011 17:59:41	BOB-2	poisson inconnu
19/09/2011 18:01:12	BOB-2	steep slope
19/09/2011 18:02:00	BOB-2	QUART Joelle and Inge
19/09/2011 18:02:18	BOB-2	reef denser with patches of coral debris and sand between
19/09/2011 18:04:03	BOB-2	Acanella
19/09/2011 18:06:08	BOB-2	dechet plastique
19/09/2011 18:06:56	BOB-2	recif relativement dense
19/09/2011 18:07:24	BOB-2	Lophelia et poisson
19/09/2011 18:08:18	BOB-2	Nephtiidae
19/09/2011 18:08:29	BOB-2	lepidion
19/09/2011 18:09:07	BOB-2	recif plus clairseme, rares colonies
19/09/2011 18:10:47	BOB-2	sur le bord d'une rupture de pente
19/09/2011 18:11:30	BOB-2	dechet plastique

19/09/2011 18:12:16	BOB-2	dechet plastique, bottle
19/09/2011 18:13:28	BOB-2	arrivee sur depression circulaire
19/09/2011 18:14:01	BOB-2	trace de ???
19/09/2011 18:14:41	BOB-2	belle grosse eponge
19/09/2011 18:15:02	BOB-2	dechet plastique
19/09/2011 18:15:35	BOB-2	dechet plastique
19/09/2011 18:16:12	BOB-2	Mora, boulder, Narella
19/09/2011 18:17:12	BOB-2	Mora
19/09/2011 18:17:49	BOB-2	tres peu de colonies
19/09/2011 18:19:10	BOB-2	requin ?
19/09/2011 18:19:58	BOB-2	fond sedimentaire
19/09/2011 18:20:49	BOB-2	quelques colonies a nouveau
19/09/2011 18:21:14	BOB-2	densification des colonies, Anthomastus
19/09/2011 18:21:19	BOB-2	dechet plastique
19/09/2011 18:22:36	BOB-2	ripplemarks sur sediment
19/09/2011 18:23:00	BOB-2	Mora, gravel and coral/shell debris, one coral colony on cobble
19/09/2011 18:25:36	BOB-2	zone sedimentaire, Narella Orange roughy
19/09/2011 18:27:02	BOB-2	empereur
19/09/2011 18:27:49	BOB-2	2 mora ?
19/09/2011 18:29:17	BOB-2	zone sedimentaire
19/09/2011 18:29:55	BOB-2	crabe
19/09/2011 18:30:27	BOB-2	oursin
19/09/2011 18:30:33	BOB-2	empereur
19/09/2011 18:31:57	BOB-2	empereurs

19/09/2011 18:33:12	BOB-2	zone sedimentaire
19/09/2011 18:34:32	BOB-2	affleurement de roche
19/09/2011 18:34:54	BOB-2	empereur
19/09/2011 18:35:29	BOB-2	un phycis, deux empereurs
19/09/2011 18:35:31	BOB-2	deux empereurs, un autre poisson, un oursin
19/09/2011 18:35:49	BOB-2	penne tres marquee, empereur, oursin
19/09/2011 18:36:13	BOB-2	juste avant falaise
19/09/2011 18:36:42	BOB-2	macrouride
19/09/2011 18:36:58	BOB-2	les empereurs se succedent
19/09/2011 18:37:30	BOB-2	debut du segment DE du profil
19/09/2011 18:38:29	BOB-2	bord de falaise colonisee
19/09/2011 18:39:57	BOB-2	structure morphologique avec colonies de coraux eparses
19/09/2011 18:40:03	BOB-2	fond de la depression, quelques colonies et narella
19/09/2011 18:40:43	BOB-2	fond de la depression, quelques colonies et narella
19/09/2011 18:40:52	BOB-2	fond de la depression, quelques colonies et narella
19/09/2011 18:41:01	BOB-2	qq colonies
19/09/2011 18:41:22	BOB-2	empereur
19/09/2011 18:41:29	BOB-2	quelques colonies et narella
19/09/2011 18:41:50	BOB-2	quelques colonies et narella plus coraux morts
19/09/2011 18:42:07	BOB-2	empereur
19/09/2011 18:42:13	BOB-2	deux empereurs
19/09/2011 18:42:24	BOB-2	fond indure avec faible couverture sedimentaire
19/09/2011 18:42:57	BOB-2	fond indure avec faible couverture sedimentaire
19/09/2011 18:43:23	BOB-2	dechet plastique et empereur

19/09/2011 18:44:28	BOB-2	fond irregulier avec qq colonies
19/09/2011 18:46:15	BOB-2	eponge ??
19/09/2011 18:47:00	BOB-2	fond indure avec faible couverture sedimentaire
19/09/2011 18:48:46	BOB-2	fond indure avec faible couverture sedimentaire, rares colonies
19/09/2011 18:49:07	BOB-2	tombant sur la gauche
19/09/2011 18:50:04	BOB-2	longue faille dans la roche
19/09/2011 18:50:43	BOB-2	roche affleurante
19/09/2011 18:52:47	BOB-2	fond indure avec faible couverture sedimentaire, quelques colonies
19/09/2011 18:53:38	BOB-2	succession de roches affleurantes
19/09/2011 18:54:56	BOB-2	a nouveau sediment
19/09/2011 18:57:36	BOB-2	ripplemarks
19/09/2011 18:58:53	BOB-2	affleurement rocheux visibles sous ripplemarks
19/09/2011 19:00:41	BOB-2	bord cicatrice effondrement
19/09/2011 19:01:56	BOB-2	trace de ??
19/09/2011 19:03:18	BOB-2	debut recif clairseme
19/09/2011 19:04:11	BOB-2	recif sur crete, surtout coraux morts
19/09/2011 19:05:07	BOB-2	recif clairseme
19/09/2011 19:06:13	BOB-2	zone de relief accidente, poisson
19/09/2011 19:06:20	BOB-2	quelques colonies, une eponge, un poisson
19/09/2011 19:07:38	BOB-2	empereur
19/09/2011 19:07:42	BOB-2	falaise petite
19/09/2011 19:08:13	BOB-2	dechet plastique
19/09/2011 19:09:26	BOB-2	bloc sediment indure
19/09/2011 19:10:09	BOB-2	caisse ???

19/09/2011 19:11:46	BOB-2	dechet plastique
19/09/2011 19:12:12	BOB-2	poulpe
19/09/2011 19:12:34	BOB-2	macrouride
19/09/2011 19:13:01	BOB-2	relief tres perturbe
19/09/2011 19:13:58	BOB-2	debut de recif
19/09/2011 19:15:06	BOB-2	beaucoup de debris, quelques colonies vivantes
19/09/2011 19:15:13	BOB-2	debut de densification du recif
19/09/2011 19:15:22	BOB-2	encore beaucoup de coraux morts, en place
19/09/2011 19:15:32	BOB-2	tres pentu, les colonies vivantes sont plus nombreuses
19/09/2011 19:16:06	BOB-2	traces d'effondrements
19/09/2011 19:16:32	BOB-2	colonies vivantes plus denses, trachyscorpia
19/09/2011 19:16:52	BOB-2	colonies vivantes et oursin
19/09/2011 19:16:57	BOB-2	recif plus dense et plus vivant et trachyscorpia
19/09/2011 19:17:43	BOB-2	squale de belle taille
19/09/2011 19:18:14	BOB-2	recif
19/09/2011 19:19:20	BOB-2	Bathypathes et Chirostylus
19/09/2011 19:19:45	BOB-2	recif moyennement dense sur pente
19/09/2011 19:20:40	BOB-2	colonies et antipathaires
19/09/2011 19:21:10	BOB-2	relief tres accidente, pentu
19/09/2011 19:22:40	BOB-2	aphrocalistes ?
19/09/2011 19:23:10	BOB-2	lotte
19/09/2011 19:24:28	BOB-2	jolie vue d'ensemble du recif
19/09/2011 19:24:56	BOB-2	jolie photo d'une pente colonisee
19/09/2011 19:26:47	BOB-2	beaucoup de coraux morts, quelques colonies vivantes

19/09/2011 19:26:59	BOB-2	belle pente avec recif, colonies vivantes plus nombreuses
19/09/2011 19:27:33	BOB-2	actinie ? violette
19/09/2011 19:28:51	BOB-2	belle vue d'une pente colonisee, succession de cretes et de creux
19/09/2011 19:28:58	BOB-2	pente colonisee
19/09/2011 19:31:22	BOB-2	recif mort, vivant, antipathaires, cerianthe, cidaris
19/09/2011 19:32:11	BOB-2	antipathaire avec 2 branches en V (wanted ! Brigitte)
19/09/2011 19:32:41	BOB-2	synaphobranchus
19/09/2011 19:38:37	BOB-2	meme antipathaire avec 2 branches en V (wanted ! Brigitte) sur verticale
19/09/2011 19:39:40	BOB-2	verticale recif, comatules, oursin
19/09/2011 19:40:42	BOB-2	nombreuse comatules
19/09/2011 19:41:32	BOB-2	eau apparemment tres turbide, peu de visibilite
19/09/2011 19:43:36	BOB-2	vue d'ensemble d'un recif tres dense
19/09/2011 19:43:42	BOB-2	trachyscorpia
19/09/2011 19:45:02	BOB-2	vue d'ensemble d'un recif tres dense
19/09/2011 19:45:38	BOB-2	zoanthaires, crevette, comatule, actinie
19/09/2011 19:47:11	BOB-2	STILL recif corallien
19/09/2011 19:48:13	BOB-2	STILL recif corallien
19/09/2011 19:48:16	BOB-2	verticale superbe
19/09/2011 19:50:24	BOB-2	STILL recif corallien
19/09/2011 19:53:34	BOB-2	recif corallien
19/09/2011 19:54:13	BOB-2	aphrocallistesavec zoanthaires ?

8. Dive report 470 - 8

Submersible : Victor 6000

Starting Dive : 20/09/2011 19:09

Arrival on the bottom: 20/09/2011 21:13

Deprture from the bottom: 21/09/2011 19:32

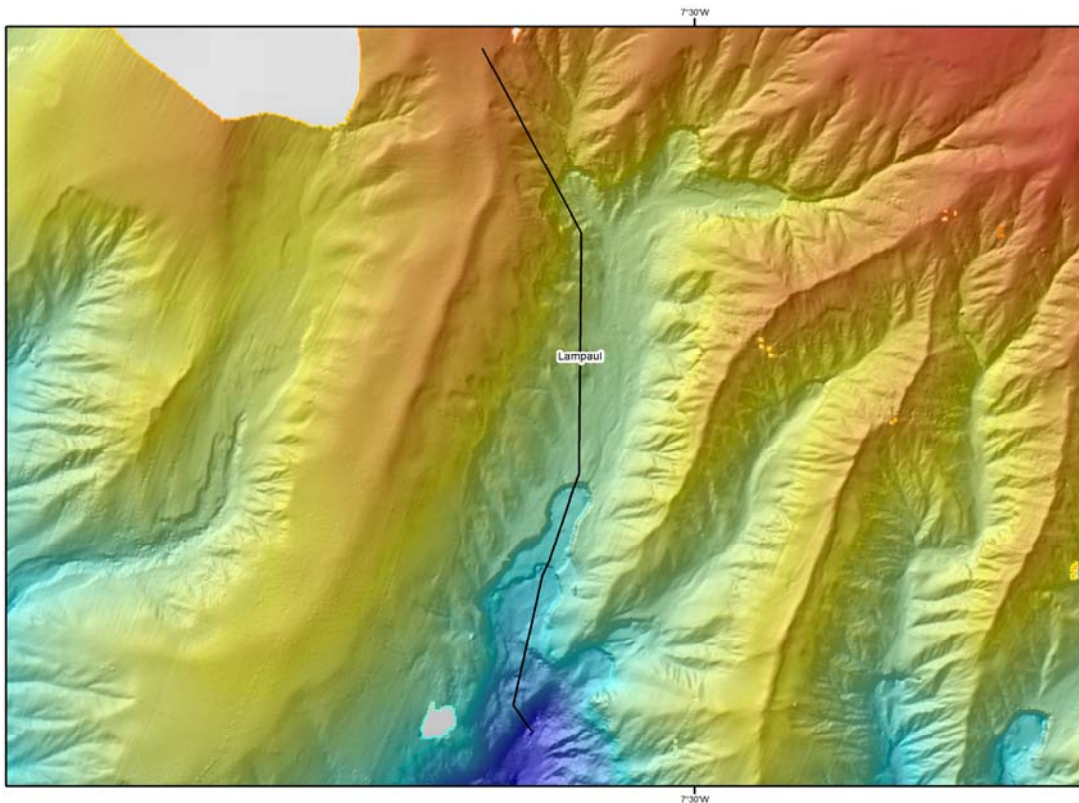
Ending dive : 21/09/2011 20:57

Location : BOB-1

Dives objectives :

BobEco - Dive 470-08 Sampling dive

Canyon de Lampaul



Point d'immersion et début de transect ABCDE: 47°31.685 7°32.356 Sonde 2650m

TU: 20/09 21:00 à 21/09 23:00

Important things not to forget:

- *at each cliff (there should be 3) collect stone samples from the bottom and the highest point for geology
- *Look at the list of WANTED specimens prepared by the taxonomist especially for this dive not to miss any precious specimen
- * Time to run the transect should be about 12 hours, so a large time is left to fill the coral rack and GBT with geology and biology sampling. Yet try to estimate the site where you are in order not to delay the transect.

Total Duration : 26h deck to deck

Time on the 'bottom' : 23h

Objectives :

- Exploration of Lampaul canyon and cliffs to describe geomorphological profiles and recognize or describe associated species

Summary :

Visited locations : BOB-1,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
STEVENSON Angela	UNIV DUBLIN IRELAND
MARIN Coralynne	IFREMER BREST
GALERON Joelle	IFREMER BREST
KHRIPOUNOFF Alexis	IFREMER BREST
ESSIS Karou	UBO BREST
BOURILLET Jean-François	IFREMER BREST
VAN DEN BELDE Inge	IFREMER BREST
GUILLAUMONT Brigitte	IFREMER BREST
LAXENAIRE Remi	INTECHMER
DAVIE Jaime	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
BELLON Clara	IFREMER BREST
HENRIQUEZ Andreia Braga	IMAR
BOUBERT Jean-Jacques	UNIV LA ROCHELLE

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
20/09/2011 23:30:11	BOB-1	470 - 8	Slurp gun bottle	ASPI	1	N 47 31.765	W 007 32.511	2399	PRELEVEMENT FAUNE ASPI-1 d'une crinoid rose et deux crinoids jaunes

20/09/2011 23:36:13	BOB-1	470 - 8	Slurp gun bottle	ASPI	2	N 47 31.766	W 007 32.512	2399	PRELEVEMENT FAUNE ASPI-2 de quelque chose ressemblant a une toile d araignee, bacterial mat?
21/09/2011 00:42:19	BOB-1	470 - 8	Slurp gun bottle	ASPI	3	N 47 31.801	W 007 32.543	2273	PRELEVEMENT FAUNE ASPI-3 yellow stalked crinoids (different species than before)+ 1 red stalked crinoid + Anthomastus + Actinid
21/09/2011 10:19:34	BOB-1	470 - 8	Coral box B		1			1697	PRELEVEMENT FAUNE CCB1 Ascesta
21/09/2011 09:42:35	BOB-1	470 - 8	Coral box B		2			1720	PRELEVEMENT FAUNE CCB2 Gorgone
21/09/2011 08:02:43	BOB-1	470 - 8	Coral box B		3	N 47 34.043	W 007 31.746	1757	PRELEVEMENT FAUNE CCB3 comatule
21/09/2011 11:26:49	BOB-1	470 - 8	Coral box B		4	N 47 34.043	W 007 31.690	1560	PRELEVEMENT CCB4 sediment
21/09/2011 06:50:43	BOB-1	470 - 8	Coral box B		5	N 47 33.803	W 007 31.854	1768	PRELEVEMENT FAUNE CCB5 stylasteridae
21/09/2011 12:00:54	BOB-1	470 - 8	Coral box B		6	N 47 34.086	W 007 31.689	1546	PRELEVEMENT FAUNE CCB6 Antipatharian
21/09/2011 12:20:57	BOB-1	470 - 8	Coral box B		7	N 47 34.087	W 007 31.694	1546	PRELEVEMENT FAUNE CCB7 Lepidisis foot

21/09/2011 09:34:04	BOB-1	470 - 8	Coral box B		8	N 47 34.042	W 007 31.733	1717	PRELEVEMENT FAUNE CCB8 octocoralliaire en massue
21/09/2011 08:47:36	BOB-1	470 - 8	ROV big box	GBT	1	N 47 34.046	W 007 31.733	1726	PRELEVEMENT FAUNE GBT-1 Gorgone branchue rose orangée ???? (n°2)
21/09/2011 01:16:01	BOB-1	470 - 8	Basket	PANIER	1	N 47 31.820	W 007 32.568	2217	PRELEVEMENT FAUNE PANIER-1 Lepidisis sp. in space behind CC

No Water sample during this dive ([Up](#))

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
20/09/2011 19:14:00	BOB-1	mise a l'eau ROV Quart laxenaire-guillaumont
20/09/2011 21:32:32	BOB-1	Fond sedimentaire, poisson, debut enregistrement principale HD et science HD
20/09/2011 21:34:57	BOB-1	multiples dechets, rides asymétriques
20/09/2011 21:36:50	BOB-1	blocs rocheux
20/09/2011 21:38:21	BOB-1	Blocs rocheux
20/09/2011 21:38:45	BOB-1	Blocs rocheux, dechets

20/09/2011 21:45:53	BOB-1	holothuride
20/09/2011 21:46:29	BOB-1	relief recouvert par rides assymetriques
20/09/2011 21:48:44	BOB-1	poisson sombre et long notachantus?
20/09/2011 21:48:55	BOB-1	dechet
20/09/2011 21:51:35	BOB-1	base de la falaise, arret technique
20/09/2011 21:53:36	BOB-1	différence petrologie base falaise
20/09/2011 22:00:00	BOB-1	QUART Inge and Coralyne
20/09/2011 22:00:15	BOB-1	holothuride
20/09/2011 22:10:40	BOB-1	Base de falaise
20/09/2011 22:14:43	BOB-1	échec prélèvement de roche
20/09/2011 22:15:47	BOB-1	petits animaux sur roche serpulidae?
20/09/2011 22:19:47	BOB-1	Bacterial mat?
20/09/2011 22:24:08	BOB-1	échec prélèvement de roche
20/09/2011 22:26:03	BOB-1	base compacte de la falaise
20/09/2011 22:27:41	BOB-1	crabe et éponge + structure intéressante
20/09/2011 22:30:28	BOB-1	échec prelevement de roche
20/09/2011 22:34:22	BOB-1	Still, petites bêtes: holothurians?
20/09/2011 22:36:10	BOB-1	après 30 minutes d'échec prélèvement de roche infructueux, on ralie le profil à suivre.
20/09/2011 22:39:18	BOB-1	six arms asteroid
20/09/2011 22:40:10	BOB-1	coloration roche
20/09/2011 22:42:48	BOB-1	white sponges?
20/09/2011 22:44:04	BOB-1	white rock??
20/09/2011 22:45:03	BOB-1	différence coloration

20/09/2011 22:49:33	BOB-1	macrouridae
20/09/2011 22:50:23	BOB-1	Debris, actinian, macrouridae
20/09/2011 22:52:19	BOB-1	anthomastus, pentametrocrinus, stalked crinoids (Conocrinus cabiochi)
20/09/2011 22:52:54	BOB-1	crinoid
20/09/2011 22:55:29	BOB-1	overhang
20/09/2011 22:57:51	BOB-1	tiny fish
20/09/2011 22:59:07	BOB-1	block de roches cubiques
20/09/2011 23:00:37	BOB-1	geometrie roches
20/09/2011 23:02:17	BOB-1	petit animal à identifie, perhaps echinoid
20/09/2011 23:02:56	BOB-1	roches blanches
20/09/2011 23:04:58	BOB-1	paroi verticales, gros blocs
20/09/2011 23:05:46	BOB-1	paroi verticale
20/09/2011 23:08:21	BOB-1	crinoides
20/09/2011 23:09:29	BOB-1	Still, coral?
20/09/2011 23:10:06	BOB-1	Still, coral?
20/09/2011 23:11:00	BOB-1	Solitary coral
20/09/2011 23:12:12	BOB-1	paroi vericale
20/09/2011 23:13:09	BOB-1	encrusting sponge and unknown species
20/09/2011 23:16:10	BOB-1	Anthomastus
20/09/2011 23:18:31	BOB-1	crinoids, essai aspirateur.
20/09/2011 23:23:12	BOB-1	aspirateur
20/09/2011 23:30:11	BOB-1	PRELEVEMENT FAUNE ASPI-1 d'une crinoid rose et deux crinoids jaunes
20/09/2011 23:36:13	BOB-1	PRELEVEMENT FAUNE ASPI-2 de quelque chose ressemblant a une toile d araignee, bacterial mat?

20/09/2011 23:40:34	BOB-1	reprise de l'ascension
20/09/2011 23:46:03	BOB-1	anthomastus
20/09/2011 23:46:35	BOB-1	cheveux bacteriens???
20/09/2011 23:51:23	BOB-1	Little overhang
20/09/2011 23:53:02	BOB-1	Actinians
20/09/2011 23:54:29	BOB-1	Bacterial mat?
20/09/2011 23:54:51	BOB-1	Overhang with animals
20/09/2011 23:54:59	BOB-1	Sponge and dead crinoids?
20/09/2011 23:55:53	BOB-1	Antipatharian (Bathypathes)
20/09/2011 23:57:02	BOB-1	Sea spider
20/09/2011 23:59:37	BOB-1	antipathaire
21/09/2011 00:02:05	BOB-1	change of shift: JF and Anna, ridge over the outcrops
21/09/2011 00:10:24	BOB-1	steep cliff colonized by stalked crinoids, thin sediment veneer
21/09/2011 00:14:51	BOB-1	profile view of cliff
21/09/2011 00:19:25	BOB-1	sample rock: failed
21/09/2011 00:21:07	BOB-1	outcrops showing surface redox
21/09/2011 00:27:32	BOB-1	Anthomastus (vertical camera)
21/09/2011 00:30:26	BOB-1	measuring dipping and azimuth of cliff: N10°, N100°
21/09/2011 00:34:16	BOB-1	diacalse
21/09/2011 00:34:45	BOB-1	stalked crinoids on cliff
21/09/2011 00:36:34	BOB-1	Still image of yellow crinoid
21/09/2011 00:42:19	BOB-1	PRELEVEMENT FAUNE ASPI-3 yellow stalked crinoids (different species than before)+ 1 red stalked crinoid + Anthomastus + Actinid
21/09/2011 00:56:03	BOB-1	Still, Crinoids on rock surface

21/09/2011 00:57:00	BOB-1	still image of yellow stalked crinoid
21/09/2011 01:00:35	BOB-1	base of bamboo coral?
21/09/2011 01:12:10	BOB-1	Still, Lepidisis
21/09/2011 01:13:17	BOB-1	still image of Lepidisis sp.
21/09/2011 01:16:01	BOB-1	PRELEVEMENT FAUNE PANIER-1 Lepidisis sp. in space behind CC
21/09/2011 01:30:06	BOB-1	end of cliff
21/09/2011 01:33:19	BOB-1	rocks now more rounded due to erosional processes
21/09/2011 01:34:10	BOB-1	rippled silt
21/09/2011 01:37:08	BOB-1	strange fish
21/09/2011 01:42:06	BOB-1	eel-like fish
21/09/2011 01:49:03	BOB-1	Mega-ripples
21/09/2011 01:50:09	BOB-1	fish
21/09/2011 01:53:29	BOB-1	change of shift: Jamie + Thomas
21/09/2011 02:01:08	BOB-1	4mn
21/09/2011 02:10:06	BOB-1	Rocks!
21/09/2011 02:11:12	BOB-1	Rock outcrop
21/09/2011 02:13:13	BOB-1	Still
21/09/2011 02:15:51	BOB-1	4mn
21/09/2011 02:17:07	BOB-1	Barnacles
21/09/2011 02:18:23	BOB-1	Still, barnacles
21/09/2011 02:18:58	BOB-1	4mn
21/09/2011 02:23:01	BOB-1	4mn
21/09/2011 02:25:18	BOB-1	Rock outcrop
21/09/2011 02:26:33	BOB-1	Still

21/09/2011 02:30:35	BOB-1	Minor fault
21/09/2011 02:31:28	BOB-1	4mn
21/09/2011 02:31:44	BOB-1	Fish (eel)
21/09/2011 02:33:43	BOB-1	Still
21/09/2011 02:36:05	BOB-1	Fish
21/09/2011 02:36:51	BOB-1	Echinoid/cerianthid
21/09/2011 02:37:18	BOB-1	4mn
21/09/2011 02:38:37	BOB-1	Fish
21/09/2011 02:41:36	BOB-1	4mn
21/09/2011 02:43:44	BOB-1	Organism?
21/09/2011 02:44:56	BOB-1	Asteroid
21/09/2011 02:45:19	BOB-1	Asteroid
21/09/2011 02:47:50	BOB-1	4mn
21/09/2011 02:48:43	BOB-1	Fish
21/09/2011 02:51:25	BOB-1	Fish
21/09/2011 02:51:35	BOB-1	4mn
21/09/2011 02:53:05	BOB-1	Barnacles feeding
21/09/2011 02:54:39	BOB-1	Change of habitat, ripples
21/09/2011 02:55:01	BOB-1	Fishes
21/09/2011 02:55:16	BOB-1	2 fish
21/09/2011 02:55:40	BOB-1	Change of habitat, rock outcrop
21/09/2011 02:56:17	BOB-1	Still, Hydrolagus
21/09/2011 02:56:23	BOB-1	Hydrolagus bumps into rock!
21/09/2011 02:58:13	BOB-1	4mn

21/09/2011 02:59:13	BOB-1	Umbelula or stalked crinoid
21/09/2011 02:59:54	BOB-1	Cliff
21/09/2011 03:02:25	BOB-1	Stalked crinoid?
21/09/2011 03:02:54	BOB-1	Lepidisis
21/09/2011 03:03:58	BOB-1	Change in habitat, sand
21/09/2011 03:04:37	BOB-1	Pennatulid?
21/09/2011 03:05:11	BOB-1	Lepidisis
21/09/2011 03:05:52	BOB-1	Still, sponge
21/09/2011 03:06:21	BOB-1	Still, more sponges
21/09/2011 03:08:17	BOB-1	Sponge
21/09/2011 03:09:02	BOB-1	Gorgonian
21/09/2011 03:09:19	BOB-1	Still
21/09/2011 03:10:59	BOB-1	Gorgonian
21/09/2011 03:11:14	BOB-1	Still, gorgonian
21/09/2011 03:11:41	BOB-1	Acanella
21/09/2011 03:12:43	BOB-1	Gorgonian
21/09/2011 03:12:57	BOB-1	4mn
21/09/2011 03:13:41	BOB-1	Acanella
21/09/2011 03:13:53	BOB-1	Small terraces
21/09/2011 03:14:06	BOB-1	Lepidisis
21/09/2011 03:14:48	BOB-1	Coral
21/09/2011 03:15:07	BOB-1	Terraces
21/09/2011 03:15:46	BOB-1	Lepidisis
21/09/2011 03:16:41	BOB-1	Stichopathes

21/09/2011 03:16:55	BOB-1	Lepidisis
21/09/2011 03:17:40	BOB-1	Fish
21/09/2011 03:17:57	BOB-1	Coral
21/09/2011 03:18:32	BOB-1	Tripod fish
21/09/2011 03:18:53	BOB-1	Still
21/09/2011 03:20:05	BOB-1	Gorgonian
21/09/2011 03:23:12	BOB-1	Habitat change
21/09/2011 03:24:20	BOB-1	Acanella
21/09/2011 03:24:23	BOB-1	Shark
21/09/2011 03:27:31	BOB-1	Lepidisis
21/09/2011 03:27:53	BOB-1	Still, Lepidisis
21/09/2011 03:28:07	BOB-1	Coral
21/09/2011 03:32:07	BOB-1	Bathysaurus
21/09/2011 03:32:51	BOB-1	Pennatulid
21/09/2011 03:36:01	BOB-1	Fish
21/09/2011 03:37:05	BOB-1	4mn
21/09/2011 03:41:26	BOB-1	4mn
21/09/2011 03:41:36	BOB-1	Fish
21/09/2011 03:42:24	BOB-1	Gorgonian
21/09/2011 03:43:22	BOB-1	Gorgonian
21/09/2011 03:44:32	BOB-1	Fish
21/09/2011 03:47:55	BOB-1	Acanella
21/09/2011 03:48:50	BOB-1	Lepidisis
21/09/2011 03:50:20	BOB-1	Biogenic debris

21/09/2011 03:51:06	BOB-1	Anthomastus?
21/09/2011 03:51:43	BOB-1	Fish
21/09/2011 03:54:05	BOB-1	Gorgonian
21/09/2011 03:58:35	BOB-1	Lepidisis and fish
21/09/2011 03:58:41	BOB-1	Anthomastus
21/09/2011 03:59:15	BOB-1	Lepidisis
21/09/2011 03:59:50	BOB-1	Brisingid
21/09/2011 04:02:43	BOB-1	Coral rubble
21/09/2011 04:06:38	BOB-1	Scleractinian
21/09/2011 04:08:23	BOB-1	4mn
21/09/2011 04:11:34	BOB-1	3 Fish
21/09/2011 04:12:11	BOB-1	4mn
21/09/2011 04:13:18	BOB-1	Shark
21/09/2011 04:14:15	BOB-1	Detritus
21/09/2011 04:15:37	BOB-1	Chimera
21/09/2011 04:17:06	BOB-1	Grenidier
21/09/2011 04:19:01	BOB-1	4mn
21/09/2011 04:26:56	BOB-1	Fish
21/09/2011 04:29:44	BOB-1	Sea spider
21/09/2011 04:35:28	BOB-1	4mn
21/09/2011 04:41:15	BOB-1	4mn
21/09/2011 04:46:02	BOB-1	4mn
21/09/2011 04:46:40	BOB-1	Pcynogonid
21/09/2011 04:46:55	BOB-1	Fish

21/09/2011 04:48:42	BOB-1	4mn
21/09/2011 04:49:22	BOB-1	Start of cliff
21/09/2011 04:50:47	BOB-1	Still, Lophelia
21/09/2011 04:51:13	BOB-1	Sponge
21/09/2011 04:51:30	BOB-1	Start of bedrock reef
21/09/2011 04:53:10	BOB-1	Still
21/09/2011 04:53:35	BOB-1	Still
21/09/2011 04:55:15	BOB-1	Oreo
21/09/2011 04:56:02	BOB-1	Still
21/09/2011 04:59:29	BOB-1	4mn
21/09/2011 05:03:21	BOB-1	4mn
21/09/2011 05:06:01	BOB-1	Corals
21/09/2011 05:07:42	BOB-1	Abundant gorgonians
21/09/2011 05:09:36	BOB-1	4mn
21/09/2011 05:13:22	BOB-1	4mn
21/09/2011 05:14:38	BOB-1	Gorgonians?
21/09/2011 05:16:48	BOB-1	4mn
21/09/2011 05:20:18	BOB-1	4mn
21/09/2011 05:24:16	BOB-1	4mn
21/09/2011 05:27:23	BOB-1	shark
21/09/2011 05:28:32	BOB-1	4mn
21/09/2011 05:32:36	BOB-1	orange roughy
21/09/2011 05:33:02	BOB-1	4mn
21/09/2011 05:36:13	BOB-1	4mn

21/09/2011 05:36:44	BOB-1	Bamboo coral growing on rock
21/09/2011 05:39:02	BOB-1	coral rubble in the bottom
21/09/2011 05:40:15	BOB-1	4mn
21/09/2011 05:41:31	BOB-1	gorgonian
21/09/2011 05:42:28	BOB-1	sand again
21/09/2011 05:44:10	BOB-1	4mn
21/09/2011 05:48:02	BOB-1	4mn
21/09/2011 05:49:06	BOB-1	Antipatharians and gorgonians?
21/09/2011 05:51:01	BOB-1	Rock with antipatharians ands gorgonians and dead scleractinians
21/09/2011 05:54:21	BOB-1	4mn
21/09/2011 05:55:18	BOB-1	Bathypathes
21/09/2011 06:05:18	BOB-1	SAMPLING gorgonian
21/09/2011 06:07:00	BOB-1	prise de quart de Joelle et Brigitte
21/09/2011 06:07:49	BOB-1	Gorgonian
21/09/2011 06:08:46	BOB-1	Gorgonian
21/09/2011 06:08:59	BOB-1	Alternance de sediment avec ripplemarks et roches
21/09/2011 06:10:47	BOB-1	bloc colonise
21/09/2011 06:11:12	BOB-1	Gorgone, essai d'echantillonnage infructueux
21/09/2011 06:12:00	BOB-1	debut quart j. galeron, b. guillaumont
21/09/2011 06:21:47	BOB-1	paroi de bloc colonise
21/09/2011 06:22:09	BOB-1	paroi de bloc colonise
21/09/2011 06:22:34	BOB-1	empereur, zone sedimentaire
21/09/2011 06:23:49	BOB-1	bloc, pas de faune visible
21/09/2011 06:25:36	BOB-1	bloc colonise

21/09/2011 06:25:47	BOB-1	bloc colonise
21/09/2011 06:26:19	BOB-1	Lepidisis ?
21/09/2011 06:27:11	BOB-1	petits blocs blancs en zone sedimentaire avec ripplemarks
21/09/2011 06:27:35	BOB-1	petits blocs blancs en zone sedimentaire avec ripplemarks
21/09/2011 06:27:49	BOB-1	filet
21/09/2011 06:28:46	BOB-1	poisson
21/09/2011 06:29:26	BOB-1	empereur
21/09/2011 06:29:32	BOB-1	deux poissons
21/09/2011 06:30:47	BOB-1	bloc colonise, solenosmilia ?, asterides, stylaster ?, caryophyllides, bathypathes, galathees, gorgone , oursin, dechet
21/09/2011 06:32:38	BOB-1	pente colonisee
21/09/2011 06:33:08	BOB-1	petites colonies de scleractiniaires, Solenosmilia ?
21/09/2011 06:33:48	BOB-1	faune diverse
21/09/2011 06:35:13	BOB-1	faune diverse
21/09/2011 06:35:30	BOB-1	Stylasteridae
21/09/2011 06:37:28	BOB-1	galathee
21/09/2011 06:37:53	BOB-1	belles colonies
21/09/2011 06:37:56	BOB-1	bathypathes et gorgones
21/09/2011 06:38:57	BOB-1	belles colonies
21/09/2011 06:40:38	BOB-1	Oursin
21/09/2011 06:41:26	BOB-1	Stylasteride dans son environnement
21/09/2011 06:47:22	BOB-1	Lepidisis
21/09/2011 06:50:36	BOB-1	Paroi de bloc colonise
21/09/2011 06:50:43	BOB-1	PRELEVEMENT FAUNE CCB5 stylasteridae

21/09/2011 06:54:39	BOB-1	sediment avec ripplemarks, pas de faune visible
21/09/2011 06:57:39	BOB-1	blocs
21/09/2011 06:57:50	BOB-1	blocs
21/09/2011 06:57:54	BOB-1	blocs
21/09/2011 06:59:30	BOB-1	debris coralliens sur sediment
21/09/2011 07:00:30	BOB-1	macrouridae
21/09/2011 07:02:29	BOB-1	debris parsemes
21/09/2011 07:03:41	BOB-1	plusieurs synaphobranchus
21/09/2011 07:06:20	BOB-1	nombreux debris sur le fond
21/09/2011 07:06:43	BOB-1	dechet
21/09/2011 07:09:32	BOB-1	raie, macrouride, synaphobranchus
21/09/2011 07:12:25	BOB-1	deux poissons
21/09/2011 07:12:58	BOB-1	fond sedimentaire avec ripplemarks et debris
21/09/2011 07:16:35	BOB-1	empereur
21/09/2011 07:18:45	BOB-1	poisson
21/09/2011 07:20:40	BOB-1	ped de la falaise, temperature 6,2°, sediment avec eboulis de fragments rocheux blancs, macrourides
21/09/2011 07:22:23	BOB-1	ped de la falaise avec beaucoup de debris de coraux
21/09/2011 07:28:46	BOB-1	lepidisis et poisson
21/09/2011 07:29:04	BOB-1	faune de ped falaise, colonies coralliennes, solenosmilia ? et coraux solitaires vivants
21/09/2011 07:33:23	BOB-1	actinie, quelques comatules
21/09/2011 07:35:51	BOB-1	quelques colonies vivantes de solenosmilia ?
21/09/2011 07:37:24	BOB-1	sample antipathaire 2 tiroir derriere casier a coral
21/09/2011 07:37:40	BOB-1	antipathaire preleve

21/09/2011 07:40:58	BOB-1	antipathaire 2 range au fond du panier derriere CC
21/09/2011 07:45:34	BOB-1	comatule, gorgone, oursin, on essaie de les prelever
21/09/2011 07:47:03	BOB-1	plusieurs actinies rouges
21/09/2011 07:47:27	BOB-1	sample comatule, range dans CC B5
21/09/2011 07:51:07	BOB-1	sample Gorgone rouge, range dans CC B5
21/09/2011 07:51:41	BOB-1	Gorgone rouge, range dans CC B5
21/09/2011 07:53:29	BOB-1	sample eponge ou oursin ???, range dans CC B5
21/09/2011 07:57:02	BOB-1	scleractiniaire solitaire
21/09/2011 07:59:17	BOB-1	spicules longs d'eponge ranges parallelement, formant un rideau transparent
21/09/2011 08:00:45	BOB-1	scleractiniaire solitaire et comatule, cibles d'echantillonnage
21/09/2011 08:02:43	BOB-1	PRELEVEMENT FAUNE CCB3 comatule
21/09/2011 08:03:30	BOB-1	scleractiniaire perdu
21/09/2011 08:04:53	BOB-1	brachiopodes, actinies, eponges, solenosmilia vivant
21/09/2011 08:06:21	BOB-1	scleractiniaire cible d'echantillonnage
21/09/2011 08:11:14	BOB-1	sample petite actinie, rangee dans CC B3 ou B5 ??
21/09/2011 08:15:13	BOB-1	belle anemone
21/09/2011 08:16:25	BOB-1	enregistrement verticale arrete, enregistrement babord demarre
21/09/2011 08:17:57	BOB-1	sample grosse actinie rose orange, range dans CC B3
21/09/2011 08:22:08	BOB-1	grosse actinie et comatule
21/09/2011 08:23:40	BOB-1	un oursin et une asteride en plus de ce qui est deja liste
21/09/2011 08:24:26	BOB-1	reprise de l'escalade de la falaise
21/09/2011 08:26:07	BOB-1	changement de facies, replat moins colonise, vase induree
21/09/2011 08:27:36	BOB-1	absence de faune
21/09/2011 08:29:40	BOB-1	paroi peu colonisee

21/09/2011 08:32:27	BOB-1	reprise du facies colonise
21/09/2011 08:34:22	BOB-1	colonies de coraux branchus ??
21/09/2011 08:35:24	BOB-1	les memes colonies de coraux branchus ??
21/09/2011 08:35:27	BOB-1	neocythus
21/09/2011 08:38:38	BOB-1	lepidisis tourmentee
21/09/2011 08:38:58	BOB-1	lepidisis tourmentee
21/09/2011 08:41:48	BOB-1	colonies cibles de l'echantillonnage
21/09/2011 08:45:05	BOB-1	solenosmilia, comatules (deux especes, gorgone ? Paragorgia etc...
21/09/2011 08:47:36	BOB-1	PRELEVEMENT FAUNE GBT-1 Gorgone branchue rose orangée ???? (n°2)
21/09/2011 08:50:41	BOB-1	sample Comatule et gorgone ??? range dans GBT
21/09/2011 08:51:56	BOB-1	solenosmilia ? vivants
21/09/2011 08:55:23	BOB-1	sample colonie scleractiniaire (solenosmilia ?), range dans GBT
21/09/2011 08:57:36	BOB-1	reprise du trajet
21/09/2011 09:04:13	BOB-1	grande diversité de faune
21/09/2011 09:05:25	BOB-1	Plexauridae ? cible echantillonnage
21/09/2011 09:07:13	BOB-1	grande diversite de faune
21/09/2011 09:08:29	BOB-1	sample Plexauridae (gorgonian1), range dans GBT
21/09/2011 09:09:10	BOB-1	Plexauridae, range dans GBT
21/09/2011 09:16:14	BOB-1	grande diversite de faune
21/09/2011 09:16:45	BOB-1	sample ???? diverses choses, range dans GBT
21/09/2011 09:18:22	BOB-1	grosses actinies
21/09/2011 09:25:28	BOB-1	PERDUE !!!!
21/09/2011 09:29:20	BOB-1	Solenosmilia et ???
21/09/2011 09:31:45	BOB-1	octocoralliaire en massue cible echantillonnage

21/09/2011 09:34:04	BOB-1	PRELEVEMENT FAUNE CCB8 octocoralliaire en massue
21/09/2011 09:42:20	BOB-1	Gorgone de grande taille rosee???
21/09/2011 09:42:35	BOB-1	PRELEVEMENT FAUNE CCB2 Gorgone
21/09/2011 09:46:24	BOB-1	Gorgone legere blanche rosee cible d'echantillonnage
21/09/2011 09:48:19	BOB-1	SAMPLING gorgone blanche rosee legere, range dans CC B8
21/09/2011 09:51:16	BOB-1	reprise escalade
21/09/2011 10:00:00	BOB-1	QUART Brigitte G and Inge vdB
21/09/2011 10:00:18	BOB-1	Paragorgia ???
21/09/2011 10:01:12	BOB-1	sample Paragorgia ? and 2 species of ophiuroids, crinoid GBT
21/09/2011 10:04:30	BOB-1	Sample Paragorgia?
21/09/2011 10:07:50	BOB-1	Previous Paragorgia?, crinoid, ophiuroids GBT
21/09/2011 10:12:00	BOB-1	QUART Inge vdB and Karou E
21/09/2011 10:12:32	BOB-1	Sponge, gorgonians
21/09/2011 10:13:00	BOB-1	Actinian
21/09/2011 10:13:34	BOB-1	Gorgonian, Actinian, crinoids, Solenosmilia
21/09/2011 10:15:49	BOB-1	Sponges or something else???
21/09/2011 10:16:07	BOB-1	Brachiopod
21/09/2011 10:18:05	BOB-1	Fish in coral
21/09/2011 10:19:34	BOB-1	PRELEVEMENT FAUNE CCB1 Ascesta
21/09/2011 10:20:59	BOB-1	Sample Ascesta
21/09/2011 10:22:56	BOB-1	Brisingid
21/09/2011 10:23:25	BOB-1	Close Ascesta
21/09/2011 10:24:31	BOB-1	Closed Ascesta
21/09/2011 10:31:16	BOB-1	sample purple octocoral (Anthotella?) + gorgonian CCB1

21/09/2011 10:34:52	BOB-1	Unknown fish behind corals
21/09/2011 10:35:55	BOB-1	Unknown fish
21/09/2011 10:37:13	BOB-1	Sample area
21/09/2011 10:39:16	BOB-1	Fish, echinoid, gorgonian, etc
21/09/2011 10:39:32	BOB-1	Sponge
21/09/2011 10:40:12	BOB-1	Fish, sponges
21/09/2011 10:41:02	BOB-1	ROV cable
21/09/2011 10:44:29	BOB-1	ROV cable entagled in coral on cliff
21/09/2011 10:58:07	BOB-1	Reef on cliff with Solenosmillia, many species of gorgonian, bivalves, fish etc
21/09/2011 11:00:27	BOB-1	Lepidisis, Anthomastus
21/09/2011 11:01:01	BOB-1	Actinian, fish, sponge
21/09/2011 11:01:20	BOB-1	Sponge,
21/09/2011 11:01:39	BOB-1	Sponge, ascidians?
21/09/2011 11:01:53	BOB-1	ROV cable entangled in reef again (1658 m)
21/09/2011 11:08:33	BOB-1	Start transect again
21/09/2011 11:09:23	BOB-1	Ascesta, reef solenosmillia, sponges, gorgonians
21/09/2011 11:10:00	BOB-1	Lepidisis, same as previous?
21/09/2011 11:10:14	BOB-1	Sponges
21/09/2011 11:10:35	BOB-1	Actinians, sponges
21/09/2011 11:10:54	BOB-1	Fish
21/09/2011 11:11:13	BOB-1	Very small plateau in cliff
21/09/2011 11:11:35	BOB-1	Yellow gorgonian
21/09/2011 11:11:46	BOB-1	Sponges, actinian
21/09/2011 11:12:06	BOB-1	Sponges

21/09/2011 11:13:21	BOB-1	Reef less dense, more lepidisis, asteroid, fish
21/09/2011 11:13:54	BOB-1	Reef denser again, gorgonians, solenosmilia, actinian, sponges
21/09/2011 11:14:00	BOB-1	Connexion with still camera lost
21/09/2011 11:14:44	BOB-1	Asteroid
21/09/2011 11:15:04	BOB-1	Yellow sponge
21/09/2011 11:15:29	BOB-1	Sponge, actinian
21/09/2011 11:15:44	BOB-1	fish, actinian
21/09/2011 11:15:56	BOB-1	Reef less dense
21/09/2011 11:16:25	BOB-1	Beautiful
21/09/2011 11:16:37	BOB-1	Brisingid
21/09/2011 11:16:50	BOB-1	Echinoid, reef more dense
21/09/2011 11:17:34	BOB-1	Neocyttus
21/09/2011 11:17:47	BOB-1	Neocyttus, plateau in cliff
21/09/2011 11:19:20	BOB-1	Coral on plateau in cliff
21/09/2011 11:19:43	BOB-1	Sandripples
21/09/2011 11:19:51	BOB-1	Neocyttus, macrouridae
21/09/2011 11:20:40	BOB-1	Plateau in cliff with coral and broken coral pieces, sponge?
21/09/2011 11:22:19	BOB-1	Brisingid, echinoids, Actinian, Soleosmilia
21/09/2011 11:23:35	BOB-1	Gorgonian? ride de current
21/09/2011 11:24:37	BOB-1	Gorgonian
21/09/2011 11:25:00	BOB-1	Still camera works again
21/09/2011 11:26:49	BOB-1	PRELEVEMENT CCB4 sediment
21/09/2011 11:30:17	BOB-1	Sample sediment CCB4
21/09/2011 11:31:30	BOB-1	sample Sediment 2 CCB4

21/09/2011 11:32:24	BOB-1	Sample sediment 2 CCB4
21/09/2011 11:34:44	BOB-1	sample Gorgonian, further in picture sponge, solenosmillia CCB4
21/09/2011 11:35:12	BOB-1	surroundings sample gorgonian, echinoid, sponges etc
21/09/2011 11:37:56	BOB-1	Sample gorgonian,solenosmillia, sponge CCB4
21/09/2011 11:38:54	BOB-1	sample echinoid CCB4
21/09/2011 11:39:56	BOB-1	Echinoid in CCB4
21/09/2011 11:41:01	BOB-1	Top of cliff with sand ripples and coral colonies that are mostly dead
21/09/2011 11:41:35	BOB-1	Parantipathes
21/09/2011 11:42:07	BOB-1	Gorgonians, patchy coral colonies of which some is alive, sponges, sandripples
21/09/2011 11:43:06	BOB-1	Sandripples
21/09/2011 11:43:39	BOB-1	Acanella?
21/09/2011 11:44:34	BOB-1	Sandripples
21/09/2011 11:45:25	BOB-1	Sandripples
21/09/2011 11:45:40	BOB-1	Patchy coral colonies, gorgonians, lepidisis
21/09/2011 11:47:04	BOB-1	Macrouridae
21/09/2011 11:48:15	BOB-1	Lepidisis, small coral garden of ???
21/09/2011 11:49:52	BOB-1	Surroundings of sample area, ride de vague
21/09/2011 11:52:53	BOB-1	sample Paragorgia with Asteronyx or ophiuroid CCB6
21/09/2011 11:56:03	BOB-1	Sample paragorgia and Asteronyx or ophiuroid in CCB6
21/09/2011 11:59:00	BOB-1	sample gorgonian (looks like antipatharin (back) CCB6
21/09/2011 12:00:54	BOB-1	PRELEVEMENT FAUNE CCB6 Antipatharian
21/09/2011 12:02:57	BOB-1	Lepidisis on soft bottom, probably hard ground underneath
21/09/2011 12:04:37	BOB-1	sample Lepidisis Behind Coral Case and GBT
21/09/2011 12:04:51	BOB-1	Notacanthus

21/09/2011 12:09:14	BOB-1	Foot of Lepidisis on coral
21/09/2011 12:12:31	BOB-1	STILL Lepidisis foot on coral prior to collection
21/09/2011 12:17:14	BOB-1	Science HD camera recording started
21/09/2011 12:18:31	BOB-1	sample Lepidisis placed in behind the case and GBT
21/09/2011 12:19:51	BOB-1	sample of Lepidisis foot
21/09/2011 12:20:57	BOB-1	PRELEVEMENT FAUNE CCB7 Lepidisis foot
21/09/2011 12:22:57	BOB-1	Picture of large block with sediment deposited on top
21/09/2011 12:24:50	BOB-1	Red gorgonian
21/09/2011 12:26:21	BOB-1	Echinoid on Lophelia
21/09/2011 12:27:28	BOB-1	sample Echinus sp. Penatulid and antipatharian on left side of picture
21/09/2011 12:29:45	BOB-1	Echinus sp placed in CC B7
21/09/2011 12:30:47	BOB-1	Current ripples in sediment
21/09/2011 12:31:46	BOB-1	Penatulid and antipatharian
21/09/2011 12:33:18	BOB-1	Fish
21/09/2011 12:33:48	BOB-1	Antipatherian
21/09/2011 12:34:21	BOB-1	White Antiatharian
21/09/2011 12:35:01	BOB-1	Fish notacanthus
21/09/2011 12:35:18	BOB-1	4mn change of habitat
21/09/2011 12:35:57	BOB-1	White Antiatharian again
21/09/2011 12:36:58	BOB-1	White Antiatharian
21/09/2011 12:37:08	BOB-1	large number of White Antipatharian
21/09/2011 12:37:44	BOB-1	lots of White Antipatharian
21/09/2011 12:39:42	BOB-1	fish
21/09/2011 12:40:27	BOB-1	4mn

21/09/2011 12:41:15	BOB-1	sponge ?
21/09/2011 12:42:33	BOB-1	White Antipatharian
21/09/2011 12:43:36	BOB-1	Antipatharian and fish
21/09/2011 12:44:16	BOB-1	White Antipatharian
21/09/2011 12:45:13	BOB-1	Echinus sp White Antipatharian
21/09/2011 12:48:20	BOB-1	STILL White Antipatharian
21/09/2011 12:49:01	BOB-1	4mn
21/09/2011 12:52:19	BOB-1	White Antipatharian
21/09/2011 12:52:48	BOB-1	White Antipatharian
21/09/2011 12:53:09	BOB-1	Antipatharian
21/09/2011 12:53:33	BOB-1	sea pen
21/09/2011 12:55:10	BOB-1	4mn
21/09/2011 12:56:01	BOB-1	Chimeras and rock formation
21/09/2011 12:56:40	BOB-1	Step rock formation
21/09/2011 12:58:48	BOB-1	Preparing to collect sediment, soft coral
21/09/2011 13:00:04	BOB-1	STILL of soft coral anthomastus
21/09/2011 13:01:10	BOB-1	sample of rock
21/09/2011 13:03:54	BOB-1	Placement of sediment sampled in CCB7
21/09/2011 13:06:17	BOB-1	sample of second handful of sediment at CCB7
21/09/2011 13:08:33	BOB-1	Placment of second handful of sediment into CCB7
21/09/2011 13:10:13	BOB-1	Far wall, rock
21/09/2011 13:10:53	BOB-1	Close up of far wall, rock
21/09/2011 13:11:15	BOB-1	Gorgonian
21/09/2011 13:11:46	BOB-1	On top of rock that we just photographed

21/09/2011 13:13:26	BOB-1	White debris and far wall
21/09/2011 13:14:41	BOB-1	4mn
21/09/2011 13:15:20	BOB-1	Octopus
21/09/2011 13:17:59	BOB-1	4mn
21/09/2011 13:18:56	BOB-1	Orange ruffy
21/09/2011 13:21:13	BOB-1	upward slope
21/09/2011 13:22:27	BOB-1	Orange ruffy
21/09/2011 13:23:09	BOB-1	Orange ruffy
21/09/2011 13:23:43	BOB-1	close up of orange ruffy
21/09/2011 13:25:46	BOB-1	sample of sediment CCB5
21/09/2011 13:26:24	BOB-1	sample of sediment
21/09/2011 13:28:51	BOB-1	Placement of sediment in CCB5
21/09/2011 13:31:19	BOB-1	Current ripples with smaller cross current ripples seen in pic
21/09/2011 13:36:11	BOB-1	block
21/09/2011 13:36:22	BOB-1	block
21/09/2011 13:36:43	BOB-1	block on vertical camera
21/09/2011 13:37:03	BOB-1	4mn
21/09/2011 13:38:21	BOB-1	cerianthus
21/09/2011 13:41:12	BOB-1	fish
21/09/2011 13:41:23	BOB-1	fish
21/09/2011 13:41:41	BOB-1	same fish on vertical camera
21/09/2011 13:43:53	BOB-1	boulder
21/09/2011 13:44:09	BOB-1	bolder on vertical camera
21/09/2011 13:47:44	BOB-1	mound created during avalanche

21/09/2011 13:50:19	BOB-1	4 fish
21/09/2011 13:53:33	BOB-1	eel fish
21/09/2011 13:58:55	BOB-1	4mn, shift change Alexie and Jaime
21/09/2011 14:02:33	BOB-1	4mn
21/09/2011 14:04:56	BOB-1	Coryphaenoides rupestris
21/09/2011 14:08:11	BOB-1	4mn
21/09/2011 14:09:02	BOB-1	Coryphaenoides rupestris
21/09/2011 14:09:40	BOB-1	Sea pen?
21/09/2011 14:11:26	BOB-1	Shark
21/09/2011 14:13:17	BOB-1	4mn
21/09/2011 14:16:23	BOB-1	4mn
21/09/2011 14:20:14	BOB-1	4mn
21/09/2011 14:23:35	BOB-1	Hoplostethus atlanticus
21/09/2011 14:23:45	BOB-1	Still, Hoplostethus atlanticus
21/09/2011 14:25:15	BOB-1	4mn
21/09/2011 14:29:04	BOB-1	4mn
21/09/2011 14:32:40	BOB-1	4mn
21/09/2011 14:35:00	BOB-1	Start of shift - Andreia and Alexis
21/09/2011 14:37:18	BOB-1	4mn
21/09/2011 14:38:18	BOB-1	rock
21/09/2011 14:39:08	BOB-1	Fish
21/09/2011 14:40:11	BOB-1	fish
21/09/2011 14:41:06	BOB-1	4mn
21/09/2011 14:43:21	BOB-1	start of the quart of Clara (Andreia continues)

21/09/2011 14:45:33	BOB-1	4 mn, fish
21/09/2011 14:46:59	BOB-1	strate (géologie)
21/09/2011 14:48:06	BOB-1	strate
21/09/2011 14:48:29	BOB-1	4mn
21/09/2011 14:49:05	BOB-1	Crinoid - black
21/09/2011 14:49:36	BOB-1	tripod fish?
21/09/2011 14:51:53	BOB-1	Coryphaenoides sp.
21/09/2011 14:51:57	BOB-1	fish
21/09/2011 14:52:08	BOB-1	4mn
21/09/2011 14:52:46	BOB-1	orange roughy- we lost the caption
21/09/2011 14:53:39	BOB-1	fish
21/09/2011 14:54:12	BOB-1	orange roughy
21/09/2011 14:54:30	BOB-1	4mn
21/09/2011 14:55:36	BOB-1	sedimentary rock with black crinoids
21/09/2011 14:58:10	BOB-1	4 mn
21/09/2011 15:00:33	BOB-1	Acanella on sand
21/09/2011 15:02:04	BOB-1	4mn
21/09/2011 15:03:56	BOB-1	raja?
21/09/2011 15:06:02	BOB-1	xenophyophora
21/09/2011 15:06:17	BOB-1	4mn
21/09/2011 15:08:06	BOB-1	echinoderm
21/09/2011 15:09:47	BOB-1	Acanella
21/09/2011 15:10:36	BOB-1	4mn
21/09/2011 15:14:09	BOB-1	4mn

21/09/2011 15:14:32	BOB-1	xenophyophore
21/09/2011 15:14:45	BOB-1	Coryphaenoides
21/09/2011 15:17:14	BOB-1	sea star
21/09/2011 15:18:11	BOB-1	pente
21/09/2011 15:18:57	BOB-1	4mn
21/09/2011 15:23:26	BOB-1	4mn
21/09/2011 15:25:17	BOB-1	sea star
21/09/2011 15:25:55	BOB-1	crinoid?
21/09/2011 15:27:22	BOB-1	fish
21/09/2011 15:28:06	BOB-1	4mn
21/09/2011 15:29:11	BOB-1	shark
21/09/2011 15:30:08	BOB-1	4mn
21/09/2011 15:30:19	BOB-1	Stalked sponges
21/09/2011 15:34:09	BOB-1	4mn
21/09/2011 15:36:50	BOB-1	4mn
21/09/2011 15:39:01	BOB-1	4mn
21/09/2011 15:44:06	BOB-1	4mn
21/09/2011 15:44:52	BOB-1	sea urchin
21/09/2011 15:45:46	BOB-1	xenophyophore
21/09/2011 15:46:49	BOB-1	se urchin
21/09/2011 15:47:53	BOB-1	sea urchin and orange roughy
21/09/2011 15:48:14	BOB-1	4mn
21/09/2011 15:49:14	BOB-1	sea urchin
21/09/2011 15:51:58	BOB-1	4mn

21/09/2011 15:52:17	BOB-1	bloc eboule
21/09/2011 15:54:56	BOB-1	Pennatulacea
21/09/2011 15:55:20	BOB-1	shark
21/09/2011 15:56:38	BOB-1	4mn
21/09/2011 15:57:02	BOB-1	shrimp
21/09/2011 15:58:21	BOB-1	4mn
21/09/2011 15:58:47	BOB-1	xenophyophora
21/09/2011 15:59:24	BOB-1	pennatulacea and tripod fish
21/09/2011 15:59:43	BOB-1	sea urchin
21/09/2011 16:00:05	BOB-1	crinoids?
21/09/2011 16:00:29	BOB-1	Chimaera
21/09/2011 16:02:11	BOB-1	4 min
21/09/2011 16:12:33	BOB-1	tripod fish
21/09/2011 16:13:49	BOB-1	sample ceriantharia to be in box CCB3
21/09/2011 16:18:53	BOB-1	sample ceriantharia in box CCB3
21/09/2011 16:20:40	BOB-1	4mn
21/09/2011 16:22:06	BOB-1	Corallimorpharia?
21/09/2011 16:22:12	BOB-1	sea urchin
21/09/2011 16:24:38	BOB-1	4mn
21/09/2011 16:24:53	BOB-1	sea urchin
21/09/2011 16:26:27	BOB-1	sea star
21/09/2011 16:26:41	BOB-1	fish and xenophyophores
21/09/2011 16:27:28	BOB-1	Pennatulacea
21/09/2011 16:28:08	BOB-1	4mn

21/09/2011 16:28:24	BOB-1	stalked sponge
21/09/2011 16:30:20	BOB-1	stalked sponge
21/09/2011 16:32:13	BOB-1	4mn
21/09/2011 16:33:40	BOB-1	End of shift for Andreia and Clara
21/09/2011 16:33:49	BOB-1	Shift change, Jaime and Angela
21/09/2011 16:34:48	BOB-1	Echinoid
21/09/2011 16:36:34	BOB-1	Echinothuriidae
21/09/2011 16:37:20	BOB-1	Xenophyophores
21/09/2011 16:44:27	BOB-1	sample of echinoid CC??
21/09/2011 16:47:23	BOB-1	Phelliactis and Stichopathes
21/09/2011 16:54:06	BOB-1	2 echinoids
21/09/2011 16:54:29	BOB-1	Cerianthids
21/09/2011 16:55:45	BOB-1	Umbellula
21/09/2011 16:56:16	BOB-1	4mn
21/09/2011 16:57:20	BOB-1	Chimera
21/09/2011 16:58:12	BOB-1	Acanella and stalked sponge community
21/09/2011 16:59:24	BOB-1	White echinoid
21/09/2011 17:00:14	BOB-1	Trachyscorpia
21/09/2011 17:01:48	BOB-1	Pheronema
21/09/2011 17:01:58	BOB-1	Beautiful picture
21/09/2011 17:03:02	BOB-1	Pheronema
21/09/2011 17:03:33	BOB-1	Field of stalked sponge
21/09/2011 17:05:16	BOB-1	Rock with caryophyllids
21/09/2011 17:06:01	BOB-1	Still, Caryophyllids

21/09/2011 17:15:19	BOB-1	sample Pheronema CCB3
21/09/2011 17:16:57	BOB-1	Pheromena field
21/09/2011 17:19:23	BOB-1	4mn
21/09/2011 17:20:59	BOB-1	Pheronema
21/09/2011 17:21:20	BOB-1	Chimera
21/09/2011 17:21:41	BOB-1	Still
21/09/2011 17:25:00	BOB-1	Benthogone
21/09/2011 17:25:18	BOB-1	Chimera
21/09/2011 17:28:49	BOB-1	Crinoid
21/09/2011 17:30:32	BOB-1	4mn
21/09/2011 17:33:02	BOB-1	Echinoid
21/09/2011 17:35:33	BOB-1	Octopus
21/09/2011 17:36:30	BOB-1	Gorgonian
21/09/2011 17:36:50	BOB-1	Soft coral
21/09/2011 17:37:40	BOB-1	
21/09/2011 17:38:03	BOB-1	Fishing net
21/09/2011 17:41:30	BOB-1	4mn
21/09/2011 17:43:51	BOB-1	Pheronema
21/09/2011 17:45:15	BOB-1	Rock!
21/09/2011 17:45:40	BOB-1	Echinoid and Narella
21/09/2011 17:47:26	BOB-1	Change in habitat, Pheronema field
21/09/2011 17:50:38	BOB-1	4mn
21/09/2011 17:52:03	BOB-1	C. fenestratum
21/09/2011 18:03:06	BOB-1	

21/09/2011 18:04:53	BOB-1	sample large bathypathes basket
21/09/2011 18:05:41	BOB-1	Still
21/09/2011 18:16:06	BOB-1	Dernier quart de BOBECO1-1er leg, Brigitte et Joelle
21/09/2011 18:17:19	BOB-1	fond sedimentaire avec blocs
21/09/2011 18:17:53	BOB-1	grosse actinie rose orange
21/09/2011 18:17:56	BOB-1	colonies de Lophelia ?, narella
21/09/2011 18:17:59	BOB-1	colonie de Lophelia ?
21/09/2011 18:19:54	BOB-1	xenophyophore, quelques-uns a suivre
21/09/2011 18:20:00	BOB-1	bolocera
21/09/2011 18:21:12	BOB-1	macrouride
21/09/2011 18:22:17	BOB-1	quelques oursins calveriosoma
21/09/2011 18:24:39	BOB-1	structure bizarre colonisee
21/09/2011 18:27:29	BOB-1	Still cible echantillonnage
21/09/2011 18:28:26	BOB-1	sample Lophelia ? Madrepora ?, depose dans CC B5
21/09/2011 18:34:31	BOB-1	sample (2eme echantillon) Lophelia ? Madrepora ?, depose dans CC B5
21/09/2011 18:42:27	BOB-1	Still Caryophyllidae
21/09/2011 18:52:01	BOB-1	sample Caryophyllidae, range dans CC B5
21/09/2011 18:57:19	BOB-1	relief abrupt avec blocs
21/09/2011 18:58:18	BOB-1	colonies de coraux
21/09/2011 18:59:10	BOB-1	retour fond sedimentaire sur pente
21/09/2011 19:01:55	BOB-1	antipathaires sur bloc
21/09/2011 19:04:32	BOB-1	fond sedimentaire, qq xenophyophores, un peu de bioturbation
21/09/2011 19:06:08	BOB-1	macrouride
21/09/2011 19:06:39	BOB-1	calveriosoma

21/09/2011 19:07:48	BOB-1	cerianthe
21/09/2011 19:09:17	BOB-1	calveriosoma
21/09/2011 19:09:28	BOB-1	macrouride
21/09/2011 19:10:26	BOB-1	dechet
21/09/2011 19:12:55	BOB-1	cable colonise
21/09/2011 19:13:58	BOB-1	quelques cerianthes
21/09/2011 19:20:28	BOB-1	macrouride
21/09/2011 19:22:26	BOB-1	blocs blancs en bas de falaise
21/09/2011 19:23:30	BOB-1	cerianthes
21/09/2011 19:25:14	BOB-1	crinoide
21/09/2011 19:31:08	BOB-1	pied de falaise stratifiee
21/09/2011 19:34:08	BOB-1	falaise verticale
21/09/2011 19:35:42	BOB-1	Victor quitte le fond

9. Dive report 471 - 9

Submersible : Victor 6000

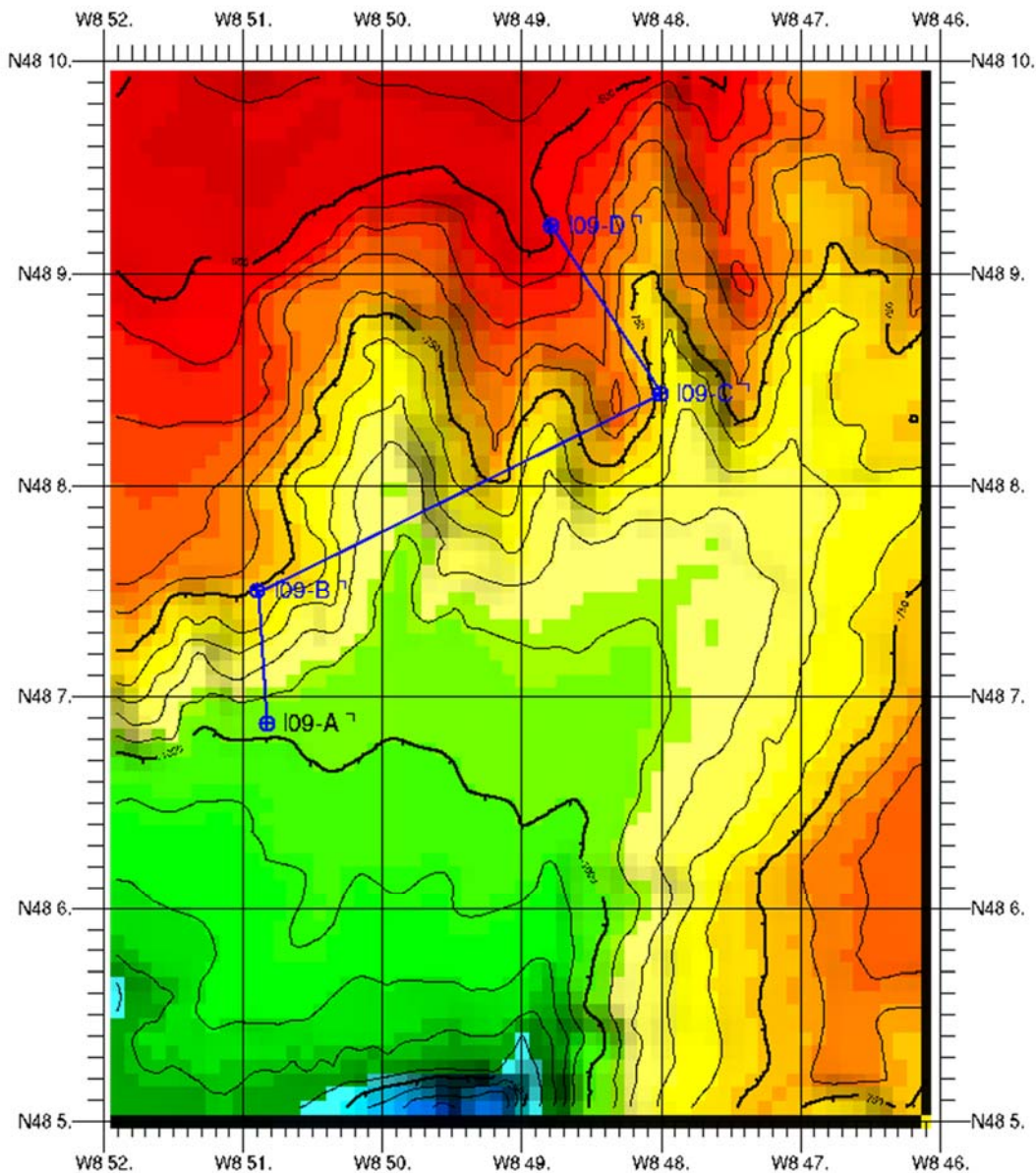
Starting Dive : 25/09/2011 06:02

Arrival on the bottom: 25/09/2011 07:11

Deprture from the bottom: 26/09/2011 12:02

Ending dive : 26/09/2011 12:52

Location : Sorlingue



Dives objectives :

Objectives :

- Exploration of Petite Sole canyon and systematic sampling for:

L. pertusa and M. oculata according to coordinates

Narella sp.

Sponges

Sea urchins

-Sampling of water next to microbiology sampling, in PEP bags

-Sampling of water from the bottom in 4 PEP bottles between the two microbiology bags

-Sampling of water from the surface in 4 PEP bottles when reaching the surface

Summary :

Visited locations : Sorlingue,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
BRULPORT Jean-Pierre	IFREMER BREST
CUEFF Valerie	IFREMER BREST
MOALIC Yann	IFREMER BREST
VESLIN Mathieu	IFREMER BREST
DOUVILLE Eric	LSCE
GREHAN Anthony	NUIGalway
GOUILLOU Michel	IFREMER BREST
LOUBRIEU Benoit	IFREMER BREST
YESSON Chris	ZSL
STEVENSON Angela	UNIV DUBLIN IRELAND
LINLEY Thomas	UNIV ABERDEEN
BOURILLET Jean-François	IFREMER BREST
BROCHERAY Sandra	UNIV BORDEAUX I
REVEILLAUD Julie	UNIV GENT
BECHELER Ronan	IFREMER BREST
VAN DEN BELDE Inge	IFREMER BREST
ARNAUD Sophie	IFREMER BREST
PRATO Guilia	NUIGalway
RENGSTORF Anna Maria	NUIGalway
BAYLE Christophe	IFREMER BREST
MOUCHEL Olivier	IFREMER BREST
PERTUISOT Cecile	IFREMER BREST
GONZALES Cécile	LSCE

Fauna samples : [\(Up\)](#)

Date Time	Location	Div e	Equipmen t	Acronym	Nu m	Latitud e	Longitud e	Dept h	Description
26/09/2011 01:23:57	Sorlingue	471-9	Push Corer	CT ou PC	7	N 48 08.406	W 008 48.238	629	PRELEVEMENT CT7 sediment zone prelevements PBT3, PBT5 et PBT2 sur AUTT14
26/09/2011 01:11:54	Sorlingue	471-9	Push Corer	CT ou PC	8	N 48 08.406	W 008 48.238	629	PRELEVEMENT CT8 sur sediment pres des colonies prelevees PBT3 et PBT2 pour microbiologie AUTT14
25/09/2011 18:58:59	Sorlingue	471-9	Coral box A		1	N 48 08.385	W 008 48.287	616	PRELEVEMENT FAUNE CCA1 sample Lophelia at AUTT_7
25/09/2011 17:31:25	Sorlingue	471-9	Coral box A		2	N 48 08.369	W 008 48.293	616	PRELEVEMENT FAUNE CCA2 sample of Madrepora at AUTT3
25/09/2011 16:16:21	Sorlingue	471-9	Coral box A		3	N 48 08.361	W 008 48.300	620	PRELEVEMENT FAUNE CCA3 sample of Lophelia
25/09/2011 19:15:32	Sorlingue	471-9	Coral box A		4	N 48 08.389	W 008 48.252	625	PRELEVEMENT FAUNE CCA4 sample Lophelia, Madrepora, Hexadella, Porania and Leiopathes at AUTT_8
25/09/2011 18:01:03	Sorlingue	471-9	Coral box A		5	N 48 08.372	W 008 48.288	613	PRELEVEMENT FAUNE CCA5 unid Antipatharian from AUTT5
25/09/2011 19:49:55	Sorlingue	471-9	Coral box A		6	N 48 08.383	W 008 48.276	615	PRELEVEMENT FAUNE CCA6 sample Madrepora with Crinoid at AUTT_9

25/09/2011 18:37:59	Sorling ue	47 1 - 9	Coral box A		7	N 48 08.376	W 008 48.304	620	PRELEVEMENT FAUNE CCA7 sample ASTEROID and HEXADELLA AUTT_6
25/09/2011 16:46:19	Sorling ue	47 1 - 9	Coral box A		8	N 48 08.365	W 008 48.308	625	PRELEVEMENT FAUNE CCA8 sample of Lophelia at AUTT2
26/09/2011 05:39:07	Sorling ue	47 1 - 9	Coral box B		1	N 48 08.438	W 008 48.272	619	PRELEVEMENT FAUNE CCB1 AUTT-19 - NB: one piece of sampling during next quarter from AUTT20 (Madrepora)
26/09/2011 05:26:27	Sorling ue	47 1 - 9	Coral box B		2	N 48 08.455	W 008 48.256	628	PRELEVEMENT FAUNE CCB2 sample of Lophelia,AUTT-18
25/09/2011 21:52:20	Sorling ue	47 1 - 9	Coral box B		3	N 48 08.439	W 008 48.233	627	PRELEVEMENT FAUNE CCB3 sample Madrepora, AUTT 13
26/09/2011 06:11:21	Sorling ue	47 1 - 9	Coral box B		4	N 48 08.398	W 008 48.304	621	PRELEVEMENT FAUNE CCB4 sample Lophelia, AUTT 20
25/09/2011 21:39:02	Sorling ue	47 1 - 9	Coral box B		5	N 48 08.432	W 008 48.239	620	PRELEVEMENT FAUNE CCB5 sample Madrepora, AUTT 12
26/09/2011 05:00:56	Sorling ue	47 1 - 9	Coral box B		6	N 48 08.451	W 008 48.260	627	PRELEVEMENT FAUNE CCB6 sample of Madrepora, AUTT-17
26/09/2011 04:43:13	Sorling ue	47 1 - 9	Coral box B		7	N 48 08.447	W 008 48.266	625	PRELEVEMENT FAUNE CCB7 sample of Lophelia,AUTT-16
25/09/2011 21:33:47	Sorling ue	47 1 - 9	Coral box B		8	N 48 08.430	W 008 48.242	620	PRELEVEMENT FAUNE CCB8 sample Lophelia in CCB8

26/09/20 11 09:28:23	Sorling ue	47 1 - 9	Coral box C		1	N 48 08.415	W 008 48.261	623	PRELEVEMENT FAUNE CCC1 sample AUTT5: Lophelia Madrepora Leiopathes + antip. blanc/gris
26/09/20 11 09:57:23	Sorling ue	47 1 - 9	Coral box C		2	N 48 08.427	W 008 48.297	624	PRELEVEMENT FAUNE CCC2 sample AUTT27 Madrepora + Leiopathes
26/09/20 11 08:14:42	Sorling ue	47 1 - 9	Coral box C		3	N 48 08.372	W 008 48.258	628	PRELEVEMENT FAUNE CCC3 sample AUTT21 Lophelia+Madrepora+Liopa thes orange
26/09/20 11 08:49:03	Sorling ue	47 1 - 9	Coral box C		4	N 48 08.378	W 008 48.257	627	PRELEVEMENT FAUNE CCC4 sample ATT23 lophelia + Leiopathes.départ vers point suivant
26/09/20 11 08:40:45	Sorling ue	47 1 - 9	Coral box C		5	N 48 08.377	W 008 48.258	627	PRELEVEMENT FAUNE CCC5 sample ATT22 lophelia + Madrepora
26/09/20 11 09:45:21	Sorling ue	47 1 - 9	Coral box C		6	N 48 08.416	W 008 48.299	624	PRELEVEMENT FAUNE CCC6 sample sur AUTT 26 Lophelia+Madrepora + Leiopathes+ Anthipathaire gris après un désert depuis ATT25, incluant les 2 points aléatoires a mi parcours.
26/09/20 11 09:17:20	Sorling ue	47 1 - 9	Coral box C		7	N 48 08.406	W 008 48.266	618	PRELEVEMENT FAUNE CCC7 sample AUTT24 Madrepora Lophelia
26/09/20 11 10:17:29	Sorling ue	47 1 - 9	Coral box C		8	N 48 08.434	W 008 48.272	616	PRELEVEMENT FAUNE CCC8 sample Lophelia Leiopathes AUTT28

26/09/2011 10:36:36	Sorlingue	47 1 - 9	ROV big box	GBT	1	N 48 08.444	W 008 48.277	623	PRELEVEMENT FAUNE GBT-1 sample Madrepora AUTT30
26/09/2011 10:49:03	Sorlingue	47 1 - 9	ROV big box	GBT	2	N 48 08.452	W 008 48.232	634	PRELEVEMENT FAUNE GBT-2 AUTT31, Lophelia + Leiopathes jaune
25/09/2011 17:21:10	Sorlingue	47 1 - 9	ROV big box	GBT	3	N 48 08.369	W 008 48.289	616	PRELEVEMENT FAUNE GBT-3 sample of unid Antipatharian at AUTT3
26/09/2011 00:57:43	Sorlingue	47 1 - 9	Little Collecti on Box	PBT	2	N 48 08.407	W 008 48.239	629	PRELEVEMENT FAUNE PBT-2 Madrepora oculata sur AUTT14
26/09/2011 00:07:23	Sorlingue	47 1 - 9	Little Collecti on Box	PBT	3	N 48 08.406	W 008 48.238	628	PRELEVEMENT FAUNE PBT-3 de Lophelia pertusa au point AUTT14
26/09/2011 00:36:41	Sorlingue	47 1 - 9	Little Collecti on Box	PBT	5	N 48 08.406	W 008 48.238	629	PRELEVEMENT FAUNE PBT-5 eponge pour julie sur AUTT14
26/09/2011 02:43:15	Sorlingue	47 1 - 9	Little Collecti on Box	PBT	6	N 48 08.404	W 008 48.243	625	PRELEVEMENT FAUNE PBT-6 Hexadella sponge at AUTT15

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
26/09/2011 01:43:30	Sorlingue	471 - 9	PEP bottle	PEP	2	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-2 sur zone prelevement PBT2 et PBT3 AUTT_14 - 8 min

26/09/2011 01:53:07	Sorlingue	471 - 9	PEP bottle	PEP	3	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-3 meme endroit
26/09/2011 01:54:07	Sorlingue	471 - 9	PEP bottle	PEP	4	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-4 meme endroit
26/09/2011 01:56:01	Sorlingue	471 - 9	PEP bottle	PEP	5	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-5 meme endroit
26/09/2011 01:57:12	Sorlingue	471 - 9	PEP bottle	PEP	6	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-6 meme endroit
26/09/2011 01:59:57	Sorlingue	471 - 9	PEP bottle	PEP	7	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-7 meme endroit
26/09/2011 02:01:12	Sorlingue	471 - 9	PEP bottle	PEP	8	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-8
26/09/2011 02:02:49	Sorlingue	471 - 9	PEP bottle	PEP	9	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-9
26/09/2011 02:04:22	Sorlingue	471 - 9	PEP bottle	PEP	10	N 48 08.406	W 008 48.238	629	PRELEVEMENT PEP-10

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
25/09/2011 06:08:00	Sorlingue	ROV mise a l'eau
25/09/2011 07:10:00	Sorlingue	QUART Inge and Eric
25/09/2011 07:11:00	Sorlingue	ROV au fond

25/09/2011 07:17:04	Sorlingue	START TRANSECT AB
25/09/2011 07:17:34	Sorlingue	Mora, pelagic fish, sand with gravel
25/09/2011 07:17:59	Sorlingue	Sand with gravel
25/09/2011 07:18:27	Sorlingue	Same boulder with comet scar and fish on vertical camera
25/09/2011 07:19:05	Sorlingue	echinoid
25/09/2011 07:19:53	Sorlingue	asteroid
25/09/2011 07:21:05	Sorlingue	cerianthid, echinoid
25/09/2011 07:22:52	Sorlingue	Change of video recordings
25/09/2011 07:23:41	Sorlingue	asteroid and echinoid, two strips
25/09/2011 07:24:05	Sorlingue	vertical mark
25/09/2011 07:25:29	Sorlingue	gastropod
25/09/2011 07:25:40	Sorlingue	cobble with fish
25/09/2011 07:26:11	Sorlingue	Sandripples with gravel
25/09/2011 07:27:34	Sorlingue	Same Chaceon
25/09/2011 07:28:01	Sorlingue	cobble
25/09/2011 07:28:48	Sorlingue	Pentametrocrinoidus
25/09/2011 07:30:05	Sorlingue	Calveriosoma?
25/09/2011 07:31:11	Sorlingue	Previous Ceramaster?
25/09/2011 07:31:57	Sorlingue	Cidaris
25/09/2011 07:33:06	Sorlingue	Calveriosoma and fish on vertical camera
25/09/2011 07:33:28	Sorlingue	No clear ripples, still sand and gravel
25/09/2011 07:34:08	Sorlingue	Synaphobranchus?
25/09/2011 07:34:37	Sorlingue	Cidaris, asteroid
25/09/2011 07:35:40	Sorlingue	Sandripples with gravel

25/09/2011 07:36:20	Sorlingue	Mora
25/09/2011 07:37:02	Sorlingue	Synaphobranchus and Lepidion?
25/09/2011 07:37:47	Sorlingue	Pseudarchaster
25/09/2011 07:38:40	Sorlingue	Cidaris, forkbeard
25/09/2011 07:40:02	Sorlingue	Vertical mark in sandripples biological/geological cause
25/09/2011 07:40:47	Sorlingue	Pseudarchaster
25/09/2011 07:40:59	Sorlingue	Synaphobranchus
25/09/2011 07:41:08	Sorlingue	Pseudarchaster
25/09/2011 07:41:27	Sorlingue	mark pebble, fish
25/09/2011 07:41:50	Sorlingue	Synaphobranchus
25/09/2011 07:42:12	Sorlingue	Mora, Synaphobranchus, unidentified fish (Lepidion?)
25/09/2011 07:43:06	Sorlingue	Forkbeard
25/09/2011 07:45:17	Sorlingue	Pebbles in sand with ripples, fish on vertical camera
25/09/2011 07:46:56	Sorlingue	Synaphobranchus
25/09/2011 07:48:10	Sorlingue	Cobble with epifauna
25/09/2011 07:48:27	Sorlingue	Cidaris
25/09/2011 07:48:58	Sorlingue	Synaphobranchus
25/09/2011 07:54:04	Sorlingue	Previous fish on vertical camera
25/09/2011 07:54:29	Sorlingue	Bolocera
25/09/2011 07:55:39	Sorlingue	fish, cerianthids, sandripples with some gravel
25/09/2011 07:56:41	Sorlingue	previous fish on vertical camera
25/09/2011 07:58:18	Sorlingue	Trachyscorpia and lebenspur, Pseudarchaster
25/09/2011 08:00:17	Sorlingue	Lebenspur?
25/09/2011 08:00:27	Sorlingue	Pseudarchaster

25/09/2011 08:00:52	Sorlingue	Synphobranchus, forkbeard, macrouridae
25/09/2011 08:01:55	Sorlingue	Cidaris, cerianthids
25/09/2011 08:02:44	Sorlingue	fish
25/09/2011 08:03:21	Sorlingue	macrouridae
25/09/2011 08:03:40	Sorlingue	Cidaris, fish
25/09/2011 08:04:01	Sorlingue	Mora
25/09/2011 08:04:50	Sorlingue	Cidaris,
25/09/2011 08:05:01	Sorlingue	Chaceon crab, biogenic material?, sandripples, gravel, cerianthids
25/09/2011 08:06:46	Sorlingue	Cidaris, fish
25/09/2011 08:07:31	Sorlingue	Macrouridae
25/09/2011 08:09:30	Sorlingue	Cidaris
25/09/2011 08:10:15	Sorlingue	Burrows
25/09/2011 08:11:06	Sorlingue	Cidaris, fish, Synphobranchus, fish
25/09/2011 08:11:29	Sorlingue	Sandripples, Cidaris and fishes, cerianthids and burrows
25/09/2011 08:12:17	Sorlingue	Pseudarchaster on vertical camera
25/09/2011 08:14:30	Sorlingue	Chaceon crab in burrow/lebenspur
25/09/2011 08:15:40	Sorlingue	Pseudarchaster, Cidaris
25/09/2011 08:17:08	Sorlingue	Structure
25/09/2011 08:17:23	Sorlingue	Single colonies of coral
25/09/2011 08:17:43	Sorlingue	Single colony of dead coral, Bathynectes
25/09/2011 08:18:25	Sorlingue	Single live colony of coral
25/09/2011 08:18:52	Sorlingue	Sandripples with fragments and sigle colonies of coral
25/09/2011 08:23:37	Sorlingue	Asteroid, Cidaris, coral fram
25/09/2011 08:23:52	Sorlingue	Galeus

25/09/2011 08:24:45	Sorlingue	asteroid, Calveriosoma, sandripples, coral fragments
25/09/2011 08:25:40	Sorlingue	Previous mora
25/09/2011 08:27:35	Sorlingue	Live colonies of coral
25/09/2011 08:28:10	Sorlingue	asteroid, Cidaris, live coral colonies, fragments of coral
25/09/2011 08:28:45	Sorlingue	Unknown
25/09/2011 08:29:23	Sorlingue	Current ripples
25/09/2011 08:30:14	Sorlingue	Current ripples, no coral fragments
25/09/2011 08:31:23	Sorlingue	START TRANSECT BC
25/09/2011 08:32:27	Sorlingue	Current ripples, coral fragments, live coral colonies, Synaphobranchus
25/09/2011 08:33:34	Sorlingue	live coral colonies
25/09/2011 08:34:20	Sorlingue	Asteroid, Cidaris, live coral colonies
25/09/2011 08:35:20	Sorlingue	Live coral colonies, antipatharian?
25/09/2011 08:36:35	Sorlingue	Current ripples, Bolocera, no coral colonies or fragments
25/09/2011 08:37:32	Sorlingue	Macrouridae
25/09/2011 08:37:46	Sorlingue	Sandripples more regular and vertical
25/09/2011 08:39:07	Sorlingue	Echinoid
25/09/2011 08:40:09	Sorlingue	Sandripples, Cidaris, gravel
25/09/2011 08:40:45	Sorlingue	Broken coral fragment, cerianthid
25/09/2011 08:41:36	Sorlingue	Coral fragment dead
25/09/2011 08:42:01	Sorlingue	Trachyscorpia, burrows, lebenspurren
25/09/2011 08:42:50	Sorlingue	Bonellia?
25/09/2011 08:44:11	Sorlingue	Sandripples with biogenic material, burrows
25/09/2011 08:45:07	Sorlingue	Degradation in sands, asteroid
25/09/2011 08:48:15	Sorlingue	Previous unknown fish

25/09/2011 08:48:29	Sorlingue	escarpement
25/09/2011 08:48:45	Sorlingue	Asteroid, Escarpment
25/09/2011 08:49:16	Sorlingue	asteroid, cerianthids
25/09/2011 08:49:42	Sorlingue	2 Synaphobranchus, Mora
25/09/2011 08:50:07	Sorlingue	Sandripples with gravel and biogenic material?, cerianthids and Bolocera
25/09/2011 08:51:39	Sorlingue	Megaripple structure with broken colonies of corals
25/09/2011 08:52:18	Sorlingue	Some single live coral colonies
25/09/2011 08:52:26	Sorlingue	Broken coral pieces
25/09/2011 08:52:50	Sorlingue	Gorgonians
25/09/2011 08:53:00	Sorlingue	More single live cor colonies
25/09/2011 08:53:19	Sorlingue	Lepidion
25/09/2011 08:53:34	Sorlingue	Antipatharian, live coral colonies, broken
25/09/2011 08:54:17	Sorlingue	gorgonians, single live colonies, Cidaris
25/09/2011 08:54:20	Sorlingue	Heremite crab
25/09/2011 08:54:49	Sorlingue	Lepidion
25/09/2011 08:54:51	Sorlingue	More live coral colonies, broken pieces, 2 asteroid spieces, Antipatharian, Macrouridae.
25/09/2011 08:55:55	Sorlingue	Bathynectes, gorgonians, antipatharians, live coral colonies, sandripples
25/09/2011 08:56:36	Sorlingue	Lepidion, dark fish, Synaphobranchus
25/09/2011 08:57:02	Sorlingue	dark fish
25/09/2011 08:57:18	Sorlingue	Trachyscorpia, Macrouridae, single live coral colonies, Leiopathes, Parantipathes, sandripples
25/09/2011 08:58:31	Sorlingue	Lepidion, Parantipathes, Leiopathes
25/09/2011 08:59:24	Sorlingue	asteroid, undetermined gorgonian, antipatharians, coral colonies
25/09/2011 09:00:16	Sorlingue	Patchy live coral colonies, lots of antipatharians, fish, cerianthids

25/09/2011 09:01:17	Sorlingue	Antipatharians
25/09/2011 09:01:37	Sorlingue	More sand, less live coral colonies
25/09/2011 09:02:33	Sorlingue	Coral fragments, sand
25/09/2011 09:03:22	Sorlingue	rachyscorpia, coral fragments, live and dead coral colonies, sand
25/09/2011 09:04:00	Sorlingue	Antipatharians, cerianthids, small debris flow covering existing corals?, live coral colonies
25/09/2011 09:04:45	Sorlingue	More live and dead coral colonies, antipatharians, cerianthids, Bathynectes
25/09/2011 09:05:25	Sorlingue	Antipatharians, live coral colonies, Cidaris
25/09/2011 09:05:57	Sorlingue	Patch destroyed cause unknown, cerianthids
25/09/2011 09:06:19	Sorlingue	slope with live and dead patchy coral colonies, lots of antipatharians
25/09/2011 09:07:07	Sorlingue	Antipatharian, Bathynectes, Narella
25/09/2011 09:07:47	Sorlingue	Gorgonian
25/09/2011 09:08:25	Sorlingue	Live coral colonies, Bathypathes, Antipatharians,
25/09/2011 09:09:12	Sorlingue	Petit terrace with nothing
25/09/2011 09:09:27	Sorlingue	Cerianthids, patchy live coral colonies, antipatharians (at least 3 species)
25/09/2011 09:10:16	Sorlingue	Gorgonian
25/09/2011 09:10:34	Sorlingue	Trachyscorpia, cerianthids
25/09/2011 09:10:55	Sorlingue	Leiopathes, live coral colonies
25/09/2011 09:11:22	Sorlingue	Narella
25/09/2011 09:11:57	Sorlingue	Antipatharians
25/09/2011 09:12:21	Sorlingue	Patchy live coral colonies, antipatharians (at least 3 species)
25/09/2011 09:13:02	Sorlingue	Lepidion, sponge
25/09/2011 09:13:32	Sorlingue	Previous sponge
25/09/2011 09:14:17	Sorlingue	Gorgonian, Coralimorphia, antipatharians, cidaris

25/09/2011 09:14:41	Sorlingue	Antipatharian?
25/09/2011 09:15:16	Sorlingue	Antipatharian, gorgonian
25/09/2011 09:15:30	Sorlingue	Cerianthid, gorgonian
25/09/2011 09:15:43	Sorlingue	plastic???
25/09/2011 09:16:12	Sorlingue	Antipatharian
25/09/2011 09:16:22	Sorlingue	Less live coral colonies, sandripples
25/09/2011 09:16:46	Sorlingue	Acanthogorgia?
25/09/2011 09:17:04	Sorlingue	Sandripples, some coral colonies
25/09/2011 09:17:36	Sorlingue	Sandripples, no corals
25/09/2011 09:18:52	Sorlingue	Coral fragment, biogenic material
25/09/2011 09:20:00	Sorlingue	Gravel
25/09/2011 09:20:06	Sorlingue	Lepidion, ledge, sandripples, gravel
25/09/2011 09:20:37	Sorlingue	Cerianthids, fish, ledge, sandripples
25/09/2011 09:20:57	Sorlingue	Sabbelidae?
25/09/2011 09:21:47	Sorlingue	previous escarpement
25/09/2011 09:22:18	Sorlingue	unknown structure
25/09/2011 09:22:34	Sorlingue	escarpement with epifauna
25/09/2011 09:22:54	Sorlingue	fish, ledges
25/09/2011 09:23:06	Sorlingue	chimaera
25/09/2011 09:23:28	Sorlingue	Escarpement, step-like structure area
25/09/2011 09:24:08	Sorlingue	blocks of rock, cerianthids
25/09/2011 09:24:49	Sorlingue	Forkbeard, coral fragment
25/09/2011 09:25:18	Sorlingue	blocks of rocks, single live coral colonies
25/09/2011 09:25:57	Sorlingue	Chimaera, boudler

25/09/2011 09:26:19	Sorlingue	cobbles with anemone, live coral colonies, coral fragments
25/09/2011 09:26:51	Sorlingue	Plastic
25/09/2011 09:27:25	Sorlingue	cobbles, Chaceon crab, single live colonies
25/09/2011 09:27:40	Sorlingue	Sandripples with gravel, no corals
25/09/2011 09:27:56	Sorlingue	Single live coral colonies
25/09/2011 09:28:23	Sorlingue	Dead Narella?
25/09/2011 09:28:52	Sorlingue	Patchy live coral colonies with sand and coral fragments in between
25/09/2011 09:29:01	Sorlingue	Plastic
25/09/2011 09:29:35	Sorlingue	Single live coral colonies, sandripples
25/09/2011 09:30:20	Sorlingue	cobbles, pebbles, single live coral colonies, cerianthids
25/09/2011 09:31:00	Sorlingue	More single coral colonies, broken coral pieces, Cidaris,
25/09/2011 09:31:58	Sorlingue	Sandripples, coral colonies
25/09/2011 09:32:15	Sorlingue	previous shark
25/09/2011 09:33:10	Sorlingue	2 fish
25/09/2011 09:33:11	Sorlingue	more single live coral colonies, broken coral pieces
25/09/2011 09:36:44	Sorlingue	relief, mud
25/09/2011 09:37:14	Sorlingue	some coral debris, crab, macrouridae, mud
25/09/2011 09:38:44	Sorlingue	fish (Holosaurus?), coral debris
25/09/2011 09:39:02	Sorlingue	sandripples with gravel and coral debris
25/09/2011 09:39:37	Sorlingue	Single live coral colony, relief, mud, coral debris
25/09/2011 09:40:08	Sorlingue	small wire?
25/09/2011 09:40:22	Sorlingue	Relief with cerianthids, fish
25/09/2011 09:40:56	Sorlingue	Vertical alignment of sand cause unknown
25/09/2011 09:42:11	Sorlingue	escarpment

25/09/2011 09:42:42	Sorlingue	hole
25/09/2011 09:42:54	Sorlingue	step like terrace with coral fragments at the end
25/09/2011 09:42:58	Sorlingue	coral fragments
25/09/2011 09:43:33	Sorlingue	step like terrace with coral fragments at the end, fish
25/09/2011 09:49:34	Sorlingue	Vertical marks, cause unknown, cerianthids, sandripples
25/09/2011 09:51:56	Sorlingue	Relief
25/09/2011 09:52:33	Sorlingue	Degradation, cerianthids
25/09/2011 09:53:26	Sorlingue	relief, echinoid
25/09/2011 09:53:46	Sorlingue	Live single coral colony
25/09/2011 09:54:12	Sorlingue	Currentripples
25/09/2011 09:54:24	Sorlingue	Anemone
25/09/2011 09:55:00	Sorlingue	Anemones
25/09/2011 09:55:29	Sorlingue	relief
25/09/2011 09:55:53	Sorlingue	Relief, Lepidion, current ripples
25/09/2011 09:56:18	Sorlingue	anemones, fish, sandripples
25/09/2011 09:57:02	Sorlingue	Anemones, fish
25/09/2011 09:57:44	Sorlingue	Change of alignment ripples
25/09/2011 09:58:05	Sorlingue	Sandripples, Cidaris, asteroid
25/09/2011 10:03:56	Sorlingue	Start of watch: Anna +Cecile P, decapod and actinaria
25/09/2011 10:04:38	Sorlingue	fish
25/09/2011 10:05:27	Sorlingue	actinaria
25/09/2011 10:07:45	Sorlingue	hardground wall
25/09/2011 10:11:25	Sorlingue	ridge, pebbles and cobbles, fish
25/09/2011 10:13:04	Sorlingue	scattered coral colonies, Cidaris, Crinoids

25/09/2011 10:16:56	Sorlingue	steep wall with mostly dead coral, crinoids, cidaris
25/09/2011 10:21:39	Sorlingue	sandy slope with cobbles and pebbles
25/09/2011 10:25:48	Sorlingue	wall with large boulders, Cidaris, Cerianthids, Asteroid, fish
25/09/2011 10:28:14	Sorlingue	sandy flat with cerianthids
25/09/2011 10:28:33	Sorlingue	Mora
25/09/2011 10:30:16	Sorlingue	rippled sand
25/09/2011 10:33:46	Sorlingue	Asteroid (Pseudarchaster?) on rippled sand
25/09/2011 10:35:59	Sorlingue	Galeus sp.
25/09/2011 10:40:03	Sorlingue	Helicolenus sp.
25/09/2011 10:40:48	Sorlingue	Rattail
25/09/2011 10:42:35	Sorlingue	Sand with anenomes
25/09/2011 10:43:39	Sorlingue	Calveriosoma sp.
25/09/2011 10:45:06	Sorlingue	scattered coral colonies, Antipatharians, Crinoids
25/09/2011 10:48:45	Sorlingue	vertical view, scattered coral with Parantipathes, Antipatharians, fish, Leiopathes, Cidaris
25/09/2011 10:51:06	Sorlingue	large formation of hardground, Cerianthids, Cidaris
25/09/2011 10:56:35	Sorlingue	sandy mud with Cidaris
25/09/2011 10:57:57	Sorlingue	scattered coral, Leiopathes, Cidaris, fish
25/09/2011 11:02:47	Sorlingue	Trachyscorpia cristulata echinata, scattered coral on sandy mud, Leiopathes
25/09/2011 11:05:01	Sorlingue	vertical view: cerianthids, asteroids, Lophelia colonies, Cidaris, Leiopathes
25/09/2011 11:07:54	Sorlingue	going down slope, fish, scattered coral colonies on sandy mud, cerianthids
25/09/2011 11:08:47	Sorlingue	step-like terraces
25/09/2011 11:12:25	Sorlingue	mud with cerianthids, cidaris
25/09/2011 11:13:42	Sorlingue	octopus

25/09/2011 11:15:38	Sorlingue	vertical view of terraces with fish
25/09/2011 11:18:00	Sorlingue	mud with cerianthids, cidaris, eel-like fish
25/09/2011 11:21:48	Sorlingue	Mora
25/09/2011 11:23:19	Sorlingue	rippled sand/mud
25/09/2011 11:24:09	Sorlingue	fishing line
25/09/2011 11:25:04	Sorlingue	actinians on rippled sand/mud
25/09/2011 11:26:16	Sorlingue	a lot of eel-like fish (Synaphobranchus?)
25/09/2011 11:26:54	Sorlingue	fish
25/09/2011 11:27:56	Sorlingue	plain of rippled sand/mud with eel-like fish
25/09/2011 11:43:22	Sorlingue	mud
25/09/2011 11:46:44	Sorlingue	ripples, Cidaris
25/09/2011 11:47:22	Sorlingue	Asteroid
25/09/2011 11:49:33	Sorlingue	Ray
25/09/2011 11:50:49	Sorlingue	Asteroid on rippled sand/mud
25/09/2011 11:55:59	Sorlingue	Molva sp.
25/09/2011 11:56:26	Sorlingue	Molva sp.
25/09/2011 11:57:36	Sorlingue	mud/sand with mainly Cidaris, Cerianthids
25/09/2011 11:59:01	Sorlingue	Mora
25/09/2011 11:59:55	Sorlingue	Trachyscorpia cristulata echinata
25/09/2011 12:02:13	Sorlingue	fish
25/09/2011 12:03:04	Sorlingue	fish
25/09/2011 12:06:32	Sorlingue	Galeus sp.
25/09/2011 12:07:31	Sorlingue	Lepidion, Coral rubble, Leiopathes, Cidaris

25/09/2011 12:08:59	Sorlingue	dead framework with some life coral colonies, Leiopathes, Cidaris, Cerianthidae
25/09/2011 12:10:23	Sorlingue	top of ridge, small path of dense coral framework, lots of Leiopathes
25/09/2011 12:10:50	Sorlingue	conger eel
25/09/2011 12:12:29	Sorlingue	slope with mainly dead framework, Leiopathes, Cerianthids, Cidaris, Helicolenus
25/09/2011 12:15:47	Sorlingue	steep slope with mainly dead coral framework
25/09/2011 12:16:29	Sorlingue	desviating from transect at point AUTT1 to see if coral reef extents upslope
25/09/2011 12:23:10	Sorlingue	large coral build-up with white and pink Lophelia
25/09/2011 12:23:32	Sorlingue	conger eel
25/09/2011 12:34:39	Sorlingue	slope with dead coral framework/rubble with lots of Leiopathes sp.
25/09/2011 12:35:30	Sorlingue	Phycis sp.
25/09/2011 12:36:29	Sorlingue	slope with dead coral framework/rubble with lots of Leiopathes, Parantipathes sp., Cidaris
25/09/2011 12:39:04	Sorlingue	sand/mud slope with scattered dead coral framework, some living colonies, Phelliactis sp., Leiopathes sp., Cidaris
25/09/2011 12:40:59	Sorlingue	top of ridge
25/09/2011 12:43:30	Sorlingue	muddy flat with Cidaris
25/09/2011 12:44:08	Sorlingue	again scattered coral framework, Leiopathes, Cerianthids, Cidaris
25/09/2011 12:45:35	Sorlingue	again scattered coral framework with some life colonies, Leiopathes, Cerianthids, Cidaris
25/09/2011 12:47:57	Sorlingue	madrepora, leiopathes
25/09/2011 12:49:34	Sorlingue	slope going down, leiopathes
25/09/2011 12:52:00	Sorlingue	cidaris, many leiopathes
25/09/2011 12:53:23	Sorlingue	mud with cidaris and cerianthids
25/09/2011 13:12:20	Sorlingue	slope down with cerianthids

25/09/2011 13:14:21	Sorlingue	looks like hadground rocks, but there are many cerianthids
25/09/2011 13:15:50	Sorlingue	slope down
25/09/2011 13:16:56	Sorlingue	harground, cidaris, cerianthids, asteroids (ceramaster?)
25/09/2011 13:19:21	Sorlingue	wall, colored hardground, cidaris, fish
25/09/2011 13:20:16	Sorlingue	steep slope
25/09/2011 13:21:58	Sorlingue	colored hardground, like terraces
25/09/2011 13:22:47	Sorlingue	top of a cliff, crabs
25/09/2011 13:25:12	Sorlingue	two crabs
25/09/2011 13:31:23	Sorlingue	edge of the cliff, terrace like, cerianthids
25/09/2011 13:37:50	Sorlingue	coral rubble
25/09/2011 13:39:29	Sorlingue	crab
25/09/2011 13:42:31	Sorlingue	fish, cerianthids
25/09/2011 14:00:09	Sorlingue	Start of watch for Angela and Andreia
25/09/2011 14:01:11	Sorlingue	Boulder
25/09/2011 14:01:30	Sorlingue	Boulder in sediment - same as above
25/09/2011 14:02:13	Sorlingue	Cidaris
25/09/2011 14:02:33	Sorlingue	Scleractinian
25/09/2011 14:04:22	Sorlingue	Current ripples on sediment
25/09/2011 14:04:48	Sorlingue	Interesting landscape
25/09/2011 14:05:24	Sorlingue	Cidaris
25/09/2011 14:06:47	Sorlingue	Chimeras
25/09/2011 14:08:21	Sorlingue	Ripples still present
25/09/2011 14:10:15	Sorlingue	Fish, pebbles
25/09/2011 14:11:02	Sorlingue	Rock and Cidaris

25/09/2011 14:12:06	Sorlingue	Cidaris and sediment ripples
25/09/2011 14:12:40	Sorlingue	Pebbles and rocks in sediment
25/09/2011 14:13:19	Sorlingue	Ripples, Trachyscorpia, Cidaris
25/09/2011 14:14:22	Sorlingue	Ray
25/09/2011 14:16:06	Sorlingue	Lots of Cidaris in area
25/09/2011 14:16:49	Sorlingue	Coral rubble at the bottom of mud slide, 3.2m height face
25/09/2011 14:18:35	Sorlingue	Lots of Cerianthus
25/09/2011 14:20:44	Sorlingue	Crab under rock
25/09/2011 14:22:01	Sorlingue	Lots of fish
25/09/2011 14:22:31	Sorlingue	Fish - with black spot on tail
25/09/2011 14:23:39	Sorlingue	Lophelia - dead
25/09/2011 14:25:38	Sorlingue	Coral rubble becoming more abundant, Cidaris
25/09/2011 14:26:29	Sorlingue	Coral rubble
25/09/2011 14:26:56	Sorlingue	Coral rubble becoming more abundant
25/09/2011 14:27:52	Sorlingue	Markings or scars on bottom
25/09/2011 14:30:58	Sorlingue	Crab
25/09/2011 14:31:12	Sorlingue	Cliff face with lots of Cerianthus or stalked anemone
25/09/2011 14:32:46	Sorlingue	Anemone and barnacle on boulder
25/09/2011 14:34:48	Sorlingue	Anemone and Cidaris
25/09/2011 14:37:09	Sorlingue	Sea star on rock and gastropod
25/09/2011 14:39:47	Sorlingue	Cidaris
25/09/2011 14:42:28	Sorlingue	Crab hiding under rock
25/09/2011 14:45:59	Sorlingue	End of transect, leaving for quadrat to collect Lophelia and Madrepora for genetics

25/09/2011 14:46:37	Sorlingue	Anemones
25/09/2011 14:50:01	Sorlingue	Fish with black stripes
25/09/2011 14:50:44	Sorlingue	Coral rubble and lots of Cidaris
25/09/2011 14:52:06	Sorlingue	Cidaris
25/09/2011 14:52:21	Sorlingue	Lots of Cidaris
25/09/2011 14:53:03	Sorlingue	Crab
25/09/2011 14:53:25	Sorlingue	Fishing line
25/09/2011 14:54:05	Sorlingue	Fishing line showing thick Lophelia aggregates
25/09/2011 14:54:30	Sorlingue	Close up of fishing line with Lophelia growing on it
25/09/2011 14:55:15	Sorlingue	Fishing line with Lophelia - different angle
25/09/2011 14:55:28	Sorlingue	Anemone and crab
25/09/2011 14:56:31	Sorlingue	Coral rubble
25/09/2011 14:56:46	Sorlingue	Coral rubble with Cidaris
25/09/2011 14:57:37	Sorlingue	Antipatharian and Cidaris in coral rubble
25/09/2011 14:58:41	Sorlingue	Mora mora and antipatharians
25/09/2011 15:01:27	Sorlingue	Cidaris, antipatharian and rubble
25/09/2011 15:02:10	Sorlingue	Madrepora and Cidaris
25/09/2011 15:03:06	Sorlingue	Interesting landscape, possible mud slide
25/09/2011 15:05:29	Sorlingue	Large crab on bottom
25/09/2011 15:06:07	Sorlingue	Lots of Cidaris
25/09/2011 15:06:42	Sorlingue	Entering live reef area? live coral appearing
25/09/2011 15:07:32	Sorlingue	Madrepora
25/09/2011 15:08:05	Sorlingue	Cidaris
25/09/2011 15:08:12	Sorlingue	Antipatharian garden

25/09/2011 15:08:45	Sorlingue	Lots of Ceriantharia
25/09/2011 15:09:14	Sorlingue	Antipatharian, Lophelia, Madrepora
25/09/2011 15:09:53	Sorlingue	Paranthipathes and Leiopathes
25/09/2011 15:10:15	Sorlingue	Paranthipathes and Leiopathes, Lophelia, Cidaris
25/09/2011 15:10:15	Sorlingue	Paranthipathes and Leiopathes
25/09/2011 15:11:00	Sorlingue	Paranthipathes and Leiopathes, Lophelia, Cidaris, and unid antipatharian
25/09/2011 15:11:00	Sorlingue	Leiopathes and other antipatharian
25/09/2011 15:11:27	Sorlingue	unid Antipatharian and crab
25/09/2011 15:11:52	Sorlingue	Antipatharian and Madrepora
25/09/2011 15:14:33	Sorlingue	Madrepora, unid Antipatharian
25/09/2011 15:15:01	Sorlingue	Leiopathes, unid Antipatharian - possibly another species of Leiopathes, gray colour
25/09/2011 15:15:29	Sorlingue	Lots of Leiopathes, unid Antipatharian (Leiopathes?)
25/09/2011 15:17:18	Sorlingue	Leiopathes and unid antipatharian, Cidaris, Lophelia
25/09/2011 15:17:55	Sorlingue	Coral garden
25/09/2011 15:19:21	Sorlingue	Trachyscorpia cristulata echinata
25/09/2011 15:21:33	Sorlingue	Mora mora
25/09/2011 15:22:03	Sorlingue	Unid antipatharian (Leiopathes?)
25/09/2011 15:24:37	Sorlingue	Trachyscorpia
25/09/2011 15:26:08	Sorlingue	Pennatulid
25/09/2011 15:26:52	Sorlingue	Gastropod shell, Cidaris and fish
25/09/2011 15:27:12	Sorlingue	Back in coral garden
25/09/2011 15:28:02	Sorlingue	Change in landscape - sediment
25/09/2011 15:28:39	Sorlingue	Lots of Cidaris in this area

25/09/2011 15:28:58	Sorlingue	Back in coral garden
25/09/2011 15:32:13	Sorlingue	Small silver fish
25/09/2011 15:37:57	Sorlingue	Leiopathes, Cidaris, unid Anthipatharian, scleractinians
25/09/2011 15:40:40	Sorlingue	Lots of talked anemone - cerianthus, and antipatharians
25/09/2011 15:41:02	Sorlingue	Cerianthus
25/09/2011 15:41:41	Sorlingue	Lush coral garden, lots of antipatharian
25/09/2011 15:42:15	Sorlingue	Monk fish
25/09/2011 15:44:08	Sorlingue	Lots of ceriantid
25/09/2011 15:45:34	Sorlingue	Cerianthid
25/09/2011 15:46:16	Sorlingue	Yellow unid antipatharian
25/09/2011 15:47:01	Sorlingue	Shark
25/09/2011 15:48:24	Sorlingue	Lots of stalked anemone - Ceriantids
25/09/2011 15:50:30	Sorlingue	Unid Asteroid for taxonomy
25/09/2011 15:51:31	Sorlingue	Leiopathes, unid antipatharian, unid asteroid, Cidaris, Lophelia, madrepora
25/09/2011 15:53:09	Sorlingue	Lots of stalked anemone - cerianthids
25/09/2011 15:56:37	Sorlingue	Lots of Ceriantids
25/09/2011 15:57:16	Sorlingue	Lophelia
25/09/2011 15:59:13	Sorlingue	Ceriantids and Leiopathes
25/09/2011 16:01:39	Sorlingue	4mn- Arrival at sampling area
25/09/2011 16:01:49	Sorlingue	Live Lophelia in distance
25/09/2011 16:07:05	Sorlingue	4mn - still in same spot, we were stationary
25/09/2011 16:07:41	Sorlingue	Conger hiding in coral
25/09/2011 16:12:15	Sorlingue	Conger in coral
25/09/2011 16:12:37	Sorlingue	Anemone

25/09/2011 16:13:59	Sorlingue	Conger
25/09/2011 16:15:35	Sorlingue	Beautiful Leiopathes
25/09/2011 16:16:00	Sorlingue	Start of the quart of Anthony (Andreia never left)
25/09/2011 16:16:21	Sorlingue	PRELEVEMENT FAUNE CCA3 sample of Lophelia
25/09/2011 16:18:36	Sorlingue	sample of Lophelia in AUTT_1 CCA3
25/09/2011 16:24:48	Sorlingue	placement of Lophelia from AUTT_1 to CCA3
25/09/2011 16:25:50	Sorlingue	sample of Madrepora at AUTT1 CCA3
25/09/2011 16:26:28	Sorlingue	Placement of Madrepora at AUTT1 in CCA3
25/09/2011 16:26:55	Sorlingue	sample of Cidaris at AUTT1 CCA3
25/09/2011 16:27:44	Sorlingue	Cidaris at AUTT1 in CCA3
25/09/2011 16:30:27	Sorlingue	sample of Leiopathes at AUTT1 CCA3
25/09/2011 16:31:20	Sorlingue	Leiopathes at AUTT1 in CCA3 - blew away with current
25/09/2011 16:33:08	Sorlingue	Leiopathes at AUTT1 in CCA3 - second try
25/09/2011 16:46:19	Sorlingue	PRELEVEMENT FAUNE CCA8 sample of Lophelia at AUTT2
25/09/2011 16:48:59	Sorlingue	Lophelia at AUTT2 in CCA8
25/09/2011 16:51:49	Sorlingue	sample of Madrepora at AUTT2 - dropped
25/09/2011 16:54:58	Sorlingue	sample of Cidaris at AUTT2 CCA8
25/09/2011 16:56:46	Sorlingue	Cidaris at AUTT2 in CCA8
25/09/2011 16:57:00	Sorlingue	Anthony changed shift with Cecile (Andreia were still there)
25/09/2011 16:59:47	Sorlingue	sample of Madrepora at AUTT2 CCA8
25/09/2011 17:00:24	Sorlingue	Madrepora at AUTT2 in CCA8
25/09/2011 17:01:15	Sorlingue	sample of Ceriantid at AUTT2 - failed
25/09/2011 17:02:50	Sorlingue	sample of Leiopathes at AUTT2 CCA8
25/09/2011 17:03:14	Sorlingue	leiopathes at AUTT2 in CCA8

25/09/2011 17:05:03	Sorlingue	sample of Ceriantid at AUTT2 CCA8
25/09/2011 17:05:50	Sorlingue	Ceriantid at AUTT2 in CCA8
25/09/2011 17:16:44	Sorlingue	unid Antipatharian
25/09/2011 17:18:49	Sorlingue	unid Antipatharian
25/09/2011 17:21:10	Sorlingue	PRELEVEMENT FAUNE GBT-3 sample of unid Antipatharian at AUTT3
25/09/2011 17:22:28	Sorlingue	Unid antipatharian from AUTT3 into GBT
25/09/2011 17:25:04	Sorlingue	Stalked bryozoan
25/09/2011 17:30:00	Sorlingue	End of Andreaia shift
25/09/2011 17:31:25	Sorlingue	PRELEVEMENT FAUNE CCA2 sample of Madrepora at AUTT3
25/09/2011 17:32:54	Sorlingue	Madrepora at AUTT3 in CCA2
25/09/2011 17:33:52	Sorlingue	sample of Leiopathes at AUTT3 CCA2
25/09/2011 17:34:37	Sorlingue	Leiopathes at AUTT3 into CCA2
25/09/2011 17:40:09	Sorlingue	sample of Lophelia at AUTT4 CCA2
25/09/2011 17:40:43	Sorlingue	sample of Lophelia at AUTT4 CCA2
25/09/2011 17:41:17	Sorlingue	Lophelia at AUTT4 CCA2
25/09/2011 17:42:24	Sorlingue	sample of Hexadella at AUTT4 CCA2
25/09/2011 17:43:14	Sorlingue	Hexadella at AUTT4 into CCA2
25/09/2011 17:50:58	Sorlingue	Pre collection of unid Antipatharian
25/09/2011 18:01:03	Sorlingue	PRELEVEMENT FAUNE CCA5 unid Antipatharian from AUTT5
25/09/2011 18:02:00	Sorlingue	QUART Yann and Tom
25/09/2011 18:08:25	Sorlingue	sample Madrepora at AUTT_5 CCA5
25/09/2011 18:09:46	Sorlingue	Madrepora CCA5
25/09/2011 18:12:53	Sorlingue	RedFish
25/09/2011 18:13:24	Sorlingue	sample Lophelia at AUTT_5 in CCA5

25/09/2011 18:15:28	Sorlingue	Lophelia in CCA5
25/09/2011 18:17:23	Sorlingue	sample Cidaris at AUTT_5 in CCA5
25/09/2011 18:23:26	Sorlingue	Conger conger
25/09/2011 18:24:38	Sorlingue	Swimmer crab
25/09/2011 18:29:45	Sorlingue	Shinny fish
25/09/2011 18:37:59	Sorlingue	PRELEVEMENT FAUNE CCA7 sample ASTEROID and HEXADELLA AUTT_6
25/09/2011 18:45:45	Sorlingue	sample Madrepora AUTT_6 in CCA7
25/09/2011 18:46:38	Sorlingue	AUTT6
25/09/2011 18:46:52	Sorlingue	sample Lophelia AUTT_6 in CCA7
25/09/2011 18:49:14	Sorlingue	Lophelia in CCA7
25/09/2011 18:50:03	Sorlingue	sample LEIOPATHES AUTT_6 in CCA7
25/09/2011 18:58:59	Sorlingue	PRELEVEMENT FAUNE CCA1 sample Lophelia at AUTT_7
25/09/2011 19:02:25	Sorlingue	sample Cidaris at AUTT_7 in CCA1
25/09/2011 19:03:55	Sorlingue	sample Madrepora at AUTT_7 in CCA1
25/09/2011 19:06:08	Sorlingue	sample Leiopathes at AUTT_7 in CCA1
25/09/2011 19:15:32	Sorlingue	PRELEVEMENT FAUNE CCA4 sample Lophelia, Madrepora, Hexadella, Porania and Leiopathes at AUTT_8
25/09/2011 19:19:39	Sorlingue	Hexadella + Madrepora in CCA4
25/09/2011 19:25:19	Sorlingue	Porania
25/09/2011 19:26:19	Sorlingue	Porania
25/09/2011 19:31:18	Sorlingue	Leiopathes at AUTT_8 in CCA4
25/09/2011 19:33:43	Sorlingue	sample Cerianthid at AUTT_8 in CCA4
25/09/2011 19:49:55	Sorlingue	PRELEVEMENT FAUNE CCA6 sample Madrepora with Crinoid at AUTT_9
25/09/2011 19:51:03	Sorlingue	

25/09/2011 19:55:42	Sorlingue	sample Lophelia at AUTT_9 in CCA6
25/09/2011 19:56:35	Sorlingue	Lophelia in CCA6
25/09/2011 19:57:34	Sorlingue	sample Cidaris at AUTT_9 in CCA6
25/09/2011 19:59:24	Sorlingue	Cidaris in CCA6
25/09/2011 20:00:35	Sorlingue	sample Leiopathes at AUTT_9 in CCA6
25/09/2011 20:02:52	Sorlingue	Crab at AUTT_9
25/09/2011 20:03:00	Sorlingue	QUART Inge and Chris
25/09/2011 20:03:01	Sorlingue	Crab
25/09/2011 20:13:41	Sorlingue	Inscription of vertical camera not present from 18:26:00 to 20:13:01
25/09/2011 20:17:08	Sorlingue	ascenseur
25/09/2011 20:17:58	Sorlingue	Forkbeard
25/09/2011 20:20:38	Sorlingue	Taking out CC A from ROV
25/09/2011 20:21:06	Sorlingue	Shrimps, Munida
25/09/2011 20:29:19	Sorlingue	CC A on bottom
25/09/2011 20:32:20	Sorlingue	Medusa
25/09/2011 20:32:39	Sorlingue	fish
25/09/2011 20:36:59	Sorlingue	Weight ascenseur with Chaceon crab
25/09/2011 20:37:20	Sorlingue	Ascenseur grabbed by ROV
25/09/2011 20:38:56	Sorlingue	Ascenseur open
25/09/2011 20:48:49	Sorlingue	CC B in ROV
25/09/2011 20:56:24	Sorlingue	CC C out of ascenseur
25/09/2011 20:57:22	Sorlingue	Forkbeard
25/09/2011 21:01:46	Sorlingue	CC C on bottom
25/09/2011 21:03:04	Sorlingue	Two coralcases on the bottom

25/09/2011 21:08:45	Sorlingue	Go to north of quadrate for further sampling
25/09/2011 21:15:58	Sorlingue	Antipatharian
25/09/2011 21:16:20	Sorlingue	Sponge?
25/09/2011 21:21:44	Sorlingue	Arrival on sample point
25/09/2011 21:25:25	Sorlingue	Surrounding sample Madrepora, Desmophyllum, Antipatharian, crinoid CCB8 and Lophelia
25/09/2011 21:26:29	Sorlingue	sample Madrepora, Desmophyllum, antipatharian, crinoid CCB8
25/09/2011 21:29:33	Sorlingue	Helicolenus
25/09/2011 21:33:47	Sorlingue	PRELEVEMENT FAUNE CCB8 sample Lophelia in CCB8
25/09/2011 21:35:11	Sorlingue	Empty claw
25/09/2011 21:36:28	Sorlingue	Helicolenus
25/09/2011 21:39:02	Sorlingue	PRELEVEMENT FAUNE CCB5 sample Madrepora, AUTT 12
25/09/2011 21:39:46	Sorlingue	sample Madrepora CCB5
25/09/2011 21:41:25	Sorlingue	sample Madrepora in CCB5
25/09/2011 21:42:09	Sorlingue	sample Lophelia CCB5, AUTT 12
25/09/2011 21:44:24	Sorlingue	sample Lophelia in CCB5
25/09/2011 21:44:46	Sorlingue	Glittering of fish and/or krill
25/09/2011 21:46:40	Sorlingue	Many silver fish
25/09/2011 21:52:20	Sorlingue	PRELEVEMENT FAUNE CCB3 sample Madrepora, AUTT 13
25/09/2011 21:55:47	Sorlingue	sample Madrepora in CCB3
25/09/2011 21:57:27	Sorlingue	sample Lophelia CCB3
25/09/2011 22:00:52	Sorlingue	Forkbeard, unknown silver fish
25/09/2011 22:02:00	Sorlingue	debut quart Valerie et Julie
25/09/2011 22:04:36	Sorlingue	point remarquable AUTT13 - choix echantillon Lophelia pour CC-B3

25/09/2011 22:05:03	Sorlingue	prelevement CC-B3 Lophelia AUTT13
25/09/2011 22:09:08	Sorlingue	fin prelevement CC-B3 Lophelia sur AUTT13
25/09/2011 22:10:39	Sorlingue	choix retour ascenseur pour manip microbio plutot que fin remplissage casier a corail
25/09/2011 22:37:32	Sorlingue	depot CC-B pas rempli au pied ascenseur sur leste, pas trouve CC-A depose precedemment au pied ascenseur ni CC-C qui n'est plus dans ascenseur
25/09/2011 22:56:34	Sorlingue	PBT1 s'est accrochee dans l'ascenseur donc ouverture pour prelevement d'eau pour microbio julie et on la laisse dans ascenseur cote panier 2, PBT2 dans panier ROV
25/09/2011 23:01:38	Sorlingue	CC-B n'est plus sur leste ascenseur, a deja commence a glisser sur pente
25/09/2011 23:06:01	Sorlingue	ouverture casier 1 de ascenseur pour prendre boites microbio et carottier tube
25/09/2011 23:13:49	Sorlingue	transfert PBT5, PBT6 et PBT3 depuis ascenseur cote 1 dans panier ROV
25/09/2011 23:17:52	Sorlingue	recuperation carottier tube dans ascenseur, manip microbio avec carottier monopolisant sherpa
25/09/2011 23:25:07	Sorlingue	retour vers quadrat 1 d'echantillonnage, au-dessus AUTT8
26/09/2011 00:03:36	Sorlingue	choix zone prelevement microbio AUTT14
26/09/2011 00:04:20	Sorlingue	ouverture PBT3 directement dans panier ROV
26/09/2011 00:06:37	Sorlingue	Lophelia selectionne pour PBT3 sur point AUTT14
26/09/2011 00:07:23	Sorlingue	PRELEVEMENT FAUNE PBT-3 de Lophelia pertusa au point AUTT14
26/09/2011 00:09:24	Sorlingue	fin prelevement PBT3 pour valerie de Lophelia pertusa sur AUTT14
26/09/2011 00:20:48	Sorlingue	tentative ouverture PBT5 dans panier ROV
26/09/2011 00:29:16	Sorlingue	succes ouverture PBT5
26/09/2011 00:32:24	Sorlingue	reperage eponge pour julie sur AUTT14
26/09/2011 00:33:38	Sorlingue	congre autour ROV
26/09/2011 00:34:35	Sorlingue	gros plan sur congre

26/09/2011 00:36:41	Sorlingue	PRELEVEMENT FAUNE PBT-5 eponge pour julie sur AUTT14
26/09/2011 00:38:37	Sorlingue	fin prelevement PBT5 eponge pour Julie
26/09/2011 00:40:46	Sorlingue	reperage eponge 2 pour PBT5 a nouveau
26/09/2011 00:43:19	Sorlingue	prelevement PBT5 eponge 2 pour Julie sur AUTT14
26/09/2011 00:45:45	Sorlingue	fin prelevement PBT5 eponges 1 et 2 pour Julie sur AUTT14
26/09/2011 00:50:29	Sorlingue	ouverture PBT2 dans panier ROV
26/09/2011 00:57:43	Sorlingue	PRELEVEMENT FAUNE PBT-2 Madrepora oculata sur AUTT14
26/09/2011 00:57:57	Sorlingue	photo Madrepora pour PBT2 microbiologie valerie
26/09/2011 01:02:03	Sorlingue	fin prelevement Madrepora oculata PBT2 microbiologie
26/09/2011 01:11:54	Sorlingue	PRELEVEMENT CT8 sur sediment pres des colonies prelevees PBT3 et PBT2 pour microbiologie AUTT14
26/09/2011 01:15:11	Sorlingue	CT8 a moitie rempli apres verrouillage
26/09/2011 01:17:40	Sorlingue	fin prelevement CT8 sediment sur AUTT14
26/09/2011 01:23:57	Sorlingue	PRELEVEMENT CT7 sediment zone prelevements PBT3, PBT5 et PBT2 sur AUTT14
26/09/2011 01:25:32	Sorlingue	verrouillage CT7
26/09/2011 01:27:02	Sorlingue	echec prelevement CT7 quasi vide
26/09/2011 01:36:41	Sorlingue	erreur sur purge PEP1, passage a PEP2
26/09/2011 01:43:30	Sorlingue	PRELEVEMENT PEP-2 sur zone prelevement PBT2 et PBT3 AUTT_14 - 8 min
26/09/2011 01:51:00	Sorlingue	fin prelevement PEP2 502 sec
26/09/2011 01:53:07	Sorlingue	PRELEVEMENT PEP-3 meme endroit
26/09/2011 01:54:07	Sorlingue	PRELEVEMENT PEP-4 meme endroit
26/09/2011 01:55:27	Sorlingue	purge PEP5
26/09/2011 01:56:01	Sorlingue	PRELEVEMENT PEP-5 meme endroit
26/09/2011 01:56:46	Sorlingue	purge PEP6

26/09/2011 01:57:12	Sorlingue	PRELEVEMENT PEP-6 meme endroit
26/09/2011 01:57:53	Sorlingue	purge PEP7
26/09/2011 01:59:57	Sorlingue	PRELEVEMENT PEP-7 meme endroit
26/09/2011 02:00:39	Sorlingue	purge PEP8
26/09/2011 02:01:12	Sorlingue	PRELEVEMENT PEP-8
26/09/2011 02:02:05	Sorlingue	purge PEP9
26/09/2011 02:02:49	Sorlingue	PRELEVEMENT PEP-9
26/09/2011 02:03:33	Sorlingue	purge PEP10
26/09/2011 02:04:22	Sorlingue	PRELEVEMENT PEP-10
26/09/2011 02:06:44	Sorlingue	crabe
26/09/2011 02:09:36	Sorlingue	Silver fish - Paralepididae, and Cidaris
26/09/2011 02:11:20	Sorlingue	Watch change over - Anthony and Angela start
26/09/2011 02:22:54	Sorlingue	Carotier placed in ROV
26/09/2011 02:29:21	Sorlingue	PBT6 placed in ROV
26/09/2011 02:36:05	Sorlingue	Lot of Leiopathes and unid antipatharian (Leiopathes?)
26/09/2011 02:38:34	Sorlingue	Conger, Cidaris, anemone
26/09/2011 02:43:15	Sorlingue	PRELEVEMENT FAUNE PBT-6 Hexadella sponge at AUTT15
26/09/2011 02:47:19	Sorlingue	sample of Hexadella sponge at AUTT15
26/09/2011 02:48:13	Sorlingue	Hexadella sponge at AUTT15 into PBT6
26/09/2011 02:50:59	Sorlingue	Conger
26/09/2011 02:51:09	Sorlingue	Conger
26/09/2011 02:51:33	Sorlingue	End of PBT and Carotier, return to elevator to collect CCB
26/09/2011 02:53:23	Sorlingue	Conger in antipatharian garden
26/09/2011 02:53:48	Sorlingue	Lophelia, Madrepora and antipatharians

26/09/2011 02:58:19	Sorlingue	Arrival at elevator
26/09/2011 03:02:17	Sorlingue	PBT6 opened during placement in elevator
26/09/2011 03:18:15	Sorlingue	Pelagic fish - still at elevator
26/09/2011 03:32:25	Sorlingue	Collection of two coral cases - to be placed in elevator
26/09/2011 03:51:40	Sorlingue	CCA into elevator
26/09/2011 04:07:27	Sorlingue	changing shift - Andreia and Sandra
26/09/2011 04:10:58	Sorlingue	Putting coral case C in the bottom
26/09/2011 04:13:16	Sorlingue	leiopathes
26/09/2011 04:15:29	Sorlingue	CCB again in ROV for doing more sampling
26/09/2011 04:40:33	Sorlingue	Autt-16
26/09/2011 04:41:21	Sorlingue	sponge
26/09/2011 04:41:56	Sorlingue	Ceriantharia - purple
26/09/2011 04:43:13	Sorlingue	PRELEVEMENT FAUNE CCB7 sample of Lophelia,AUTT-16
26/09/2011 04:44:08	Sorlingue	sample of Lophelia in CCB7,AUTT-16
26/09/2011 04:45:48	Sorlingue	sample of Madrepora and Leiopathes to be in CCB7,AUTT-16
26/09/2011 04:47:38	Sorlingue	sample of Madrepora and Leiopathes in CCB7,AUTT-16
26/09/2011 04:49:55	Sorlingue	sample of Leiopathes grey to be in CCB7,AUTT-16
26/09/2011 04:51:19	Sorlingue	sample of Leiopathes grey in CCB7,AUTT-16
26/09/2011 04:52:26	Sorlingue	sample of Cidaris to be in CCB7,AUTT-16
26/09/2011 04:53:46	Sorlingue	Actiniaria and solitary corals (Scleractinia)
26/09/2011 04:54:10	Sorlingue	sample of Cidaris in CCB7,AUTT-16
26/09/2011 04:59:34	Sorlingue	Leiopathes- beautiful
26/09/2011 05:00:56	Sorlingue	PRELEVEMENT FAUNE CCB6 sample of Madrepora, AUTT-17
26/09/2011 05:01:43	Sorlingue	Leiopathes-taxonomy image

26/09/2011 05:02:42	Sorlingue	sample of Madrepora in CCB6,AUTT-17
26/09/2011 05:04:52	Sorlingue	sample of Lophelia to be in CCB6,AUTT-17
26/09/2011 05:05:52	Sorlingue	sample of Lophelia to be in CCB6,AUTT-17
26/09/2011 05:08:05	Sorlingue	sample of Leiopathes to be in CCB6,AUTT-17
26/09/2011 05:09:07	Sorlingue	sample of Leiopathes in CCB6,AUTT-17
26/09/2011 05:11:21	Sorlingue	sample of Lophelia to be in CCB6,AUTT-17
26/09/2011 05:12:11	Sorlingue	sample of Acanthogorgia to be in CCB6,AUTT-17
26/09/2011 05:13:18	Sorlingue	sample of Acanthogorgia in CCB6,AUTT-17
26/09/2011 05:20:10	Sorlingue	lost leiopathes is from CCB7 - rov rack
26/09/2011 05:23:22	Sorlingue	AUTT-18 - NB: one piece of sampling during next quarter from AUTT20 in CCB2 (Madrepora)
26/09/2011 05:26:27	Sorlingue	PRELEVEMENT FAUNE CCB2 sample of Lophelia,AUTT-18
26/09/2011 05:27:57	Sorlingue	sample of Lophelia in CCB2,AUTT-18
26/09/2011 05:29:32	Sorlingue	sample of Madrepora to be in CCB2,AUTT-18
26/09/2011 05:31:10	Sorlingue	Crab
26/09/2011 05:31:32	Sorlingue	sample of Madrepora in CCB2,AUTT-18
26/09/2011 05:32:42	Sorlingue	sample of Leiopathes to be in CCB2,AUTT-18
26/09/2011 05:33:46	Sorlingue	sample of Leiopathes in CCB2,AUTT-18
26/09/2011 05:39:07	Sorlingue	PRELEVEMENT FAUNE CCB1 AUTT-19 - NB: one piece of sampling during next quarter from AUTT20 (Madrepora)
26/09/2011 05:40:42	Sorlingue	sample of Madrepora in CCB1 ,AUTT-19
26/09/2011 05:41:37	Sorlingue	sample of Madrepora in CCB& ,AUTT-19
26/09/2011 05:43:09	Sorlingue	sample of Madrepora in CCB1 ,AUTT-19
26/09/2011 05:44:48	Sorlingue	sample of Lophelia to be in CCB1 ,AUTT-19
26/09/2011 05:45:50	Sorlingue	sample of Lophelia in CCB1 ,AUTT-19

26/09/2011 05:47:21	Sorlingue	sample of Leiopathes to be in CCB1 ,AUTT-19
26/09/2011 05:48:12	Sorlingue	sample of Leiopathes in CCB1 ,AUTT-19
26/09/2011 05:49:32	Sorlingue	sample of Asteroidea to be in CCB1 ,AUTT-19
26/09/2011 05:50:28	Sorlingue	sample of Asteroidea in CCB1 ,AUTT-19
26/09/2011 05:53:02	Sorlingue	sample of Cidaris in CCB1 ,AUTT-19
26/09/2011 05:53:29	Sorlingue	Antipatharian
26/09/2011 05:55:57	Sorlingue	sample of Antipatharian - not branched- to be in CCB1 ,AUTT-19
26/09/2011 05:58:14	Sorlingue	sample of Antipatharian - not branched- in CCB1 ,AUTT-19
26/09/2011 06:05:02	Sorlingue	QUART Eric and Inge
26/09/2011 06:11:03	Sorlingue	Surroundings sample area
26/09/2011 06:11:21	Sorlingue	PRELEVEMENT FAUNE CCB4 sample Lophelia, AUTT 20
26/09/2011 06:12:02	Sorlingue	sample Lophelia CCB4
26/09/2011 06:13:00	Sorlingue	No inscription on vertical camera from 04:41:56 to 06:24:49
26/09/2011 06:18:29	Sorlingue	sample Madrepora and Leiopathes CCB4, AUTT 20
26/09/2011 06:24:49	Sorlingue	Three colours of Leiopathes together
26/09/2011 06:26:49	Sorlingue	sample Antipatharian CCB4, AUTT 20
26/09/2011 06:30:30	Sorlingue	sample Leiopathes orange and crinoid CCB4, AUTT20
26/09/2011 06:33:46	Sorlingue	sample orange Leiopathes in CCB4
26/09/2011 06:36:28	Sorlingue	Left sample area to go to ascenseur
26/09/2011 06:53:16	Sorlingue	Ascenseur
26/09/2011 07:06:43	Sorlingue	CC B in ascenseur
26/09/2011 07:11:47	Sorlingue	Ascenseur closed
26/09/2011 07:14:23	Sorlingue	Many unknown silver fishes
26/09/2011 07:35:35	Sorlingue	Lift triggered and recovery started

26/09/2011 07:53:01	Sorlingue	cable de l'ascenseur avec chaine
26/09/2011 07:55:33	Sorlingue	casier+cable ascenseur laissé avec chaine
26/09/2011 08:14:42	Sorlingue	PRELEVEMENT FAUNE CCC3 sample AUTT21 Lophelia+Madrepora+Liopathes orange
26/09/2011 08:40:45	Sorlingue	PRELEVEMENT FAUNE CCC5 sample ATT22 lophelia + Madrepora
26/09/2011 08:49:03	Sorlingue	PRELEVEMENT FAUNE CCC4 sample ATT23 lophelia + Leiopathes.départ vers point suivant
26/09/2011 09:17:20	Sorlingue	PRELEVEMENT FAUNE CCC7 sample AUTT24 Madrepora Lophelia
26/09/2011 09:21:52	Sorlingue	Fin d'écht AUTT24
26/09/2011 09:28:23	Sorlingue	PRELEVEMENT FAUNE CCC1 sample AUTT25: Lophelia Madrepora Leiopathes + antip. blanc/gris
26/09/2011 09:40:20	Sorlingue	rien sur les deux points du milieu a part une lotte
26/09/2011 09:40:32	Sorlingue	Lotte
26/09/2011 09:45:21	Sorlingue	PRELEVEMENT FAUNE CCC6 sample sur AUTT 26 Lophelia+Madrepora + Leiopathes+ Anthipathaire gris après un désert depuis ATT25, incluant les 2 points aléatoires a mi parcours.
26/09/2011 09:57:23	Sorlingue	PRELEVEMENT FAUNE CCC2 sample AUTT27 Madrepora + Leiopathes
26/09/2011 09:58:03	Sorlingue	QUART: Sophie et Giulia
26/09/2011 10:03:00	Sorlingue	sample Leiopathe, Madrepora CCC2 AUTT27
26/09/2011 10:16:30	Sorlingue	Site AUTT28
26/09/2011 10:17:29	Sorlingue	PRELEVEMENT FAUNE CCC8 sample Lophelia Leiopathes AUTT28
26/09/2011 10:23:00	Sorlingue	sample Lophelia CCC2 AUTT29
26/09/2011 10:27:00	Sorlingue	sample Madrepora CCC8 AUTT29
26/09/2011 10:34:14	Sorlingue	Arrivée sur AUTT30
26/09/2011 10:36:36	Sorlingue	PRELEVEMENT FAUNE GBT-1 sample Madrepora AUTT30
26/09/2011 10:49:03	Sorlingue	PRELEVEMENT FAUNE GBT-2 AUTT31, Lophelia + Leiopathes jaune

26/09/2011 10:56:27	Sorlingue	sample Cidaris GBT2 AUTT31
26/09/2011 11:00:25	Sorlingue	change of shift: Anna and Giulia, end of genetic sampling, going to waypoint NWPT to continue exploratory dive
26/09/2011 11:09:26	Sorlingue	mixed sediment and shark
26/09/2011 11:12:03	Sorlingue	start recording vertical camera
26/09/2011 11:14:33	Sorlingue	dropstones, Leiopathes, isolated coral colony
26/09/2011 11:24:36	Sorlingue	Lepidon, isolated madreporas
26/09/2011 11:30:47	Sorlingue	Dead coral framework, Parantipathes, Leiopathes, Cidaris, isolated living coral colonies
26/09/2011 11:34:29	Sorlingue	approaching waypoint NWPT, continue exploratory transect
26/09/2011 11:35:50	Sorlingue	rippled sand, Helicolenus sp.
26/09/2011 11:39:36	Sorlingue	Molva sp.
26/09/2011 11:39:51	Sorlingue	fishing gear, Molva sp., Chimaera
26/09/2011 11:40:10	Sorlingue	Molva sp. and fish
26/09/2011 11:41:49	Sorlingue	rippled sand
26/09/2011 11:43:05	Sorlingue	no reef, so speeding up to finish transect
26/09/2011 11:45:18	Sorlingue	desert of rippled sand, Cidaris
26/09/2011 11:47:00	Sorlingue	Molva sp.
26/09/2011 11:50:13	Sorlingue	Molva sp.
26/09/2011 11:50:45	Sorlingue	Molva sp.
26/09/2011 11:51:44	Sorlingue	Macrouridae, Shark
26/09/2011 11:52:00	Sorlingue	Macrouridae
26/09/2011 11:52:30	Sorlingue	Scorpeniformes
26/09/2011 11:55:00	Sorlingue	Trachyscorpia
26/09/2011 11:55:33	Sorlingue	Molva sp., Cidaris

26/09/2011 11:55:56	Sorlingue	fish
26/09/2011 11:57:08	Sorlingue	hardground (carbonated sand?)
26/09/2011 11:58:37	Sorlingue	2 macrouridae
26/09/2011 12:01:15	Sorlingue	dropstone
26/09/2011 12:02:06	Sorlingue	"stopping transect at POI ""end of transect"", ROV coming back up"

10. Dive report 472 - 10

Submersible : Victor 6000

Starting Dive : 26/09/2011 22:10

Arrival on the bottom: 27/09/2011 00:16

Deprture from the bottom: 27/09/2011 05:10

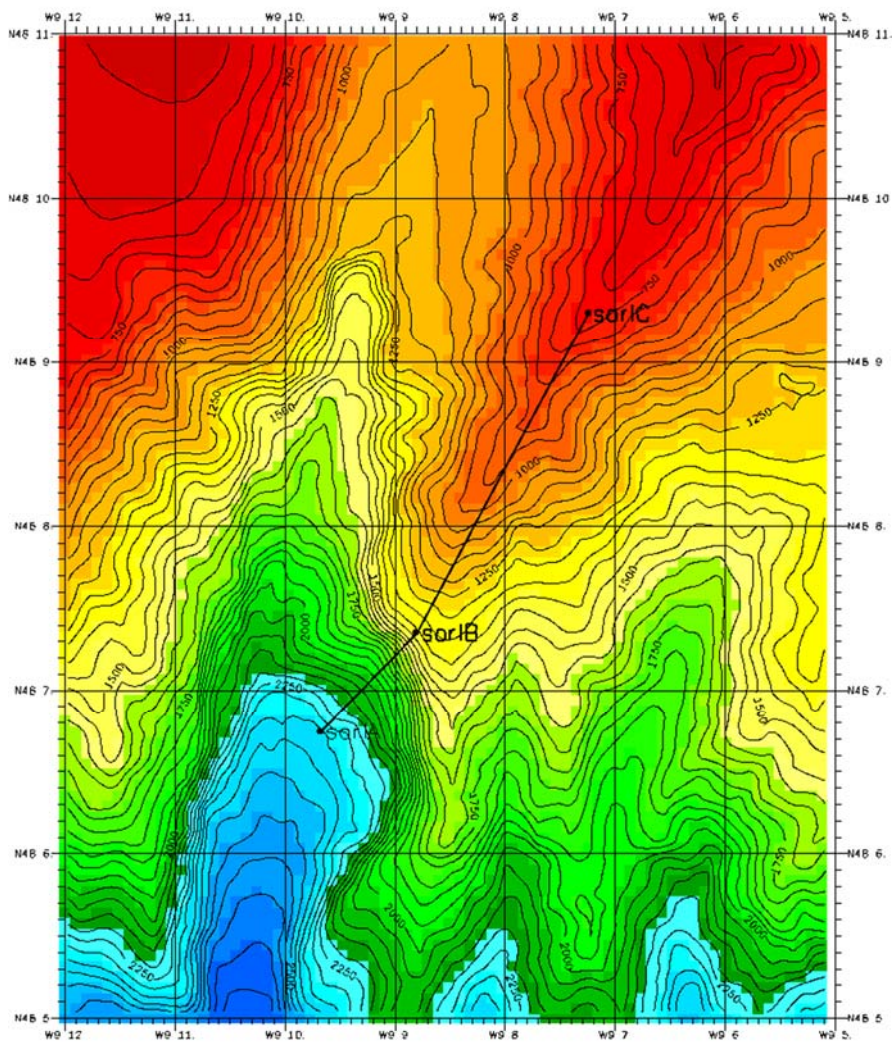
Ending dive : 27/09/2011 06:40

Location : Sorlingue

Dives objectives :

BobEco - Dive 472-10 Exploratory dive

Canyon de Sorlingue



Point d'immersion et début de transect:

· N48°06.480 W9°09.800 Sonde approx 2420m

TU: 26/09 21:00 à 27/09 05:00

Important things not to forget:

- Do the calibration of the grid at several altitude of the ROV at the FIRST FLAT AREA encountered)
- Don't forget to do nice pictures if cliffs are beautiful
- Sample stone in the bottom and highest point of each of the two cliffs

Total Duration : 8h deck to deck

Time on the 'bottom' : 6h (3.2 miles)

Objectives :

- Exploration of the canyon and of the cliffs

Summary :

Visited locations : Sorlingue,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
VESLIN Mathieu	IFREMER BREST
GREHAN Anthony	NUIGalway
STEVENSON Angela	UNIV DUBLIN IRELAND
BECHELER Ronan	IFREMER BREST
PERTUISOT Cecile	IFREMER BREST
HENRIQUEZ Andreia Braga	IMAR

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
27/09/2011 02:11:41	Sorlingue	472 - 10	Coral box C		1	N 48 07.210	W 009 09.009	1829	PRELEVEMENT FAUNE CCC1 sample rock
27/09/2011 03:31:10	Sorlingue	472 - 10	Coral box C		2	N 48 07.447	W 009 08.736	1338	PRELEVEMENT FAUNE CCC2

									sample of xenophyophora
27/09/2011 05:05:23	Sorlingue	472 - 10	Coral box C		3	N 48 07.926	W 009 08.360	1040	PRELEVEMENT FAUNE CCC3 sample Pennatulid

No Water sample during this dive ([Up](#))

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
27/09/2011 00:45:49	Sorlingue	fonds vaseux
27/09/2011 00:48:04	Sorlingue	fonds avec légères dépressions
27/09/2011 00:48:51	Sorlingue	poisson
27/09/2011 00:49:42	Sorlingue	poisson
27/09/2011 00:50:09	Sorlingue	?
27/09/2011 00:51:05	Sorlingue	rippled sand with small depressions
27/09/2011 00:51:53	Sorlingue	chimère
27/09/2011 00:52:13	Sorlingue	chimère
27/09/2011 00:52:37	Sorlingue	roches
27/09/2011 00:55:38	Sorlingue	poisson
27/09/2011 00:55:45	Sorlingue	poisson

27/09/2011 01:10:15	Sorlingue	poisson sur fonds sableux
27/09/2011 01:12:49	Sorlingue	chimère
27/09/2011 01:17:12	Sorlingue	poisson
27/09/2011 01:19:57	Sorlingue	fonds sableux
27/09/2011 01:23:02	Sorlingue	poisson
27/09/2011 01:24:01	Sorlingue	chimère
27/09/2011 01:24:48	Sorlingue	poisson (requin?)
27/09/2011 01:26:23	Sorlingue	poisson (cataztyx laticeps?)
27/09/2011 01:27:16	Sorlingue	début de pente
27/09/2011 01:27:34	Sorlingue	astéroïdes
27/09/2011 01:30:01	Sorlingue	crête
27/09/2011 01:32:14	Sorlingue	petit plateau après première grosse pente
27/09/2011 01:32:55	Sorlingue	fonds sableux
27/09/2011 01:37:29	Sorlingue	poulpe
27/09/2011 01:39:26	Sorlingue	ling?
27/09/2011 01:42:45	Sorlingue	anemones?
27/09/2011 01:43:12	Sorlingue	organismes gélatineux mobiles
27/09/2011 01:44:23	Sorlingue	points rocheux avec crinoides?
27/09/2011 01:44:57	Sorlingue	"vue verticale d'une ""marche"""
27/09/2011 01:46:43	Sorlingue	cailloux
27/09/2011 01:47:20	Sorlingue	crinoides?
27/09/2011 01:48:04	Sorlingue	premiers débris de coraux?
27/09/2011 01:49:12	Sorlingue	roussette?
27/09/2011 01:50:15	Sorlingue	roche

27/09/2011 01:51:42	Sorlingue	organisme ?
27/09/2011 01:53:26	Sorlingue	rocher
27/09/2011 01:55:03	Sorlingue	amats de roches + chimère
27/09/2011 01:55:53	Sorlingue	rochers et poissons
27/09/2011 01:56:04	Sorlingue	coraux?
27/09/2011 01:56:20	Sorlingue	partie rocheuse importante
27/09/2011 01:56:25	Sorlingue	chimère
27/09/2011 01:56:32	Sorlingue	partie rocheuse avec astéroïdes et poisson
27/09/2011 02:00:29	Sorlingue	start of the quart of Andreia and Mathieu
27/09/2011 02:03:18	Sorlingue	Pennatulacea
27/09/2011 02:03:45	Sorlingue	Pennatulacea
27/09/2011 02:04:17	Sorlingue	4mn
27/09/2011 02:04:23	Sorlingue	Sea star
27/09/2011 02:05:21	Sorlingue	Crinoid
27/09/2011 02:05:44	Sorlingue	Cliff
27/09/2011 02:08:11	Sorlingue	fish and Pennatulacea
27/09/2011 02:08:52	Sorlingue	4mn
27/09/2011 02:09:08	Sorlingue	Crinoid, Acanella, and Plexaurid?
27/09/2011 02:11:41	Sorlingue	PRELEVEMENT FAUNE CCC1 sample rock
27/09/2011 02:16:11	Sorlingue	sample of rock in CCC1
27/09/2011 02:17:07	Sorlingue	beautiful cliff with crinoids and colonial scleractinians
27/09/2011 02:19:21	Sorlingue	Cliff with sea stars
27/09/2011 02:22:05	Sorlingue	4mn
27/09/2011 02:25:10	Sorlingue	too far- scleractinians

27/09/2011 02:26:10	Sorlingue	4mn
27/09/2011 02:26:34	Sorlingue	Acesta?, antipatharian, Lepidisis, colonial scleractinians
27/09/2011 02:26:44	Sorlingue	Cliff with invertebrate megafauna
27/09/2011 02:34:12	Sorlingue	4mn, stalked crinoid
27/09/2011 02:35:24	Sorlingue	coral rubble and stalked crinoids (black ones)
27/09/2011 02:52:41	Sorlingue	transit again
27/09/2011 02:54:22	Sorlingue	cliff with colonial scleractinians
27/09/2011 02:56:08	Sorlingue	4mn
27/09/2011 03:01:01	Sorlingue	sponge
27/09/2011 03:02:24	Sorlingue	solenosmilia
27/09/2011 03:03:01	Sorlingue	gorgonian
27/09/2011 03:03:43	Sorlingue	end of cliff, Acanella and stalked crinoids
27/09/2011 03:04:28	Sorlingue	4mn, several stalked crinoids
27/09/2011 03:05:02	Sorlingue	oreo fish
27/09/2011 03:05:14	Sorlingue	gorgonian, stalked crinoids and pennatulacea
27/09/2011 03:06:30	Sorlingue	4mn
27/09/2011 03:06:38	Sorlingue	gorgonian
27/09/2011 03:08:59	Sorlingue	end of the cliff
27/09/2011 03:09:02	Sorlingue	Acanella and xenophyophore
27/09/2011 03:10:14	Sorlingue	4mn
27/09/2011 03:10:18	Sorlingue	xenophyophore
27/09/2011 03:14:19	Sorlingue	4 mn
27/09/2011 03:16:35	Sorlingue	stalked sponges and xenophyophore
27/09/2011 03:18:32	Sorlingue	4mn

27/09/2011 03:22:12	Sorlingue	4mn
27/09/2011 03:25:03	Sorlingue	Monk fish
27/09/2011 03:26:52	Sorlingue	4 mn
27/09/2011 03:27:09	Sorlingue	Stalked sponge
27/09/2011 03:27:30	Sorlingue	fish
27/09/2011 03:31:10	Sorlingue	PRELEVEMENT FAUNE CCC2 sample of xenophyophora
27/09/2011 03:33:24	Sorlingue	sample of xenophyophora in CCC2
27/09/2011 03:34:55	Sorlingue	Actiniaria?
27/09/2011 03:35:52	Sorlingue	Pennatulacea
27/09/2011 03:36:17	Sorlingue	Fish
27/09/2011 03:38:36	Sorlingue	4mn
27/09/2011 03:39:07	Sorlingue	Gorgonian
27/09/2011 03:41:24	Sorlingue	Phelliactis?
27/09/2011 03:42:40	Sorlingue	4mn, Acanella
27/09/2011 03:43:44	Sorlingue	Gorgonian
27/09/2011 03:45:25	Sorlingue	sea-urchin
27/09/2011 03:46:05	Sorlingue	Sea-urchin
27/09/2011 03:46:21	Sorlingue	4 mn, Acanella
27/09/2011 03:46:55	Sorlingue	Pennatulacea and Acanella and xenophyophora
27/09/2011 03:48:26	Sorlingue	Chimera
27/09/2011 03:50:04	Sorlingue	4 mn
27/09/2011 03:51:06	Sorlingue	sea -urchin
27/09/2011 03:51:36	Sorlingue	Pennatulacea
27/09/2011 03:52:27	Sorlingue	Cidaris, Stalked spongeand Pennatullacea

27/09/2011 03:54:11	Sorlingue	4mn
27/09/2011 03:55:29	Sorlingue	sea stars and calveriosoma?
27/09/2011 03:56:29	Sorlingue	fish
27/09/2011 03:57:50	Sorlingue	Chimera
27/09/2011 03:57:54	Sorlingue	End of Quart of Andreia and Mathieu
27/09/2011 03:57:56	Sorlingue	Xenophyophora
27/09/2011 03:58:53	Sorlingue	Pharonema capenterii ? strange morph
27/09/2011 03:59:08	Sorlingue	Stalked sponge
27/09/2011 04:00:45	Sorlingue	Stalked sponge
27/09/2011 04:02:06	Sorlingue	Leiopathes
27/09/2011 04:02:36	Sorlingue	Leiopathes
27/09/2011 04:03:52	Sorlingue	Cidaris
27/09/2011 04:04:35	Sorlingue	Asteroid
27/09/2011 04:05:15	Sorlingue	Cidaris
27/09/2011 04:05:34	Sorlingue	Cidaris
27/09/2011 04:05:50	Sorlingue	Stalked sponge
27/09/2011 04:07:25	Sorlingue	Calveriosoma fenestratum an asteroid
27/09/2011 04:08:18	Sorlingue	Xenophyophora and asteroid
27/09/2011 04:11:02	Sorlingue	Lots of asteroids
27/09/2011 04:12:12	Sorlingue	Echinothuriidae, asteroid, stalked sponge
27/09/2011 04:16:09	Sorlingue	Epizooanthus and Xenophyophora
27/09/2011 04:19:11	Sorlingue	Asteroid
27/09/2011 04:24:32	Sorlingue	Pennatulid
27/09/2011 04:25:20	Sorlingue	Pennatulid

27/09/2011 04:26:04	Sorlingue	Pennatulid
27/09/2011 04:26:31	Sorlingue	Epizooanthus
27/09/2011 04:28:11	Sorlingue	Anemone
27/09/2011 04:30:19	Sorlingue	Rabbitfish
27/09/2011 04:31:55	Sorlingue	Vertical camera calibration
27/09/2011 04:32:45	Sorlingue	Calibration plate
27/09/2011 04:54:30	Sorlingue	Pentametracrinus sp.
27/09/2011 04:59:50	Sorlingue	Epizooanthus and crab
27/09/2011 05:05:23	Sorlingue	PRELEVEMENT FAUNE CCC3 sample Pennatulid
27/09/2011 05:05:38	Sorlingue	sample Pennatulid in CCC3
27/09/2011 05:12:25	Sorlingue	Coryphaenoides rupestris

11. Dive report 473 - 11

Submersible : Victor 6000

Starting Dive : 27/09/2011 18:17

Arrival on the bottom: 27/09/2011 19:10

Deprture from the bottom: 28/09/2011 03:48

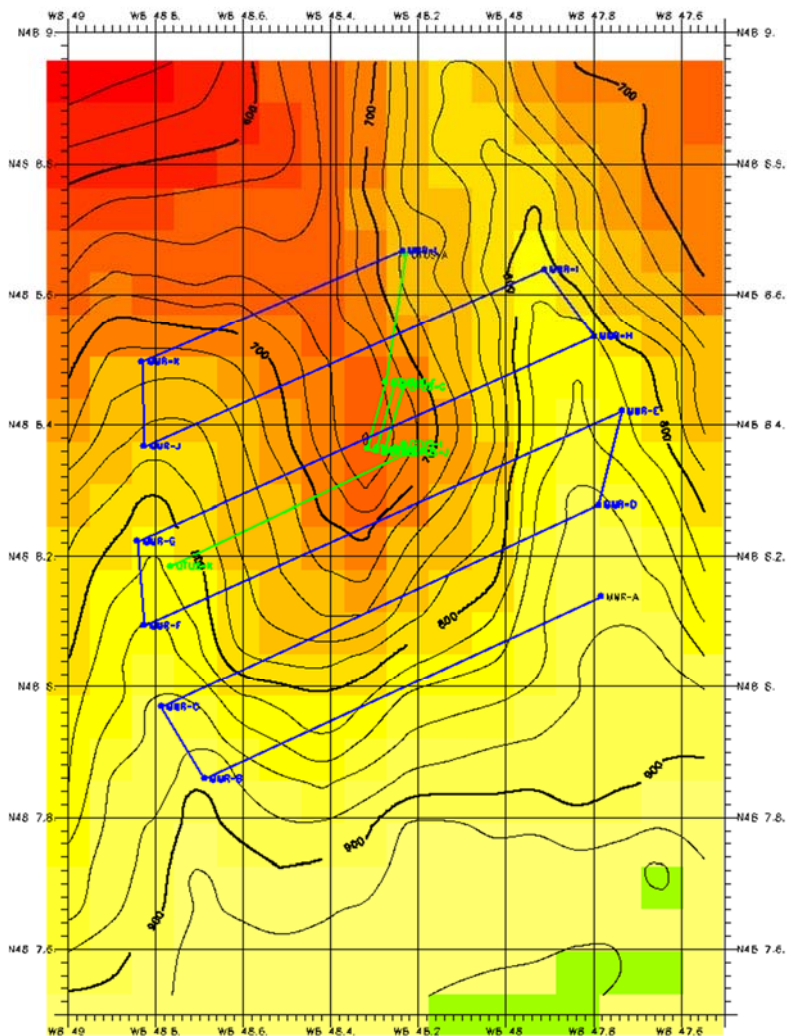
Ending dive : 28/09/2011 05:05

Location : Sorlingue

Dives objectives :

BobEco - Dive 473-11 MMR OTUS dive

Canyon de Petite Sole



Point d'immersion et début de transect:

· N48° 08.138 W 008° 47.783 Sonde approx 850m

TU: 27/09 18:00 à 28/09 06:00

Total Duration : 10h/10h30 deck to deck

Time on the 'bottom' : 8h/8h30

Objectives :

- Bathymetric mapping of the site and OTUS mosaic of the sampling quadrat

Summary :

Visited locations : Sorlingue,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
DOUVILLE Eric	LSCE
LOUBRIEU Benoit	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
PERTUISOT Cecile	IFREMER BREST

No fauna sample during this dive [\(Up\)](#)

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
27/09/2011 20:32:19	Sorlingue	473 - 11	PEP bottle	PEP	3	N 48 07.907	W 008 48.533	838	PRELEVEMENT PEP-3
27/09/2011 22:26:00	Sorlingue	473 - 11	PEP bottle	PEP	4	N 48 08.203	W 008 48.478	720	PRELEVEMENT PEP-4
27/09/2011 23:54:54	Sorlingue	473 - 11	PEP bottle	PEP	5	N 48 08.425	W 008 48.144	685	PRELEVEMENT PEP-5
28/09/2011 00:53:58	Sorlingue	473 - 11	PEP bottle	PEP	6	N 48 08.430	W 008 48.554	718	PRELEVEMENT PEP-6

28/09/2011 02:25:00	Sorlingue	473 - 11	PEP bottle	PEP	7	N 48 08.402	W 008 48.279	619	PRELEVEMENT PEP-7
28/09/2011 02:37:00	Sorlingue	473 - 11	PEP bottle	PEP	8	N 48 08.439	W 008 48.241	627	PRELEVEMENT PEP-8
28/09/2011 03:19:00	Sorlingue	473 - 11	PEP bottle	PEP	9	N 48 08.292	W 008 48.429	700	PRELEVEMENT PEP-9
28/09/2011 03:42:00	Sorlingue	473 - 11	PEP bottle	PEP	10	N 48 08.214	W 008 48.670	779	PRELEVEMENT PEP-10

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
27/09/2011 19:10:00	Sorlingue	Arrivée au fond
27/09/2011 19:51:00	Sorlingue	Début de profil MMR
27/09/2011 20:32:19	Sorlingue	PRELEVEMENT PEP-3
27/09/2011 21:00:00	Sorlingue	Le branchement du capteur immersion du VICTOR sur le SMF resom ne fonctionne pas
27/09/2011 22:26:00	Sorlingue	PRELEVEMENT PEP-4
27/09/2011 22:32:16	Sorlingue	change of shift: Anna and Cecile Pertuisot
27/09/2011 23:13:33	Sorlingue	end of line FE, start of line EH
27/09/2011 23:24:27	Sorlingue	end of line EH, start of line HG
27/09/2011 23:54:54	Sorlingue	PRELEVEMENT PEP-5
28/09/2011 00:32:36	Sorlingue	end of line HG, start of line GJ
28/09/2011 00:46:43	Sorlingue	end of line GJ, start of line JI, transect shifted 20m to get full coverage
28/09/2011 00:53:58	Sorlingue	PRELEVEMENT PEP-6

28/09/2011 01:19:10	Sorlingue	stopping transect JI, descending to 10m altitude to start OTUS
28/09/2011 01:24:58	Sorlingue	arrived at 10m, starting OTUS
28/09/2011 01:34:20	Sorlingue	strong current, VICTOR going backwards
28/09/2011 01:41:18	Sorlingue	releasing weight bag
28/09/2011 01:43:23	Sorlingue	releasing other weight bag
28/09/2011 01:47:25	Sorlingue	boat too far from ROV, asking bridge to stay stationary
28/09/2011 01:52:25	Sorlingue	Molva sp.
28/09/2011 01:59:33	Sorlingue	still going backwards
28/09/2011 02:05:29	Sorlingue	change of shift: Cecile Gonzalez
28/09/2011 02:07:17	Sorlingue	arriving at box - new OTUS profile 1
28/09/2011 02:19:38	Sorlingue	Picture to delete
28/09/2011 02:20:10	Sorlingue	end OTUS profile 1
28/09/2011 02:21:21	Sorlingue	new OTUS profile 2
28/09/2011 02:25:00	Sorlingue	PRELEVEMENT PEP-7
28/09/2011 02:31:33	Sorlingue	end OTUS profile 2
28/09/2011 02:37:00	Sorlingue	PRELEVEMENT PEP-8
28/09/2011 02:49:00	Sorlingue	new OTUS profile 4
28/09/2011 02:53:31	Sorlingue	end of OTUS profile 4 - rotation sur place (recherche de la trajectoire)
28/09/2011 02:55:40	Sorlingue	new OTUS profile 5
28/09/2011 03:19:00	Sorlingue	PRELEVEMENT PEP-9
28/09/2011 03:42:00	Sorlingue	PRELEVEMENT PEP-10
28/09/2011 03:48:02	Sorlingue	end OTUS profile 5 (profile K?)
28/09/2011 03:48:28	Sorlingue	Debut alignement cap récupération ROV
28/09/2011 03:55:37	Sorlingue	Debut remontée ROV

28/09/2011 04:23:36	Sorlingue	requin
28/09/2011 04:28:18	Sorlingue	ROV a 50m
28/09/2011 04:41:43	Sorlingue	banc de poisson

12. Dive report 474 - 12

Submersible : Victor 6000

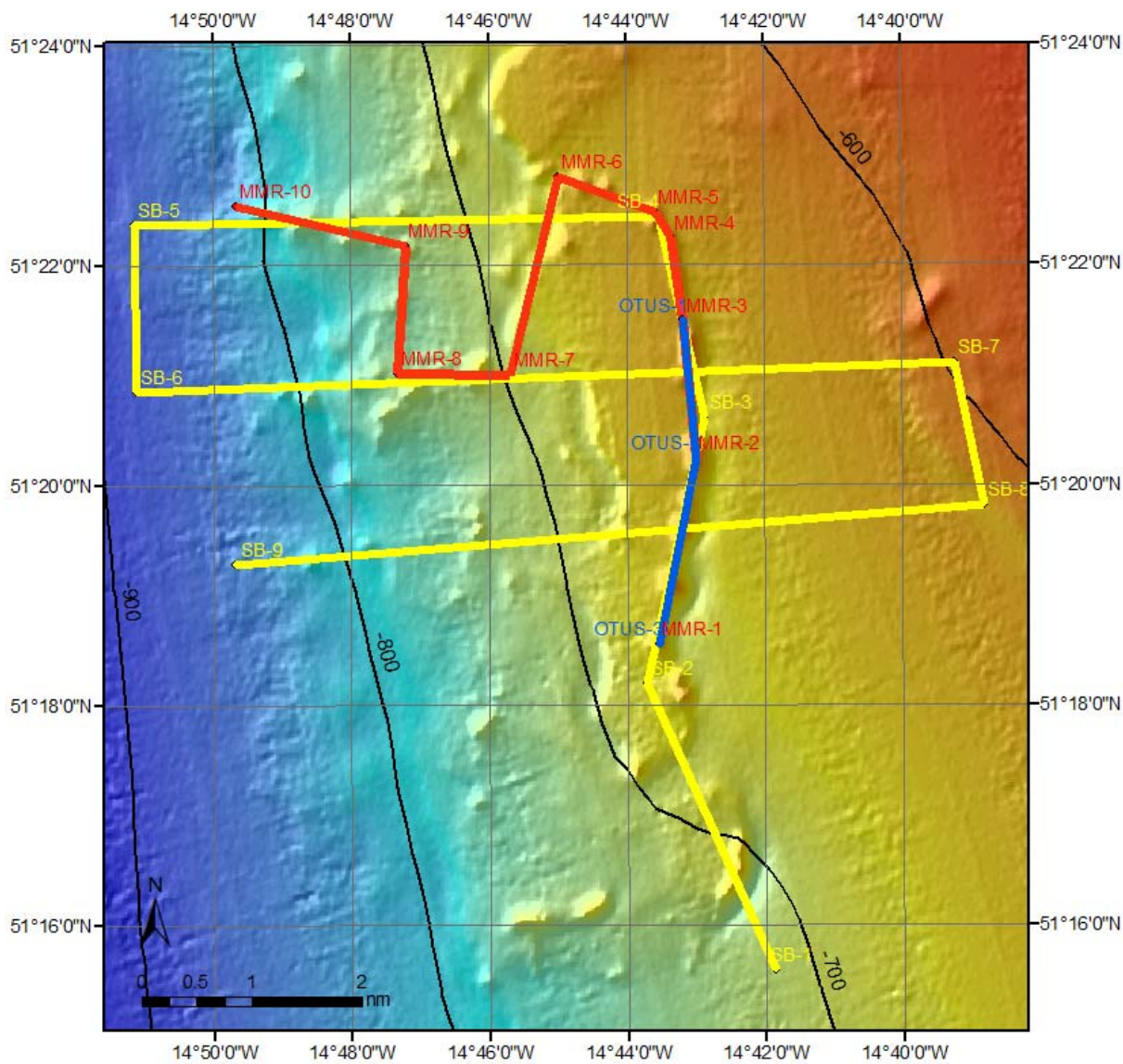
Starting Dive : 29/09/2011 16:31

Arrival on the bottom: 29/09/2011 17:48

Deprture from the bottom: 30/09/2011 14:48

Ending dive : 30/09/2011 16:03

Location : Arc Mounds



Dives objectives :

BobEco - Dive 474-12 MMR OTUS dive

Arc Mounds

Point d'immersion et début de transect:

·N51° 21.5 W 014° 43.179 Sonde approx 700m

TH: 29/09 18:00 à 01/10 05:00

Important things not to forget:

·MMR altitude 70m, max. speed 0.4m/s

OTUS altitude 10m, max. speed 0.4m/s

Total Duration : 35h/35h30 deck to deck

Time on the 'bottom' : 31h/31h30

Objectives :

- Bathymetric mapping of the site with OTUS and MMR

Summary :

Visited locations : Arc Mounds,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
SOUBIGOU Olivier	IFREMER BREST
GREHAN Anthony	NUI Galway
BRULPORT Jean-Pierre	IFREMER BREST
YESSON Chris	ZSL
STEVENSON Angela	UNIV DUBLIN IRELAND
GONZALES Cécile	LSCE

No fauna sample during this dive [\(Up\)](#)

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
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29/09/2011 18:28:00	Arc Mounds	474 - 12	PEP bottle	PEP	3	N 51 21.290	W 014 43.052	594	PRELEVEMENT PEP-3
29/09/2011 18:34:00	Arc Mounds	474 - 12	PEP bottle	PEP	4	N 51 21.291	W 014 43.054	594	PRELEVEMENT PEP-4
29/09/2011 18:34:01	Arc Mounds	474 - 12	PEP bottle	PEP	5	N 51 21.291	W 014 43.054	594	PRELEVEMENT PEP-5
30/09/2011 06:00:00	Arc Mounds	474 - 12	PEP bottle	PEP	6				PRELEVEMENT PEP-6
30/09/2011 07:58:00	Arc Mounds	474 - 12	PEP bottle	PEP	7				PRELEVEMENT PEP-7
30/09/2011 09:31:00	Arc Mounds	474 - 12	PEP bottle	PEP	8				PRELEVEMENT PEP-8
30/09/2011 10:48:09	Arc Mounds	474 - 12	PEP bottle	PEP	9	N 51 21.273	W 014 47.137	754	PRELEVEMENT PEP-9
30/09/2011 14:03:02	Arc Mounds	474 - 12	PEP bottle	PEP	10	N 51 22.302	W 014 47.910	738	PRELEVEMENT PEP-10

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
29/09/2011 17:48:50	Arc Mounds	Arrivee au fond
29/09/2011 18:19:34	Arc Mounds	Lophelia
29/09/2011 18:19:53	Arc Mounds	Lophelia
29/09/2011 18:28:00	Arc Mounds	PRELEVEMENT PEP-3
29/09/2011 18:30:54	Arc Mounds	Lophelia colonies
29/09/2011 18:31:21	Arc Mounds	Close up of polyps

29/09/2011 18:33:00	Arc Mounds	Lophelia colony
29/09/2011 18:33:16	Arc Mounds	Lophelia colony
29/09/2011 18:33:29	Arc Mounds	Vertical camera - coral rubble, Cidaris
29/09/2011 18:33:33	Arc Mounds	Dense Lophelia
29/09/2011 18:34:00	Arc Mounds	PRELEVEMENT PEP-4
29/09/2011 18:34:01	Arc Mounds	PRELEVEMENT PEP-5
29/09/2011 18:34:10	Arc Mounds	stop recording main camera
29/09/2011 18:36:55	Arc Mounds	Putting on multibeam
29/09/2011 18:41:05	Arc Mounds	Fish
29/09/2011 18:41:20	Arc Mounds	Fish
29/09/2011 18:42:47	Arc Mounds	Mound summit, dense coral coverage
29/09/2011 18:49:00	Arc Mounds	start recording main camera
29/09/2011 18:59:00	Arc Mounds	stop recording main camera
29/09/2011 19:58:04	Arc Mounds	Fish
29/09/2011 19:58:08	Arc Mounds	Fish
29/09/2011 19:58:11	Arc Mounds	At summit of mount at OTUS 2 - stopping for photos
29/09/2011 20:00:24	Arc Mounds	Lophelia colony at summit
29/09/2011 20:00:28	Arc Mounds	Lophelia at summit
29/09/2011 20:00:36	Arc Mounds	Lophelia
29/09/2011 20:01:56	Arc Mounds	Lophelia summit
29/09/2011 20:02:04	Arc Mounds	Lophelia summit
29/09/2011 20:02:12	Arc Mounds	Coral colony
29/09/2011 20:02:41	Arc Mounds	Vertical camera close up of living colony
29/09/2011 20:09:55	Arc Mounds	Mature Lophelia bush

29/09/2011 20:10:14	Arc Mounds	Lophelia colony
29/09/2011 20:10:26	Arc Mounds	Redfish in coral patch
29/09/2011 20:11:23	Arc Mounds	Lophelia colony
29/09/2011 20:11:28	Arc Mounds	Redfish - Helicolenus dactylopterus (Blackbelly rosefish)? and Lophelia colony
29/09/2011 20:11:48	Arc Mounds	Redfish - Helicolenus dactylopterus (Blackbelly rosefish)?
29/09/2011 20:47:00	Arc Mounds	stop recording main camera
29/09/2011 21:09:18	Arc Mounds	Top of mound
29/09/2011 21:09:31	Arc Mounds	Some coral in evidence at the top of the mound
29/09/2011 21:10:03	Arc Mounds	Dense coral
29/09/2011 22:39:10	Arc Mounds	Pink and white Lophelia - fish
29/09/2011 22:41:15	Arc Mounds	Lophelia + Leiopathes
29/09/2011 22:41:25	Arc Mounds	Lophelia + Leiopathes
29/09/2011 22:41:34	Arc Mounds	Lophelia + Leiopathes
29/09/2011 22:44:45	Arc Mounds	Lophelia + Leiopathes
29/09/2011 22:45:20	Arc Mounds	Lophelia + Leiopathes
29/09/2011 22:46:34	Arc Mounds	Lophelia + Leiopathes
29/09/2011 22:48:20	Arc Mounds	Lophelia + Leiopathes + large Paramola
29/09/2011 22:48:47	Arc Mounds	Lophelia + Leiopathes
29/09/2011 22:48:56	Arc Mounds	26
29/09/2011 22:49:01	Arc Mounds	Pink and white Lophelia
29/09/2011 22:49:32	Arc Mounds	Paramola
29/09/2011 22:50:09	Arc Mounds	Pink and white Lophelia bush
29/09/2011 22:51:20	Arc Mounds	Dense Lophelia

29/09/2011 22:57:00	Arc Mounds	stop fecording video
29/09/2011 23:04:27	Arc Mounds	Looking for the summit at end of transect
29/09/2011 23:05:27	Arc Mounds	Large Lophelia colony
29/09/2011 23:06:00	Arc Mounds	End of OTUS profile
29/09/2011 23:11:32	Arc Mounds	Lophelia
29/09/2011 23:12:54	Arc Mounds	Living Lophelia bank
29/09/2011 23:14:05	Arc Mounds	Living Lophelia bank
29/09/2011 23:27:00	Arc Mounds	Debut profil MMR
30/09/2011 01:04:00	Arc Mounds	ROV a perdu la PHINS. STATION
30/09/2011 01:13:00	Arc Mounds	Pb resolu, reprise acquisition
30/09/2011 06:00:00	Arc Mounds	PRELEVEMENT PEP-6
30/09/2011 07:58:00	Arc Mounds	PRELEVEMENT PEP-7
30/09/2011 09:31:00	Arc Mounds	PRELEVEMENT PEP-8
30/09/2011 10:06:30	Arc Mounds	change of shift: Anna
30/09/2011 10:11:07	Arc Mounds	end of line 7-8, start of line 8-9
30/09/2011 10:48:09	Arc Mounds	PRELEVEMENT PEP-9
30/09/2011 11:10:49	Arc Mounds	Problem with ROV computer
30/09/2011 11:29:56	Arc Mounds	arrivee Olivier en quart MMR en remplacement Anna
30/09/2011 14:00:18	Arc Mounds	on passe sur camera video permettant de voir PEP
30/09/2011 14:03:02	Arc Mounds	PRELEVEMENT PEP-10
30/09/2011 14:05:24	Arc Mounds	on stoppe acquisition du multibeam et on descend
30/09/2011 14:07:11	Arc Mounds	fin enregistrement sur camera principale HD et on repasse sur cette camera
30/09/2011 14:08:45	Arc Mounds	arrivee sur le fond

30/09/2011 14:09:13	Arc Mounds	arrivee anna en quart
30/09/2011 14:09:48	Arc Mounds	debut enregistrement video du fond sur camera principale HD
30/09/2011 14:10:57	Arc Mounds	Coral rubble
30/09/2011 14:11:56	Arc Mounds	poissons dans coraux
30/09/2011 14:13:06	Arc Mounds	belle vue du massif de corail
30/09/2011 14:13:43	Arc Mounds	poissons dans coraux
30/09/2011 14:14:10	Arc Mounds	oursins
30/09/2011 14:15:13	Arc Mounds	Coral
30/09/2011 14:15:21	Arc Mounds	beau coraux
30/09/2011 14:16:25	Arc Mounds	beaux corux
30/09/2011 14:16:39	Arc Mounds	belle vue avec un poisson
30/09/2011 14:17:10	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:24:08	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:26:02	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:26:55	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:27:13	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:27:38	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:32:02	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:35:17	Arc Mounds	Dense Lophelia at summit - exposure 4.5
30/09/2011 14:36:30	Arc Mounds	Dense Lophelia at summit - strange eel like fish - not well captured
30/09/2011 14:38:40	Arc Mounds	Dense Lophelia at summit - vertical camera
30/09/2011 14:40:38	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:42:05	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:44:45	Arc Mounds	Dense Lophelia at summit

30/09/2011 14:45:16	Arc Mounds	Dense Lophelia at summit
30/09/2011 14:46:06	Arc Mounds	Dense Lophelia at summit

13. Dive report 475 - 13

Submersible : Victor 6000

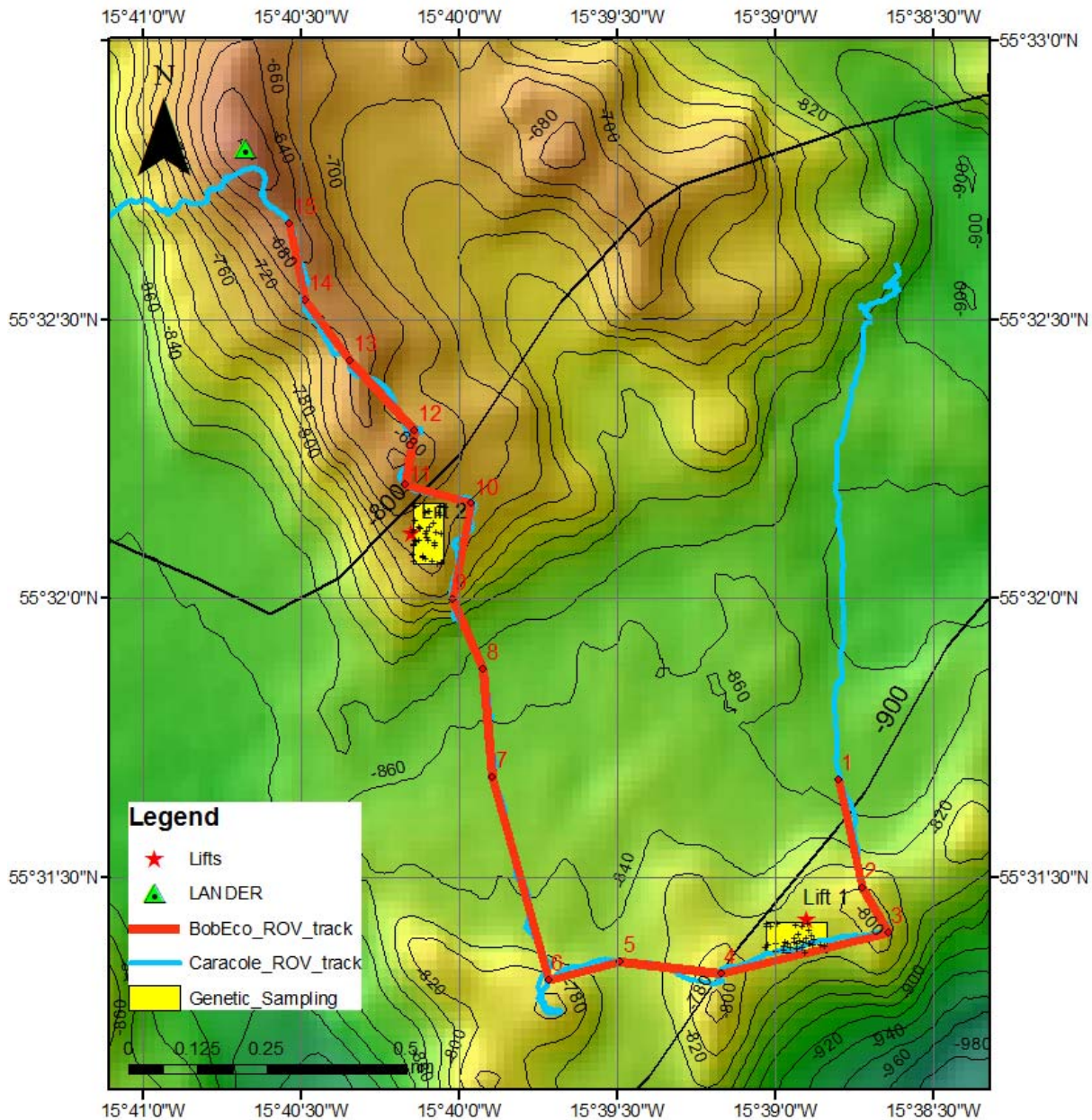
Starting Dive : 01/10/2011 18:55

Arrival on the bottom: 01/10/2011 20:32

Deprture from the bottom: 02/10/2011 09:25

Ending dive : 02/10/2011 10:44

Location : Logachev Mounds



Dives objectives :

BobEco - Dive 475-13 Exploration et prelevement plongee

Logachev Mounds

Point d'immersion et début de transect:

· N55° 31.673 W 015° 38.801 Sonde approx 900m

Total Duration : En fonction de la meteo

Time on the 'bottom' :

Objectives :

-Suivez le Caracole transect fait en 2001.

-Sur quadrat 1 et 2 faire les prelevements systematiques selon les coordonees pour:

L. pertusa (prioritaire) et, si presente a proximite:

M. oculata,

Narella sp.

Sponges

Sea urchins

- Calibration of the ROV vertical camera

- Prélèvement d'eau

Summary :

Visited locations : Logachev Mounds,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
MOALIC Yann	IFREMER BREST
CUEFF Valerie	IFREMER BREST
STEVENSON Angela	UNIV DUBLIN IRELAND
LINLEY Thomas	UNIV ABERDEEN
REVEILLAUD Julie	UNIV GENT
BROCHERAY Sandra	UNIV BORDEAUX I
VAN DEN BELDE Inge	IFREMER BREST
BOUBERT Jean-Jacques	UNIV LA ROCHELLE

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
02/10/2011 02:51:03	Logachev Mounds	475 - 13	Coral box A		1	N 55 31.410	W 015 39.034	808	PRELEVEMENT FAUNE CCA1 sample of Lophelia at AUTT3
02/10/2011 03:00:54	Logachev Mounds	475 - 13	Coral box A		2	N 55 31.410	W 015 39.034	808	PRELEVEMENT FAUNE CCA2 sample of Lophelia at AUTT4
02/10/2011 03:16:51	Logachev Mounds	475 - 13	Coral box A		3	N 55 31.444	W 015 38.988	812	PRELEVEMENT FAUNE CCA3 Madrepora at AUTT5
02/10/2011 03:44:23	Logachev Mounds	475 - 13	Coral box A		4	N 55 31.447	W 015 38.985	813	PRELEVEMENT FAUNE CCA4 sample of Lophelia at AUTT7
02/10/2011 03:26:09	Logachev Mounds	475 - 13	Coral box A		5	N 55 31.462	W 015 38.984	816	PRELEVEMENT FAUNE CCA5 sample of Lophelia at AUTT6
02/10/2011 04:00:13	Logachev Mounds	475 - 13	Coral box A		6	N 55 31.389	W 015 38.967	808	PRELEVEMENT FAUNE CCA6 sample of Madrepora at AUTT8
02/10/2011 04:16:42	Logachev Mounds	475 - 13	Coral box A		7	N 55 31.373	W 015 38.972	806	PRELEVEMENT FAUNE CCA7 sample of Madrepora at AUTT9

02/10/2011 04:26:26	Logachev Mounds	475 - 13	Coral box A		8	N 55 31.366	W 015 38.970	845	PRELEVEMENT FAUNE CCA8 sample of Lophelia at AUTT10
02/10/2011 05:07:08	Logachev Mounds	475 - 13	Coral box B		1	N 55 31.380	W 015 39.021	803	PRELEVEMENT FAUNE CCB1 sample of Lophelia at AUTT11
02/10/2011 05:21:51	Logachev Mounds	475 - 13	Coral box B		2	N 55 31.382	W 015 38.997	806	PRELEVEMENT FAUNE CCB2 sample of Madrepora at AUTT12
02/10/2011 05:48:21	Logachev Mounds	475 - 13	Coral box B		3	N 55 31.464	W 015 38.985	816	PRELEVEMENT FAUNE CCB3 sample of Lophelia at AUTT13
02/10/2011 06:29:44	Logachev Mounds	475 - 13	Coral box B		4	N 55 31.413	W 015 38.907	811	PRELEVEMENT FAUNE CCB4 sample Pink Lophelia at AUTT_15 (petit morceau dans B1)
02/10/2011 06:03:56	Logachev Mounds	475 - 13	Coral box B		5	N 55 31.416	W 015 38.933	810	PRELEVEMENT FAUNE CCB5 sample at AUTT_14 Lophelia pink and white and Madrepora pink and white
02/10/2011 06:48:36	Logachev Mounds	475 - 13	Coral box B		6	N 55 31.419	W 015 38.883	811	PRELEVEMENT FAUNE CCB6

								sample Lophelia at AUTT_16
02/10/2011 07:00:23	Logachev Mounds	475 - 13	Coral box B		7	N 55 31.418	W 015 38.883	811 PRELEVEMENT FAUNE CCB7 sample Hexadella, Pink Madrepora, White Lophelia at AUTT_17
02/10/2011 07:18:03	Logachev Mounds	475 - 13	Coral box B		8	N 55 31.401	W 015 38.888	811 PRELEVEMENT FAUNE CCB8 sample Lophelia at AUTT_18
02/10/2011 08:13:44	Logachev Mounds	475 - 13	Coral box C		1	N 55 31.377	W 015 38.851	809 PRELEVEMENT FAUNE CCC1 sample Lophelia (pink) at AUTT_19
02/10/2011 08:28:19	Logachev Mounds	475 - 13	Coral box C		2	N 55 31.401	W 015 38.907	811 PRELEVEMENT FAUNE CCC2 sample Madrepora at AUTT_20
02/10/2011 08:38:26	Logachev Mounds	475 - 13	Coral box C		4	N 55 31.459	W 015 38.986	817 PRELEVEMENT FAUNE CCC4 sample Madrepora at AUTT_21
02/10/2011 09:14:18	Logachev Mounds	475 - 13	Coral box C		5	N 55 31.397	W 015 38.926	811 PRELEVEMENT FAUNE CCC5 sample Hexadella and Dead Madrepora at AUTT_25
02/10/2011 08:46:44	Logachev Mounds	475 - 13	Coral box C		6	N 55 31.458	W 015 38.983	817 PRELEVEMENT FAUNE CCC6

									sample Lophelia (pink/orange) at AUTT_22
02/10/2011 09:01:28	Logachev Mounds	475 - 13	Coral box C		7	N 55 31.463	W 015 38.978	818	PRELEVEMENT FAUNE CCC7 sample Lophelia (pink) at AUTT_23
02/10/2011 09:05:21	Logachev Mounds	475 - 13	Coral box C		8	N 55 31.464	W 015 38.984	818	PRELEVEMENT FAUNE CCC8 sample Madrepora at AUTT_24
01/10/2011 21:21:42	Logachev Mounds	475 - 13	ROV big box	GBT	1	N 55 31.603	W 015 38.747	848	PRELEVEMENT FAUNE GBT-1 sample gorgonian and Hexadella
01/10/2011 21:09:47	Logachev Mounds	475 - 13	ROV big box	GBT	2	N 55 31.603	W 015 38.748	963	PRELEVEMENT FAUNE GBT-2 sample Hexadella Julie
02/10/2011 01:41:43	Logachev Mounds	475 - 13	ROV big box	GBT	3	N 55 31.414	W 015 39.028	809	PRELEVEMENT FAUNE GBT-3 Hexadella sur point AUTT-2
02/10/2011 00:41:08	Logachev Mounds	475 - 13	Little Collection Box	PBT	1	N 55 31.387	W 015 38.821	812	PRELEVEMENT FAUNE PBT-1 Hexadella (3 specimens) sur point AUTT-2
02/10/2011 00:56:56	Logachev Mounds	475 - 13	Little Collection Box	PBT	2	N 55 31.462	W 015 38.988	817	PRELEVEMENT FAUNE PBT-2 pour Julie sur point AUTT-2
02/10/2011 01:21:28	Logachev Mounds	475 - 13	Little Collection Box	PBT	3	N 55 31.460	W 015 38.991	815	PRELEVEMENT FAUNE PBT-3

									Lophelia pertusa sur point AUTT-2
02/10/2011 01:30:11	Logachev Mounds	475 - 13	Little Collection Box	PBT	4	N 55 31.456	W 015 39.003	815	PRELEVEMENT FAUNE PBT-4 Madrepora (2 colonies) sur point AUTT-2

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
01/10/2011 19:35:14	Logachev Mounds	475 - 13	PEP bottle	PEP	1	N 55 31.682	W 015 38.920	221	PRELEVEMENT PEP-1 on 105 m depth, stops at 125 m
01/10/2011 19:40:36	Logachev Mounds	475 - 13	PEP bottle	PEP	2	N 55 31.684	W 015 38.933	318	PRELEVEMENT PEP-2 on 199 m depth, stop at 225 m
01/10/2011 19:51:43	Logachev Mounds	475 - 13	PEP bottle	PEP	3	N 55 31.697	W 015 38.934	406	PRELEVEMENT PEP-3 at 290 m
01/10/2011 19:57:52	Logachev Mounds	475 - 13	PEP bottle	PEP	4	N 55 31.694	W 015 38.894	512	PRELEVEMENT PEP-4 at 390 m
01/10/2011 20:05:19	Logachev Mounds	475 - 13	PEP bottle	PEP	5	N 55 31.700	W 015 38.851	608	PRELEVEMENT PEP-5 at 490 m
01/10/2011 20:13:06	Logachev Mounds	475 - 13	PEP bottle	PEP	6	N 55 31.697	W 015 38.834	713	PRELEVEMENT PEP-6 start at 596 m, stop at 603 m
01/10/2011 20:18:42	Logachev Mounds	475 - 13	PEP bottle	PEP	7	N 55 31.684	W 015 38.846	810	PRELEVEMENT PEP-7 at 695 m, stops at 704 m

01/10/2011 20:39:27	Logachev Mounds	475 - 13	PEP bottle	PEP	8	N 55 31.700	W 015 38.907	857	PRELEVEMENT PEP-8 at 854 m
01/10/2011 22:16:20	Logachev Mounds	475 - 13	PEP bottle	PEP	9	N 55 31.478	W 015 38.729	785	PRELEVEMENT PEP-9 point 2
01/10/2011 23:27:41	Logachev Mounds	475 - 13	PEP bottle	PEP	10				PRELEVEMENT PEP-10 sur point 3 (ligne bleue)
02/10/2011 01:49:26	Logachev Mounds	475 - 13	PEP bottle	PEP	11	N 55 31.414	W 015 39.029	809	PRELEVEMENT PEP-11 sur point AUTT-2 (purge 30s puis 518s de prelevement) au dessus de Madrepora
02/10/2011 09:23:35	Logachev Mounds	475 - 13	PEP bottle	PEP	12	N 55 31.399	W 015 38.926	810	PRELEVEMENT PEP-12 (seawater 200 mL) at AUTT_25
02/10/2011 09:27:53	Logachev Mounds	475 - 13	PEP bottle	PEP	13	N 55 31.389	W 015 38.936	809	PEP13 (bottle)
02/10/2011 09:59:01	Logachev Mounds	475 - 13	PEP bottle	PEP	14	N 55 31.359	W 015 38.949	810	PRELEVEMENT PEP-14
02/10/2011 09:59:02	Logachev Mounds	475 - 13	PEP bottle	PEP	15	N 55 31.359	W 015 38.949	810	PRELEVEMENT PEP-15
02/10/2011 09:59:03	Logachev Mounds	475 - 13	PEP bottle	PEP	17	N 55 31.359	W 015 38.949	810	PRELEVEMENT PEP-17
02/10/2011 09:59:04	Logachev Mounds	475 - 13	PEP bottle	PEP	18	N 55 31.359	W 015 38.949	810	PRELEVEMENT PEP-18
02/10/2011 09:59:05	Logachev Mounds	475 - 13	PEP bottle	PEP	19	N 55 31.359	W 015 38.949	810	PRELEVEMENT PEP-19

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : [\(Up\)](#)

Date Time	Location	Description
01/10/2011 18:00:00	Logachev Mounds	QUART Inge and Jean-Francois
01/10/2011 18:55:00	Logachev Mounds	Ascenseur au fond
01/10/2011 19:24:18	Logachev Mounds	Stop descent to set up hydrolic system
01/10/2011 19:28:00	Logachev Mounds	Arret du systeme de commande pour essayer de relaner les circuits hydraulique
01/10/2011 19:34:50	Logachev Mounds	Continuing descent with ROV
01/10/2011 19:35:14	Logachev Mounds	PRELEVEMENT PEP-1 on 105 m depth, stops at 125 m
01/10/2011 19:40:36	Logachev Mounds	PRELEVEMENT PEP-2 on 199 m depth, stop at 225 m
01/10/2011 19:43:37	Logachev Mounds	string of salps
01/10/2011 19:45:51	Logachev Mounds	Heading position of ROV is not working
01/10/2011 19:47:52	Logachev Mounds	ROV is working again, continue descent with low speed
01/10/2011 19:51:43	Logachev Mounds	PRELEVEMENT PEP-3 at 290 m
01/10/2011 19:53:00	Logachev Mounds	Stop PEP bottle 3 at 300 m
01/10/2011 19:57:52	Logachev Mounds	PRELEVEMENT PEP-4 at 390 m
01/10/2011 19:59:18	Logachev Mounds	Stop PEP bottle 4 at 398 m
01/10/2011 20:03:16	Logachev Mounds	String of phytoplankton (salps_question)
01/10/2011 20:05:19	Logachev Mounds	PRELEVEMENT PEP-5 at 490 m
01/10/2011 20:05:53	Logachev Mounds	Stop PEP bottle 5 at 495 m
01/10/2011 20:07:14	Logachev Mounds	plankton
01/10/2011 20:10:53	Logachev Mounds	jellyfish
01/10/2011 20:10:57	Logachev Mounds	previous jellyfish
01/10/2011 20:11:37	Logachev Mounds	jellyfish

01/10/2011 20:12:02	Logachev Mounds	jellyfish avec bioluminescence
01/10/2011 20:12:27	Logachev Mounds	vertical camera with incrustation recording
01/10/2011 20:13:06	Logachev Mounds	PRELEVEMENT PEP-6 start at 596 m, stop at 603 m
01/10/2011 20:15:01	Logachev Mounds	jellyfish
01/10/2011 20:15:52	Logachev Mounds	krill
01/10/2011 20:16:23	Logachev Mounds	plankton
01/10/2011 20:18:42	Logachev Mounds	PRELEVEMENT PEP-7 at 695 m, stops at 704 m
01/10/2011 20:23:59	Logachev Mounds	jellyfish
01/10/2011 20:24:01	Logachev Mounds	previous jellyfish
01/10/2011 20:25:15	Logachev Mounds	jellyfish
01/10/2011 20:26:02	Logachev Mounds	small octopus question
01/10/2011 20:26:15	Logachev Mounds	previous small octopus question
01/10/2011 20:26:52	Logachev Mounds	unknown
01/10/2011 20:31:58	Logachev Mounds	Stop calibration ROV, descent to bottom
01/10/2011 20:32:32	Logachev Mounds	Oblique camera with incrustation recording
01/10/2011 20:33:23	Logachev Mounds	meduse
01/10/2011 20:36:50	Logachev Mounds	bottom in sight
01/10/2011 20:37:58	Logachev Mounds	Sponge
01/10/2011 20:38:28	Logachev Mounds	Sponges, gravel/pebbles, Aphrocallistes, sand
01/10/2011 20:39:27	Logachev Mounds	PRELEVEMENT PEP-8 at 854 m
01/10/2011 20:39:42	Logachev Mounds	Move to beginning of transect
01/10/2011 20:41:14	Logachev Mounds	Unknown species in sponge
01/10/2011 20:41:40	Logachev Mounds	Mora

01/10/2011 20:41:43	Logachev Mounds	Substrate with gravel and pebbles and sponges (Aphrocallistes, Euplectella and 2 other species)
01/10/2011 20:42:41	Logachev Mounds	Coral and sponge
01/10/2011 20:43:16	Logachev Mounds	Sponges and gravel
01/10/2011 20:43:24	Logachev Mounds	Cidaris, sponges
01/10/2011 20:45:40	Logachev Mounds	Lepidion
01/10/2011 20:46:18	Logachev Mounds	Gravel
01/10/2011 20:47:00	Logachev Mounds	gravel marks
01/10/2011 20:47:28	Logachev Mounds	carbonated crust with gravel over it
01/10/2011 20:47:47	Logachev Mounds	large gravel part
01/10/2011 20:48:04	Logachev Mounds	relief
01/10/2011 20:48:40	Logachev Mounds	small debris of corals
01/10/2011 20:49:42	Logachev Mounds	gravel
01/10/2011 20:49:45	Logachev Mounds	START transect 1-2
01/10/2011 20:49:51	Logachev Mounds	dead corals parts above gravel
01/10/2011 20:51:08	Logachev Mounds	coral
01/10/2011 20:52:47	Logachev Mounds	Dead coral and dead sponge encrusted by Hexadella
01/10/2011 20:53:03	Logachev Mounds	shark
01/10/2011 20:53:44	Logachev Mounds	dropstone with encrusting blue sponge, barnacles and something unidentified
01/10/2011 20:54:38	Logachev Mounds	Transect 1 - 2 started approx ten minutes ago
01/10/2011 20:54:47	Logachev Mounds	shark
01/10/2011 20:56:02	Logachev Mounds	dropstone with 2 encrusting sponges and 1 erect sponge
01/10/2011 20:56:27	Logachev Mounds	Aphrocallistes
01/10/2011 20:56:54	Logachev Mounds	Relief, sponges, coral rubble

01/10/2011 20:57:17	Logachev Mounds	Dead coral colonies, one alive, macrouridae, sponges, crinoids
01/10/2011 20:58:19	Logachev Mounds	Lepidion
01/10/2011 20:58:21	Logachev Mounds	dropstone with encrusting sponges and barnacles
01/10/2011 20:59:22	Logachev Mounds	Aphrocallistes
01/10/2011 20:59:29	Logachev Mounds	unknown
01/10/2011 20:59:41	Logachev Mounds	Lepidion, relief, dead coral colonies, Aphrocallistes, other sponges, crinoids, coral debris
01/10/2011 21:00:30	Logachev Mounds	Acanella
01/10/2011 21:01:19	Logachev Mounds	Crinoid on live coral colony, three species sponges
01/10/2011 21:02:09	Logachev Mounds	Aphrocallistes with zoanthids
01/10/2011 21:02:39	Logachev Mounds	Many different sponges
01/10/2011 21:02:53	Logachev Mounds	Bamboo coral question
01/10/2011 21:03:24	Logachev Mounds	More dead and live coral colonies, crinoids, at least 2 encrusting sponge species and 3 erect sponge species
01/10/2011 21:04:38	Logachev Mounds	Nice bit of reef?
01/10/2011 21:05:15	Logachev Mounds	Aphrocallistes with zoanthids and Anthomastus
01/10/2011 21:07:32	Logachev Mounds	Live Lophelia with white coral
01/10/2011 21:07:49	Logachev Mounds	Stopped for hydrolic system, take samples
01/10/2011 21:08:25	Logachev Mounds	substrate sample area
01/10/2011 21:09:47	Logachev Mounds	PRELEVEMENT FAUNE GBT-2 sample Hexadella Julie
01/10/2011 21:11:50	Logachev Mounds	Coral debris, shell debris, echinoid spines, sponge debris
01/10/2011 21:17:10	Logachev Mounds	Ascidian
01/10/2011 21:20:05	Logachev Mounds	Sponge and gorgonian
01/10/2011 21:21:42	Logachev Mounds	PRELEVEMENT FAUNE GBT-1 sample gorgonian and Hexadella
01/10/2011 21:24:03	Logachev Mounds	sample gorgonian GBT 1

01/10/2011 21:28:35	Logachev Mounds	sample gorgonian, crinoids, hexadella in GBT 1
01/10/2011 21:30:40	Logachev Mounds	Lepidion
01/10/2011 21:31:19	Logachev Mounds	Start transect again
01/10/2011 21:32:14	Logachev Mounds	Denser dead and live coral colonies and antipatharians
01/10/2011 21:33:08	Logachev Mounds	Antipatharian with crab
01/10/2011 21:33:38	Logachev Mounds	Hexadella
01/10/2011 21:34:30	Logachev Mounds	Neocyttus
01/10/2011 21:35:32	Logachev Mounds	Reef of dead and live Lophelia and Madrepora and crinoids
01/10/2011 21:36:32	Logachev Mounds	Anthomastus
01/10/2011 21:37:06	Logachev Mounds	white Lophelia
01/10/2011 21:37:17	Logachev Mounds	Lepidion
01/10/2011 21:37:25	Logachev Mounds	2 anthomastus
01/10/2011 21:37:48	Logachev Mounds	ROV higher from bottom because of strong current, difficult to be stable
01/10/2011 21:38:48	Logachev Mounds	Neocyttus, Lepidion, Macrouridae, unknown fish, Acanella
01/10/2011 21:39:22	Logachev Mounds	Bathynectes, Anthomastus, Munida
01/10/2011 21:41:12	Logachev Mounds	previous bathypathes
01/10/2011 21:41:43	Logachev Mounds	allegement du ROV pour move against current, off transect
01/10/2011 21:42:55	Logachev Mounds	Chaceon
01/10/2011 21:46:30	Logachev Mounds	Going to 10 m of altitude to move against the current
01/10/2011 21:50:54	Logachev Mounds	Coral reef
01/10/2011 21:51:02	Logachev Mounds	Acanella question, 2 Lepidion
01/10/2011 21:51:41	Logachev Mounds	Lepidion, live coral, Acanella
01/10/2011 21:52:23	Logachev Mounds	Acanella

01/10/2011 21:52:42	Logachev Mounds	Chaceon
01/10/2011 21:52:45	Logachev Mounds	Bathypathes
01/10/2011 21:53:04	Logachev Mounds	Coral reef
01/10/2011 21:53:11	Logachev Mounds	previous chaceon
01/10/2011 21:55:04	Logachev Mounds	Chaceon
01/10/2011 21:55:22	Logachev Mounds	Reef with antipatharians
01/10/2011 21:55:50	Logachev Mounds	Antipatharian with Chirostylus
01/10/2011 21:57:05	Logachev Mounds	Coralreef with live Lophelia and Madrepora colonies, antipatharians, Munida, crinoids, Anthomastus, sponges
01/10/2011 21:57:36	Logachev Mounds	degradarion in reef with sponge
01/10/2011 21:57:57	Logachev Mounds	little degradation in reef
01/10/2011 21:58:19	Logachev Mounds	Bathypathes with crab
01/10/2011 21:58:32	Logachev Mounds	Forkbeard
01/10/2011 21:58:51	Logachev Mounds	Cidaris
01/10/2011 21:59:21	Logachev Mounds	Back to transect
01/10/2011 21:59:43	Logachev Mounds	macrouridae, Lepidion, Acanella
01/10/2011 22:00:02	Logachev Mounds	fish
01/10/2011 22:01:22	Logachev Mounds	Leiopathes
01/10/2011 22:01:33	Logachev Mounds	Leiopathes
01/10/2011 22:01:42	Logachev Mounds	Lepidion
01/10/2011 22:01:54	Logachev Mounds	Acanella
01/10/2011 22:02:19	Logachev Mounds	depression in reef
01/10/2011 22:04:29	Logachev Mounds	changement de quart valerie et julie
01/10/2011 22:06:03	Logachev Mounds	poisson, peut etre empereur

01/10/2011 22:07:06	Logachev Mounds	zoom sur poisson
01/10/2011 22:16:20	Logachev Mounds	PRELEVEMENT PEP-9 point 2
01/10/2011 22:20:14	Logachev Mounds	poisson
01/10/2011 22:33:32	Logachev Mounds	poisson
01/10/2011 22:33:49	Logachev Mounds	probleme hydraulique pour lancer PEP10
01/10/2011 23:07:44	Logachev Mounds	les 2 cameras ont ete redemarrees
01/10/2011 23:10:26	Logachev Mounds	on a derive et on repart vers le point 3
01/10/2011 23:27:13	Logachev Mounds	arrivee pres du point 3 sur ligne bleue
01/10/2011 23:27:41	Logachev Mounds	PRELEVEMENT PEP-10 sur point 3 (ligne bleue)
01/10/2011 23:28:49	Logachev Mounds	debut ligne 3-4 au cap 260°
01/10/2011 23:39:42	Logachev Mounds	entree dans quadrat1
01/10/2011 23:42:09	Logachev Mounds	poisson mora moro
01/10/2011 23:43:40	Logachev Mounds	on quitte la ligne bleue et on se dirige vers l'ascenseur pour la microbiologie
01/10/2011 23:50:56	Logachev Mounds	arrivee sur ascenseur
01/10/2011 23:52:58	Logachev Mounds	sortie CC-A de l'ascenseur, depose au pied de l'ascenseur
01/10/2011 23:54:39	Logachev Mounds	CC-A pose au pied de l'ascenseur
02/10/2011 00:02:02	Logachev Mounds	ouverture casier 2 de l'ascenseur
02/10/2011 00:06:01	Logachev Mounds	CC-B mis dans le panier du ROV
02/10/2011 00:12:15	Logachev Mounds	CC-C pose au pied de l'ascenseur a cote de CC-A
02/10/2011 00:13:55	Logachev Mounds	CC-B pose a cote de l'ascenseur
02/10/2011 00:19:19	Logachev Mounds	ouverture panier 1 de l'ascenseur pour sortie boites PBT
02/10/2011 00:26:15	Logachev Mounds	les 4 boites PBT sont dans le panier du ROV
02/10/2011 00:29:41	Logachev Mounds	poisson

02/10/2011 00:32:21	Logachev Mounds	arrivee dans quadrat1
02/10/2011 00:34:10	Logachev Mounds	point remarquable AUTT_2 pour manip microbiologie
02/10/2011 00:36:58	Logachev Mounds	saisie PBT1
02/10/2011 00:39:04	Logachev Mounds	ouverture PBT1
02/10/2011 00:41:08	Logachev Mounds	PRELEVEMENT FAUNE PBT-1 Hexadella (3 specimens) sur point AUTT-2
02/10/2011 00:44:40	Logachev Mounds	Hexadella 1 dans PBT1
02/10/2011 00:46:15	Logachev Mounds	vue sur eponge Hexactinellid
02/10/2011 00:47:36	Logachev Mounds	Hexadella 2 pour prelevement
02/10/2011 00:48:33	Logachev Mounds	Hexadella 2 dans PBT1 sur point AUTT-2
02/10/2011 00:50:00	Logachev Mounds	Hexadella 3 pour prelevement
02/10/2011 00:51:00	Logachev Mounds	fin prelevement Hexadella (3 specimens) sur point AUTT-2
02/10/2011 00:56:56	Logachev Mounds	PRELEVEMENT FAUNE PBT-2 pour Julie sur point AUTT-2
02/10/2011 00:58:58	Logachev Mounds	fin prelevement eau PBT2 sur point AUTT-2
02/10/2011 01:01:49	Logachev Mounds	ouverture de la 'boite de val' BDV
02/10/2011 01:09:45	Logachev Mounds	DEBUT PRELEVEMENT dans BDV sediments Valerie sur point AUTT-2
02/10/2011 01:10:26	Logachev Mounds	vue sur Madreopra
02/10/2011 01:11:37	Logachev Mounds	fin prelevement dans BDV sediments Valerie sur point AUTT-2
02/10/2011 01:20:05	Logachev Mounds	ouverture PBT3
02/10/2011 01:21:28	Logachev Mounds	PRELEVEMENT FAUNE PBT-3 Lophelia pertusa sur point AUTT-2
02/10/2011 01:24:21	Logachev Mounds	fin prelevement Lophelia pertusa PBT3 sur point AUTT-2
02/10/2011 01:29:09	Logachev Mounds	ouverture PBT4
02/10/2011 01:30:11	Logachev Mounds	PRELEVEMENT FAUNE PBT-4 Madrepora (2 colonies) sur point AUTT-2
02/10/2011 01:31:24	Logachev Mounds	poisson noir et long vers sortant de Madrepora

02/10/2011 01:32:18	Logachev Mounds	Madrepora colonie 1 dans PBT4
02/10/2011 01:34:43	Logachev Mounds	Madrepora colonie 2 prelevee
02/10/2011 01:35:39	Logachev Mounds	fin prelevement Madrepora (2 colonies) PBT4 sur point AUTT-2
02/10/2011 01:41:43	Logachev Mounds	PRELEVEMENT FAUNE GBT-3 Hexadella sur point AUTT-2
02/10/2011 01:42:42	Logachev Mounds	fin prelevement GBT3 Hexadella sur point AUTT-2
02/10/2011 01:45:21	Logachev Mounds	sortie sonde temperature, indique environ 7,27°C
02/10/2011 01:48:36	Logachev Mounds	sortie PEP 11 (bag) dans les massifs de coraux su POINT AUTT-2
02/10/2011 01:49:26	Logachev Mounds	PRELEVEMENT PEP-11 sur point AUTT-2 (purge 30s puis 518s de prelevement) au dessus de Madrepora
02/10/2011 01:59:50	Logachev Mounds	fin prelevement PEP 11 sur point AUTT-2
02/10/2011 02:01:36	Logachev Mounds	Start of watch for Sandra and Angela
02/10/2011 02:03:42	Logachev Mounds	Crab
02/10/2011 02:04:11	Logachev Mounds	Polyp, coral rubble
02/10/2011 02:06:12	Logachev Mounds	Squat lobster
02/10/2011 02:07:52	Logachev Mounds	Crab
02/10/2011 02:08:44	Logachev Mounds	Madrepora and Lophelia
02/10/2011 02:09:15	Logachev Mounds	Pennatulid and antipatharian
02/10/2011 02:10:21	Logachev Mounds	Large bryozoans?
02/10/2011 02:19:08	Logachev Mounds	Placing PBT in elevator
02/10/2011 02:34:49	Logachev Mounds	All four PBT placed in elevator
02/10/2011 02:36:48	Logachev Mounds	Paranthipathes at bottom of elevator
02/10/2011 02:37:46	Logachev Mounds	Tunicate and polyps
02/10/2011 02:38:08	Logachev Mounds	Collecting CCA
02/10/2011 02:38:59	Logachev Mounds	Bryozoan fan and Hexadella

02/10/2011 02:40:23	Logachev Mounds	Lots of bryozoans?
02/10/2011 02:40:45	Logachev Mounds	Crinoid, Lophelia, bryozoan
02/10/2011 02:41:50	Logachev Mounds	Pennatulid, scleractinian, vase sponge
02/10/2011 02:42:33	Logachev Mounds	Antipatharian
02/10/2011 02:43:35	Logachev Mounds	Lepidion schmidti in coral
02/10/2011 02:44:52	Logachev Mounds	Bryozoan, antipatharian, scleractinians
02/10/2011 02:46:09	Logachev Mounds	Hexadella
02/10/2011 02:48:47	Logachev Mounds	Asteroid, Hexadella
02/10/2011 02:51:03	Logachev Mounds	PRELEVEMENT FAUNE CCA1 sample of Lophelia at AUTT3
02/10/2011 02:51:54	Logachev Mounds	Lophelia at AUTT3 in CCA1
02/10/2011 02:52:36	Logachev Mounds	Prior to collection of Madrepora at AUTT3
02/10/2011 02:53:31	Logachev Mounds	sample of Madrepora at AUTT3 CCA1
02/10/2011 02:54:29	Logachev Mounds	Madrepora at AUTT3 in CCA1
02/10/2011 02:56:12	Logachev Mounds	Shrimp
02/10/2011 02:56:23	Logachev Mounds	sample of Hexadella at AUTT3 CCA1
02/10/2011 02:56:52	Logachev Mounds	Hexadella at AUTT3 in CCA1
02/10/2011 02:57:28	Logachev Mounds	Sponge resembling marshmallow?
02/10/2011 02:58:45	Logachev Mounds	Next site
02/10/2011 03:00:54	Logachev Mounds	PRELEVEMENT FAUNE CCA2 sample of Lophelia at AUTT4
02/10/2011 03:02:26	Logachev Mounds	Lophelia at AUTT4 in CCA2
02/10/2011 03:05:18	Logachev Mounds	sample of Madrepora at AUTT4 CCA2
02/10/2011 03:06:15	Logachev Mounds	Crinoid and anemone
02/10/2011 03:06:45	Logachev Mounds	Madrepora at AUTT4 in CCA2
02/10/2011 03:08:21	Logachev Mounds	sample of Hexadella at AUTT4 CCA2

02/10/2011 03:09:53	Logachev Mounds	Hexadella at AUTT4 in CCA2
02/10/2011 03:12:17	Logachev Mounds	Trachyscorpia
02/10/2011 03:13:10	Logachev Mounds	Next site
02/10/2011 03:14:01	Logachev Mounds	Crinoid and anemone
02/10/2011 03:15:09	Logachev Mounds	sample of Madrepora at AUTT5 CCA2
02/10/2011 03:16:12	Logachev Mounds	Crinoid and anemone
02/10/2011 03:16:51	Logachev Mounds	PRELEVEMENT FAUNE CCA3 Madrepora at AUTT5
02/10/2011 03:17:48	Logachev Mounds	sample of Lophelia at AUTT5 CCA3
02/10/2011 03:18:16	Logachev Mounds	Lophelia at AUTT5 in CCA3
02/10/2011 03:19:04	Logachev Mounds	sample of Hexadella at AUTT5 CCA3
02/10/2011 03:20:00	Logachev Mounds	Hexadella at AUTT5 in CCA3
02/10/2011 03:20:20	Logachev Mounds	Crinoid, Hexadella and anemone
02/10/2011 03:23:43	Logachev Mounds	Squat lobster
02/10/2011 03:26:09	Logachev Mounds	PRELEVEMENT FAUNE CCA5 sample of Lophelia at AUTT6
02/10/2011 03:26:51	Logachev Mounds	Lophelia at AUTT6 in CCA5
02/10/2011 03:28:48	Logachev Mounds	sample of Madrepora at AUTT6 CCA5
02/10/2011 03:30:45	Logachev Mounds	Madrepora at AUTT6 in CCA5
02/10/2011 03:32:01	Logachev Mounds	sample of Hexadella at AUTT6 CCA5
02/10/2011 03:32:40	Logachev Mounds	Hexadella at AUTT6 in CCA5
02/10/2011 03:34:10	Logachev Mounds	sample of hydroid at AUTT6 for Inge CCA5
02/10/2011 03:35:59	Logachev Mounds	Hydroid at AUTT6 in CCA5
02/10/2011 03:38:05	Logachev Mounds	Asteroids, scleractinians
02/10/2011 03:38:49	Logachev Mounds	Neocyttus helgae
02/10/2011 03:39:09	Logachev Mounds	Neocyttus helgae close up

02/10/2011 03:43:19	Logachev Mounds	Cidaris
02/10/2011 03:44:23	Logachev Mounds	PRELEVEMENT FAUNE CCA4 sample of Lophelia at AUTT7
02/10/2011 03:46:06	Logachev Mounds	Lophelia at AUTT7 in CCA4
02/10/2011 03:46:22	Logachev Mounds	Crinoid and squat lobster
02/10/2011 03:47:28	Logachev Mounds	sample of Madrepora at AUTT7 CCA4
02/10/2011 03:48:33	Logachev Mounds	Madrepora at AUTT7 in CCA4
02/10/2011 03:51:11	Logachev Mounds	Squat lobster
02/10/2011 03:52:16	Logachev Mounds	sample of soft coral? at AUTT7 CCA4
02/10/2011 03:52:46	Logachev Mounds	Soft coral? at AUTT7 in CCA4
02/10/2011 03:55:21	Logachev Mounds	Antipatharian and crab
02/10/2011 03:59:43	Logachev Mounds	Collection site at AUTT 8
02/10/2011 04:00:00	Logachev Mounds	QUART Sandra Angela
02/10/2011 04:00:13	Logachev Mounds	PRELEVEMENT FAUNE CCA6 sample of Madrepora at AUTT8
02/10/2011 04:01:06	Logachev Mounds	Shrimp
02/10/2011 04:01:39	Logachev Mounds	Madrepora at AUTT8 in CCA6
02/10/2011 04:02:42	Logachev Mounds	sample of Lophelia at AUTT8 CCA6
02/10/2011 04:04:57	Logachev Mounds	Lophelia at AUTT8 in CCA6
02/10/2011 04:06:56	Logachev Mounds	sample of Poecillastea at AUTT8 CCA6
02/10/2011 04:07:35	Logachev Mounds	Poecillastea at AUTT8 in CCA6
02/10/2011 04:09:59	Logachev Mounds	sample of Cidaris AUTT8 CCA6
02/10/2011 04:11:31	Logachev Mounds	sample of Cidaris AUTT8
02/10/2011 04:12:02	Logachev Mounds	Cidaris AUTT8 in CCA6
02/10/2011 04:13:10	Logachev Mounds	Strange sponge (gray in bottom of image)
02/10/2011 04:13:53	Logachev Mounds	Lots of antipatharians

02/10/2011 04:16:09	Logachev Mounds	Next site for collection of coral at AUTT9
02/10/2011 04:16:42	Logachev Mounds	PRELEVEMENT FAUNE CCA7 sample of Madrepora at AUTT9
02/10/2011 04:17:19	Logachev Mounds	Madrepora at AUTT9 in CCA7
02/10/2011 04:18:45	Logachev Mounds	sample of Lophelia at AUTT9 CCA7
02/10/2011 04:19:22	Logachev Mounds	Lophelia at AUTT9 in CCA7
02/10/2011 04:20:11	Logachev Mounds	sample of Hexadella at AUTT9 CCA7
02/10/2011 04:20:57	Logachev Mounds	Hexadella at AUTT9 in CCA7
02/10/2011 04:25:03	Logachev Mounds	Arrival at AUTT10
02/10/2011 04:25:56	Logachev Mounds	Fish-Physes
02/10/2011 04:26:26	Logachev Mounds	PRELEVEMENT FAUNE CCA8 sample of Lophelia at AUTT10
02/10/2011 04:27:21	Logachev Mounds	Lophelia at AUTT10 in CCA8
02/10/2011 04:28:41	Logachev Mounds	sample Madrepora at AUTT10 CCA8
02/10/2011 04:29:36	Logachev Mounds	Ray in distance
02/10/2011 04:29:55	Logachev Mounds	Madrepora at AUTT10 in CCA8
02/10/2011 04:33:32	Logachev Mounds	Tunicates
02/10/2011 04:34:03	Logachev Mounds	sample of Hexadella at AUTT10 CCA8
02/10/2011 04:35:17	Logachev Mounds	Hexadella at AUTT10 in CCA8
02/10/2011 04:44:39	Logachev Mounds	Arrival at elevator to deposit CCA and take second CC
02/10/2011 04:47:13	Logachev Mounds	Still at elevator
02/10/2011 04:52:13	Logachev Mounds	At elevator exchanging CCB
02/10/2011 04:57:21	Logachev Mounds	Sponge - possibly strange morph of Pharonema ?
02/10/2011 04:58:44	Logachev Mounds	Pennatulid
02/10/2011 04:58:58	Logachev Mounds	Scleractinians
02/10/2011 04:59:22	Logachev Mounds	Antipatharians

02/10/2011 04:59:42	Logachev Mounds	Antipatharians and scleractinians coexisting
02/10/2011 05:03:14	Logachev Mounds	AUTT11 site
02/10/2011 05:06:15	Logachev Mounds	Hydroid and sponge
02/10/2011 05:07:08	Logachev Mounds	PRELEVEMENT FAUNE CCB1 sample of Lophelia at AUTT11
02/10/2011 05:07:41	Logachev Mounds	Lophelia at AUTT11 in CCB1
02/10/2011 05:11:13	Logachev Mounds	sample of Madrepora at AUTT11 CCB1
02/10/2011 05:12:23	Logachev Mounds	Madrepora at AUTT11 in CCB1
02/10/2011 05:13:41	Logachev Mounds	sample of Hexadella at AUTT11 CCB1
02/10/2011 05:15:12	Logachev Mounds	Hexadella at AUTT11 in CCB1
02/10/2011 05:17:37	Logachev Mounds	Antipatharians, Lophelia and Madrepora - lush garden
02/10/2011 05:20:30	Logachev Mounds	AUTT12 site
02/10/2011 05:21:51	Logachev Mounds	PRELEVEMENT FAUNE CCB2 sample of Madrepora at AUTT12
02/10/2011 05:23:20	Logachev Mounds	Madrepora at AUTT12 in CCB2
02/10/2011 05:24:28	Logachev Mounds	sample of Lophelia at AUTT12 CCB2
02/10/2011 05:25:46	Logachev Mounds	Lophelia at AUTT12 in CCB2
02/10/2011 05:26:53	Logachev Mounds	sample of Hexadella at AUTT12 CCB2
02/10/2011 05:27:46	Logachev Mounds	Hexadella at AUTT12 in CCB2
02/10/2011 05:34:25	Logachev Mounds	sample Cidaris at AUTT12 CCB2
02/10/2011 05:35:42	Logachev Mounds	Cidaris at AUTT12
02/10/2011 05:43:47	Logachev Mounds	AUTT13 site
02/10/2011 05:47:13	Logachev Mounds	Anemone
02/10/2011 05:47:34	Logachev Mounds	Lophelia at AUTT13
02/10/2011 05:48:21	Logachev Mounds	PRELEVEMENT FAUNE CCB3 sample of Lophelia at AUTT13
02/10/2011 05:48:51	Logachev Mounds	Lophelia at AUTT13 in CCB3

02/10/2011 05:49:24	Logachev Mounds	sample of Madrepora at AUTT13 CCB3
02/10/2011 05:50:20	Logachev Mounds	Madrepora at AUTT13 in CCB3
02/10/2011 05:50:47	Logachev Mounds	Cidaris at AUTT13
02/10/2011 05:52:04	Logachev Mounds	sample of Cidaris at AUTT13 CCB3
02/10/2011 05:52:40	Logachev Mounds	Cidaris at AUTT13 in CCB3
02/10/2011 05:53:23	Logachev Mounds	sample of Hexadella at AUTT13 CCB3
02/10/2011 05:54:26	Logachev Mounds	Pink sponge on Lophelia
02/10/2011 05:54:29	Logachev Mounds	Hexadella at AUTT13 in CCB3
02/10/2011 05:59:10	Logachev Mounds	Hexadella and Leiopathes
02/10/2011 05:59:40	Logachev Mounds	Shift change Angela and Sandra - Tom and Yann
02/10/2011 06:03:56	Logachev Mounds	PRELEVEMENT FAUNE CCB5 sample at AUTT_14 Lophelia pink and white and Madrepora pink and white
02/10/2011 06:06:59	Logachev Mounds	sample Lophelia pink in B5
02/10/2011 06:10:17	Logachev Mounds	
02/10/2011 06:11:40	Logachev Mounds	sample Lophelia White at AUTT_14 in B5
02/10/2011 06:13:21	Logachev Mounds	Lophelia white
02/10/2011 06:14:27	Logachev Mounds	sample Madrepora White at AUTT_14 in B5
02/10/2011 06:15:49	Logachev Mounds	Madreopra dans B5 (petit morceau dans B3)
02/10/2011 06:17:26	Logachev Mounds	sample Cidaris at AUTT_14 in B5
02/10/2011 06:19:39	Logachev Mounds	Cidaris in B5
02/10/2011 06:21:49	Logachev Mounds	sample Hexadella at AUTT_14 in B5
02/10/2011 06:23:28	Logachev Mounds	Hexadella in B5
02/10/2011 06:24:28	Logachev Mounds	sample Madrepora pink at AUTT14 in B5
02/10/2011 06:25:49	Logachev Mounds	Pink Madrepora in B5

02/10/2011 06:29:10	Logachev Mounds	sample at AUTT_15
02/10/2011 06:29:44	Logachev Mounds	PRELEVEMENT FAUNE CCB4 sample Pink Lophelia at AUTT_15 (petit morceau dans B1)
02/10/2011 06:33:31	Logachev Mounds	sample Pink Madrepora at AUTT_15 in B4 with Crinoids
02/10/2011 06:34:43	Logachev Mounds	Galathaea at AUTT_15
02/10/2011 06:35:50	Logachev Mounds	sample White Madrepora at AUTT_15 in B4
02/10/2011 06:38:59	Logachev Mounds	sample Something Weird? with white Sea Star at AUTT_15 in B4
02/10/2011 06:40:50	Logachev Mounds	
02/10/2011 06:42:19	Logachev Mounds	Lophelia at AUTT_15
02/10/2011 06:42:48	Logachev Mounds	sample White Lophelia at AUTT_15 in B4
02/10/2011 06:48:07	Logachev Mounds	sample at AUTT_16
02/10/2011 06:48:36	Logachev Mounds	PRELEVEMENT FAUNE CCB6 sample Lophelia at AUTT_16
02/10/2011 06:52:05	Logachev Mounds	sample Hexadella at AUTT_16 in B6
02/10/2011 06:53:04	Logachev Mounds	Hexadella in B6
02/10/2011 06:55:52	Logachev Mounds	sample Madrepora (pink) at AUTT_16 in B6
02/10/2011 07:00:23	Logachev Mounds	PRELEVEMENT FAUNE CCB7 sample Hexadella, Pink Madrepora, White Lophelia at AUTT_17
02/10/2011 07:06:26	Logachev Mounds	sample White Lophelia in B7
02/10/2011 07:06:32	Logachev Mounds	Fish at AUTT_17
02/10/2011 07:09:39	Logachev Mounds	sample Pink Lophelia at AUTT_17 in B7
02/10/2011 07:11:26	Logachev Mounds	Octopuss at AUTT_17
02/10/2011 07:12:45	Logachev Mounds	Crinoid swimming
02/10/2011 07:12:58	Logachev Mounds	Crinoid swimming distance
02/10/2011 07:16:34	Logachev Mounds	sampling at AUTT_18
02/10/2011 07:18:03	Logachev Mounds	PRELEVEMENT FAUNE CCB8 sample Lophelia at AUTT_18

02/10/2011 07:19:54	Logachev Mounds	Lophelia in B8
02/10/2011 07:21:14	Logachev Mounds	sample Madrepora at AUTT_18 in B8
02/10/2011 07:40:13	Logachev Mounds	CCB in Basket 2
02/10/2011 07:53:44	Logachev Mounds	Ascenseur prêt pour largage
02/10/2011 07:55:40	Logachev Mounds	Ascenseur Largué
02/10/2011 07:58:40	Logachev Mounds	Trace de la chaîne de l'ascenseur au fond
02/10/2011 08:02:32	Logachev Mounds	Polype proche ascenseur
02/10/2011 08:05:54	Logachev Mounds	Langoustine
02/10/2011 08:11:14	Logachev Mounds	Arrivé sur AUTT_19
02/10/2011 08:13:44	Logachev Mounds	PRELEVEMENT FAUNE CCC1 sample Lophelia (pink) at AUTT_19
02/10/2011 08:15:27	Logachev Mounds	sample Madrepora at AUTT_19 in CCC1
02/10/2011 08:17:31	Logachev Mounds	sample Gorgonia in CCC1
02/10/2011 08:20:23	Logachev Mounds	sampling Gorgonia at AUTT_19
02/10/2011 08:21:59	Logachev Mounds	We lost it...
02/10/2011 08:24:24	Logachev Mounds	Arrivé sur AUTT_20
02/10/2011 08:28:19	Logachev Mounds	PRELEVEMENT FAUNE CCC2 sample Madrepora at AUTT_20
02/10/2011 08:32:48	Logachev Mounds	sample Lophelia at AUTT_20 in CCC2
02/10/2011 08:37:15	Logachev Mounds	Arrivée sur AUTT_21
02/10/2011 08:38:26	Logachev Mounds	PRELEVEMENT FAUNE CCC4 sample Madrepora at AUTT_21
02/10/2011 08:40:57	Logachev Mounds	
02/10/2011 08:41:01	Logachev Mounds	sample Lophelia at AUTT_21 in CCC4
02/10/2011 08:44:53	Logachev Mounds	Arrivée sur AUTT_22
02/10/2011 08:45:18	Logachev Mounds	
02/10/2011 08:45:42	Logachev Mounds	

02/10/2011 08:46:44	Logachev Mounds	PRELEVEMENT FAUNE CCC6 sample Lophelia (pink/orange) at AUTT_22
02/10/2011 08:48:16	Logachev Mounds	sample Lophelia (White/Pale Pink) at AUTT_22 in CCC6 (little pieces)
02/10/2011 08:50:41	Logachev Mounds	sample Madrepora (Pale pink) at AUTT_22 in CCC6
02/10/2011 08:52:43	Logachev Mounds	sample Madrepora and Sponges at AUTT_22 in CCC6
02/10/2011 08:54:49	Logachev Mounds	Deuxième coup de pince sur Madrepora
02/10/2011 09:00:12	Logachev Mounds	Arrivée sur AUTT_23
02/10/2011 09:01:28	Logachev Mounds	PRELEVEMENT FAUNE CCC7 sample Lophelia (pink) at AUTT_23
02/10/2011 09:03:11	Logachev Mounds	sample Madrepora at AUTT_23 in CCC7
02/10/2011 09:05:21	Logachev Mounds	PRELEVEMENT FAUNE CCC8 sample Madrepora at AUTT_24
02/10/2011 09:07:40	Logachev Mounds	sample Lophelia and Madrepora (little pieces) and Hexadella at AUTT_24 in CCC8
02/10/2011 09:12:26	Logachev Mounds	Arrivée sur AUTT_25
02/10/2011 09:14:18	Logachev Mounds	PRELEVEMENT FAUNE CCC5 sample Hexadella and Dead Madrepora at AUTT_25
02/10/2011 09:17:26	Logachev Mounds	sample Madrepora (Pale Pink) at AUTT_25 in CCC5
02/10/2011 09:19:30	Logachev Mounds	sample Lophelia at AUTT_25 in CCC5
02/10/2011 09:21:22	Logachev Mounds	Net at AUTT_25
02/10/2011 09:23:35	Logachev Mounds	PRELEVEMENT PEP-12 (seawater 200 mL) at AUTT_25
02/10/2011 09:27:53	Logachev Mounds	PEP13 (bottle)
02/10/2011 09:59:01	Logachev Mounds	PRELEVEMENT PEP-14
02/10/2011 09:59:02	Logachev Mounds	PRELEVEMENT PEP-15
02/10/2011 09:59:03	Logachev Mounds	PRELEVEMENT PEP-17
02/10/2011 09:59:04	Logachev Mounds	PRELEVEMENT PEP-18
02/10/2011 09:59:05	Logachev Mounds	PRELEVEMENT PEP-19

02/10/2011
10:08:01

Logachev
Mounds

Fin de plongée

14. Dive report 476 - 14

Submersible : Victor 6000

Starting Dive : 04/10/2011 12:05

Arrival on the bottom: 04/10/2011 14:12

Deprture from the bottom: 05/10/2011 10:56

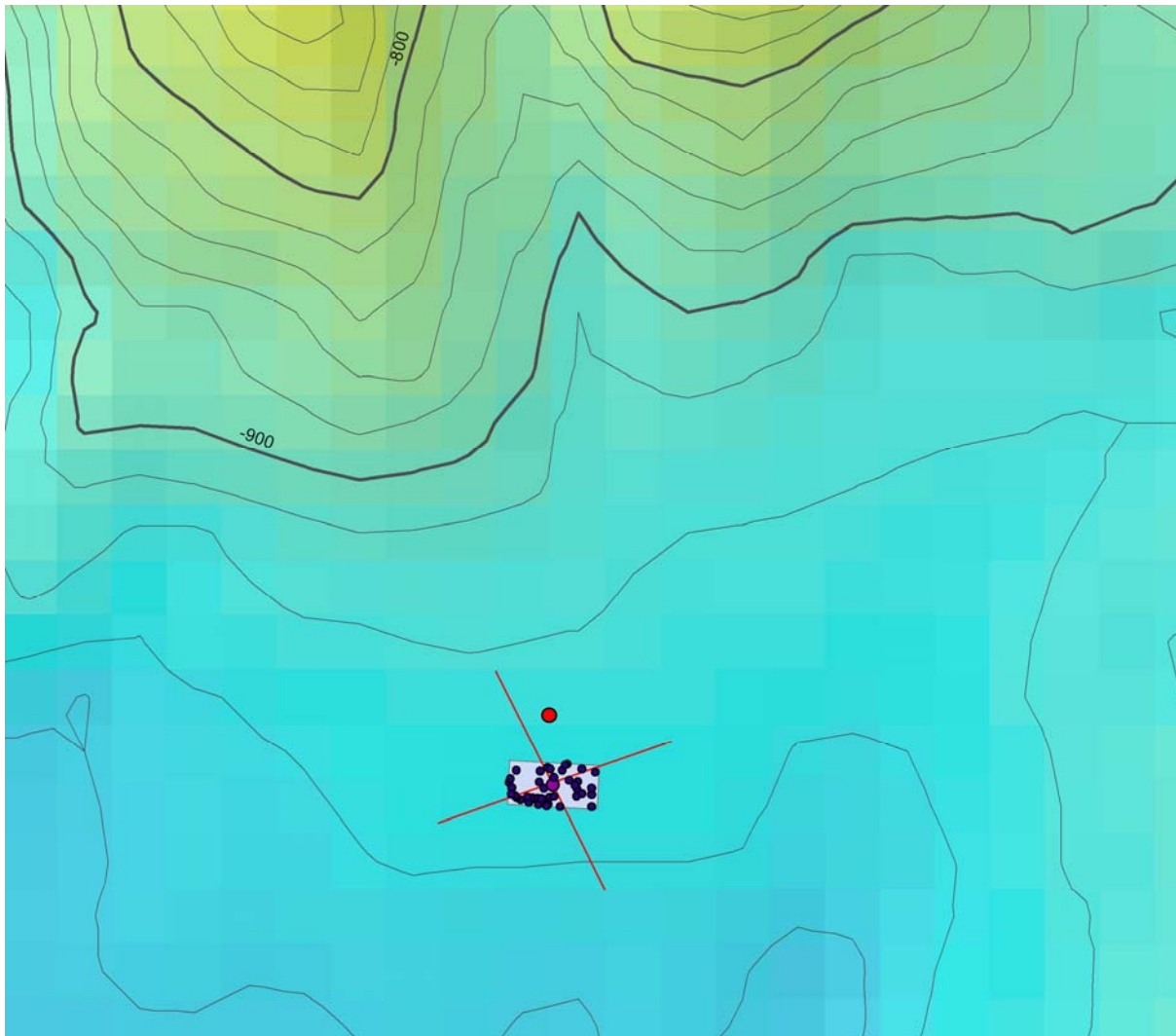
Ending dive : 05/10/2011 12:09

Location : Sorlingue

Dives objectives :

BobEco - Dive 476-14 Explo&Sampling dive

Canyon de la Petite Sole



· Ascenseur N48°07.277 W8°48.702

· Plongée ROV sur Point N48°07.199 W 8°48.704

Point d'immersion et début de transect: 48° 06.869 W 8° 50.83 Sonde approx 900m

Total Duration : 23h/24h deck to deck

Time on the 'bottom' : 22/23h

Objectives :

- Exploration of Petite Sole canyon and systematic sampling for:

L. pertusa and M. oculata according to coordinates

Narella sp.

Sponges

Sea urchins

-Sampling of water next to microbiology sampling, in PEP bags

-Sampling of water from the bottom in 8 PEP bottles during the descent (microbiology)

Summary :

Visited locations : Sorlingue,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
MOALIC Yann	IFREMER BREST
DOUVILLE Eric	LSCE
YESSON Chris	ZSL
STEVENSON Angela	UNIV DUBLIN IRELAND
LINLEY Thomas	UNIV ABERDEEN
REVEILLAUD Julie	UNIV GENT
VAN DEN BELDE Inge	IFREMER BREST
BECHELER Ronan	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
PRATO Guilia	NUIGalway
PERTUISOT Cecile	IFREMER BREST
GONZALES Cécile	LSCE
BAYLE Christophe	IFREMER BREST

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
04/10/2011 18:20:54	Sorlingue	476 - 14	Coral box A		1	N 48 07.318	W 008 48.796	925	PRELEVEMENT FAUNE CCA1

								sample Madrepora and Acanthogorgia AUTT1
04/10/2011 18:37:45	Sorlingue	476 - 14	Coral box A		2	N 48 07.315	W 008 48.813	926 PRELEVEMENT FAUNE CCA2 sample Lophelia and Madrepora, AUTT2, bit far from point because there was no coral on point.
04/10/2011 18:48:19	Sorlingue	476 - 14	Coral box A		3	N 48 07.311	W 008 48.823	926 PRELEVEMENT FAUNE CCA3 sample Madrepora, sponge, crinoid AUTT3
04/10/2011 18:55:45	Sorlingue	476 - 14	Coral box A		4	N 48 07.302	W 008 48.827	843 PRELEVEMENT FAUNE CCA4 sample Madrepora on stone, AUTT 4
04/10/2011 19:14:35	Sorlingue	476 - 14	Coral box A		5	N 48 07.319	W 008 48.832	926 PRELEVEMENT FAUNE CCA5 sample Acanthogorgia
04/10/2011 19:30:42	Sorlingue	476 - 14	Coral box A		6	N 48 07.330	W 008 48.842	922 PRELEVEMENT FAUNE CCA6 sample Lophelia and Madrepora AUTT6
04/10/2011 19:46:35	Sorlingue	476 - 14	Coral box A		7	N 48 07.331	W 008 48.849	921 PRELEVEMENT FAUNE CCA7

									sample Lophelia AUTT7
04/10/2011 20:05:19	Sorlingue	476 - 14	Coral box A		8	N 48 07.350	W 008 48.824	918	PRELEVEMENT FAUNE CCA8 sample Lophelia at AUTT_8
05/10/2011 05:42:58	Sorlingue	476 - 14	Coral box B		1	N 48 07.353	W 008 48.772	817	PRELEVEMENT FAUNE CCB1 Cidaris at AUTT19
05/10/2011 04:43:13	Sorlingue	476 - 14	Coral box B		2	N 48 07.338	W 008 48.806	811	PRELEVEMENT FAUNE CCB2 Cidaris at AUTT16
05/10/2011 03:50:11	Sorlingue	476 - 14	Coral box B		3	N 48 07.328	W 008 48.805	917	PRELEVEMENT FAUNE CCB3 sample of Cidaris at AUTT13
05/10/2011 05:26:42	Sorlingue	476 - 14	Coral box B		4	N 48 07.341	W 008 48.757	921	PRELEVEMENT FAUNE CCB4 sample of Cidaris at AUTT18
05/10/2011 04:04:08	Sorlingue	476 - 14	Coral box B		5	N 48 07.329	W 008 48.796	919	PRELEVEMENT FAUNE CCB5 sample of Lophelia at AUTT14
05/10/2011 05:04:31	Sorlingue	476 - 14	Coral box B		6	N 48 07.350	W 008 48.789	912	PRELEVEMENT FAUNE CCB6 sample of Lophelia at AUTT17
05/10/2011 05:11:56	Sorlingue	476 - 14	Coral box B		7	N 48 07.351	W 008 48.789	912	PRELEVEMENT FAUNE CCB7

									sample of Cidaris at AUTT17
05/10/2011 04:15:17	Sorlingue	476 - 14	Coral box B		8	N 48 07.337	W 008 48.792	846	PRELEVEMENT FAUNE CCB8 sample of Hexadella? at AUTT15
05/10/2011 07:09:27	Sorlingue	476 - 14	Coral box C		1	N 48 07.241	W 008 48.769	832	PRELEVEMENT FAUNE CCC1 sample previous echinoid, bamboo coral and Madrepora Not in genetic sampling area
05/10/2011 07:33:51	Sorlingue	476 - 14	Coral box C		2	N 48 07.255	W 008 48.753	831	PRELEVEMENT FAUNE CCC2 sample Narella 2 (half)
05/10/2011 08:26:12	Sorlingue	476 - 14	Coral box C		3	N 48 07.374	W 008 48.761	916	PRELEVEMENT FAUNE CCC3 sample Lophelia and Crinoid at AUTT_23
05/10/2011 08:46:37	Sorlingue	476 - 14	Coral box C		4	N 48 07.356	W 008 48.791	912	PRELEVEMENT FAUNE CCC4 sample Sponges and Crinoids at AUTT_24
05/10/2011 09:07:34	Sorlingue	476 - 14	Coral box C		5	N 48 07.362	W 008 48.806	811	PRELEVEMENT FAUNE CCC5 sample Madrepora at AUTT_25

05/10/2011 09:23:04	Sorlingue	476 - 14	Coral box C		6	N 48 07.368	W 008 48.807	914	PRELEVEMENT FAUNE CCC6 sample Lophelia at AUTT_26
05/10/2011 09:37:13	Sorlingue	476 - 14	Coral box C		7	N 48 07.359	W 008 48.782	915	PRELEVEMENT FAUNE CCC7 sample Cidaris at AUTT_27
05/10/2011 09:59:43	Sorlingue	476 - 14	Coral box C		8	N 48 07.358	W 008 48.773	919	PRELEVEMENT FAUNE CCC8 sample Madrepora and Eunice at AUTT_28
04/10/2011 20:33:53	Sorlingue	476 - 14	ROV big box	GBT	1	N 48 07.344	W 008 48.825	918	PRELEVEMENT FAUNE GBT-1 sample Blob at AUTT_9
04/10/2011 17:20:24	Sorlingue	476 - 14	ROV big box	GBT	2	N 48 07.280	W 008 48.835	880	PRELEVEMENT FAUNE GBT-2 sample Narella bifurcate
04/10/2011 17:12:29	Sorlingue	476 - 14	ROV big box	GBT	3	N 48 07.281	W 008 48.834	830	PRELEVEMENT FAUNE GBT-3 sample Narella
05/10/2011 00:05:11	Sorlingue	476 - 14	Little Collection Box	PBT	1	N 42 45.156	E 006 07.541	921	PRELEVEMENT PBT-1 Sediments Valerie sur POINT AUTT12
05/10/2011 00:19:06	Sorlingue	476 - 14	Little Collection Box	PBT	2	N 42 45.159	E 006 07.539	920	PRELEVEMENT PBT-2 Hexadella (3 specimens) sur point AUTT12
04/10/2011 23:52:14	Sorlingue	476 - 14	Little Collection Box	PBT	3	N 42 45.154	E 006 07.546	921	PRELEVEMENT PBT-3

									Madrepora colonie 1 sur point AUTT12
04/10/2011 23:33:58	Sorlingue	476 - 14	Little Collection Box	PBT	4	N 48 07.327	W 008 48.826	920	PRELEVEMENT PBT-4 Lophelia sur point AUTT12

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
04/10/2011 12:45:05	Sorlingue	476 - 14	PEP bottle	PEP	2	N 48 07.667	W 008 48.264	319	PRELEVEMENT PEP-2 , 30sec, 200m
04/10/2011 12:56:00	Sorlingue	476 - 14	PEP bottle	PEP	3	N 48 07.739	W 008 48.273	418	PRELEVEMENT PEP-3 , 30sec, 300m
04/10/2011 13:05:01	Sorlingue	476 - 14	PEP bottle	PEP	4	N 48 07.773	W 008 48.300	520	PRELEVEMENT PEP-4 , 30sec, 400m, (mimosa did not work during PEP3, PEP4 was taken at 13:04, 30sec, 300m)
04/10/2011 13:16:23	Sorlingue	476 - 14	PEP bottle	PEP	5	N 48 07.657	W 008 48.420	614	PRELEVEMENT PEP-5 , 30sec, 500m
04/10/2011 13:32:28	Sorlingue	476 - 14	PEP bottle	PEP	7	N 48 07.459	W 008 48.590	816	PRELEVEMENT PEP-7 , 30sec, 700m

04/10/2011 13:40:00	Sorlingue	476 - 14	PEP bottle	PEP	8	N 48 07.356	W 008 48.697	917	PRELEVEMENT PEP-8 , 30sec, 800m
05/10/2011 00:38:55	Sorlingue	476 - 14	PEP bottle	PEP	9	N 48 07.324	W 008 48.844	921	PRELEVEMENT PEP-9 , 5L eau sur point AUTT12. Purge 37s.
05/10/2011 00:49:55	Sorlingue	476 - 14	PEP bottle	PEP	10	N 48 07.325	W 008 48.826	921	PRELEVEMENT PEP-10 , 5L eau point AUTT12.
05/10/2011 00:58:45	Sorlingue	476 - 14	PEP bottle	PEP	11	N 48 07.325	W 008 48.827	921	PRELEVEMENT PEP-11 , point AUTT12.
05/10/2011 07:18:00	Sorlingue	476 - 14	PEP bottle	PEP	12	N 48 07.243	W 008 48.769	832	PRELEVEMENT PEP-12 , at 932 m depth (pas de purge)
05/10/2011 07:20:00	Sorlingue	476 - 14	PEP bottle	PEP	13	N 48 07.242	W 008 48.769	832	PRELEVEMENT PEP-13 , at same point (normal avec purge)
05/10/2011 09:47:25	Sorlingue	476 - 14	PEP bottle	PEP	18	N 48 07.360	W 008 48.784	916	PRELEVEMENT PEP-18 , at AUTT_27

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
04/10/2011 12:12:20	Sorlingue	Quart Cecile-Eric / ROV mis à l'eau
04/10/2011 12:30:00	Sorlingue	Début de descente

04/10/2011 12:45:05	Sorlingue	PRELEVEMENT PEP-2, 30sec, 200m
04/10/2011 12:50:00	Sorlingue	Quart Anna - Giulia
04/10/2011 12:56:00	Sorlingue	PRELEVEMENT PEP-3, 30sec, 300m
04/10/2011 13:05:01	Sorlingue	PRELEVEMENT PEP-4, 30sec, 400m, (mimosa did not work during PEP3, PEP4 was taken at 13:04, 30sec, 300m)
04/10/2011 13:16:23	Sorlingue	PRELEVEMENT PEP-5, 30sec, 500m
04/10/2011 13:32:28	Sorlingue	PRELEVEMENT PEP-7, 30sec, 700m
04/10/2011 13:40:00	Sorlingue	PRELEVEMENT PEP-8, 30sec, 800m
04/10/2011 13:59:11	Sorlingue	change of shift: Anthony and Andreia
04/10/2011 14:12:39	Sorlingue	Narella and reef, crinoids
04/10/2011 14:15:31	Sorlingue	Fish, Parantipathes, isolated colonies of scleractinians
04/10/2011 14:16:05	Sorlingue	4mn
04/10/2011 14:17:09	Sorlingue	Antipatharian
04/10/2011 14:17:56	Sorlingue	Trachyscorpia
04/10/2011 14:18:48	Sorlingue	close up of fish
04/10/2011 14:20:17	Sorlingue	4 mn
04/10/2011 14:20:45	Sorlingue	4mn-vertical
04/10/2011 14:21:14	Sorlingue	Stylasteridae?
04/10/2011 14:24:19	Sorlingue	4mn, cliff, reef
04/10/2011 14:24:45	Sorlingue	4mn vertical
04/10/2011 14:25:04	Sorlingue	Cliff, with scleractinian colonies
04/10/2011 14:26:41	Sorlingue	sea urchins
04/10/2011 14:26:54	Sorlingue	?
04/10/2011 14:27:52	Sorlingue	different habitat

04/10/2011 14:28:19	Sorlingue	4mn
04/10/2011 14:28:25	Sorlingue	4mn-vertical
04/10/2011 14:28:47	Sorlingue	different habitat
04/10/2011 14:35:43	Sorlingue	CALIBRATION of the vertical camera
04/10/2011 14:38:20	Sorlingue	Calibration 1.1m-altitude
04/10/2011 14:38:52	Sorlingue	Calibration 1.6 m-altitude
04/10/2011 14:38:59	Sorlingue	Calibration 2.0m-altitude
04/10/2011 14:39:21	Sorlingue	Calibration 2.0m-altitude
04/10/2011 14:39:40	Sorlingue	Calibration 2.5m-altitude
04/10/2011 14:39:48	Sorlingue	Calibration 3.0m-altitude
04/10/2011 14:40:54	Sorlingue	Calibration 5.0m-altitude
04/10/2011 14:41:19	Sorlingue	Calibration 5.5m-altitude
04/10/2011 14:43:18	Sorlingue	Calibration 1.0m-altitude
04/10/2011 14:45:18	Sorlingue	Calibration done
04/10/2011 14:48:38	Sorlingue	Exposed rock
04/10/2011 14:49:38	Sorlingue	Ripple sand
04/10/2011 14:50:27	Sorlingue	Narella
04/10/2011 14:50:28	Sorlingue	sea star
04/10/2011 14:52:49	Sorlingue	4mn-vertical
04/10/2011 14:53:08	Sorlingue	4mn
04/10/2011 14:54:25	Sorlingue	urchin
04/10/2011 14:54:58	Sorlingue	sea urchin
04/10/2011 14:55:44	Sorlingue	Cidaris on corals
04/10/2011 14:56:16	Sorlingue	4mn

04/10/2011 14:56:24	Sorlingue	4mn-vertical
04/10/2011 15:01:06	Sorlingue	4mn, sample rock -Autt
04/10/2011 15:01:44	Sorlingue	beatiful crinoids
04/10/2011 15:02:23	Sorlingue	Outcrops before sampling
04/10/2011 15:03:51	Sorlingue	sample rock
04/10/2011 15:07:05	Sorlingue	Purple octocoral
04/10/2011 15:12:00	Sorlingue	sample of rock in GBT3
04/10/2011 15:15:32	Sorlingue	Transiting
04/10/2011 15:16:35	Sorlingue	ANtipatharia
04/10/2011 15:18:26	Sorlingue	Calveriosoma-sea urchin
04/10/2011 15:18:34	Sorlingue	Narella bifurcate- Inge
04/10/2011 15:20:13	Sorlingue	4mn
04/10/2011 15:20:22	Sorlingue	4mn, calveriosoma urchin
04/10/2011 15:21:01	Sorlingue	cliff terrace
04/10/2011 15:21:41	Sorlingue	Lophelia and Acanella
04/10/2011 15:22:13	Sorlingue	Terrace structure, ripple marks
04/10/2011 15:23:06	Sorlingue	Calveriosoma?
04/10/2011 15:23:17	Sorlingue	Narella, Lophelia, antipatharia
04/10/2011 15:24:15	Sorlingue	4mn-vertical
04/10/2011 15:24:28	Sorlingue	4mn
04/10/2011 15:24:56	Sorlingue	sea urchin
04/10/2011 15:26:25	Sorlingue	fish
04/10/2011 15:26:33	Sorlingue	Antipatharia
04/10/2011 15:27:31	Sorlingue	terrace cliff, karst

04/10/2011 15:28:33	Sorlingue	calveriosoma?
04/10/2011 15:28:55	Sorlingue	4mn
04/10/2011 15:29:02	Sorlingue	4mn-vertical
04/10/2011 15:32:02	Sorlingue	Plastic bag, Narella bifurcate
04/10/2011 15:32:26	Sorlingue	4mn
04/10/2011 15:32:33	Sorlingue	4mn-vertical
04/10/2011 15:34:48	Sorlingue	Asteroidea
04/10/2011 15:35:04	Sorlingue	small ridge
04/10/2011 15:36:00	Sorlingue	Plastic bag again
04/10/2011 15:36:13	Sorlingue	4mn
04/10/2011 15:36:22	Sorlingue	4mn-vertical, Lophelia and Trissopathes?
04/10/2011 15:38:07	Sorlingue	Calveriosoma, Lophelia and Stylasteridae?
04/10/2011 15:38:56	Sorlingue	Fish
04/10/2011 15:40:10	Sorlingue	4mn-vertical
04/10/2011 15:40:21	Sorlingue	4mn
04/10/2011 15:41:25	Sorlingue	fish
04/10/2011 15:42:30	Sorlingue	Cidaris
04/10/2011 15:43:10	Sorlingue	End of the profile
04/10/2011 15:45:28	Sorlingue	Fish- Mora?
04/10/2011 15:46:22	Sorlingue	Gastropod
04/10/2011 15:46:49	Sorlingue	look for the fish- Trachyscorpia
04/10/2011 15:47:50	Sorlingue	Sand bottom
04/10/2011 15:48:10	Sorlingue	ripple marks
04/10/2011 15:49:15	Sorlingue	reef

04/10/2011 15:49:56	Sorlingue	Fish-
04/10/2011 15:50:51	Sorlingue	4mn
04/10/2011 15:51:28	Sorlingue	reef
04/10/2011 15:54:20	Sorlingue	Strong current
04/10/2011 15:55:09	Sorlingue	Dense isolated colonies
04/10/2011 15:56:36	Sorlingue	4mn
04/10/2011 15:56:43	Sorlingue	4mn-vertical
04/10/2011 15:57:08	Sorlingue	venus basket sponge
04/10/2011 15:57:33	Sorlingue	Plastic bag
04/10/2011 16:00:37	Sorlingue	4mn
04/10/2011 16:00:44	Sorlingue	4mn-vertical
04/10/2011 16:01:27	Sorlingue	Fish
04/10/2011 16:02:10	Sorlingue	Dense isolated colonies of Lophelia
04/10/2011 16:03:24	Sorlingue	Narella verluysi
04/10/2011 16:04:16	Sorlingue	4mn
04/10/2011 16:04:23	Sorlingue	4mn-vertical
04/10/2011 16:05:55	Sorlingue	Leiopathes?
04/10/2011 16:06:05	Sorlingue	Cidaris on coral
04/10/2011 16:09:43	Sorlingue	4mn
04/10/2011 16:09:55	Sorlingue	4mn vertical
04/10/2011 16:12:52	Sorlingue	End of the line
04/10/2011 16:15:25	Sorlingue	4mn
04/10/2011 16:16:37	Sorlingue	4mn
04/10/2011 16:16:46	Sorlingue	4mn-vertical

04/10/2011 16:19:06	Sorlingue	Crab hidden in the coral
04/10/2011 16:19:39	Sorlingue	Narella?
04/10/2011 16:20:01	Sorlingue	different habitat
04/10/2011 16:20:33	Sorlingue	Antipatharian
04/10/2011 16:20:58	Sorlingue	Antipatharian
04/10/2011 16:21:37	Sorlingue	Narella -several
04/10/2011 16:22:02	Sorlingue	Narella
04/10/2011 16:22:35	Sorlingue	4mn, Narella, Calveriosoma
04/10/2011 16:23:14	Sorlingue	Parantipathes?
04/10/2011 16:23:38	Sorlingue	Another Narella bifurcate
04/10/2011 16:24:19	Sorlingue	4mn
04/10/2011 16:24:27	Sorlingue	4mn-vertical
04/10/2011 16:24:56	Sorlingue	Calveriosoma?
04/10/2011 16:28:06	Sorlingue	Acanella
04/10/2011 16:29:18	Sorlingue	4mn
04/10/2011 16:29:24	Sorlingue	4mn-vertical
04/10/2011 16:30:37	Sorlingue	sea-urchin
04/10/2011 16:32:12	Sorlingue	Cidaris
04/10/2011 16:32:34	Sorlingue	Sea urchin- Calveriosoma
04/10/2011 16:33:30	Sorlingue	Antipatharian
04/10/2011 16:34:57	Sorlingue	Cidaris
04/10/2011 16:36:14	Sorlingue	4mn - Sand with pebbles
04/10/2011 16:36:45	Sorlingue	4mn-vertical
04/10/2011 16:37:38	Sorlingue	Cidaris and fish

04/10/2011 16:37:52	Sorlingue	Fish- good
04/10/2011 16:40:45	Sorlingue	4mn vertical
04/10/2011 16:40:52	Sorlingue	4mn -vertical
04/10/2011 16:42:17	Sorlingue	Fish
04/10/2011 16:42:26	Sorlingue	Fish
04/10/2011 16:44:27	Sorlingue	4mn
04/10/2011 16:44:34	Sorlingue	4mn-vertical
04/10/2011 16:45:01	Sorlingue	Sponge and Actinaria or Zoanthids
04/10/2011 16:48:26	Sorlingue	4mn -vertical
04/10/2011 16:48:35	Sorlingue	4mn, Lophelia, Madrepora, Leiopathes, Aphrocalliste sponge (Check it)
04/10/2011 16:49:57	Sorlingue	Beautiful leiopathes
04/10/2011 16:51:37	Sorlingue	Fish
04/10/2011 16:52:24	Sorlingue	Shark
04/10/2011 16:52:41	Sorlingue	Shark
04/10/2011 16:53:39	Sorlingue	Shark
04/10/2011 16:53:55	Sorlingue	Nice- Antipatharian
04/10/2011 16:56:01	Sorlingue	4mn
04/10/2011 16:56:11	Sorlingue	4mn-vertical
04/10/2011 16:59:31	Sorlingue	Leiopathes
04/10/2011 17:00:45	Sorlingue	4mn
04/10/2011 17:02:43	Sorlingue	Sand and isolated colonies (Lophelia and Madrepora)
04/10/2011 17:04:06	Sorlingue	4mn
04/10/2011 17:04:12	Sorlingue	4mn-vertical
04/10/2011 17:05:19	Sorlingue	Trissopathes?

04/10/2011 17:08:32	Sorlingue	Stop due to sampling
04/10/2011 17:11:24	Sorlingue	Antipatharian garden
04/10/2011 17:12:29	Sorlingue	PRELEVEMENT FAUNE GBT-3 sample Narella
04/10/2011 17:14:57	Sorlingue	sample Narella in GBT3, one fragment in GBT2
04/10/2011 17:16:39	Sorlingue	Bifurcate Narella
04/10/2011 17:20:24	Sorlingue	PRELEVEMENT FAUNE GBT-2 sample Narella bifurcate
04/10/2011 17:21:43	Sorlingue	sample Narella bifurcate in GBT2
04/10/2011 17:28:24	Sorlingue	Fish
04/10/2011 17:37:40	Sorlingue	We were stoped, due to a damaged sensor
04/10/2011 17:45:26	Sorlingue	4mn
04/10/2011 17:45:53	Sorlingue	Venus basket sponge
04/10/2011 17:47:10	Sorlingue	Sand, ripple marks
04/10/2011 17:49:01	Sorlingue	4mn
04/10/2011 17:50:42	Sorlingue	Orange roughy
04/10/2011 17:51:26	Sorlingue	Orange roughy
04/10/2011 17:53:27	Sorlingue	Ray
04/10/2011 17:53:35	Sorlingue	4mn, Ray
04/10/2011 17:53:59	Sorlingue	grenadier
04/10/2011 17:54:50	Sorlingue	Trachyscorpia
04/10/2011 17:55:11	Sorlingue	Calveriosoma?
04/10/2011 17:57:22	Sorlingue	4mn
04/10/2011 17:57:43	Sorlingue	crab
04/10/2011 17:58:02	Sorlingue	red crab
04/10/2011 17:58:14	Sorlingue	Monk fish

04/10/2011 18:01:00	Sorlingue	QUART Chris and Inge
04/10/2011 18:01:02	Sorlingue	4mn
04/10/2011 18:01:07	Sorlingue	4mn-vertical
04/10/2011 18:02:28	Sorlingue	zoanthid
04/10/2011 18:03:29	Sorlingue	Change of substrate - gravel and coral/shell/echinoid debris
04/10/2011 18:04:08	Sorlingue	Echinoid
04/10/2011 18:04:26	Sorlingue	Some coral colonies on coral/shell/echinoid debris
04/10/2011 18:05:27	Sorlingue	Lepidion
04/10/2011 18:05:57	Sorlingue	Orange roughy
04/10/2011 18:06:21	Sorlingue	Narella versluysi, Acanella and echinoid
04/10/2011 18:06:42	Sorlingue	asteroid
04/10/2011 18:06:44	Sorlingue	steps
04/10/2011 18:06:47	Sorlingue	Bathynectes, Acanella and coral
04/10/2011 18:07:23	Sorlingue	turn in the middle of the red cross to quadrat and last part of the transect
04/10/2011 18:09:11	Sorlingue	Mora
04/10/2011 18:09:23	Sorlingue	Sandripples
04/10/2011 18:09:35	Sorlingue	4 mn
04/10/2011 18:09:36	Sorlingue	4 mn
04/10/2011 18:09:59	Sorlingue	Echinoid and sandripples
04/10/2011 18:11:03	Sorlingue	Sand and biogenic gravel
04/10/2011 18:11:42	Sorlingue	echinoid and forkbeard
04/10/2011 18:11:56	Sorlingue	Sandripples
04/10/2011 18:12:11	Sorlingue	Narella and ledge
04/10/2011 18:13:39	Sorlingue	Chaceon under ledge

04/10/2011 18:14:37	Sorlingue	Sandripples
04/10/2011 18:15:07	Sorlingue	6 mn
04/10/2011 18:15:08	Sorlingue	6 mn
04/10/2011 18:15:43	Sorlingue	macrouridae
04/10/2011 18:16:09	Sorlingue	fish
04/10/2011 18:16:56	Sorlingue	dropstones
04/10/2011 18:17:12	Sorlingue	End of transect (fin de profil), start of genetic sampling
04/10/2011 18:17:35	Sorlingue	Coral
04/10/2011 18:18:36	Sorlingue	relief with corals, Chaceon, fish
04/10/2011 18:20:00	Sorlingue	Begin sampling
04/10/2011 18:20:54	Sorlingue	PRELEVEMENT FAUNE CCA1 sample Madrepora and Acanthogorgia AUTT1
04/10/2011 18:24:11	Sorlingue	Surroundings sample Madrepora and Acanthogorgia CCA1
04/10/2011 18:25:02	Sorlingue	Close up sample Madrepora and acanthogorgia CCA1
04/10/2011 18:28:07	Sorlingue	sample Acanthogorgia CCA1
04/10/2011 18:29:56	Sorlingue	sample Acanthogorgia and crinoid CCA1
04/10/2011 18:30:45	Sorlingue	sample Madrepora CCA1
04/10/2011 18:31:44	Sorlingue	sample Madrepora in CCA1
04/10/2011 18:33:13	Sorlingue	NO Lophelia in AUTT1
04/10/2011 18:34:34	Sorlingue	Trachyscorpia
04/10/2011 18:37:45	Sorlingue	PRELEVEMENT FAUNE CCA2 sample Lophelia and Madrepora, AUTT2, bit far from point because there was no coral on point.
04/10/2011 18:38:52	Sorlingue	Surrounding AUTT2
04/10/2011 18:40:46	Sorlingue	Sample Lophelia CCA2 AUTT2
04/10/2011 18:41:22	Sorlingue	Sample Lophelia in CCA2

04/10/2011 18:41:58	Sorlingue	sample Madrepora CCA2 AUTT2
04/10/2011 18:42:19	Sorlingue	Sample Madrepora
04/10/2011 18:42:31	Sorlingue	Sample Madrepora in CCA2
04/10/2011 18:43:23	Sorlingue	Chaceon
04/10/2011 18:48:19	Sorlingue	PRELEVEMENT FAUNE CCA3 sample Madrepora, sponge, crinoid AUTT3
04/10/2011 18:48:45	Sorlingue	Sample Madrepora, Sponge, crinoid CCA3 AUTT3 No Lophelia
04/10/2011 18:50:48	Sorlingue	Sample Madrepora, sponge and crinoid in CCA3
04/10/2011 18:55:37	Sorlingue	Surroundings sample Madrepora
04/10/2011 18:55:45	Sorlingue	PRELEVEMENT FAUNE CCA4 sample Madrepora on stone, AUTT 4
04/10/2011 18:57:09	Sorlingue	Sample Madrepora and rock CCA4, AUTT4. No Lophelia present
04/10/2011 19:04:32	Sorlingue	sample Cidaris CCA4
04/10/2011 19:05:23	Sorlingue	Sample Cidaris CCA4
04/10/2011 19:11:24	Sorlingue	sample Narella and crinoid
04/10/2011 19:11:45	Sorlingue	Sample Narella
04/10/2011 19:14:35	Sorlingue	PRELEVEMENT FAUNE CCA5 sample Acanthogorgia
04/10/2011 19:15:15	Sorlingue	Sample Acanthogorgia CCA5
04/10/2011 19:16:33	Sorlingue	sample Madrepora and Acanthogorgia 2 CCA5, AUTT5
04/10/2011 19:17:12	Sorlingue	Sample Madrepora and Acanthogorgia 2 CCA5
04/10/2011 19:21:51	Sorlingue	sample Cidaris CCA5
04/10/2011 19:23:55	Sorlingue	Chaceon
04/10/2011 19:25:43	Sorlingue	Chaceon
04/10/2011 19:26:58	Sorlingue	Lepidion
04/10/2011 19:28:15	Sorlingue	Acanella
04/10/2011 19:28:20	Sorlingue	Surroundings AUTT 6 Sample Madrepora and Lophelia CCA6

04/10/2011 19:30:42	Sorlingue	PRELEVEMENT FAUNE CCA6 sample Lophelia and Madrepora AUTT6
04/10/2011 19:31:42	Sorlingue	sample Lophelia and Madrepora CCA6 AUTT 6
04/10/2011 19:32:25	Sorlingue	Sample Lophelia and Madrepora CCA6
04/10/2011 19:33:45	Sorlingue	Retry Lophelia AUTT 6 CCA6
04/10/2011 19:36:08	Sorlingue	sample Cidaris CCA6
04/10/2011 19:46:35	Sorlingue	PRELEVEMENT FAUNE CCA7 sample Lophelia AUTT7
04/10/2011 19:47:33	Sorlingue	sample Lophelia in CCA7
04/10/2011 19:48:05	Sorlingue	sample Madrepora in CCA7 at AUTT7
04/10/2011 19:50:02	Sorlingue	Fish
04/10/2011 19:52:59	Sorlingue	Trachyscorpia
04/10/2011 19:55:28	Sorlingue	Surroundings Narella
04/10/2011 19:55:44	Sorlingue	sample Narella CCA7
04/10/2011 19:56:08	Sorlingue	Sample Narella CCA7 Half of Narella fallen in CCA6
04/10/2011 20:02:35	Sorlingue	QUART Yann and Thomas starting
04/10/2011 20:05:19	Sorlingue	PRELEVEMENT FAUNE CCA8 sample Lophelia at AUTT_8
04/10/2011 20:08:49	Sorlingue	sample Madrepora pink at AUTT_8 in CCA8
04/10/2011 20:10:18	Sorlingue	sample Madrepora white at AUTT_8 in CCA8
04/10/2011 20:12:40	Sorlingue	sample Sea Urchin at AUTT_8 in CCA8
04/10/2011 20:14:50	Sorlingue	sample Crinoids at AUTT_8 in CCA8
04/10/2011 20:17:21	Sorlingue	sample Lophelia at AUTT_8 in CCA1
04/10/2011 20:22:06	Sorlingue	sample Lophelia at AUTT_9 in CCA3
04/10/2011 20:33:53	Sorlingue	PRELEVEMENT FAUNE GBT-1 sample Blob at AUTT_9
04/10/2011 20:36:36	Sorlingue	sample Crinoids at AUTT_9 in CCA8
04/10/2011 20:37:52	Sorlingue	sample Lophelia and Madrepora at AUTT_9 in GBT1

04/10/2011 20:41:53	Sorlingue	Weird Crab at AUTT_9
04/10/2011 20:42:48	Sorlingue	sample Crinoids and Hexadella at AUTT_9 in GBT1
04/10/2011 20:46:19	Sorlingue	Red fish
04/10/2011 20:47:01	Sorlingue	Arriving at AUTT_10
04/10/2011 20:48:50	Sorlingue	sample Lophelia, Crinoids and Narella at AUTT_10 in CCA_4
04/10/2011 20:58:49	Sorlingue	Arriving at AUTT_11
04/10/2011 21:03:29	Sorlingue	sample Lophelia at AUTT_11 in CCA5
04/10/2011 21:13:18	Sorlingue	Sea Urchin
04/10/2011 21:14:12	Sorlingue	RedFish
04/10/2011 21:15:04	Sorlingue	Conger
04/10/2011 21:15:16	Sorlingue	Plastic Bag
04/10/2011 21:18:08	Sorlingue	Sea Star
04/10/2011 21:20:59	Sorlingue	arrivee ascenseur
04/10/2011 21:25:26	Sorlingue	arrivee Valerie pour remplacer Yann
04/10/2011 21:25:37	Sorlingue	espece de ver avec antennes qui rampe en sautant?
04/10/2011 21:27:54	Sorlingue	depot CCA plein au sol pied de ascenseur
04/10/2011 21:34:23	Sorlingue	Orange roughy
04/10/2011 21:38:29	Sorlingue	zone avec plein de passage de poissons
04/10/2011 21:38:48	Sorlingue	encore orange roughy
04/10/2011 21:48:27	Sorlingue	recuperation casier CCB dans panier 2 de ascenseur et depot dans panier ROV
04/10/2011 21:52:31	Sorlingue	recuperation casier CCC dans ascenseur panier 2
04/10/2011 22:02:04	Sorlingue	changement de quart julie et ronan
04/10/2011 22:05:07	Sorlingue	interesting geological feature

04/10/2011 22:22:58	Sorlingue	Ripple marks
04/10/2011 22:44:35	Sorlingue	ouverture panier 1 ascenseur
04/10/2011 22:56:30	Sorlingue	on quitte l'ascenseur, pour retourner en bas du point AUTT11
04/10/2011 22:59:19	Sorlingue	lingue
04/10/2011 23:13:22	Sorlingue	passage au dessus d'une butte
04/10/2011 23:15:30	Sorlingue	trachyscorpia
04/10/2011 23:16:41	Sorlingue	un oursin
04/10/2011 23:17:48	Sorlingue	traces de chalut eventuelles
04/10/2011 23:20:32	Sorlingue	relief
04/10/2011 23:32:47	Sorlingue	creation point remarquable AUTT12 pour manip microbiologie
04/10/2011 23:33:58	Sorlingue	PRELEVEMENT PBT-4 Lophelia sur point AUTT12
04/10/2011 23:35:47	Sorlingue	Lophelia dans PBT4 sur point AUTT12
04/10/2011 23:42:11	Sorlingue	prelevement colonie 2 Lophelia PBT4 sur point AUTT12
04/10/2011 23:42:49	Sorlingue	fin prelevement Lophelia PBT4 sur point AUTT12
04/10/2011 23:49:08	Sorlingue	sortie PBT3
04/10/2011 23:51:31	Sorlingue	les deux colonies de Madrepora de couleur differente
04/10/2011 23:52:14	Sorlingue	PRELEVEMENT PBT-3 Madrepora colonie 1 sur point AUTT12
04/10/2011 23:53:14	Sorlingue	Madrepora colonie 1 dans PBT3 sur point AUTT12
04/10/2011 23:53:55	Sorlingue	prelevement Madrepora colonie 2 PBT3 sur point AUTT12
04/10/2011 23:56:11	Sorlingue	fin prelevement Madrepora (2 colonies) PBT3 sur point AUTT12
05/10/2011 00:02:44	Sorlingue	sortie PBT1
05/10/2011 00:05:11	Sorlingue	PRELEVEMENT PBT-1 Sediments Valerie sur POINT AUTT12
05/10/2011 00:06:55	Sorlingue	deuxieme prelevement sediments meme endroit
05/10/2011 00:08:04	Sorlingue	fin prelevement sediments Valerie PBT1 sur POINT AUTT12

05/10/2011 00:12:26	Sorlingue	sortie PBT2
05/10/2011 00:19:06	Sorlingue	PRELEVEMENT PBT-2 Hexadella (3 specimens) sur point AUTT12
05/10/2011 00:27:56	Sorlingue	prelevement Hexadella specimen 2
05/10/2011 00:30:37	Sorlingue	prelevement specimen 3 hexadella PBT2
05/10/2011 00:31:28	Sorlingue	fin prelevement Hexadella (3 specimens) PBT2 sur point AUTT12
05/10/2011 00:37:17	Sorlingue	sac plastique
05/10/2011 00:38:55	Sorlingue	PRELEVEMENT PEP-9 , 5L eau sur point AUTT12. Purge 37s.
05/10/2011 00:49:27	Sorlingue	fin prelevement PEP 9 eau 5L point AUTT2 apres 504 s
05/10/2011 00:49:55	Sorlingue	PRELEVEMENT PEP-10 , 5L eau point AUTT12.
05/10/2011 00:58:10	Sorlingue	fin prelevement PEP10 5L eau point AUTT12 apres 503s
05/10/2011 00:58:45	Sorlingue	PRELEVEMENT PEP-11 , point AUTT12.
05/10/2011 01:00:17	Sorlingue	temperature = 9,70°C environ
05/10/2011 01:04:36	Sorlingue	on quitte le point AUTT12 direction point AUTT10 pour faire 3 min de video
05/10/2011 01:05:47	Sorlingue	fish
05/10/2011 01:13:27	Sorlingue	espece jaune. est ce un dendrophyllia?
05/10/2011 01:14:42	Sorlingue	cadrage espece jaune
05/10/2011 01:15:29	Sorlingue	zoom espece jaune
05/10/2011 01:23:25	Sorlingue	on quitte le point AUTT10 apres 7 minutes de video sans incrustation pour communication
05/10/2011 01:40:00	Sorlingue	Prelevement Bifurcating Narella GBT3 outside quadrat sur ascenseur
05/10/2011 01:41:11	Sorlingue	Zoom Narella
05/10/2011 01:43:24	Sorlingue	fin prelevement bifurcating Narella GBT3 outside quadrat pres ascenseur
05/10/2011 01:45:18	Sorlingue	interesting geological feature
05/10/2011 02:03:54	Sorlingue	Shift change - Ronan and Julie to Cecile G and Angela

05/10/2011 02:05:14	Sorlingue	Cidaris hiding in sediment
05/10/2011 02:14:57	Sorlingue	Trying to load PBTs into elevator - strong current
05/10/2011 02:16:43	Sorlingue	Calveriosoma fenestratum at the bottom of the elevator
05/10/2011 02:22:45	Sorlingue	fil de l'ascenseur - essai d'atrappage de l'ascenseur
05/10/2011 02:23:37	Sorlingue	Calveriosoma fenestratum and asteroid
05/10/2011 02:24:44	Sorlingue	CCB and CCC
05/10/2011 02:26:08	Sorlingue	Interesting terrain
05/10/2011 02:29:26	Sorlingue	At elevator, transfer of PBT into elevator about to begin
05/10/2011 02:37:51	Sorlingue	First PBT in elevator
05/10/2011 02:40:16	Sorlingue	Second PBT in elevator
05/10/2011 02:42:44	Sorlingue	Third PBT in elevator
05/10/2011 02:44:01	Sorlingue	PBT 2 opened during exchange from ROV to elevator
05/10/2011 02:45:18	Sorlingue	PBT 2 closed again
05/10/2011 02:46:17	Sorlingue	Fourth PBT in elevator
05/10/2011 02:47:37	Sorlingue	Completion of PBTs into elevator
05/10/2011 02:49:02	Sorlingue	Current ripples on bottom
05/10/2011 02:50:55	Sorlingue	Current ripples on bottom - different view, horizontal camera
05/10/2011 02:53:07	Sorlingue	Narella
05/10/2011 02:53:25	Sorlingue	Vase sponge
05/10/2011 02:55:59	Sorlingue	CCA with samples was turned over by current
05/10/2011 02:56:52	Sorlingue	View of sediment
05/10/2011 02:58:58	Sorlingue	CCA turned right side up
05/10/2011 02:59:37	Sorlingue	Sediment and Cidaris spines
05/10/2011 03:00:17	Sorlingue	Rock in sediment, possibly with barnacle on rock

05/10/2011 03:02:23	Sorlingue	Small crab on bottom-center of screen
05/10/2011 03:05:34	Sorlingue	Collection of CCA to place in elevator
05/10/2011 03:06:22	Sorlingue	Conical Gastropod? and track crawling around
05/10/2011 03:07:20	Sorlingue	Two giant barnacles on rock (same rock as before)
05/10/2011 03:09:07	Sorlingue	Barnacles
05/10/2011 03:10:13	Sorlingue	Returning to elevator
05/10/2011 03:11:14	Sorlingue	At elevator
05/10/2011 03:29:29	Sorlingue	Placing CCA into elevator
05/10/2011 03:31:52	Sorlingue	CCA in elevator
05/10/2011 03:34:13	Sorlingue	Parantipathes ?
05/10/2011 03:35:23	Sorlingue	Collecting CCB - below the elevator
05/10/2011 03:36:25	Sorlingue	Coral rubble
05/10/2011 03:36:46	Sorlingue	Collecting CCB
05/10/2011 03:39:20	Sorlingue	CCB in ROV
05/10/2011 03:40:12	Sorlingue	Fish
05/10/2011 03:41:19	Sorlingue	Rock formation
05/10/2011 03:41:35	Sorlingue	Rock formation, Cidaris
05/10/2011 03:42:09	Sorlingue	Cidaris and Calveriosoma
05/10/2011 03:42:56	Sorlingue	Current ripples and rocks
05/10/2011 03:43:43	Sorlingue	Barnacles on rock
05/10/2011 03:45:13	Sorlingue	Interesting landscape
05/10/2011 03:45:36	Sorlingue	Cidaris
05/10/2011 03:45:41	Sorlingue	Arrival to site - coral and lots of Cidaris
05/10/2011 03:48:11	Sorlingue	Leiopathes, Cidaris, Lophelia and Madrepora at AUTT13

05/10/2011 03:50:11	Sorlingue	PRELEVEMENT FAUNE CCB3 sample of Cidaris at AUTT13
05/10/2011 03:51:50	Sorlingue	Cidaris at AUTT13 in CCB3
05/10/2011 03:52:58	Sorlingue	sample of Lophelia at AUTT13 CCB3
05/10/2011 03:53:53	Sorlingue	Lophelia at AUTT13 in CCB3
05/10/2011 03:55:27	Sorlingue	sample of Madrepora at AUTT13 CCB3
05/10/2011 03:57:02	Sorlingue	Yellow and white sponge at AUTT13
05/10/2011 03:57:08	Sorlingue	Madrepora at AUTT13 in CCB3
05/10/2011 03:59:33	Sorlingue	Yellow and white sponge again
05/10/2011 04:00:29	Sorlingue	Lush coral garden
05/10/2011 04:00:52	Sorlingue	Lepidion
05/10/2011 04:01:01	Sorlingue	Trachyscorpia
05/10/2011 04:04:08	Sorlingue	PRELEVEMENT FAUNE CCB5 sample of Lophelia at AUTT14
05/10/2011 04:04:40	Sorlingue	Lophelia at AUTT14 in CCB5
05/10/2011 04:05:49	Sorlingue	sample of Cidaris at AUTT14 CCB5
05/10/2011 04:06:39	Sorlingue	Cidaris at AUTT14 in CCB5
05/10/2011 04:07:52	Sorlingue	Trachyscorpia
05/10/2011 04:09:18	Sorlingue	sample of Madrepora at AUTT14 CCB5
05/10/2011 04:10:52	Sorlingue	Madrepora at AUTT14 in CCB5
05/10/2011 04:12:00	Sorlingue	Trachyscorpia
05/10/2011 04:12:24	Sorlingue	Trachyscorpia
05/10/2011 04:13:11	Sorlingue	Contrast between sediment and coral area
05/10/2011 04:13:38	Sorlingue	Fish
05/10/2011 04:13:54	Sorlingue	Vase sponge
05/10/2011 04:15:17	Sorlingue	PRELEVEMENT FAUNE CCB8 sample of Hexadella? at AUTT15

05/10/2011 04:16:11	Sorlingue	Hexadella at AUTT15 in CCB8
05/10/2011 04:17:42	Sorlingue	sample of Madrepora at AUTT15 CCB8
05/10/2011 04:18:30	Sorlingue	Madrepora close up
05/10/2011 04:18:35	Sorlingue	Madrepora at AUTT15 in CCB8
05/10/2011 04:22:29	Sorlingue	Sponge
05/10/2011 04:22:59	Sorlingue	Sample of Lophelia at AUTT15-failed attempt
05/10/2011 04:24:39	Sorlingue	sample of Lophelia at AUTT15 CCB8
05/10/2011 04:25:40	Sorlingue	Lophelia at AUTT15 in CCB8
05/10/2011 04:27:10	Sorlingue	Hexadella about to be collected
05/10/2011 04:27:54	Sorlingue	sample of Hexadella at AUTT15 CCB8
05/10/2011 04:29:03	Sorlingue	Hexadella at AUTT15 in CCB8
05/10/2011 04:30:13	Sorlingue	Shrimp
05/10/2011 04:30:52	Sorlingue	Thick coral
05/10/2011 04:33:07	Sorlingue	Thick Lophelia and Madrepora garden
05/10/2011 04:33:28	Sorlingue	Thick coral garden
05/10/2011 04:34:51	Sorlingue	Lepidion
05/10/2011 04:37:35	Sorlingue	AUTT16 site
05/10/2011 04:38:33	Sorlingue	Sample of Cidaris at AUTT16 -failed
05/10/2011 04:39:45	Sorlingue	Sample of Madrepora at AUTT16-failed attempt
05/10/2011 04:42:31	Sorlingue	sample of Cidaris at AUTT16 CCB6
05/10/2011 04:43:13	Sorlingue	PRELEVEMENT FAUNE CCB2 Cidaris at AUTT16
05/10/2011 04:44:22	Sorlingue	Sample of Lophelia at AUTT16-failed attempt
05/10/2011 04:47:05	Sorlingue	sample of Madrepora at AUTT16 CCB2
05/10/2011 04:48:08	Sorlingue	Madrepora at AUTT16 in CCB2

05/10/2011 04:49:15	Sorlingue	sample of Lophelia at AUTT16 CCB2
05/10/2011 04:50:25	Sorlingue	Lophelia coral debris close up
05/10/2011 04:50:40	Sorlingue	Lophelia at AUTT16 in CCB2
05/10/2011 04:54:41	Sorlingue	Rotation casier
05/10/2011 04:55:46	Sorlingue	Shrimp
05/10/2011 04:57:03	Sorlingue	Yellow and white sponge, Cidaris and fish
05/10/2011 04:57:33	Sorlingue	Yellow and white sponge
05/10/2011 04:57:53	Sorlingue	Sediment vs coral contrast
05/10/2011 04:58:14	Sorlingue	Lots of yellow and white sponges
05/10/2011 04:58:48	Sorlingue	High elevation covered in coral
05/10/2011 05:04:31	Sorlingue	PRELEVEMENT FAUNE CCB6 sample of Lophelia at AUTT17
05/10/2011 05:05:17	Sorlingue	Lophelia at AUTT17 in CCB6
05/10/2011 05:08:17	Sorlingue	Lots of crinoids
05/10/2011 05:09:34	Sorlingue	sample of Madrepora at AUTT17
05/10/2011 05:10:15	Sorlingue	Madrepora at AUTT17 in CCB6
05/10/2011 05:11:33	Sorlingue	Madrepora and coral rubble
05/10/2011 05:11:56	Sorlingue	PRELEVEMENT FAUNE CCB7 sample of Cidaris at AUTT17
05/10/2011 05:13:49	Sorlingue	Cidaris at AUTT17 at CCB7
05/10/2011 05:15:28	Sorlingue	Hexadella before collection
05/10/2011 05:15:42	Sorlingue	sample of Hexadella at AUTT17 CCB6
05/10/2011 05:16:14	Sorlingue	Hexadella at AUTT17 in CCB6
05/10/2011 05:17:16	Sorlingue	Boulder covered in Hexadella
05/10/2011 05:20:47	Sorlingue	No coral in Southern part of the quadrat
05/10/2011 05:22:41	Sorlingue	Coral on crest

05/10/2011 05:23:01	Sorlingue	Interesting landscape - sand dunes
05/10/2011 05:25:29	Sorlingue	AUTT18 site
05/10/2011 05:26:42	Sorlingue	PRELEVEMENT FAUNE CCB4 sample of Cidaris at AUTT18
05/10/2011 05:27:51	Sorlingue	Cidaris at AUTT18 in CCB4
05/10/2011 05:28:56	Sorlingue	sample of white Lophelia at AUTT18 CCB4
05/10/2011 05:29:23	Sorlingue	White Lophelia at AUTT18 in CCB4
05/10/2011 05:30:06	Sorlingue	sample of Madrepora AUTT18 CCB4
05/10/2011 05:30:38	Sorlingue	Madrepora AUTT18 in CCB4
05/10/2011 05:31:16	Sorlingue	sample of pink Lophelia AUTT18 CCB4
05/10/2011 05:31:51	Sorlingue	Pink Lophelia AUTT18 in CCB4
05/10/2011 05:34:02	Sorlingue	Coral only present on top of mound, surrounded by sediment
05/10/2011 05:36:44	Sorlingue	Back in coral area
05/10/2011 05:38:04	Sorlingue	Leiopathes among Lophelia and Madrepora
05/10/2011 05:39:32	Sorlingue	AUTT19 site
05/10/2011 05:39:47	Sorlingue	AUTT19 sediment
05/10/2011 05:41:34	Sorlingue	sample of Cidaris at AUTT19
05/10/2011 05:42:58	Sorlingue	PRELEVEMENT FAUNE CCB1 Cidaris at AUTT19
05/10/2011 05:43:56	Sorlingue	sample of Madrepora at AUTT19
05/10/2011 05:44:52	Sorlingue	Madrepora at AUTT19 in CCB1
05/10/2011 05:47:00	Sorlingue	sample of Lophelia at AUTT19
05/10/2011 05:47:39	Sorlingue	Lophelia at AUTT19 in CCB1
05/10/2011 05:49:26	Sorlingue	sample of Hexadella at AUTT19
05/10/2011 05:50:20	Sorlingue	Hexadella at AUTT19 in CCB1
05/10/2011 05:54:10	Sorlingue	Moved into adjacent sediment zone on transit to AUTT20

05/10/2011 05:54:56	Sorlingue	Interesting mounds/landscape
05/10/2011 05:57:27	Sorlingue	No coral in bottom right hand corner of quadrat
05/10/2011 05:59:10	Sorlingue	Still mostly sediment
05/10/2011 05:59:27	Sorlingue	Cataetyx and Cidaris in sediment
05/10/2011 06:00:34	Sorlingue	Interesting landscape
05/10/2011 06:01:12	Sorlingue	Chaceon and ripples in sediment
05/10/2011 06:02:18	Sorlingue	AUTT20 site
05/10/2011 06:03:48	Sorlingue	QUART Inge and Eric
05/10/2011 06:07:48	Sorlingue	sample Madrepora CCB7 AUTT20
05/10/2011 06:09:48	Sorlingue	Sample Madrepora in CCB7 AUTT20
05/10/2011 06:10:54	Sorlingue	sample Acanthogorgia CCB7
05/10/2011 06:11:08	Sorlingue	HCS storm or current ripples
05/10/2011 06:13:52	Sorlingue	sample Cidaris CCB7 AUTT20
05/10/2011 06:14:54	Sorlingue	sample Acanthogorgia 2 CCB7
05/10/2011 06:17:14	Sorlingue	Sample Acanthogorgia 2 in CCB7
05/10/2011 06:18:06	Sorlingue	sample Madrepora white CCB7
05/10/2011 06:18:10	Sorlingue	Move further to find Lophelia
05/10/2011 06:21:22	Sorlingue	Conger eel
05/10/2011 06:21:30	Sorlingue	Conger eel and three Lepidion
05/10/2011 06:22:54	Sorlingue	Still Conger eel
05/10/2011 06:23:44	Sorlingue	Previous conger eel and reef
05/10/2011 06:24:38	Sorlingue	Surrounding sample Lophelia in AUTT21 close to AUTT20
05/10/2011 06:24:56	Sorlingue	sample Lophelia CCB7 AUTT21 (very close to AUTT20)
05/10/2011 06:25:02	Sorlingue	Sample Lophelia CCB7

05/10/2011 06:28:05	Sorlingue	Lophelia bits out of claw
05/10/2011 06:28:23	Sorlingue	Sample Lophelia in CCB7
05/10/2011 06:31:24	Sorlingue	Closing GBT
05/10/2011 06:32:34	Sorlingue	Departure sampling area to go to ascenseur
05/10/2011 06:40:34	Sorlingue	Point AUTT19 is not on the map. Add later. TC 05:47
05/10/2011 06:46:44	Sorlingue	Thing
05/10/2011 06:48:55	Sorlingue	Ascenseur
05/10/2011 06:49:42	Sorlingue	ROV grabbed ascenseur
05/10/2011 06:50:33	Sorlingue	CCA already in ascenseur, CC B still in ROV
05/10/2011 06:57:42	Sorlingue	CCB in ascenseur
05/10/2011 06:58:29	Sorlingue	Ascenseur closed
05/10/2011 06:59:48	Sorlingue	CC C on bottom
05/10/2011 07:04:36	Sorlingue	CC C in ROV panier
05/10/2011 07:06:49	Sorlingue	surroundings sample echinoid at elevator
05/10/2011 07:07:49	Sorlingue	Forkbeard, coral and echinoid
05/10/2011 07:08:11	Sorlingue	sample echinoid (<i>Calveriosoma fenestratum</i>) near ascenseur
05/10/2011 07:09:27	Sorlingue	PRELEVEMENT FAUNE CCC1 sample previous echinoid, bamboo coral and Madrepora Not in genetic sampling area
05/10/2011 07:12:17	Sorlingue	start largage ascenseur
05/10/2011 07:15:03	Sorlingue	Barnacle, shel, echinoid debris
05/10/2011 07:15:31	Sorlingue	Ascenseur is floating to the surface
05/10/2011 07:18:00	Sorlingue	PRELEVEMENT PEP-12 , at 932 m depth (pas de purge)
05/10/2011 07:20:00	Sorlingue	PRELEVEMENT PEP-13 , at same point (normal avec purge)
05/10/2011 07:26:10	Sorlingue	sample Narella CCC1

05/10/2011 07:26:28	Sorlingue	Still Narella's
05/10/2011 07:26:49	Sorlingue	Foot of bificated Narella
05/10/2011 07:28:20	Sorlingue	Sample Narella in CC C1
05/10/2011 07:32:16	Sorlingue	sample Narella 2 CCC2 near ascenseur
05/10/2011 07:33:51	Sorlingue	PRELEVEMENT FAUNE CCC2 sample Narella 2 (half)
05/10/2011 07:35:15	Sorlingue	Barnacles
05/10/2011 07:37:33	Sorlingue	TToothshell
05/10/2011 07:40:44	Sorlingue	Ascenseur on board
05/10/2011 07:41:03	Sorlingue	Sample Narella in CCC2
05/10/2011 07:43:06	Sorlingue	Departure to sampling area
05/10/2011 07:50:54	Sorlingue	Asteroid
05/10/2011 07:50:56	Sorlingue	fish
05/10/2011 07:52:00	Sorlingue	Nice reef area
05/10/2011 07:54:59	Sorlingue	Sample Lophelia and Madrepora, lost so other sample taken
05/10/2011 07:55:28	Sorlingue	Dense coral
05/10/2011 07:56:43	Sorlingue	Antipatharians and cidaris in reef area
05/10/2011 08:00:00	Sorlingue	CHANGE SHIFT: Yan, Giulia
05/10/2011 08:02:51	Sorlingue	sample Lophelia at AUTT_22 in CCC2
05/10/2011 08:03:45	Sorlingue	sample Cidaris and Madrepora and Eunice at AUTT_22 in CCC2
05/10/2011 08:08:31	Sorlingue	sample Madrepora Pink (on the right) at AUTT_22 in CCC2
05/10/2011 08:10:43	Sorlingue	Pink Madrepora
05/10/2011 08:15:12	Sorlingue	sample Crinoids at AUTT_22 in CCC2
05/10/2011 08:23:18	Sorlingue	ARRIVING at AUTT_23
05/10/2011 08:26:12	Sorlingue	PRELEVEMENT FAUNE CCC3 sample Lophelia and Crinoid at AUTT_23

05/10/2011 08:28:45	Sorlingue	SAMPLIE Madrepora and Crinoid at AUTT_23 in CCC3 (petit morceau dans CCC2)
05/10/2011 08:33:24	Sorlingue	sample Lophelia and Madrepora? with Crinoids at AUTT_23 in CCC3
05/10/2011 08:37:09	Sorlingue	sample White Madrepora and Crinoid at AUTT_23 in CCC3
05/10/2011 08:40:46	Sorlingue	sample Hexadella at AUTT_23 in CCC3
05/10/2011 08:45:00	Sorlingue	Arriving at AUTT_24
05/10/2011 08:46:37	Sorlingue	PRELEVEMENT FAUNE CCC4 sample Sponges and Crinoids at AUTT_24
05/10/2011 08:49:01	Sorlingue	sample Madrepora at AUTT_24 in CCC4
05/10/2011 08:52:40	Sorlingue	sample PEP14 and PEP15 at AUTT_24
05/10/2011 08:54:30	Sorlingue	sample Lophelia at AUTT_24 in CCC4
05/10/2011 08:57:18	Sorlingue	sample White Lophelia at AUTT_24 in CCC4
05/10/2011 08:59:40	Sorlingue	sample 2 Cidaris and Sponges piece at AUTT_24 in CCCC4
05/10/2011 09:06:31	Sorlingue	ARRIVING at AUTT_25
05/10/2011 09:07:34	Sorlingue	PRELEVEMENT FAUNE CCC5 sample Madrepora at AUTT_25
05/10/2011 09:10:32	Sorlingue	sample Lophelia at AUTT_25 in CCC5
05/10/2011 09:12:13	Sorlingue	sample PEP16 and PEP17
05/10/2011 09:13:35	Sorlingue	sample Crinoid at AUTT_25 in CCC5
05/10/2011 09:18:41	Sorlingue	sample Cidaris at AUTT_25 in CCC5
05/10/2011 09:23:00	Sorlingue	Arriving at AUTT_26
05/10/2011 09:23:04	Sorlingue	PRELEVEMENT FAUNE CCC6 sample Lophelia at AUTT_26
05/10/2011 09:27:51	Sorlingue	sample Madrepora with pieces of Lophelia at AUTT_26 in CCC6
05/10/2011 09:33:47	Sorlingue	Conger
05/10/2011 09:34:56	Sorlingue	Redfish
05/10/2011 09:36:42	Sorlingue	ARRIVING at AUTT_27

05/10/2011 09:37:13	Sorlingue	PRELEVEMENT FAUNE CCC7 sample Cidaris at AUTT_27
05/10/2011 09:41:01	Sorlingue	sample Lophelia at AUTT_27 in CCC7
05/10/2011 09:46:19	Sorlingue	sample MAdrepورا and Crinoid at AUTT_27 in CCC7
05/10/2011 09:47:25	Sorlingue	PRELEVEMENT PEP-18 , at AUTT_27
05/10/2011 09:53:57	Sorlingue	Arriving at AUTT_28
05/10/2011 09:56:04	Sorlingue	sample Lophelia at AUTT_28 in CCC3 (nice piece)
05/10/2011 09:59:43	Sorlingue	PRELEVEMENT FAUNE CCC8 sample Madrepora and Eunice at AUTT_28
05/10/2011 10:04:19	Sorlingue	Galatheid?
05/10/2011 10:08:33	Sorlingue	sample White Lophelia at AUTT_28 in CCC8
05/10/2011 10:10:49	Sorlingue	sample pink Lophelia in CCC8

15. Dive report 477 - 15

Submersible : Victor 6000

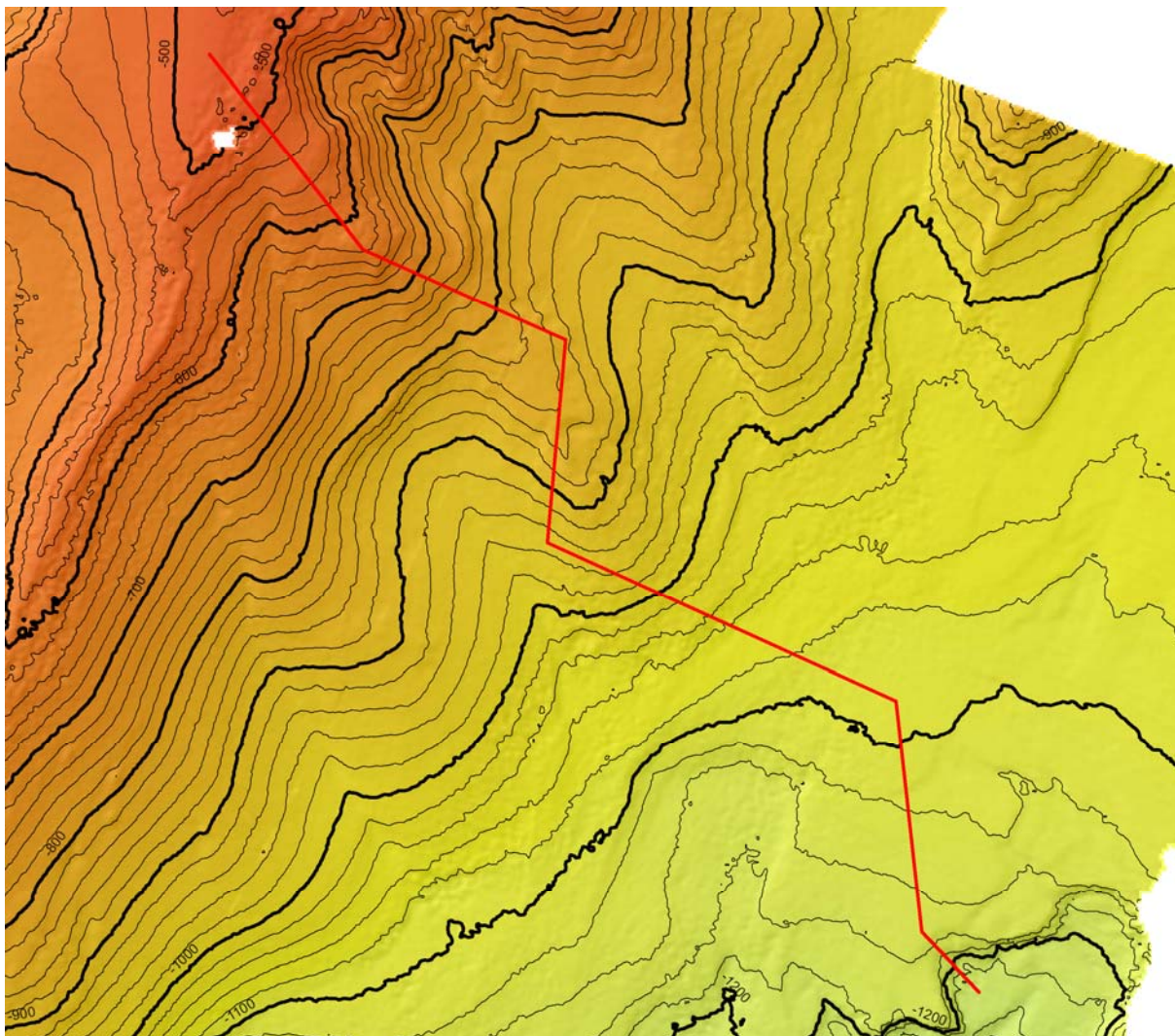
Starting Dive : 05/10/2011 16:45

Arrival on the bottom: 05/10/2011 18:10

Deprture from the bottom: 06/10/2011 06:15

Ending dive : 06/10/2011 07:11

Location : Sorlingue



Dives objectives :

BobEco - Dive 477-15 Explo&Sampling dive

Canyon de Sorlingue 1200-600m

Point d'immersion et début de transect: N 48°09.194 W 9°03.406 Sonde approx 1200m

Total Duration : 10h/12h deck to deck

Time on the 'bottom' : 10h

Objectives :

- Exploration of Sorlingue canyon and sampling if observed of (here we won't get coordinates)

L. pertusa and M. oculata

Narella sp.

Sponges

Sea urchins

-Sampling of water from the bottom in 8 PEP bottles during the descent (microbiology)

-IF Colonies of Madrepora/Lophelia on a cliff, SAMPLE most part of the colonie with one PEP bottle. Repeat at different depth (at least 3)

Summary :

Visited locations : Sorlingue,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
DOUVILLE Eric	LSCE
YESSON Chris	ZSL
LINLEY Thomas	UNIV ABERDEEN
BOURILLET Jean-François	IFREMER BREST
VAN DEN BELDE Inge	IFREMER BREST
PRATO Guilia	NUIGalway
PERTUISOT Cecile	IFREMER BREST
HENRIQUEZ Andreia Braga	IMAR

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
05/10/2011 18:59:30	Sorlingue	477 - 15	Coral box A		3	N 48 09.251	W 009 03.489	1232	PRELEVEMENT FAUNE CCA3 sample rock
05/10/2011 21:54:02	Sorlingue	477 - 15	Coral box A		5	N 48 10.103	W 009 04.581	961	PRELEVEMENT FAUNE CCA5 Sample Lophelia

05/10/2011 23:00:31	Sorlingue	477 - 15	Coral box A		6	N 48 10.390	W 009 04.776	857	PRELEVEMENT FAUNE CCA6 sample pink Madrepora 856m
06/10/2011 00:26:09	Sorlingue	477 - 15	Coral box A		7	N 48 10.718	W 009 05.137	747	PRELEVEMENT FAUNE CCA7 sample Lophelia + Madrepora, 745m
05/10/2011 19:11:01	Sorlingue	477 - 15	ROV big box	GBT	2	N 48 09.257	W 009 03.510	1194	PRELEVEMENT FAUNE GBT-2 Sample octocoral (Alcyoniina)
05/10/2011 19:23:17	Sorlingue	477 - 15	Basket	PANIER	1	N 48 09.280	W 009 03.538	1181	PRELEVEMENT FAUNE PANIER-1 sample Bathypathes behind CC in panier

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
05/10/2011 17:59:00	Sorlingue	477 - 15	PEP bottle	PEP	1	N 48 09.277	W 009 03.193	1209	PRELEVEMENT PEP-1 at 1186 m depth
05/10/2011 19:42:47	Sorlingue	477 - 15	PEP bottle	PEP	2	N 48 09.402	W 009 03.610	1140	PRELEVEMENT PEP-2 , 1141-1138 m depth
05/10/2011 21:16:00	Sorlingue	477 - 15	PEP bottle	PEP	3	N 48 09.987	W 009 04.204	1066	PRELEVEMENT PEP-3 Water

									1050m fait à 21h19
05/10/2011 22:06:45	Sorlingue	477 - 15	PEP bottle	PEP	4	N 48 10.103	W 009 04.584	961	PRELEVEMENT PEP-4 (960m)
05/10/2011 23:17:55	Sorlingue	477 - 15	PEP bottle	PEP	5	N 48 10.391	W 009 04.771	857	PRELEVEMENT PEP-5 (856m)
06/10/2011 00:13:12	Sorlingue	477 - 15	PEP bottle	PEP	6	N 48 10.715	W 009 05.119	755	PRELEVEMENT PEP-6 752 m
06/10/2011 00:36:31	Sorlingue	477 - 15	PEP bottle	PEP	7	N 48 10.719	W 009 05.135	747	PRELEVEMENT PEP-7 (745m)
06/10/2011 01:00:27	Sorlingue	477 - 15	PEP bottle	PEP	8	N 48 10.781	W 009 05.330	648	PRELEVEMENT PEP-8 644m
06/10/2011 01:32:30	Sorlingue	477 - 15	PEP bottle	PEP	9	N 48 10.980	W 009 05.609	549	PRELEVEMENT PEP-9
06/10/2011 06:14:00	Sorlingue	477 - 15	PEP bottle	PEP	10	N 48 12.483	W 009 05.601	427	PRELEVEMENT PEP-10 SW 426m
06/10/2011 06:22:00	Sorlingue	477 - 15	PEP bottle	PEP	11	N 48 12.492	W 009 05.623	171	PRELEVEMENT PEP-11 SW 262- 252m
06/10/2011 06:26:00	Sorlingue	477 - 15	PEP bottle	PEP	12	N 48 12.485	W 009 05.607	75	PRELEVEMENT PEP-12 SW 182- 176m (purge très courte)
06/10/2011 06:30:00	Sorlingue	477 - 15	PEP bottle	PEP	13	N 48 12.451	W 009 05.555	15	PRELEVEMENT PEP-13 SW 98- 90m
06/10/2011 06:33:00	Sorlingue	477 - 15	PEP bottle	PEP	14	N 48 12.429	W 009 05.613		PRELEVEMENT PEP-14 SW 50- 40m
06/10/2011 06:38:00	Sorlingue	477 - 15	PEP bottle	PEP	15	N 48 12.407	W 009 05.730		PRELEVEMENT PEP-15 SW 5m

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
05/10/2011 17:50:00	Sorlingue	QUART Inge and Jean-Francois
05/10/2011 17:59:00	Sorlingue	PRELEVEMENT PEP-1 at 1186 m depth
05/10/2011 18:05:39	Sorlingue	Vertical with incrustation and oblique without incrustation recording (due to problems with incrustation on second channel - 16 - recording oblique without incrustation). Quart Inge en Jean-Francois
05/10/2011 18:07:00	Sorlingue	Large block of rock (15 m high, 6 m width) with vertical lines on it, vertical lines covered with sponges and corals
05/10/2011 18:08:16	Sorlingue	Antipatharian
05/10/2011 18:08:48	Sorlingue	fish
05/10/2011 18:09:39	Sorlingue	Fish
05/10/2011 18:10:12	Sorlingue	Aphrocallistes, zoanthids, cidaris
05/10/2011 18:11:18	Sorlingue	Shark
05/10/2011 18:11:31	Sorlingue	Block with epifauna
05/10/2011 18:12:17	Sorlingue	Looking for hard ground
05/10/2011 18:12:25	Sorlingue	Still block
05/10/2011 18:13:08	Sorlingue	Still block
05/10/2011 18:13:20	Sorlingue	Gorgonians
05/10/2011 18:13:53	Sorlingue	Echinoids
05/10/2011 18:14:00	Sorlingue	Fish
05/10/2011 18:14:08	Sorlingue	Antipatharian

05/10/2011 18:14:43	Sorlingue	Orange roughy
05/10/2011 18:15:02	Sorlingue	Block with epifauna
05/10/2011 18:15:03	Sorlingue	Fish and outcrops
05/10/2011 18:15:21	Sorlingue	Other block behind
05/10/2011 18:15:36	Sorlingue	Rocky outcrops with epifauna
05/10/2011 18:16:20	Sorlingue	Gorgonian
05/10/2011 18:16:21	Sorlingue	Macrouridae
05/10/2011 18:17:08	Sorlingue	Plateau in block
05/10/2011 18:18:39	Sorlingue	coral
05/10/2011 18:19:00	Sorlingue	shark
05/10/2011 18:19:10	Sorlingue	block with epifauna
05/10/2011 18:19:38	Sorlingue	Galeus?
05/10/2011 18:19:46	Sorlingue	Rocky outcrops
05/10/2011 18:19:51	Sorlingue	Stalked crinoids, Brisingid
05/10/2011 18:20:27	Sorlingue	Antipatharian
05/10/2011 18:20:50	Sorlingue	Coryphaenoides rupestris
05/10/2011 18:20:55	Sorlingue	gorgonian
05/10/2011 18:21:01	Sorlingue	Orange roughy
05/10/2011 18:22:00	Sorlingue	Two fish
05/10/2011 18:22:16	Sorlingue	Orange roughy
05/10/2011 18:22:28	Sorlingue	Block with epifauna
05/10/2011 18:22:42	Sorlingue	Antipatharian
05/10/2011 18:22:53	Sorlingue	block
05/10/2011 18:23:00	Sorlingue	white animal (sponge or coral)

05/10/2011 18:23:04	Sorlingue	top of block
05/10/2011 18:23:18	Sorlingue	orange roughy
05/10/2011 18:23:56	Sorlingue	5 orange roughys, 1 fish
05/10/2011 18:24:23	Sorlingue	Lots of orange roughy
05/10/2011 18:24:25	Sorlingue	Start transect 1 - 2
05/10/2011 18:24:50	Sorlingue	Orange roughy
05/10/2011 18:25:09	Sorlingue	Sandripples, fish
05/10/2011 18:25:29	Sorlingue	Orange roughy
05/10/2011 18:26:08	Sorlingue	2 Lepidion, orange roughy
05/10/2011 18:28:10	Sorlingue	3 different species of fish
05/10/2011 18:28:30	Sorlingue	Orange roughy on vertical camera
05/10/2011 18:28:31	Sorlingue	Orange roughys
05/10/2011 18:28:40	Sorlingue	End of cliff at 1166 m
05/10/2011 18:29:10	Sorlingue	Small block, orange roughy, <i>Coryphaenoides ripestris</i>
05/10/2011 18:29:32	Sorlingue	previous macrourid
05/10/2011 18:29:56	Sorlingue	Coral rubble/debris
05/10/2011 18:30:20	Sorlingue	Rocky outcrops
05/10/2011 18:30:37	Sorlingue	Fish and falaise
05/10/2011 18:31:01	Sorlingue	Anemone
05/10/2011 18:31:14	Sorlingue	Steps
05/10/2011 18:31:24	Sorlingue	Steps and orange roughy
05/10/2011 18:32:34	Sorlingue	Echinoid and other epifauna and fish on steps
05/10/2011 18:35:11	Sorlingue	Sample <i>Lepidisis</i> LOST
05/10/2011 18:36:56	Sorlingue	Sample <i>Lepidisis</i> LOST

05/10/2011 18:39:21	Sorlingue	Sample Lepidisis LOST
05/10/2011 18:41:13	Sorlingue	Fish
05/10/2011 18:46:19	Sorlingue	Squid
05/10/2011 18:48:17	Sorlingue	Still Nephtidae
05/10/2011 18:51:58	Sorlingue	Outcrops with different epifauna
05/10/2011 18:52:50	Sorlingue	Fish
05/10/2011 18:53:36	Sorlingue	Fish with something in his mouth
05/10/2011 18:53:37	Sorlingue	Previous fish and squid
05/10/2011 18:53:41	Sorlingue	Squid with fish in arms
05/10/2011 18:55:40	Sorlingue	Encrusting sponge, Stichopathes, difference in colour of rocks
05/10/2011 18:57:32	Sorlingue	Nice view
05/10/2011 18:58:04	Sorlingue	Previous squid with fish
05/10/2011 18:58:12	Sorlingue	Colouration in rocks, epifauna
05/10/2011 18:59:30	Sorlingue	PRELEVEMENT FAUNE CCA3 sample rock
05/10/2011 19:02:03	Sorlingue	Neocyttus
05/10/2011 19:02:35	Sorlingue	Steps
05/10/2011 19:02:45	Sorlingue	Squid
05/10/2011 19:02:59	Sorlingue	Anemone, crinoids, brachiopods
05/10/2011 19:03:20	Sorlingue	Sand on terrace
05/10/2011 19:04:12	Sorlingue	Bathypathes, actinian
05/10/2011 19:04:28	Sorlingue	Bathypathes
05/10/2011 19:04:43	Sorlingue	Terrace, chimaera
05/10/2011 19:04:48	Sorlingue	Bathypathes close up
05/10/2011 19:05:39	Sorlingue	Coral

05/10/2011 19:05:51	Sorlingue	Manganese settlement on exposed rock
05/10/2011 19:06:25	Sorlingue	Neocyttus
05/10/2011 19:06:28	Sorlingue	Vertical view rocky outcrops
05/10/2011 19:07:00	Sorlingue	Corals
05/10/2011 19:07:19	Sorlingue	Shark
05/10/2011 19:07:37	Sorlingue	Previous shark
05/10/2011 19:08:06	Sorlingue	Plateaus in cliff
05/10/2011 19:08:19	Sorlingue	Sandripples
05/10/2011 19:08:27	Sorlingue	Next part cliff
05/10/2011 19:08:43	Sorlingue	Plateau of cliff with sand and ripples
05/10/2011 19:09:21	Sorlingue	Cliff after plateau
05/10/2011 19:09:33	Sorlingue	3 fish
05/10/2011 19:09:44	Sorlingue	Antipatharian, actinians
05/10/2011 19:11:01	Sorlingue	PRELEVEMENT FAUNE GBT-2 Sample octocoral (Alcyoniina)
05/10/2011 19:13:31	Sorlingue	sample soft coral Alcyoniina GBT 2
05/10/2011 19:13:59	Sorlingue	Surroundings sample alcyoniina GBT 2
05/10/2011 19:14:27	Sorlingue	sample Alcyoniina GBT 2
05/10/2011 19:16:31	Sorlingue	Sample Alcyoniina in GBT2
05/10/2011 19:17:27	Sorlingue	Still panorama
05/10/2011 19:18:38	Sorlingue	Sandripples with exposed rock
05/10/2011 19:20:46	Sorlingue	Rock
05/10/2011 19:21:02	Sorlingue	Neocyttus and rock
05/10/2011 19:21:32	Sorlingue	Outcrops
05/10/2011 19:22:42	Sorlingue	Surroundings Bathypathes sample

05/10/2011 19:23:17	Sorlingue	PRELEVEMENT FAUNE PANIER-1 sample Bathypathes behind CC in panier
05/10/2011 19:24:10	Sorlingue	Notacanthus
05/10/2011 19:24:39	Sorlingue	Sample Bathypathes behind CC in panier
05/10/2011 19:26:45	Sorlingue	Neocyttus
05/10/2011 19:27:11	Sorlingue	Alcyoniina
05/10/2011 19:27:40	Sorlingue	End of cliff 12 m high
05/10/2011 19:28:01	Sorlingue	Top of cliff with sandripples
05/10/2011 19:28:20	Sorlingue	Vertical view of cliff
05/10/2011 19:28:32	Sorlingue	Lepidion, macrouridae
05/10/2011 19:28:48	Sorlingue	String of something
05/10/2011 19:29:17	Sorlingue	Scleractinians, bamboo coral, Leiopathes, gorgonians
05/10/2011 19:29:59	Sorlingue	Cliff
05/10/2011 19:30:23	Sorlingue	Fishingwire
05/10/2011 19:30:38	Sorlingue	Bathypathes
05/10/2011 19:31:07	Sorlingue	Erosional features
05/10/2011 19:32:34	Sorlingue	Beginning of erosional feature on vertical
05/10/2011 19:32:43	Sorlingue	steps
05/10/2011 19:32:44	Sorlingue	end of erosional feature on vertical camera
05/10/2011 19:33:00	Sorlingue	Chaceon
05/10/2011 19:33:24	Sorlingue	Bank and ripples
05/10/2011 19:33:37	Sorlingue	Manganese deposition on exposed rock
05/10/2011 19:34:16	Sorlingue	Sandripples really straight
05/10/2011 19:34:56	Sorlingue	fish
05/10/2011 19:36:04	Sorlingue	Block

05/10/2011 19:36:17	Sorlingue	fish
05/10/2011 19:36:24	Sorlingue	Block with echinoid
05/10/2011 19:36:48	Sorlingue	Echinoid
05/10/2011 19:37:02	Sorlingue	Starttransect 2 - 3
05/10/2011 19:37:43	Sorlingue	Gravel
05/10/2011 19:38:45	Sorlingue	Rocky outcrop
05/10/2011 19:39:22	Sorlingue	relief
05/10/2011 19:40:56	Sorlingue	Outcropping hard layer with thin soft veneer
05/10/2011 19:40:57	Sorlingue	Macrouridae
05/10/2011 19:42:21	Sorlingue	Fish
05/10/2011 19:42:47	Sorlingue	PRELEVEMENT PEP-2, 1141-1138 m depth
05/10/2011 19:44:44	Sorlingue	Fish
05/10/2011 19:45:11	Sorlingue	Coral and shell debris in depression of ripples
05/10/2011 19:45:58	Sorlingue	Exposed rock
05/10/2011 19:47:31	Sorlingue	Lost PHINS navigation
05/10/2011 19:54:39	Sorlingue	Synaphobranchus, rocky area with sandpatches
05/10/2011 19:55:30	Sorlingue	PHINS working again and start transect again
05/10/2011 19:56:12	Sorlingue	Synaphobranchus, Lepidion
05/10/2011 19:56:48	Sorlingue	Coral and shell debris, pebbles
05/10/2011 19:57:03	Sorlingue	Rocky outcrop
05/10/2011 19:57:45	Sorlingue	Strong current
05/10/2011 19:58:22	Sorlingue	Rock with comet mark
05/10/2011 19:58:40	Sorlingue	fish
05/10/2011 19:59:04	Sorlingue	fish

05/10/2011 19:59:12	Sorlingue	Trachyscorpia
05/10/2011 19:59:36	Sorlingue	Fish
05/10/2011 19:59:37	Sorlingue	Synaphobranchus
05/10/2011 20:00:15	Sorlingue	Macrouridae
05/10/2011 20:03:00	Sorlingue	Chris and Eric on watch
05/10/2011 20:04:30	Sorlingue	fish and change from ripples to ripples/gravel
05/10/2011 20:06:49	Sorlingue	rattail
05/10/2011 20:08:44	Sorlingue	thin layer of sand over hard ground
05/10/2011 20:10:10	Sorlingue	more gravel
05/10/2011 20:10:51	Sorlingue	sediment ripples and outcrop
05/10/2011 20:11:31	Sorlingue	stop for rock sample collection
05/10/2011 20:13:48	Sorlingue	dead coral and outcrop
05/10/2011 20:14:04	Sorlingue	squid
05/10/2011 20:14:32	Sorlingue	sample Rock
05/10/2011 20:16:43	Sorlingue	rock sample into CCA5
05/10/2011 20:17:33	Sorlingue	echinoid
05/10/2011 20:18:29	Sorlingue	cliff steps with coral, echinoids
05/10/2011 20:19:18	Sorlingue	back on flat with ripples
05/10/2011 20:20:15	Sorlingue	net tracks?
05/10/2011 20:20:44	Sorlingue	orange roughy
05/10/2011 20:21:48	Sorlingue	round rock out of place
05/10/2011 20:22:14	Sorlingue	zoom on round rock
05/10/2011 20:23:22	Sorlingue	outcrop
05/10/2011 20:24:08	Sorlingue	following outcrop

05/10/2011 20:24:50	Sorlingue	rock, small fragments between ripples
05/10/2011 20:26:38	Sorlingue	shrimp
05/10/2011 20:28:59	Sorlingue	cliff with steps
05/10/2011 20:29:17	Sorlingue	fish under overhang
05/10/2011 20:30:42	Sorlingue	fish
05/10/2011 20:33:28	Sorlingue	ray, fish, echinoid
05/10/2011 20:34:09	Sorlingue	outcrop
05/10/2011 20:34:39	Sorlingue	scorpion fish on rock
05/10/2011 20:35:10	Sorlingue	fish ripples
05/10/2011 20:35:33	Sorlingue	outcrop?
05/10/2011 20:37:19	Sorlingue	no idea what this is (red moving along floor)
05/10/2011 20:38:43	Sorlingue	ripples and curved outcrop
05/10/2011 20:41:03	Sorlingue	cage with small crab
05/10/2011 20:42:00	Sorlingue	cage downward angle
05/10/2011 20:42:18	Sorlingue	change in ripples
05/10/2011 20:46:41	Sorlingue	pebbles and fragments
05/10/2011 20:48:23	Sorlingue	rock
05/10/2011 20:48:39	Sorlingue	fish and pebbles
05/10/2011 20:49:46	Sorlingue	crab, urchin, fish, rock
05/10/2011 20:50:26	Sorlingue	fish
05/10/2011 20:52:52	Sorlingue	urchin
05/10/2011 20:53:17	Sorlingue	3rd roughy in quick succession
05/10/2011 20:55:39	Sorlingue	ray and rock
05/10/2011 20:55:59	Sorlingue	scorpion fish and seastars x 3

05/10/2011 20:56:22	Sorlingue	orange roughy
05/10/2011 20:57:11	Sorlingue	4 small fish
05/10/2011 20:57:54	Sorlingue	star
05/10/2011 21:03:30	Sorlingue	urchin on rock
05/10/2011 21:04:40	Sorlingue	outcrop, fish
05/10/2011 21:06:19	Sorlingue	small outcrop
05/10/2011 21:09:08	Sorlingue	shark
05/10/2011 21:09:51	Sorlingue	fish
05/10/2011 21:10:55	Sorlingue	gravel steps
05/10/2011 21:14:35	Sorlingue	sponge, small coral, crinoid
05/10/2011 21:15:35	Sorlingue	silted coral rubble
05/10/2011 21:16:00	Sorlingue	PRELEVEMENT PEP-3 Water 1050m fait à 21h19
05/10/2011 21:16:04	Sorlingue	steeper slope coral rubble covered in silt
05/10/2011 21:20:33	Sorlingue	echinoid
05/10/2011 21:21:34	Sorlingue	fish
05/10/2011 21:22:56	Sorlingue	star
05/10/2011 21:27:15	Sorlingue	fish
05/10/2011 21:27:33	Sorlingue	Echinoid, sediment ripples
05/10/2011 21:29:16	Sorlingue	rock and isolated coral
05/10/2011 21:33:59	Sorlingue	rock, small coral
05/10/2011 21:35:00	Sorlingue	few corals and sponge
05/10/2011 21:35:57	Sorlingue	narella and scleractinia
05/10/2011 21:37:21	Sorlingue	black coral and crab
05/10/2011 21:37:58	Sorlingue	narella and madrepora

05/10/2011 21:38:37	Sorlingue	lophelia, madrepora, narella
05/10/2011 21:40:30	Sorlingue	fish, isolated coral
05/10/2011 21:41:18	Sorlingue	cliff
05/10/2011 21:41:55	Sorlingue	boulders
05/10/2011 21:43:48	Sorlingue	isolated coral on rocks
05/10/2011 21:44:18	Sorlingue	cidaris
05/10/2011 21:44:54	Sorlingue	chimera
05/10/2011 21:45:50	Sorlingue	fish
05/10/2011 21:47:04	Sorlingue	bright red glowing medusa?
05/10/2011 21:47:52	Sorlingue	narella
05/10/2011 21:48:17	Sorlingue	scorpion fish, cidaris
05/10/2011 21:51:58	Sorlingue	sample lophelia
05/10/2011 21:54:02	Sorlingue	PRELEVEMENT FAUNE CCA5 Sample Lophelia
05/10/2011 21:56:24	Sorlingue	Sample madrepora for CCA5
05/10/2011 21:58:32	Sorlingue	fish, crinoid
05/10/2011 21:59:46	Sorlingue	sample Swiftia
05/10/2011 22:02:22	Sorlingue	sample Swiftia into CCA5
05/10/2011 22:04:56	Sorlingue	sponge
05/10/2011 22:06:07	Sorlingue	Change of watch: Giulia and Cecile P.
05/10/2011 22:06:45	Sorlingue	PRELEVEMENT PEP-4 (960m)
05/10/2011 22:09:01	Sorlingue	Reprise plongée
05/10/2011 22:10:00	Sorlingue	mixed sediment, sparse Lophelia colonies
05/10/2011 22:12:00	Sorlingue	rippled sand
05/10/2011 22:14:29	Sorlingue	Mora moro, Lepidion, cidaris (948m)

05/10/2011 22:16:11	Sorlingue	rippled sand
05/10/2011 22:19:45	Sorlingue	rock, Synaphobrancus, macrourid
05/10/2011 22:20:04	Sorlingue	rock
05/10/2011 22:20:18	Sorlingue	Mora moro
05/10/2011 22:22:09	Sorlingue	Chimaera monstrosa
05/10/2011 22:23:16	Sorlingue	starfish
05/10/2011 22:24:46	Sorlingue	sea urchins
05/10/2011 22:28:15	Sorlingue	Trachyscorpia, close up
05/10/2011 22:29:14	Sorlingue	big fish
05/10/2011 22:31:26	Sorlingue	Calamar
05/10/2011 22:31:39	Sorlingue	Isolated Madrepora and Lophelia colonies, Trachyscorpia
05/10/2011 22:32:13	Sorlingue	Madrepora, Trachyscorpia + Mora moro. Still image
05/10/2011 22:34:04	Sorlingue	madrepora with trachyscorpia
05/10/2011 22:38:02	Sorlingue	sparse coral colonies
05/10/2011 22:39:13	Sorlingue	Moridae with black spot
05/10/2011 22:40:11	Sorlingue	chimaera monstrosa
05/10/2011 22:41:00	Sorlingue	Galeus
05/10/2011 22:43:43	Sorlingue	coral + cidaris
05/10/2011 22:44:17	Sorlingue	coral + crab
05/10/2011 22:45:54	Sorlingue	crab
05/10/2011 22:46:58	Sorlingue	Still image. general view with corals + crab (882m)
05/10/2011 22:49:14	Sorlingue	field of crinoids, white sponge
05/10/2011 22:50:10	Sorlingue	few colonies
05/10/2011 22:50:33	Sorlingue	antipatharian

05/10/2011 22:52:00	Sorlingue	Still image. Tiny crab on Anthipatarian
05/10/2011 22:53:25	Sorlingue	field of crinoids, sea urchins
05/10/2011 22:57:56	Sorlingue	fields of crinoids, 2 trachyscorpia, Macrourids
05/10/2011 23:00:31	Sorlingue	PRELEVEMENT FAUNE CCA6 sample pink Madrepora 856m
05/10/2011 23:06:53	Sorlingue	failure sampling Lophelia, broken
05/10/2011 23:13:50	Sorlingue	sample Lophelia in CCA6 856m
05/10/2011 23:17:55	Sorlingue	PRELEVEMENT PEP-5 (856m)
05/10/2011 23:19:29	Sorlingue	Reprise plongée
05/10/2011 23:22:49	Sorlingue	end coral colonies, start rippled sand
05/10/2011 23:24:40	Sorlingue	coral debris
05/10/2011 23:25:21	Sorlingue	galeus melastomus
05/10/2011 23:27:46	Sorlingue	sparse corals with rock, Lepidion, crab
05/10/2011 23:33:52	Sorlingue	Mixed sediment, cidaris + sea urchins on sand
05/10/2011 23:35:00	Sorlingue	Trawl tracks on sand? Dune with sparse corals
05/10/2011 23:36:15	Sorlingue	trachyscorpia, Galeus, descending dune
05/10/2011 23:38:55	Sorlingue	shark, Lepidion, Molva
05/10/2011 23:43:27	Sorlingue	black rock
05/10/2011 23:46:12	Sorlingue	plastic bag
05/10/2011 23:48:16	Sorlingue	Sand clogged coral framework, few live corals
05/10/2011 23:49:49	Sorlingue	coral debris, damaged by trawl?
05/10/2011 23:55:34	Sorlingue	barre en metal
06/10/2011 00:00:00	Sorlingue	Physic blennoides, isolated corals
06/10/2011 00:01:51	Sorlingue	rippled sand
06/10/2011 00:03:04	Sorlingue	trachyscorpia

06/10/2011 00:08:48	Sorlingue	débris de coraux, octopus
06/10/2011 00:09:45	Sorlingue	carbonate/sand ridges Synaphobrancus
06/10/2011 00:12:24	Sorlingue	750m, no corals
06/10/2011 00:13:12	Sorlingue	PRELEVEMENT PEP-6 752 m
06/10/2011 00:14:57	Sorlingue	Reprise plongée / sand
06/10/2011 00:16:34	Sorlingue	carbonate ledge
06/10/2011 00:18:14	Sorlingue	big dark grey shark, Oxynotidae?
06/10/2011 00:26:09	Sorlingue	PRELEVEMENT FAUNE CCA7 sample Lophelia + Madrepora, 745m
06/10/2011 00:36:31	Sorlingue	PRELEVEMENT PEP-7 (745m)
06/10/2011 00:39:00	Sorlingue	Reprise de la plongée 745m
06/10/2011 00:40:20	Sorlingue	longline on the bottom
06/10/2011 00:41:06	Sorlingue	colonies de corail
06/10/2011 00:42:00	Sorlingue	antipatharian
06/10/2011 00:43:54	Sorlingue	yellow/orange coral
06/10/2011 00:44:00	Sorlingue	Sand clogged corals, few live corals, Lepidion
06/10/2011 00:46:56	Sorlingue	Molva molva?
06/10/2011 00:48:00	Sorlingue	Chimaera monstrosa
06/10/2011 00:51:47	Sorlingue	Molva dypterigia, bioturbated sediment
06/10/2011 00:55:00	Sorlingue	Phycis, Molva, Octopus
06/10/2011 01:00:27	Sorlingue	PRELEVEMENT PEP-8 644m
06/10/2011 01:03:50	Sorlingue	dead coral framework, anemone
06/10/2011 01:07:11	Sorlingue	mixed sediment, dead framework, Cidaris
06/10/2011 01:12:29	Sorlingue	Molva dypterigia, crab, cidaris
06/10/2011 01:15:57	Sorlingue	lophius

06/10/2011 01:24:27	Sorlingue	crab
06/10/2011 01:25:09	Sorlingue	Molva molva?
06/10/2011 01:32:30	Sorlingue	PRELEVEMENT PEP-9
06/10/2011 01:35:44	Sorlingue	crab
06/10/2011 01:39:00	Sorlingue	4 min
06/10/2011 01:44:00	Sorlingue	Sand, small chimaera, macrourids
06/10/2011 01:45:30	Sorlingue	fish
06/10/2011 01:50:01	Sorlingue	bioturbated sediment
06/10/2011 01:53:21	Sorlingue	sea cucumber
06/10/2011 01:53:58	Sorlingue	fish, silvery
06/10/2011 01:54:19	Sorlingue	same silvery fish
06/10/2011 01:59:33	Sorlingue	sand
06/10/2011 02:13:28	Sorlingue	change of shift - end of Cecile -Guilia and start of Andreia-Mathieu
06/10/2011 02:19:35	Sorlingue	Fish
06/10/2011 02:22:30	Sorlingue	4mn
06/10/2011 02:22:45	Sorlingue	4mn-vertical
06/10/2011 02:26:13	Sorlingue	4mn
06/10/2011 02:26:19	Sorlingue	4mn-vertical
06/10/2011 02:29:46	Sorlingue	gastropod
06/10/2011 02:30:11	Sorlingue	4mn-vertical
06/10/2011 02:30:19	Sorlingue	4mn
06/10/2011 02:31:17	Sorlingue	Line in sediment
06/10/2011 02:32:44	Sorlingue	Fish
06/10/2011 02:33:49	Sorlingue	Trawling scars?

06/10/2011 02:35:39	Sorlingue	4mn-vertical
06/10/2011 02:35:42	Sorlingue	4mn
06/10/2011 02:38:34	Sorlingue	4mn
06/10/2011 02:38:47	Sorlingue	4mn-vertical
06/10/2011 02:39:00	Sorlingue	Trawl scars?
06/10/2011 02:40:24	Sorlingue	fish
06/10/2011 02:42:17	Sorlingue	4mn-vertical
06/10/2011 02:42:30	Sorlingue	4mn
06/10/2011 02:44:23	Sorlingue	Bioturbation
06/10/2011 02:46:11	Sorlingue	4mn-vertical
06/10/2011 02:46:21	Sorlingue	4mn
06/10/2011 02:49:25	Sorlingue	Fishing area
06/10/2011 02:50:32	Sorlingue	fish
06/10/2011 02:51:02	Sorlingue	4mn
06/10/2011 02:51:07	Sorlingue	4mn-vertical
06/10/2011 02:51:48	Sorlingue	fish
06/10/2011 02:54:17	Sorlingue	4mn-vertical
06/10/2011 02:54:31	Sorlingue	4mn
06/10/2011 02:54:46	Sorlingue	fish
06/10/2011 02:55:27	Sorlingue	Rock
06/10/2011 02:58:18	Sorlingue	4mn-vertical
06/10/2011 02:58:31	Sorlingue	4mn
06/10/2011 03:00:38	Sorlingue	fish
06/10/2011 03:01:25	Sorlingue	fish

06/10/2011 03:01:42	Sorlingue	interesting to geology
06/10/2011 03:02:43	Sorlingue	4mn -vertical
06/10/2011 03:02:56	Sorlingue	4mn
06/10/2011 03:03:37	Sorlingue	Ceriantharia
06/10/2011 03:04:39	Sorlingue	Ceriantharia
06/10/2011 03:05:27	Sorlingue	Ceriantharia
06/10/2011 03:05:34	Sorlingue	fish
06/10/2011 03:06:49	Sorlingue	4mn-vertical
06/10/2011 03:06:51	Sorlingue	4mn
06/10/2011 03:08:27	Sorlingue	Ceriantharia
06/10/2011 03:10:24	Sorlingue	4mn-vertical
06/10/2011 03:10:26	Sorlingue	4mn
06/10/2011 03:13:27	Sorlingue	Shrimp
06/10/2011 03:14:24	Sorlingue	4mn-vertical
06/10/2011 03:14:28	Sorlingue	4mn
06/10/2011 03:18:33	Sorlingue	4mn-vertical
06/10/2011 03:18:44	Sorlingue	4mn
06/10/2011 03:22:37	Sorlingue	4mn-vertical
06/10/2011 03:22:48	Sorlingue	4mn
06/10/2011 03:22:57	Sorlingue	Paromola- crab- Andreia
06/10/2011 03:25:43	Sorlingue	Paromola-Andreia
06/10/2011 03:26:31	Sorlingue	Large Paromola cuvieri - male- carrying a sea-star-Andreia
06/10/2011 03:26:46	Sorlingue	Large Paromola cuvieri - male carrying a sea star in its P5
06/10/2011 03:29:07	Sorlingue	Paromola cuvieri

06/10/2011 03:31:43	Sorlingue	Rock
06/10/2011 03:34:03	Sorlingue	4mn
06/10/2011 03:34:18	Sorlingue	4mn-vertical
06/10/2011 03:38:22	Sorlingue	4mn-vertical
06/10/2011 03:38:40	Sorlingue	4mn
06/10/2011 03:41:32	Sorlingue	fish
06/10/2011 03:42:40	Sorlingue	4mn-vertical
06/10/2011 03:42:50	Sorlingue	4mn
06/10/2011 03:45:19	Sorlingue	fish
06/10/2011 03:50:10	Sorlingue	4mn-vertical
06/10/2011 03:50:19	Sorlingue	4mn
06/10/2011 03:50:45	Sorlingue	Trawl scar
06/10/2011 03:51:52	Sorlingue	fish
06/10/2011 03:52:24	Sorlingue	fish
06/10/2011 03:54:06	Sorlingue	4mn-vertical
06/10/2011 03:54:07	Sorlingue	4mn
06/10/2011 03:58:23	Sorlingue	4mn-vertical
06/10/2011 03:58:37	Sorlingue	4mn
06/10/2011 03:58:55	Sorlingue	fish
06/10/2011 04:02:46	Sorlingue	4mn
06/10/2011 04:02:51	Sorlingue	fish
06/10/2011 04:04:00	Sorlingue	fish
06/10/2011 04:06:02	Sorlingue	4mn-vertical
06/10/2011 04:06:03	Sorlingue	4mn

06/10/2011 04:08:09	Sorlingue	4mn-vertical
06/10/2011 04:08:11	Sorlingue	4mn
06/10/2011 04:12:16	Sorlingue	4mn-vertical
06/10/2011 04:12:17	Sorlingue	4mn
06/10/2011 04:16:02	Sorlingue	4mn-vertical
06/10/2011 04:16:42	Sorlingue	4mn
06/10/2011 04:20:06	Sorlingue	4mn
06/10/2011 04:20:22	Sorlingue	4mn-vertical
06/10/2011 04:22:15	Sorlingue	ripple marks
06/10/2011 04:24:07	Sorlingue	4mn
06/10/2011 04:24:07	Sorlingue	4mn-vertical
06/10/2011 04:24:28	Sorlingue	Holothuria
06/10/2011 04:24:50	Sorlingue	Holothuria
06/10/2011 04:25:38	Sorlingue	fish
06/10/2011 04:26:11	Sorlingue	fish
06/10/2011 04:26:20	Sorlingue	Gastropod
06/10/2011 04:28:16	Sorlingue	4mn
06/10/2011 04:28:20	Sorlingue	nice-fish
06/10/2011 04:31:42	Sorlingue	Fish
06/10/2011 04:32:05	Sorlingue	4mn-vertical
06/10/2011 04:32:06	Sorlingue	4mn
06/10/2011 04:36:00	Sorlingue	fish
06/10/2011 04:36:09	Sorlingue	4mn-vertical
06/10/2011 04:36:15	Sorlingue	4mn

06/10/2011 04:40:08	Sorlingue	4mn-vertical
06/10/2011 04:40:11	Sorlingue	4mn
06/10/2011 04:43:50	Sorlingue	Galatheid
06/10/2011 04:44:01	Sorlingue	4mn
06/10/2011 04:46:23	Sorlingue	Pagurus
06/10/2011 04:48:02	Sorlingue	4mn-vertical
06/10/2011 04:48:03	Sorlingue	4mn
06/10/2011 04:48:51	Sorlingue	Galatheid
06/10/2011 04:49:58	Sorlingue	Asteroidea
06/10/2011 04:52:03	Sorlingue	4mn-vertical
06/10/2011 04:52:04	Sorlingue	4mn
06/10/2011 04:52:55	Sorlingue	Ceriantharia? on left
06/10/2011 04:55:01	Sorlingue	Galatheid
06/10/2011 04:55:19	Sorlingue	?
06/10/2011 04:56:09	Sorlingue	4mn-vertical
06/10/2011 04:56:10	Sorlingue	4mn
06/10/2011 05:00:01	Sorlingue	4mn-vertical
06/10/2011 05:00:03	Sorlingue	4mn
06/10/2011 05:02:06	Sorlingue	rock and galatheid
06/10/2011 05:04:06	Sorlingue	4mn-vertical
06/10/2011 05:04:07	Sorlingue	4mn
06/10/2011 05:06:06	Sorlingue	Galatheid
06/10/2011 05:06:36	Sorlingue	sea star
06/10/2011 05:07:20	Sorlingue	Octopus

06/10/2011 05:08:01	Sorlingue	4mn-vertical
06/10/2011 05:08:02	Sorlingue	4mn
06/10/2011 05:10:25	Sorlingue	?
06/10/2011 05:11:24	Sorlingue	Fish, pockmarks- geology
06/10/2011 05:14:35	Sorlingue	Galatheid
06/10/2011 05:15:25	Sorlingue	crab
06/10/2011 05:16:05	Sorlingue	4mn-vertical
06/10/2011 05:16:07	Sorlingue	4mn
06/10/2011 05:20:25	Sorlingue	4mn-vertical
06/10/2011 05:20:27	Sorlingue	4mn
06/10/2011 05:21:47	Sorlingue	Helicolenus
06/10/2011 05:24:30	Sorlingue	4mn-vertical
06/10/2011 05:24:31	Sorlingue	4mn
06/10/2011 05:28:03	Sorlingue	4mn-vertical
06/10/2011 05:28:04	Sorlingue	4mn
06/10/2011 05:32:51	Sorlingue	4mn-vertical
06/10/2011 05:32:53	Sorlingue	4mn
06/10/2011 05:36:03	Sorlingue	4mn-vertical
06/10/2011 05:36:04	Sorlingue	4mn
06/10/2011 05:37:21	Sorlingue	Asteroidea
06/10/2011 05:38:33	Sorlingue	Fish
06/10/2011 05:40:02	Sorlingue	4mn-vertical
06/10/2011 05:40:04	Sorlingue	4mn
06/10/2011 05:44:04	Sorlingue	4mn-vertical

06/10/2011 05:44:05	Sorlingue	4mn
06/10/2011 05:48:04	Sorlingue	4mn-vertical
06/10/2011 05:48:06	Sorlingue	4mn
06/10/2011 05:52:08	Sorlingue	4mn-vertical
06/10/2011 05:52:09	Sorlingue	4mn
06/10/2011 05:56:02	Sorlingue	4mn-vertical
06/10/2011 05:56:03	Sorlingue	4mn
06/10/2011 06:00:14	Sorlingue	4mn
06/10/2011 06:01:02	Sorlingue	Shift change. Thom and Eric replace Mattew and Andreia
06/10/2011 06:09:00	Sorlingue	fish, Tapis de sable avec quelques anémones
06/10/2011 06:10:00	Sorlingue	fish
06/10/2011 06:11:00	Sorlingue	Trait de chalut
06/10/2011 06:14:00	Sorlingue	PRELEVEMENT PEP-10 SW 426m
06/10/2011 06:22:00	Sorlingue	PRELEVEMENT PEP-11 SW 262-252m
06/10/2011 06:26:00	Sorlingue	PRELEVEMENT PEP-12 SW 182-176m (purge très courte)
06/10/2011 06:30:00	Sorlingue	PRELEVEMENT PEP-13 SW 98-90m
06/10/2011 06:33:00	Sorlingue	PRELEVEMENT PEP-14 SW 50-40m
06/10/2011 06:38:00	Sorlingue	PRELEVEMENT PEP-15 SW 5m
06/10/2011 06:40:02	Sorlingue	End of Dive

16. Dive report 478 - 16

Submersible : Victor 6000

Starting Dive : 06/10/2011 18:18

Arrival on the bottom: 06/10/2011 19:50

Deprture from the bottom: 07/10/2011 13:23

Ending dive : 07/10/2011 14:20

Location : Lampaul Canyon (BOB-1)

Dives objectives :

BobEco - Dive 478-16 Explo&Sampling dive

Canyon de Lampaul

Objectives :

- Exploration of Lampaul canyon and sampling if observed of (here we won't get coordinates)

L. pertusa and M. oculata

Narella sp.

Sponges

Sea urchins

-Sampling of water from the bottom in PEP bottles during the descent (microbiology)

-IF Colonies of Madrepora/Lophelia on a cliff, SAMPLE most part of the colonie with one PEP bottle. Repeat at different depth (at least 3)

Summary :

Visited locations : Lampaul Canyon (BOB-1),

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
DOUVILLE Eric	LSCE
CUEFF Valerie	IFREMER BREST
YESSON Chris	ZSL
STEVENSON Angela	UNIV DUBLIN IRELAND

LINLEY Thomas	UNIV ABERDEEN
REVEILLAUD Julie	UNIV GENT
VAN DEN BELDE Inge	IFREMER BREST
BECHELIER Ronan	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
PRATO Guilia	NUIGalway
GONZALES Cécile	LSCE
HENRIQUEZ Andreia Braga	IMAR

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
07/10/2011 03:28:08	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		1	N 47 37.896	W 007 32.228	613	PRELEVEMENT FAUNE CCA1 sample of Lophelia and small Madrepora at AUTT3
07/10/2011 04:15:36	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		2	N 47 37.726	W 007 32.051	731	PRELEVEMENT FAUNE CCA2 Lophelia at AUTT4
07/10/2011 09:47:36	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		3	N 47 37.497	W 007 31.140	681	PRELEVEMENT FAUNE CCA3 sample octocoral (small Narella?)
07/10/2011 08:31:58	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		4	N 47 37.392	W 007 31.256	734	PRELEVEMENT FAUNE CCA4 sample pennatulid
07/10/2011 06:45:43	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		5	N 47 37.270	W 007 31.658	880	PRELEVEMENT FAUNE CCA5 madrepora (AUTT8)
07/10/2011 05:54:56	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		6	N 47 37.249	W 007 31.770	755	PRELEVEMENT FAUNE CCA6 Lophelia at AUTT7

07/10/2011 05:33:55	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		7	N 47 37.366	W 007 31.814	878	PRELEVEMENT FAUNE CCA7 Madrepora
07/10/2011 05:11:24	Lampaul Canyon (BOB-1)	478 - 16	Coral box A		8	N 47 37.432	W 007 31.818	866	PRELEVEMENT FAUNE CCA8 sample of Lophelia at AUTT5
06/10/2011 21:00:35	Lampaul Canyon (BOB-1)	478 - 16	ROV big box	GBT	1	N 47 36.867	W 007 31.885	1112	PRELEVEMENT FAUNE GBT-1 sample coral (madrepora) 1095m
06/10/2011 20:31:37	Lampaul Canyon (BOB-1)	478 - 16	ROV big box	GBT	2	N 47 36.852	W 007 31.719	1112	PRELEVEMENT FAUNE GBT-2 Sample Alcyoniina
07/10/2011 03:24:01	Lampaul Canyon (BOB-1)	478 - 16	ROV big box	GBT	3	N 47 37.936	W 007 32.287	589	PRELEVEMENT FAUNE GBT-3 Hexadella at AUTT2

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
06/10/2011 18:48:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	1			160	PRELEVEMENT PEP-1 160-170m
06/10/2011 18:55:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	2			260	PRELEVEMENT PEP-2 257-265m
06/10/2011 19:08:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	3				PRELEVEMENT PEP-3 490-500m
06/10/2011 19:16:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	4	S 00 00.000	W 000 00.000	690	PRELEVEMENT PEP-4 690-700m

06/10/2011 19:20:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	5	N 42 45.154	E 006 07.546	790	PRELEVEMENT PEP-5 790-800m
06/10/2011 19:23:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	6	N 42 45.150	E 006 07.555	890	PRELEVEMENT PEP-6 890-900m
06/10/2011 19:27:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	7	N 42 45.147	E 006 07.336	990	PRELEVEMENT PEP-7 990- 1000m
06/10/2011 19:32:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	8	N 42 45.189	E 006 06.029	1090	PRELEVEMENT PEP-8 1090- 1100m
06/10/2011 19:50:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	9	N 42 47.274	E 005 45.786	263	PRELEVEMENT PEP-9 (1197m) bottom
06/10/2011 21:03:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	10	N 47 36.884	W 007 31.914	1146	PRELEVEMENT PEP-10 - 1085m
07/10/2011 06:20:00	Lampaul Canyon (BOB-1)	478 - 16	PEP bottle	PEP	11	N 47 37.256	W 007 31.686	900	PRELEVEMENT PEP-11 - 805- 802m

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
06/10/2011 18:35:00	Lampaul Canyon (BOB-1)	Debut plongée
06/10/2011 18:48:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-1 160-170m
06/10/2011 18:55:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-2 257-265m
06/10/2011 19:08:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-3 490-500m
06/10/2011 19:16:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-4 690-700m

06/10/2011 19:20:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-5 790-800m
06/10/2011 19:23:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-6 890-900m
06/10/2011 19:27:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-7 990-1000m
06/10/2011 19:32:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-8 1090-1100m
06/10/2011 19:50:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-9 (1197m) bottom
06/10/2011 19:50:58	Lampaul Canyon (BOB-1)	Start of dive exploration
06/10/2011 19:55:36	Lampaul Canyon (BOB-1)	blocks in soft sand
06/10/2011 19:56:34	Lampaul Canyon (BOB-1)	gully formed by rocks
06/10/2011 19:57:10	Lampaul Canyon (BOB-1)	large anemone
06/10/2011 19:58:44	Lampaul Canyon (BOB-1)	fish on soft sand
06/10/2011 19:59:20	Lampaul Canyon (BOB-1)	bioturbation
06/10/2011 20:01:19	Lampaul Canyon (BOB-1)	soft sand on steep incline
06/10/2011 20:01:40	Lampaul Canyon (BOB-1)	rocky outcrop
06/10/2011 20:02:12	Lampaul Canyon (BOB-1)	crab and anemone
06/10/2011 20:03:15	Lampaul Canyon (BOB-1)	grenadier
06/10/2011 20:09:25	Lampaul Canyon (BOB-1)	Actinian?
06/10/2011 20:11:32	Lampaul Canyon (BOB-1)	soft sediment with bioturbation
06/10/2011 20:13:29	Lampaul Canyon (BOB-1)	Fish
06/10/2011 20:14:15	Lampaul Canyon (BOB-1)	Fish at cliff edge
06/10/2011 20:15:53	Lampaul Canyon (BOB-1)	Cliff face
06/10/2011 20:17:46	Lampaul Canyon (BOB-1)	coral ?
06/10/2011 20:19:10	Lampaul Canyon (BOB-1)	napsamia? brachiopod
06/10/2011 20:19:55	Lampaul Canyon (BOB-1)	napsamia? brachiopod
06/10/2011 20:20:50	Lampaul Canyon (BOB-1)	cliff face with sediment

06/10/2011 20:21:58	Lampaul Canyon (BOB-1)	scorpion fish
06/10/2011 20:22:48	Lampaul Canyon (BOB-1)	scorpion fish
06/10/2011 20:22:48	Lampaul Canyon (BOB-1)	scorpion fish on rock face with stychopathes and brachiopods
06/10/2011 20:23:12	Lampaul Canyon (BOB-1)	madrepora
06/10/2011 20:24:27	Lampaul Canyon (BOB-1)	Alcyoniina
06/10/2011 20:27:28	Lampaul Canyon (BOB-1)	sample Alcyoniina in situ
06/10/2011 20:31:37	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE GBT-2 Sample Alcyoniina
06/10/2011 20:35:30	Lampaul Canyon (BOB-1)	plastic
06/10/2011 20:38:58	Lampaul Canyon (BOB-1)	sample white octocoral into GBT2
06/10/2011 20:43:22	Lampaul Canyon (BOB-1)	sample urchin GBT2
06/10/2011 20:44:42	Lampaul Canyon (BOB-1)	sample Urchin into GBT2
06/10/2011 20:47:37	Lampaul Canyon (BOB-1)	sample madrepora in situ
06/10/2011 20:48:15	Lampaul Canyon (BOB-1)	sample madrepora into GBT2
06/10/2011 20:48:42	Lampaul Canyon (BOB-1)	sample madrepora into GBT2
06/10/2011 20:54:49	Lampaul Canyon (BOB-1)	Sample Rock from cliff face into GBT1
06/10/2011 20:56:02	Lampaul Canyon (BOB-1)	Sample Rock from cliff face into GBT1
06/10/2011 20:56:08	Lampaul Canyon (BOB-1)	Rock sample in grip
06/10/2011 20:57:35	Lampaul Canyon (BOB-1)	Rock Sample into GBT1
06/10/2011 21:00:35	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE GBT-1 sample coral (madrepora) 1095m
06/10/2011 21:03:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-10 - 1085m
06/10/2011 21:07:55	Lampaul Canyon (BOB-1)	QUART JF and Inge
06/10/2011 21:08:12	Lampaul Canyon (BOB-1)	White coloration in rocks
06/10/2011 21:08:40	Lampaul Canyon (BOB-1)	Coral debris
06/10/2011 21:09:05	Lampaul Canyon (BOB-1)	View on cliff with vertical camera

06/10/2011 21:09:56	Lampaul Canyon (BOB-1)	Start of part of cliff
06/10/2011 21:10:15	Lampaul Canyon (BOB-1)	Part of cliff
06/10/2011 21:10:44	Lampaul Canyon (BOB-1)	Fish
06/10/2011 21:11:09	Lampaul Canyon (BOB-1)	Falaise
06/10/2011 21:11:24	Lampaul Canyon (BOB-1)	Actinian, little ledge
06/10/2011 21:13:01	Lampaul Canyon (BOB-1)	Fish behind white rock and oysters
06/10/2011 21:15:08	Lampaul Canyon (BOB-1)	sample white rock in CCA1
06/10/2011 21:22:50	Lampaul Canyon (BOB-1)	Sample white rock in CCA1
06/10/2011 21:24:50	Lampaul Canyon (BOB-1)	Limit between two rocks
06/10/2011 21:25:17	Lampaul Canyon (BOB-1)	Still limit between two rocks
06/10/2011 21:27:10	Lampaul Canyon (BOB-1)	Fish
06/10/2011 21:27:16	Lampaul Canyon (BOB-1)	Still zoom on cliff
06/10/2011 21:27:49	Lampaul Canyon (BOB-1)	Erosion
06/10/2011 21:27:58	Lampaul Canyon (BOB-1)	Echinoid and difference in colouration rocks
06/10/2011 21:28:18	Lampaul Canyon (BOB-1)	Part of cliff
06/10/2011 21:28:45	Lampaul Canyon (BOB-1)	Sediment transportation channels and eroded sediment
06/10/2011 21:29:10	Lampaul Canyon (BOB-1)	Actinian
06/10/2011 21:29:43	Lampaul Canyon (BOB-1)	perhaps small furrows, naturally or not. Fish
06/10/2011 21:32:25	Lampaul Canyon (BOB-1)	Falaise
06/10/2011 21:33:22	Lampaul Canyon (BOB-1)	Waiting for the ship to come closer
06/10/2011 21:34:03	Lampaul Canyon (BOB-1)	Oysterbank
06/10/2011 21:36:36	Lampaul Canyon (BOB-1)	Still oysters
06/10/2011 21:37:25	Lampaul Canyon (BOB-1)	Still close up oysters
06/10/2011 21:37:44	Lampaul Canyon (BOB-1)	sample oysters GBT2 et petit morceau de coraux at 946 m

06/10/2011 21:40:29	Lampaul Canyon (BOB-1)	Sample oyster and petite morceau de corail in GBT2
06/10/2011 21:43:50	Lampaul Canyon (BOB-1)	Oysterbank with coral on overhang
06/10/2011 21:44:18	Lampaul Canyon (BOB-1)	Tour to see the extent of the oysterbank
06/10/2011 21:45:16	Lampaul Canyon (BOB-1)	Massive oyster bank, still same more than 2 meter high and at least 40 m wide
06/10/2011 21:45:24	Lampaul Canyon (BOB-1)	coral on step seen on vertical camera
06/10/2011 21:46:19	Lampaul Canyon (BOB-1)	Coral
06/10/2011 21:47:31	Lampaul Canyon (BOB-1)	Lophelia and Madrepora, Acesta, echinoids, Cidaris and oysters and fish
06/10/2011 21:49:21	Lampaul Canyon (BOB-1)	Fish
06/10/2011 21:49:36	Lampaul Canyon (BOB-1)	Big coral colony with echinoid (Echinus?)
06/10/2011 21:50:15	Lampaul Canyon (BOB-1)	Neocyttus
06/10/2011 21:50:37	Lampaul Canyon (BOB-1)	Still oysters, but less dense
06/10/2011 21:50:56	Lampaul Canyon (BOB-1)	Neocyttus on its site
06/10/2011 21:52:28	Lampaul Canyon (BOB-1)	Unknown species
06/10/2011 21:52:39	Lampaul Canyon (BOB-1)	Still unknown species
06/10/2011 21:53:31	Lampaul Canyon (BOB-1)	Fish
06/10/2011 21:55:10	Lampaul Canyon (BOB-1)	Fish
06/10/2011 21:56:39	Lampaul Canyon (BOB-1)	Fish
06/10/2011 21:57:22	Lampaul Canyon (BOB-1)	Fish
06/10/2011 21:58:08	Lampaul Canyon (BOB-1)	Continuing transect
06/10/2011 21:58:53	Lampaul Canyon (BOB-1)	Top of first part of cliff
06/10/2011 21:59:49	Lampaul Canyon (BOB-1)	Echinoid
06/10/2011 21:59:56	Lampaul Canyon (BOB-1)	Vertical view of the corals
06/10/2011 22:03:02	Lampaul Canyon (BOB-1)	ANNA nde RONAN on watch

06/10/2011 22:05:13	Lampaul Canyon (BOB-1)	coral rubble on mud
06/10/2011 22:08:51	Lampaul Canyon (BOB-1)	mud and coral rubble, little to no fauna
06/10/2011 22:11:08	Lampaul Canyon (BOB-1)	rocky outcrop
06/10/2011 22:15:28	Lampaul Canyon (BOB-1)	solitary Madrepora colony
06/10/2011 22:18:38	Lampaul Canyon (BOB-1)	piece of oyster reef
06/10/2011 22:22:14	Lampaul Canyon (BOB-1)	dead oyster reef with flabellum (?)
06/10/2011 22:26:30	Lampaul Canyon (BOB-1)	decapod
06/10/2011 22:26:46	Lampaul Canyon (BOB-1)	decapod
06/10/2011 22:28:50	Lampaul Canyon (BOB-1)	ridge, hardground
06/10/2011 22:30:22	Lampaul Canyon (BOB-1)	hardground, dead coral colonies, calveriosoma, Lophelia, cidaris
06/10/2011 22:32:30	Lampaul Canyon (BOB-1)	ridge (
06/10/2011 22:33:26	Lampaul Canyon (BOB-1)	ridge
06/10/2011 22:34:11	Lampaul Canyon (BOB-1)	Lepidion
06/10/2011 22:34:55	Lampaul Canyon (BOB-1)	oyster reef
06/10/2011 22:38:00	Lampaul Canyon (BOB-1)	oyster bank with Madrepora, fish
06/10/2011 22:46:11	Lampaul Canyon (BOB-1)	mud, narella, calveriosoma
06/10/2011 22:48:19	Lampaul Canyon (BOB-1)	hardground,narella
06/10/2011 22:54:40	Lampaul Canyon (BOB-1)	steep slope, mud, narella, eel-like fish, madrepora
06/10/2011 22:57:52	Lampaul Canyon (BOB-1)	rat-tail
06/10/2011 23:05:21	Lampaul Canyon (BOB-1)	fish
06/10/2011 23:05:58	Lampaul Canyon (BOB-1)	helicolenus sp.
06/10/2011 23:06:59	Lampaul Canyon (BOB-1)	ridge-like feature with oysters
06/10/2011 23:09:54	Lampaul Canyon (BOB-1)	Phycis sp. with soft coral on ridge
06/10/2011 23:12:02	Lampaul Canyon (BOB-1)	Phycis with octocoral

06/10/2011 23:14:26	Lampaul Canyon (BOB-1)	sample octocoral in GBT2
06/10/2011 23:22:13	Lampaul Canyon (BOB-1)	cable
06/10/2011 23:26:12	Lampaul Canyon (BOB-1)	sample octocoral in CCA2
06/10/2011 23:28:32	Lampaul Canyon (BOB-1)	Phycis sp.
06/10/2011 23:30:40	Lampaul Canyon (BOB-1)	roundnose grenadier
06/10/2011 23:31:29	Lampaul Canyon (BOB-1)	steep slope, mud, echiura
06/10/2011 23:33:45	Lampaul Canyon (BOB-1)	Lepidion sp.
06/10/2011 23:34:13	Lampaul Canyon (BOB-1)	Decapod
06/10/2011 23:36:10	Lampaul Canyon (BOB-1)	Helicolenus sp. on mud
06/10/2011 23:43:55	Lampaul Canyon (BOB-1)	Helicolenus sp.
06/10/2011 23:45:29	Lampaul Canyon (BOB-1)	hardground, mud, Cerianthids, Lepidion
06/10/2011 23:45:54	Lampaul Canyon (BOB-1)	hardground, mud, Cerianthids, Lepidion, decapod
06/10/2011 23:47:20	Lampaul Canyon (BOB-1)	orange roughy?
06/10/2011 23:49:31	Lampaul Canyon (BOB-1)	Calveriosoma sp. and Pseudarchaster sp. on mud
06/10/2011 23:52:27	Lampaul Canyon (BOB-1)	Helicolenus sp.
06/10/2011 23:53:33	Lampaul Canyon (BOB-1)	mud, Cerianthids, Calveriosoma sp.
06/10/2011 23:58:11	Lampaul Canyon (BOB-1)	hardground with many Cerianthids, Calveriosoma sp. (2 diff. species)
07/10/2011 00:00:41	Lampaul Canyon (BOB-1)	Phycis sp.
07/10/2011 00:09:20	Lampaul Canyon (BOB-1)	Helicolenus sp.
07/10/2011 00:11:28	Lampaul Canyon (BOB-1)	Chimaera monstrosa
07/10/2011 00:14:09	Lampaul Canyon (BOB-1)	mud, Helicolenus, Phycis, Cerianthids
07/10/2011 00:15:09	Lampaul Canyon (BOB-1)	moooooon : it's a little step for the man, but a big step for the humanity (yann)
07/10/2011 00:25:28	Lampaul Canyon (BOB-1)	requin

07/10/2011 00:54:41	Lampaul Canyon (BOB-1)	anthropogenic impact: cup
07/10/2011 00:57:12	Lampaul Canyon (BOB-1)	mud with calveriosoma sp.
07/10/2011 00:58:27	Lampaul Canyon (BOB-1)	Molva sp.
07/10/2011 00:59:53	Lampaul Canyon (BOB-1)	Carrier crab
07/10/2011 01:01:59	Lampaul Canyon (BOB-1)	Ling
07/10/2011 01:03:11	Lampaul Canyon (BOB-1)	mixed sediment (cobbles and pebbles on sand)
07/10/2011 01:03:59	Lampaul Canyon (BOB-1)	dropstone with Phycis and Helicolenus
07/10/2011 01:05:31	Lampaul Canyon (BOB-1)	Ling and Calveriosoma on mud
07/10/2011 01:06:49	Lampaul Canyon (BOB-1)	Mixed sediment and Helicolenus sp.
07/10/2011 01:07:22	Lampaul Canyon (BOB-1)	Helicolenus and Ling
07/10/2011 01:10:09	Lampaul Canyon (BOB-1)	3 Galeus sp.
07/10/2011 01:10:48	Lampaul Canyon (BOB-1)	Mixed sediment, Echiura sp., Calveriosoma sp.
07/10/2011 01:12:05	Lampaul Canyon (BOB-1)	Galeus sp. and Chimaera monstrosa
07/10/2011 01:13:20	Lampaul Canyon (BOB-1)	trawl marks?
07/10/2011 01:14:46	Lampaul Canyon (BOB-1)	Mixed sediment, Ling, Chimaera, Helicolenus
07/10/2011 01:16:34	Lampaul Canyon (BOB-1)	fish
07/10/2011 01:18:14	Lampaul Canyon (BOB-1)	bottle
07/10/2011 01:20:20	Lampaul Canyon (BOB-1)	Dendrophyllia sp.
07/10/2011 01:22:52	Lampaul Canyon (BOB-1)	sample Dendrophyllia sp. in CCA2
07/10/2011 01:30:03	Lampaul Canyon (BOB-1)	sample sponge (?) CCA3
07/10/2011 01:33:39	Lampaul Canyon (BOB-1)	sand with some cobbles/pebbles
07/10/2011 01:35:15	Lampaul Canyon (BOB-1)	Sand with cobbles, Helicolenus, Ling
07/10/2011 01:51:13	Lampaul Canyon (BOB-1)	Helicolenus sp.
07/10/2011 01:52:03	Lampaul Canyon (BOB-1)	fishing net with Lepidion

07/10/2011 01:54:26	Lampaul Canyon (BOB-1)	rippled sediment
07/10/2011 01:58:21	Lampaul Canyon (BOB-1)	hardground with Echinus
07/10/2011 02:03:21	Lampaul Canyon (BOB-1)	Change of shift: Angela and Sandra
07/10/2011 02:07:32	Lampaul Canyon (BOB-1)	Fish
07/10/2011 02:07:52	Lampaul Canyon (BOB-1)	Yellow coral - Dendrapora
07/10/2011 02:08:38	Lampaul Canyon (BOB-1)	Crab and Dendrapora
07/10/2011 02:10:33	Lampaul Canyon (BOB-1)	Calveriosoma fenestratum
07/10/2011 02:11:06	Lampaul Canyon (BOB-1)	Trachyscorpia and rubble?
07/10/2011 02:12:01	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 02:12:23	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 02:12:25	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:12:38	Lampaul Canyon (BOB-1)	Chimaera
07/10/2011 02:12:56	Lampaul Canyon (BOB-1)	Boulder
07/10/2011 02:13:16	Lampaul Canyon (BOB-1)	Fishing line and Trachyscorpia
07/10/2011 02:13:22	Lampaul Canyon (BOB-1)	Fishing net and line
07/10/2011 02:13:34	Lampaul Canyon (BOB-1)	Fish and boulder
07/10/2011 02:13:42	Lampaul Canyon (BOB-1)	Fishing line and Trachyscorpia
07/10/2011 02:16:10	Lampaul Canyon (BOB-1)	Calveriosoma fenestratum
07/10/2011 02:16:27	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:16:42	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:16:45	Lampaul Canyon (BOB-1)	Boulder with rubble
07/10/2011 02:16:58	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:17:06	Lampaul Canyon (BOB-1)	Rubble and fishing line
07/10/2011 02:17:23	Lampaul Canyon (BOB-1)	Calveriosoma

07/10/2011 02:18:01	Lampaul Canyon (BOB-1)	Current ripples
07/10/2011 02:18:25	Lampaul Canyon (BOB-1)	Calveriosoma and fish
07/10/2011 02:18:54	Lampaul Canyon (BOB-1)	Fish, Calveriosoma and Echinus
07/10/2011 02:19:25	Lampaul Canyon (BOB-1)	Calveriosoma and fish
07/10/2011 02:22:30	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 02:24:15	Lampaul Canyon (BOB-1)	Fish
07/10/2011 02:25:21	Lampaul Canyon (BOB-1)	Lots of calveriosoma
07/10/2011 02:25:49	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:26:54	Lampaul Canyon (BOB-1)	Lots of fish
07/10/2011 02:27:19	Lampaul Canyon (BOB-1)	Lepidion
07/10/2011 02:27:26	Lampaul Canyon (BOB-1)	Crab
07/10/2011 02:28:15	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:28:40	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:28:49	Lampaul Canyon (BOB-1)	Rubble, strange formation
07/10/2011 02:28:51	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:28:55	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 02:29:39	Lampaul Canyon (BOB-1)	Strange boulder
07/10/2011 02:29:54	Lampaul Canyon (BOB-1)	Boulder and Lepidisis
07/10/2011 02:30:47	Lampaul Canyon (BOB-1)	Lepidisis and rubble
07/10/2011 02:31:21	Lampaul Canyon (BOB-1)	Asteroid and rubble
07/10/2011 02:31:32	Lampaul Canyon (BOB-1)	Lepidisis and rubble
07/10/2011 02:33:50	Lampaul Canyon (BOB-1)	Hard surface with layer of sediment
07/10/2011 02:34:14	Lampaul Canyon (BOB-1)	Lepidisis
07/10/2011 02:34:21	Lampaul Canyon (BOB-1)	Interesting landscape

07/10/2011 02:34:41	Lampaul Canyon (BOB-1)	Lepidisis on edge of cliff
07/10/2011 02:35:02	Lampaul Canyon (BOB-1)	Rubble and Lepidisis
07/10/2011 02:36:25	Lampaul Canyon (BOB-1)	Narella on right hand side
07/10/2011 02:36:48	Lampaul Canyon (BOB-1)	Gastropods
07/10/2011 02:36:57	Lampaul Canyon (BOB-1)	Bivalves, Lepidisis on edge of cliff
07/10/2011 02:37:02	Lampaul Canyon (BOB-1)	Fish and yellow sponge
07/10/2011 02:37:09	Lampaul Canyon (BOB-1)	Anemone and gastropod shells
07/10/2011 02:37:19	Lampaul Canyon (BOB-1)	Asteroid
07/10/2011 02:37:29	Lampaul Canyon (BOB-1)	Narella
07/10/2011 02:37:39	Lampaul Canyon (BOB-1)	Anemone
07/10/2011 02:38:15	Lampaul Canyon (BOB-1)	Asteroid
07/10/2011 02:38:46	Lampaul Canyon (BOB-1)	Molva molva
07/10/2011 02:38:59	Lampaul Canyon (BOB-1)	Molva molva
07/10/2011 02:39:07	Lampaul Canyon (BOB-1)	Lepidisis
07/10/2011 02:39:13	Lampaul Canyon (BOB-1)	Trachyscorpia
07/10/2011 02:39:26	Lampaul Canyon (BOB-1)	Forked Narella
07/10/2011 02:40:02	Lampaul Canyon (BOB-1)	Cidaris
07/10/2011 02:40:19	Lampaul Canyon (BOB-1)	Slope
07/10/2011 02:40:29	Lampaul Canyon (BOB-1)	Lepidisis
07/10/2011 02:40:39	Lampaul Canyon (BOB-1)	Cidaris
07/10/2011 02:41:24	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 02:44:33	Lampaul Canyon (BOB-1)	Crab
07/10/2011 02:45:16	Lampaul Canyon (BOB-1)	Asteroid and Calveriosoma
07/10/2011 02:45:20	Lampaul Canyon (BOB-1)	Orange ruffy

07/10/2011 02:46:19	Lampaul Canyon (BOB-1)	Rubble and Narella
07/10/2011 02:46:35	Lampaul Canyon (BOB-1)	Narella
07/10/2011 02:46:45	Lampaul Canyon (BOB-1)	Pennatulid and Lepidisis
07/10/2011 02:47:04	Lampaul Canyon (BOB-1)	Narella
07/10/2011 02:47:52	Lampaul Canyon (BOB-1)	Madrepora
07/10/2011 02:48:07	Lampaul Canyon (BOB-1)	Cidaris, Narella and Lepidisis
07/10/2011 02:49:51	Lampaul Canyon (BOB-1)	sample of Cidaris at AUTT1
07/10/2011 02:52:27	Lampaul Canyon (BOB-1)	Cidaris at AUTT1 in GBT1
07/10/2011 02:54:00	Lampaul Canyon (BOB-1)	sample Narella at AUTT1
07/10/2011 02:56:31	Lampaul Canyon (BOB-1)	Narella at AUTT1 in GBT1
07/10/2011 02:57:38	Lampaul Canyon (BOB-1)	sample of second Narella at AUTT1
07/10/2011 02:58:08	Lampaul Canyon (BOB-1)	second Narella at AUTT1 in GBT 1
07/10/2011 03:00:26	Lampaul Canyon (BOB-1)	sample of Pennatulid at AUTT1
07/10/2011 03:01:09	Lampaul Canyon (BOB-1)	Pennatulid at AUTT1 in GBT 1
07/10/2011 03:02:40	Lampaul Canyon (BOB-1)	sample of third Narella at AUTT1
07/10/2011 03:06:58	Lampaul Canyon (BOB-1)	third Narella at AUTT1 in GBT1
07/10/2011 03:08:23	Lampaul Canyon (BOB-1)	sample of fourth Narella at AUTT1
07/10/2011 03:09:00	Lampaul Canyon (BOB-1)	Anemone
07/10/2011 03:10:07	Lampaul Canyon (BOB-1)	fourth Narella at AUTT1 in GBT1
07/10/2011 03:11:49	Lampaul Canyon (BOB-1)	Coral rubble and anemone
07/10/2011 03:12:43	Lampaul Canyon (BOB-1)	Rubble
07/10/2011 03:12:48	Lampaul Canyon (BOB-1)	Garbage
07/10/2011 03:13:00	Lampaul Canyon (BOB-1)	Garbage
07/10/2011 03:13:54	Lampaul Canyon (BOB-1)	Pennatulid and Lepidisis

07/10/2011 03:14:20	Lampaul Canyon (BOB-1)	Asteroid and Echinothuriidae
07/10/2011 03:15:19	Lampaul Canyon (BOB-1)	Echinoid
07/10/2011 03:15:27	Lampaul Canyon (BOB-1)	Anemone
07/10/2011 03:15:37	Lampaul Canyon (BOB-1)	Sediment
07/10/2011 03:15:42	Lampaul Canyon (BOB-1)	Upcoming cliff
07/10/2011 03:15:58	Lampaul Canyon (BOB-1)	Narella on edge of cliff
07/10/2011 03:16:03	Lampaul Canyon (BOB-1)	Octopus
07/10/2011 03:16:26	Lampaul Canyon (BOB-1)	Boulder at bottom of cliff
07/10/2011 03:16:48	Lampaul Canyon (BOB-1)	Rubble?
07/10/2011 03:16:54	Lampaul Canyon (BOB-1)	Rubble and Hexadella
07/10/2011 03:16:59	Lampaul Canyon (BOB-1)	Lepidisis
07/10/2011 03:17:43	Lampaul Canyon (BOB-1)	Rubble and Hexadella
07/10/2011 03:18:05	Lampaul Canyon (BOB-1)	Glass sponge in distance
07/10/2011 03:19:22	Lampaul Canyon (BOB-1)	sample of Hexadella at AUTT2
07/10/2011 03:20:36	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 03:21:55	Lampaul Canyon (BOB-1)	Sponges in distance
07/10/2011 03:22:46	Lampaul Canyon (BOB-1)	Narella in distance
07/10/2011 03:23:39	Lampaul Canyon (BOB-1)	Lepidisis
07/10/2011 03:24:01	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE GBT-3 Hexadella at AUTT2
07/10/2011 03:25:22	Lampaul Canyon (BOB-1)	Lophelia, Madrepora, Narella, Hexadella
07/10/2011 03:28:08	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA1 sample of Lophelia and small Madrepora at AUTT3
07/10/2011 03:29:30	Lampaul Canyon (BOB-1)	Lophelia and small Madrepora at AUTT3 in CCA1
07/10/2011 03:30:22	Lampaul Canyon (BOB-1)	sample of Madrepora at AUTT3

07/10/2011 03:33:27	Lampaul Canyon (BOB-1)	Madrepora at AUTT3 in CCA1
07/10/2011 03:34:18	Lampaul Canyon (BOB-1)	sample of Narella at AUTT3 - failed
07/10/2011 03:37:48	Lampaul Canyon (BOB-1)	sample of Hexadella at AUTT3
07/10/2011 03:38:27	Lampaul Canyon (BOB-1)	Hexadella at AUTT3 in CCA1
07/10/2011 03:39:00	Lampaul Canyon (BOB-1)	sample of Pennatulid at AUTT3
07/10/2011 03:39:46	Lampaul Canyon (BOB-1)	Pennatulid at AUTT3 in CCA1 (maybe-fell somewhere in CCA)
07/10/2011 03:41:51	Lampaul Canyon (BOB-1)	Cidaris
07/10/2011 03:42:03	Lampaul Canyon (BOB-1)	Asteroid and Pennatulid
07/10/2011 03:42:33	Lampaul Canyon (BOB-1)	Madrepora or Lophelia ? on rubble
07/10/2011 03:43:06	Lampaul Canyon (BOB-1)	Echinothuriidae
07/10/2011 03:43:46	Lampaul Canyon (BOB-1)	Fish and Madrepora
07/10/2011 03:43:54	Lampaul Canyon (BOB-1)	Boulder with three Narella on top
07/10/2011 03:44:01	Lampaul Canyon (BOB-1)	Boulder - close up
07/10/2011 03:44:08	Lampaul Canyon (BOB-1)	Edge of coral garden
07/10/2011 03:44:22	Lampaul Canyon (BOB-1)	Edge of coral garden? Narella, Lophelia, garbage
07/10/2011 03:45:44	Lampaul Canyon (BOB-1)	Lophelia and glass sponge
07/10/2011 03:46:03	Lampaul Canyon (BOB-1)	Narella
07/10/2011 03:46:24	Lampaul Canyon (BOB-1)	Cerianthid
07/10/2011 03:46:41	Lampaul Canyon (BOB-1)	Ehcinothiurids
07/10/2011 03:46:58	Lampaul Canyon (BOB-1)	Fishing line, Echinothuriid, schleractinian
07/10/2011 03:47:42	Lampaul Canyon (BOB-1)	Rubble, anemone, Narella
07/10/2011 03:48:32	Lampaul Canyon (BOB-1)	Dead Lophelia
07/10/2011 03:48:53	Lampaul Canyon (BOB-1)	Trachyrincus scabrus
07/10/2011 03:49:21	Lampaul Canyon (BOB-1)	Bank and Echinothuriidae

07/10/2011 03:49:25	Lampaul Canyon (BOB-1)	Lepidisis and Narella
07/10/2011 03:49:31	Lampaul Canyon (BOB-1)	Narella
07/10/2011 03:50:33	Lampaul Canyon (BOB-1)	Forked Narella and Cidaris
07/10/2011 03:50:51	Lampaul Canyon (BOB-1)	Current ripples
07/10/2011 03:51:37	Lampaul Canyon (BOB-1)	Echinothuriidae and current ripples
07/10/2011 03:52:21	Lampaul Canyon (BOB-1)	Fish
07/10/2011 03:52:38	Lampaul Canyon (BOB-1)	Shark
07/10/2011 03:53:19	Lampaul Canyon (BOB-1)	Shark - Close up
07/10/2011 03:53:27	Lampaul Canyon (BOB-1)	Shark - Close up
07/10/2011 03:53:29	Lampaul Canyon (BOB-1)	Shark - Close up
07/10/2011 03:56:14	Lampaul Canyon (BOB-1)	Boulder and fish
07/10/2011 03:56:30	Lampaul Canyon (BOB-1)	Cidaris
07/10/2011 03:57:40	Lampaul Canyon (BOB-1)	Fish
07/10/2011 03:57:54	Lampaul Canyon (BOB-1)	Phycis
07/10/2011 03:58:11	Lampaul Canyon (BOB-1)	Phycis
07/10/2011 04:05:58	Lampaul Canyon (BOB-1)	Off the edge of the cliff
07/10/2011 04:06:13	Lampaul Canyon (BOB-1)	Narella
07/10/2011 04:06:40	Lampaul Canyon (BOB-1)	Cidaris
07/10/2011 04:07:20	Lampaul Canyon (BOB-1)	Narella
07/10/2011 04:07:24	Lampaul Canyon (BOB-1)	Cliff face
07/10/2011 04:07:38	Lampaul Canyon (BOB-1)	Pennatulid
07/10/2011 04:07:51	Lampaul Canyon (BOB-1)	Echinothuriidae
07/10/2011 04:08:05	Lampaul Canyon (BOB-1)	Narella
07/10/2011 04:08:51	Lampaul Canyon (BOB-1)	Narella and Echinothuriidae

07/10/2011 04:09:32	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 04:09:46	Lampaul Canyon (BOB-1)	Narella and scleractinian
07/10/2011 04:10:19	Lampaul Canyon (BOB-1)	Pennatulid and Lophelia?
07/10/2011 04:10:46	Lampaul Canyon (BOB-1)	Lophelia
07/10/2011 04:10:58	Lampaul Canyon (BOB-1)	Lophelia and Madrepora
07/10/2011 04:11:20	Lampaul Canyon (BOB-1)	Garbage bag and scleractinians
07/10/2011 04:12:08	Lampaul Canyon (BOB-1)	Lophelia
07/10/2011 04:13:20	Lampaul Canyon (BOB-1)	Hexadella and Lophelia prior to collection
07/10/2011 04:14:26	Lampaul Canyon (BOB-1)	sample of Lophelia at AUTT4
07/10/2011 04:15:36	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA2 Lophelia at AUTT4
07/10/2011 04:16:15	Lampaul Canyon (BOB-1)	sample of Madrepora at AUTT4
07/10/2011 04:16:55	Lampaul Canyon (BOB-1)	Madrepora at AUTT4 in CCA2
07/10/2011 04:18:24	Lampaul Canyon (BOB-1)	Coral rubble
07/10/2011 04:18:45	Lampaul Canyon (BOB-1)	Lophelia
07/10/2011 04:20:18	Lampaul Canyon (BOB-1)	sample of Hexadella (under white sponge) at AUTT4
07/10/2011 04:21:47	Lampaul Canyon (BOB-1)	sample of Hexadella (under white sponge) at AUTT4
07/10/2011 04:22:28	Lampaul Canyon (BOB-1)	Clump of Lophelia
07/10/2011 04:23:46	Lampaul Canyon (BOB-1)	Hexadella (under white sponge) at AUTT4 in CCA2
07/10/2011 04:24:57	Lampaul Canyon (BOB-1)	Garbage bag
07/10/2011 04:25:32	Lampaul Canyon (BOB-1)	Calveriosoma fenestratum
07/10/2011 04:25:59	Lampaul Canyon (BOB-1)	Lots of Calveriosoma fenestratum
07/10/2011 04:26:27	Lampaul Canyon (BOB-1)	Calveriosoma fenestratum
07/10/2011 04:26:37	Lampaul Canyon (BOB-1)	Cross current ripples
07/10/2011 04:27:06	Lampaul Canyon (BOB-1)	rubble

07/10/2011 04:27:33	Lampaul Canyon (BOB-1)	Narella and Acanella? on boulder
07/10/2011 04:28:58	Lampaul Canyon (BOB-1)	Octopus and garbage bag
07/10/2011 04:29:04	Lampaul Canyon (BOB-1)	Octopus and garbage bag
07/10/2011 04:29:10	Lampaul Canyon (BOB-1)	Octopus and garbage bag
07/10/2011 04:29:16	Lampaul Canyon (BOB-1)	Octopus
07/10/2011 04:29:28	Lampaul Canyon (BOB-1)	Octopus
07/10/2011 04:30:47	Lampaul Canyon (BOB-1)	cliff edge
07/10/2011 04:30:54	Lampaul Canyon (BOB-1)	Narella and scleractinian
07/10/2011 04:33:08	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 04:33:36	Lampaul Canyon (BOB-1)	Interesting cliff face
07/10/2011 04:33:52	Lampaul Canyon (BOB-1)	Narella
07/10/2011 04:34:40	Lampaul Canyon (BOB-1)	Lophelia, Madrepora
07/10/2011 04:35:17	Lampaul Canyon (BOB-1)	Scleractinian, Calveriosoma
07/10/2011 04:35:44	Lampaul Canyon (BOB-1)	Calveriosoma and Narella
07/10/2011 04:40:56	Lampaul Canyon (BOB-1)	Cliff face
07/10/2011 04:42:41	Lampaul Canyon (BOB-1)	Current ripples
07/10/2011 04:42:53	Lampaul Canyon (BOB-1)	Shell debris, coral, etc
07/10/2011 04:43:36	Lampaul Canyon (BOB-1)	Shell debris, coral, etc - Close up
07/10/2011 04:43:52	Lampaul Canyon (BOB-1)	current ripples and debris of shells, coral, etc
07/10/2011 04:44:13	Lampaul Canyon (BOB-1)	Shark
07/10/2011 04:45:40	Lampaul Canyon (BOB-1)	STILL Shark
07/10/2011 04:46:03	Lampaul Canyon (BOB-1)	STILL Shark
07/10/2011 04:46:35	Lampaul Canyon (BOB-1)	STILL of Shark swimming high above sediment
07/10/2011 04:48:49	Lampaul Canyon (BOB-1)	Anemone

07/10/2011 04:49:38	Lampaul Canyon (BOB-1)	Asteroid
07/10/2011 04:49:42	Lampaul Canyon (BOB-1)	Cliff face
07/10/2011 04:50:27	Lampaul Canyon (BOB-1)	Orange ruffly
07/10/2011 04:59:57	Lampaul Canyon (BOB-1)	Sponge and scleractinian
07/10/2011 05:00:34	Lampaul Canyon (BOB-1)	Interesting rock in cliff face
07/10/2011 05:02:28	Lampaul Canyon (BOB-1)	Narella
07/10/2011 05:02:40	Lampaul Canyon (BOB-1)	Narella
07/10/2011 05:03:10	Lampaul Canyon (BOB-1)	dead Lophelia
07/10/2011 05:03:56	Lampaul Canyon (BOB-1)	Crab
07/10/2011 05:04:13	Lampaul Canyon (BOB-1)	Crinoid
07/10/2011 05:04:34	Lampaul Canyon (BOB-1)	Calveriosoma and Lophelia
07/10/2011 05:05:06	Lampaul Canyon (BOB-1)	Lophelia and Madrepora, Narella
07/10/2011 05:09:25	Lampaul Canyon (BOB-1)	Ripples at bottom of cliff face
07/10/2011 05:09:30	Lampaul Canyon (BOB-1)	Lophelia and Madrepora
07/10/2011 05:10:22	Lampaul Canyon (BOB-1)	Madrepora and Lophelia before collection
07/10/2011 05:11:24	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA8 sample of Lophelia at AUTT5
07/10/2011 05:13:24	Lampaul Canyon (BOB-1)	Lophelia at AUTT5 in CCA8
07/10/2011 05:15:32	Lampaul Canyon (BOB-1)	sample of Madrepora at AUTT5
07/10/2011 05:16:25	Lampaul Canyon (BOB-1)	Madrepora at AUTT5 in CCA8
07/10/2011 05:19:59	Lampaul Canyon (BOB-1)	Coral
07/10/2011 05:21:08	Lampaul Canyon (BOB-1)	Cliff face with Cidaris
07/10/2011 05:21:35	Lampaul Canyon (BOB-1)	sample of Cidaris at AUTT5
07/10/2011 05:22:43	Lampaul Canyon (BOB-1)	Cidaris at AUTT5 in CCA8
07/10/2011 05:23:43	Lampaul Canyon (BOB-1)	Crab

07/10/2011 05:23:58	Lampaul Canyon (BOB-1)	Large bivalves and Hexadella
07/10/2011 05:25:38	Lampaul Canyon (BOB-1)	sample of Hexadella at AUTT5
07/10/2011 05:27:12	Lampaul Canyon (BOB-1)	Hexadella at AUTT5 in CCA8
07/10/2011 05:27:57	Lampaul Canyon (BOB-1)	Cidaris on cliff wall
07/10/2011 05:29:18	Lampaul Canyon (BOB-1)	Sparse coral garden
07/10/2011 05:29:59	Lampaul Canyon (BOB-1)	Lophelia and Madrepora
07/10/2011 05:31:30	Lampaul Canyon (BOB-1)	Blue sponge
07/10/2011 05:31:41	Lampaul Canyon (BOB-1)	Madrepora before collection
07/10/2011 05:32:32	Lampaul Canyon (BOB-1)	sample of Madrepora and Lophelia (on same piece) at AUTT6
07/10/2011 05:33:55	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA7 Madrepora
07/10/2011 05:34:07	Lampaul Canyon (BOB-1)	Madrepora and Lophelia (on same piece) at AUTT6
07/10/2011 05:34:41	Lampaul Canyon (BOB-1)	Narella
07/10/2011 05:35:02	Lampaul Canyon (BOB-1)	sample of Narella at AUTT 6
07/10/2011 05:35:27	Lampaul Canyon (BOB-1)	Narella at AUTT6 in CCA7
07/10/2011 05:36:40	Lampaul Canyon (BOB-1)	Echinothuriidae before collection
07/10/2011 05:37:43	Lampaul Canyon (BOB-1)	sample Echinothuriidar at AUTT6
07/10/2011 05:38:54	Lampaul Canyon (BOB-1)	Echinothuriidar at AUTT6 in CCA7
07/10/2011 05:40:35	Lampaul Canyon (BOB-1)	Very small Hexadella prior to collection
07/10/2011 05:40:55	Lampaul Canyon (BOB-1)	sample of Hexadella at AUTT6 - failed attempt
07/10/2011 05:43:56	Lampaul Canyon (BOB-1)	Coral
07/10/2011 05:44:08	Lampaul Canyon (BOB-1)	Antipatharian?
07/10/2011 05:44:52	Lampaul Canyon (BOB-1)	Antipatharian
07/10/2011 05:45:21	Lampaul Canyon (BOB-1)	Narella and antipatharian
07/10/2011 05:45:51	Lampaul Canyon (BOB-1)	Narella

07/10/2011 05:46:04	Lampaul Canyon (BOB-1)	Antipatharian
07/10/2011 05:46:58	Lampaul Canyon (BOB-1)	Crab in coral
07/10/2011 05:48:06	Lampaul Canyon (BOB-1)	Narella with crinoid on tip
07/10/2011 05:50:18	Lampaul Canyon (BOB-1)	Narella, Madrepora and Lophelia
07/10/2011 05:52:53	Lampaul Canyon (BOB-1)	sample Lophelia at AUTT7
07/10/2011 05:54:56	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA6 Lophelia at AUTT7
07/10/2011 05:55:28	Lampaul Canyon (BOB-1)	sample Narella of at AUTT7
07/10/2011 05:56:05	Lampaul Canyon (BOB-1)	Narella of at AUTT7 in CCA6
07/10/2011 05:57:08	Lampaul Canyon (BOB-1)	sample of second Narella of at AUTT7
07/10/2011 05:57:50	Lampaul Canyon (BOB-1)	second Narella of at AUTT7 in CCA6
07/10/2011 05:59:22	Lampaul Canyon (BOB-1)	Crab
07/10/2011 05:59:29	Lampaul Canyon (BOB-1)	sample Madrepora at AUTT7
07/10/2011 05:59:59	Lampaul Canyon (BOB-1)	Shift change from Sandra and Angela to Chris and JF: Madrepora at AUTT7 in CCA6
07/10/2011 06:05:18	Lampaul Canyon (BOB-1)	isolated corals amidst soft sediment
07/10/2011 06:07:02	Lampaul Canyon (BOB-1)	fish
07/10/2011 06:09:02	Lampaul Canyon (BOB-1)	block or outcrop with narella antipatharia, coral
07/10/2011 06:12:21	Lampaul Canyon (BOB-1)	bathypathes on block
07/10/2011 06:13:11	Lampaul Canyon (BOB-1)	bathypathes on block
07/10/2011 06:19:04	Lampaul Canyon (BOB-1)	narella bellissima and small coral fragment
07/10/2011 06:20:00	Lampaul Canyon (BOB-1)	PRELEVEMENT PEP-11 - 805-802m
07/10/2011 06:22:30	Lampaul Canyon (BOB-1)	fish and narella
07/10/2011 06:22:55	Lampaul Canyon (BOB-1)	cidaris
07/10/2011 06:24:27	Lampaul Canyon (BOB-1)	soft sediment bioturbation

07/10/2011 06:26:21	Lampaul Canyon (BOB-1)	many narella lots of sediment and fragments of dead scleractinia
07/10/2011 06:28:00	Lampaul Canyon (BOB-1)	antipatharia_fish, narella, crinoid, coral framents, soft sediment
07/10/2011 06:29:58	Lampaul Canyon (BOB-1)	fish narella crinoid antipatharia zoom
07/10/2011 06:31:42	Lampaul Canyon (BOB-1)	crab
07/10/2011 06:32:13	Lampaul Canyon (BOB-1)	sedimented coral debris
07/10/2011 06:34:04	Lampaul Canyon (BOB-1)	change course to examine other side of ridge
07/10/2011 06:35:21	Lampaul Canyon (BOB-1)	echinoids
07/10/2011 06:36:05	Lampaul Canyon (BOB-1)	spur with coral fragments
07/10/2011 06:36:56	Lampaul Canyon (BOB-1)	madrepora cidaris narella
07/10/2011 06:38:29	Lampaul Canyon (BOB-1)	plastic bag
07/10/2011 06:39:00	Lampaul Canyon (BOB-1)	plastic bag
07/10/2011 06:41:13	Lampaul Canyon (BOB-1)	sample madrepora pre collection
07/10/2011 06:45:43	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA5 madrepora (AUTT8)
07/10/2011 06:46:49	Lampaul Canyon (BOB-1)	sample madrepora lighter colour morph
07/10/2011 06:47:15	Lampaul Canyon (BOB-1)	sample overview CCA5
07/10/2011 06:47:28	Lampaul Canyon (BOB-1)	sample madrepora lighter morph into CCA5
07/10/2011 06:48:26	Lampaul Canyon (BOB-1)	sample narella CCA5
07/10/2011 06:49:31	Lampaul Canyon (BOB-1)	sample narella place into CCA5
07/10/2011 06:53:35	Lampaul Canyon (BOB-1)	fish
07/10/2011 06:53:57	Lampaul Canyon (BOB-1)	fish
07/10/2011 06:55:11	Lampaul Canyon (BOB-1)	Alcyonea
07/10/2011 06:55:52	Lampaul Canyon (BOB-1)	dense coral debris
07/10/2011 06:57:27	Lampaul Canyon (BOB-1)	narella x2 and alcyonea
07/10/2011 06:57:56	Lampaul Canyon (BOB-1)	monkfish

07/10/2011 06:58:10	Lampaul Canyon (BOB-1)	small octopus in sediment
07/10/2011 06:59:02	Lampaul Canyon (BOB-1)	Asteroid and echinoid
07/10/2011 07:00:16	Lampaul Canyon (BOB-1)	chimera
07/10/2011 07:00:51	Lampaul Canyon (BOB-1)	asteroid in soft sediment
07/10/2011 07:10:06	Lampaul Canyon (BOB-1)	echinoid
07/10/2011 07:10:27	Lampaul Canyon (BOB-1)	forkbeqrd
07/10/2011 07:10:39	Lampaul Canyon (BOB-1)	blue ling
07/10/2011 07:12:58	Lampaul Canyon (BOB-1)	roughy
07/10/2011 07:13:27	Lampaul Canyon (BOB-1)	echinoid
07/10/2011 07:15:58	Lampaul Canyon (BOB-1)	asteroid
07/10/2011 07:16:55	Lampaul Canyon (BOB-1)	echinoid
07/10/2011 07:19:55	Lampaul Canyon (BOB-1)	burried crab
07/10/2011 07:21:27	Lampaul Canyon (BOB-1)	echinoid and fish on soft sediment
07/10/2011 07:23:09	Lampaul Canyon (BOB-1)	gredier
07/10/2011 07:23:52	Lampaul Canyon (BOB-1)	echinoid
07/10/2011 07:24:28	Lampaul Canyon (BOB-1)	gredier
07/10/2011 07:26:20	Lampaul Canyon (BOB-1)	another gredier
07/10/2011 07:27:32	Lampaul Canyon (BOB-1)	redfish
07/10/2011 07:31:37	Lampaul Canyon (BOB-1)	echinoid
07/10/2011 07:32:03	Lampaul Canyon (BOB-1)	narella
07/10/2011 07:34:18	Lampaul Canyon (BOB-1)	Sample area
07/10/2011 07:35:09	Lampaul Canyon (BOB-1)	anemone
07/10/2011 07:36:52	Lampaul Canyon (BOB-1)	sample madrepora for CCA5 (AUTT9)
07/10/2011 07:39:13	Lampaul Canyon (BOB-1)	sample madrepora into CCA5

07/10/2011 07:40:19	Lampaul Canyon (BOB-1)	sample Narella in situ CCA5
07/10/2011 07:46:04	Lampaul Canyon (BOB-1)	sample madrepora for CCA5
07/10/2011 07:47:17	Lampaul Canyon (BOB-1)	sample madrepora into CCA5
07/10/2011 07:50:30	Lampaul Canyon (BOB-1)	Echinoid sample for CCA5
07/10/2011 07:51:15	Lampaul Canyon (BOB-1)	sample Echinoid into CCA5
07/10/2011 07:53:43	Lampaul Canyon (BOB-1)	redfish
07/10/2011 07:54:32	Lampaul Canyon (BOB-1)	bioturbation at top of ridge
07/10/2011 07:56:00	Lampaul Canyon (BOB-1)	cidaris top of ridge
07/10/2011 07:56:48	Lampaul Canyon (BOB-1)	crab
07/10/2011 07:57:42	Lampaul Canyon (BOB-1)	echinoid
07/10/2011 08:05:12	Lampaul Canyon (BOB-1)	Gadid fish
07/10/2011 08:05:16	Lampaul Canyon (BOB-1)	Gadid fish
07/10/2011 08:05:38	Lampaul Canyon (BOB-1)	Gadid fish
07/10/2011 08:06:37	Lampaul Canyon (BOB-1)	Gadid fish
07/10/2011 08:06:55	Lampaul Canyon (BOB-1)	Gadid fish
07/10/2011 08:07:40	Lampaul Canyon (BOB-1)	Cidaris
07/10/2011 08:12:00	Lampaul Canyon (BOB-1)	Nouveau Quart : INGE and Eric
07/10/2011 08:13:00	Lampaul Canyon (BOB-1)	Sea stars, Urchin, Anemona, sand floor
07/10/2011 08:17:58	Lampaul Canyon (BOB-1)	Calveriosoma in claw ROV CCA4
07/10/2011 08:22:29	Lampaul Canyon (BOB-1)	4 Calveriosoma, Pseudarchaster
07/10/2011 08:25:20	Lampaul Canyon (BOB-1)	Cerianthid and fish
07/10/2011 08:30:00	Lampaul Canyon (BOB-1)	Octocoral picture and One animal burriedb (octopus??)
07/10/2011 08:31:58	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA4 sample pennatulid
07/10/2011 08:34:31	Lampaul Canyon (BOB-1)	Sample pennatulid CCA4

07/10/2011 08:39:37	Lampaul Canyon (BOB-1)	Sand/urchins/seastars
07/10/2011 08:41:14	Lampaul Canyon (BOB-1)	Pseudarchaster
07/10/2011 08:42:14	Lampaul Canyon (BOB-1)	Seastars picture
07/10/2011 08:43:56	Lampaul Canyon (BOB-1)	Helicolenus
07/10/2011 08:44:10	Lampaul Canyon (BOB-1)	Helicolenus (the same)
07/10/2011 08:44:11	Lampaul Canyon (BOB-1)	Still two Helicolenus
07/10/2011 08:46:03	Lampaul Canyon (BOB-1)	Little reliefs in mud, perhaps because of animals
07/10/2011 08:50:00	Lampaul Canyon (BOB-1)	Gastropod
07/10/2011 08:51:07	Lampaul Canyon (BOB-1)	Chaceon (662m)
07/10/2011 08:54:17	Lampaul Canyon (BOB-1)	Trachyscorpia
07/10/2011 08:54:29	Lampaul Canyon (BOB-1)	Still Trachyscorpia
07/10/2011 08:56:18	Lampaul Canyon (BOB-1)	Helicolenus
07/10/2011 08:57:06	Lampaul Canyon (BOB-1)	String of plankton
07/10/2011 08:57:59	Lampaul Canyon (BOB-1)	Hoplostethus or Beryx
07/10/2011 08:58:16	Lampaul Canyon (BOB-1)	Cidarid
07/10/2011 09:00:19	Lampaul Canyon (BOB-1)	Jellyfish
07/10/2011 09:00:26	Lampaul Canyon (BOB-1)	Calveriosoma
07/10/2011 09:02:34	Lampaul Canyon (BOB-1)	Recording vertical and oblique camera stopped for changing the full external hard disk
07/10/2011 09:03:35	Lampaul Canyon (BOB-1)	Galeus and ling
07/10/2011 09:05:15	Lampaul Canyon (BOB-1)	Recording of vertical and oblique camera again
07/10/2011 09:05:55	Lampaul Canyon (BOB-1)	Echinoid fish
07/10/2011 09:07:58	Lampaul Canyon (BOB-1)	Tiny jellyfish
07/10/2011 09:08:53	Lampaul Canyon (BOB-1)	Cruising to isobath 830m and go up the ridge

07/10/2011 09:11:00	Lampaul Canyon (BOB-1)	We left this area to go down toward new position
07/10/2011 09:19:19	Lampaul Canyon (BOB-1)	During the survey, Narella and dead coral
07/10/2011 09:19:41	Lampaul Canyon (BOB-1)	Antipatharian
07/10/2011 09:20:08	Lampaul Canyon (BOB-1)	Antipatharian
07/10/2011 09:20:26	Lampaul Canyon (BOB-1)	thing
07/10/2011 09:21:16	Lampaul Canyon (BOB-1)	Antipatharia
07/10/2011 09:21:57	Lampaul Canyon (BOB-1)	Narella and live scleractinian colonies
07/10/2011 09:23:45	Lampaul Canyon (BOB-1)	Fish
07/10/2011 09:25:32	Lampaul Canyon (BOB-1)	Narella bellissima
07/10/2011 09:27:10	Lampaul Canyon (BOB-1)	Little silver fish
07/10/2011 09:28:22	Lampaul Canyon (BOB-1)	Sac plastique
07/10/2011 09:34:27	Lampaul Canyon (BOB-1)	Turn ROV to go up the slope (812m)
07/10/2011 09:34:44	Lampaul Canyon (BOB-1)	Fish
07/10/2011 09:35:14	Lampaul Canyon (BOB-1)	Sand and fish
07/10/2011 09:35:43	Lampaul Canyon (BOB-1)	Sand and single colonies of coral, Calveriosoma
07/10/2011 09:36:19	Lampaul Canyon (BOB-1)	Narella bellissima
07/10/2011 09:37:54	Lampaul Canyon (BOB-1)	Sample area
07/10/2011 09:40:13	Lampaul Canyon (BOB-1)	sample Madrepora pink, Madrepora other colour, Lophelia, Narella bellissima and other octocoral (Narella?) AUTT10 CCA3
07/10/2011 09:43:41	Lampaul Canyon (BOB-1)	Plastic bag
07/10/2011 09:44:59	Lampaul Canyon (BOB-1)	Calveriosoma is trying to escape (put in CCA7)
07/10/2011 09:47:36	Lampaul Canyon (BOB-1)	PRELEVEMENT FAUNE CCA3 sample octocoral (small Narella?)
07/10/2011 09:49:13	Lampaul Canyon (BOB-1)	sample Narella bellissima CCA3
07/10/2011 09:51:19	Lampaul Canyon (BOB-1)	Narella bellissima in CCA3

07/10/2011 09:52:06	Lampaul Canyon (BOB-1)	sample Madrepora pink in CCA3
07/10/2011 09:52:41	Lampaul Canyon (BOB-1)	Sample Madrepora in CCA3
07/10/2011 09:54:57	Lampaul Canyon (BOB-1)	Sample Narella CCA3
07/10/2011 09:56:11	Lampaul Canyon (BOB-1)	sample Narella (big) in CCA3
07/10/2011 09:57:18	Lampaul Canyon (BOB-1)	sample Madrepora, Narella and Lophelia CCA3
07/10/2011 09:58:19	Lampaul Canyon (BOB-1)	sample Lophelia in CCA3
07/10/2011 10:00:00	Lampaul Canyon (BOB-1)	Valerie and Cecile on watch
07/10/2011 10:00:52	Lampaul Canyon (BOB-1)	Still Surroundings second sample part on AUTT10
07/10/2011 10:01:31	Lampaul Canyon (BOB-1)	Still sample Narella, Madrepora and Lophelia
07/10/2011 10:02:09	Lampaul Canyon (BOB-1)	Sample Lophelia CCA3
07/10/2011 10:09:52	Lampaul Canyon (BOB-1)	Prelevement Madrepora blanc avec Narella casse (petit bout)AUTT_10
07/10/2011 10:23:07	Lampaul Canyon (BOB-1)	Victor creuse pour voir epaisseur couche de sediment
07/10/2011 10:25:15	Lampaul Canyon (BOB-1)	on est dans le brouillard...
07/10/2011 10:29:32	Lampaul Canyon (BOB-1)	colonie morte de Lophelia a l'interieur du sediment
07/10/2011 10:36:50	Lampaul Canyon (BOB-1)	profondeur du trou. Ca devient légèrement plus dur de creuser
07/10/2011 10:39:40	Lampaul Canyon (BOB-1)	débris ramassé du trou. Quantité importante de coraux morts.
07/10/2011 10:40:31	Lampaul Canyon (BOB-1)	épaisseur de sédiments avec coraux morts environ 30-40 cm
07/10/2011 10:43:41	Lampaul Canyon (BOB-1)	on continue explo transect cap 270° vers point 2 a partir AUTT_10
07/10/2011 10:45:43	Lampaul Canyon (BOB-1)	poisson Trachysscorpia cristulata echinata
07/10/2011 10:48:28	Lampaul Canyon (BOB-1)	quelques oursins
07/10/2011 10:49:12	Lampaul Canyon (BOB-1)	arrivee point 2, changement cap 66° vers point 3
07/10/2011 10:51:07	Lampaul Canyon (BOB-1)	debris coraux blancs morts
07/10/2011 10:53:14	Lampaul Canyon (BOB-1)	morne plaine en dehors de quelques oursins, poissons et debris de coraux morts

07/10/2011 10:56:28	Lampaul Canyon (BOB-1)	poissons et meduse
07/10/2011 10:56:59	Lampaul Canyon (BOB-1)	quelques colonies Lophelia + Narella
07/10/2011 10:58:18	Lampaul Canyon (BOB-1)	Narella et oursin
07/10/2011 10:59:37	Lampaul Canyon (BOB-1)	colonies isolées, beaucoup de colonies mortes
07/10/2011 11:00:29	Lampaul Canyon (BOB-1)	Narella
07/10/2011 11:00:50	Lampaul Canyon (BOB-1)	champs avec plein de Narella
07/10/2011 11:04:26	Lampaul Canyon (BOB-1)	Narella
07/10/2011 11:11:05	Lampaul Canyon (BOB-1)	dechet sac plastique
07/10/2011 11:11:57	Lampaul Canyon (BOB-1)	narella + poisson
07/10/2011 11:14:32	Lampaul Canyon (BOB-1)	de moins en moins de faune, quelques colonies de coraux morts
07/10/2011 11:17:55	Lampaul Canyon (BOB-1)	plus rien hormis quelques oursins et poissons
07/10/2011 11:18:37	Lampaul Canyon (BOB-1)	Trachyscorpia cristulata echinata
07/10/2011 11:19:33	Lampaul Canyon (BOB-1)	dechet avec cables et chaine colonise par oursin et echinoides, coraux morts et quelques vivants
07/10/2011 11:21:38	Lampaul Canyon (BOB-1)	gros plan sur dechet : cablage
07/10/2011 11:32:16	Lampaul Canyon (BOB-1)	on a depasse le point 3, pas de changement de cap
07/10/2011 11:38:31	Lampaul Canyon (BOB-1)	arrivee point 4, changement cap au 270°
07/10/2011 11:41:57	Lampaul Canyon (BOB-1)	poisson
07/10/2011 11:44:57	Lampaul Canyon (BOB-1)	lotte
07/10/2011 12:01:55	Lampaul Canyon (BOB-1)	toujours morne plaine, quelques poissons
07/10/2011 12:13:41	Lampaul Canyon (BOB-1)	roches apparentes
07/10/2011 12:14:16	Lampaul Canyon (BOB-1)	un peu de relief
07/10/2011 12:15:40	Lampaul Canyon (BOB-1)	arrivee point 5, changement de cap a 4°
07/10/2011 12:17:13	Lampaul Canyon (BOB-1)	effleurement rocheux

07/10/2011 12:21:41	Lampaul Canyon (BOB-1)	roches
07/10/2011 12:22:36	Lampaul Canyon (BOB-1)	quelques debris de coraux
07/10/2011 12:23:41	Lampaul Canyon (BOB-1)	roches
07/10/2011 12:26:54	Lampaul Canyon (BOB-1)	poissons
07/10/2011 12:28:00	Lampaul Canyon (BOB-1)	plusieurs especes de poisson sur zone rocheuse
07/10/2011 12:29:15	Lampaul Canyon (BOB-1)	falaise
07/10/2011 12:29:32	Lampaul Canyon (BOB-1)	crabe
07/10/2011 12:30:00	Lampaul Canyon (BOB-1)	poisson pres du crabe
07/10/2011 12:30:31	Lampaul Canyon (BOB-1)	bon denivellement
07/10/2011 12:30:54	Lampaul Canyon (BOB-1)	narella sur falaise
07/10/2011 12:32:43	Lampaul Canyon (BOB-1)	oursin
07/10/2011 12:33:14	Lampaul Canyon (BOB-1)	roche posee a cote paroi rocheuse d'origine differente
07/10/2011 12:35:24	Lampaul Canyon (BOB-1)	relief
07/10/2011 12:36:19	Lampaul Canyon (BOB-1)	lotte
07/10/2011 12:36:43	Lampaul Canyon (BOB-1)	paroi rocheuse
07/10/2011 12:36:59	Lampaul Canyon (BOB-1)	paysage accidente
07/10/2011 12:39:16	Lampaul Canyon (BOB-1)	strates de roches
07/10/2011 12:40:30	Lampaul Canyon (BOB-1)	autres formations rocheuses
07/10/2011 12:41:11	Lampaul Canyon (BOB-1)	eponge?
07/10/2011 12:42:19	Lampaul Canyon (BOB-1)	trio oursin et etoile de mer
07/10/2011 12:42:48	Lampaul Canyon (BOB-1)	le meme trio avec camera verticale
07/10/2011 12:44:32	Lampaul Canyon (BOB-1)	arrivee point 6, poursuite sans changement cap
07/10/2011 12:45:14	Lampaul Canyon (BOB-1)	traces = glissement?
07/10/2011 12:46:13	Lampaul Canyon (BOB-1)	leger relief

07/10/2011 12:48:21	Lampaul Canyon (BOB-1)	relief formant comme un lit de riviere
07/10/2011 12:49:15	Lampaul Canyon (BOB-1)	trou dans paroi rocheuse
07/10/2011 12:51:09	Lampaul Canyon (BOB-1)	poisson
07/10/2011 12:53:40	Lampaul Canyon (BOB-1)	morne plaine mis a part quelques oursins
07/10/2011 12:54:19	Lampaul Canyon (BOB-1)	nouvelle faille avec trou avec narella et oursin
07/10/2011 12:54:52	Lampaul Canyon (BOB-1)	trou rocheux colonise par faune
07/10/2011 12:55:51	Lampaul Canyon (BOB-1)	eponge sur denivelle rocheux
07/10/2011 12:56:23	Lampaul Canyon (BOB-1)	eponge
07/10/2011 12:56:48	Lampaul Canyon (BOB-1)	poisson et crabe se protegeant contre paroi rocheuse
07/10/2011 12:58:31	Lampaul Canyon (BOB-1)	araignee portant corail sur dos
07/10/2011 13:01:06	Lampaul Canyon (BOB-1)	crabe se rendant au bal masque
07/10/2011 13:05:45	Lampaul Canyon (BOB-1)	passage au point 7, poursuite route jusqu'au point 8
07/10/2011 13:12:03	Lampaul Canyon (BOB-1)	oursin gros plan
07/10/2011 13:16:12	Lampaul Canyon (BOB-1)	poisson entre 2 etoiles de mer
07/10/2011 13:21:25	Lampaul Canyon (BOB-1)	arrivee point 8, fin de profil, on remonte en surface
07/10/2011 13:23:53	Lampaul Canyon (BOB-1)	fin de plongee

17. Dive report 479 - 17

Submersible : Victor 6000

Starting Dive : 07/10/2011 21:32

Arrival on the bottom: 07/10/2011 23:13

Deprture from the bottom: 08/10/2011 21:30

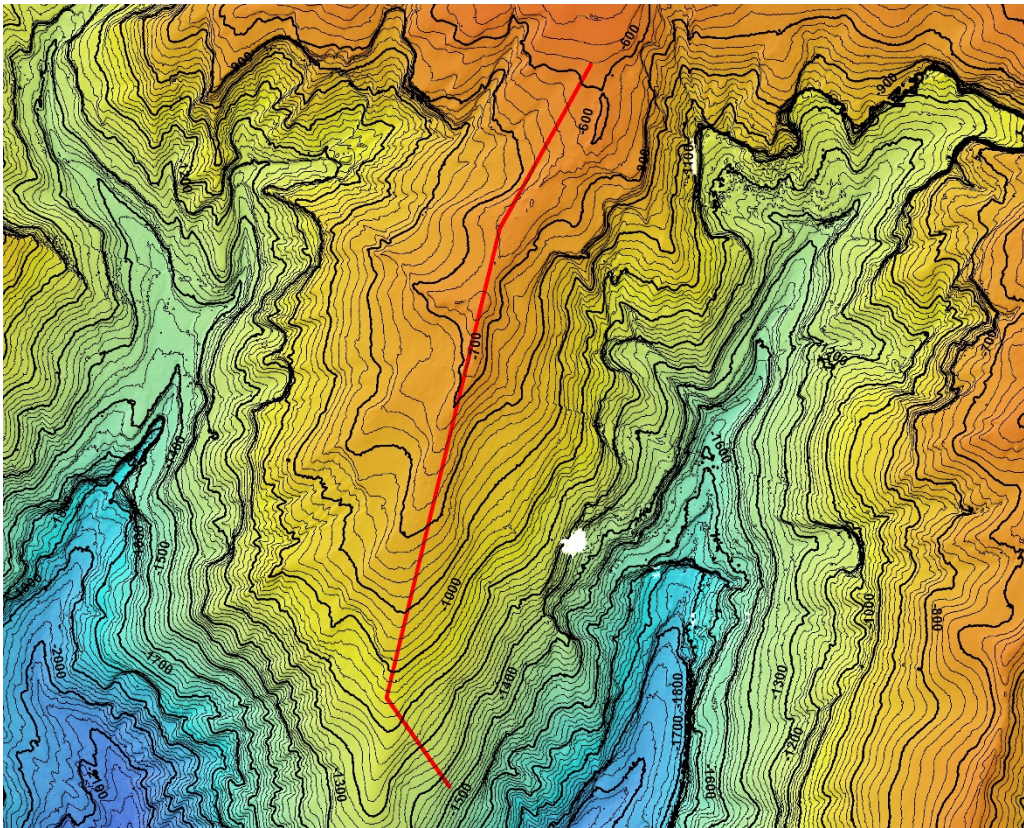
Ending dive : 09/10/2011 07:30

Location : BOB-1

Dives objectives :

BobEco - Dive 479-17 Explo&Sampling dive

Canyon de Crozon 1350-600m



Point d'immersion et début de transect: N47°22.32 W 6°37.22

Total Duration : depending on the observations

Time on the 'bottom' : 10h or 24ç

Objectives :

- Exploration of Crozon canyon and sampling if observed

L. pertusa and M. oculata

Narella sp.

Sponges

Sea urchins

Any new octocoral

-Sampling of water from the bottom in 8 PEP bottles during the descent (microbiology)

Summary :

Visited locations : BOB-1,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
VESLIN Mathieu	IFREMER BREST
MOALIC Yann	IFREMER BREST
DOUVILLE Eric	LSCE
CUEFF Valerie	IFREMER BREST
YESSON Chris	ZSL
STEVENSON Angela	UNIV DUBLIN IRELAND
LINLEY Thomas	UNIV ABERDEEN
REVEILLAUD Julie	UNIV GENT
VAN DEN BELDE Inge	IFREMER BREST
BECHELER Ronan	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
PRATO Guilia	NUIGalway
PERTUISOT Cecile	IFREMER BREST
GONZALES Cécile	LSCE
HENRIQUEZ Andreia Braga	IMAR

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
08/10/2011 09:22:11	BOB-1	479 - 17	Coral box A		1	N 47 22.674	W 006 37.497	1142	PRELEVEMENT FAUNE CCA1 sample Madrepora (right colony) and 3 Narella, nice Stylasterid

08/10/2011 09:55:28	BOB-1	479 - 17	Coral box A		2	N 47 22.674	W 006 37.514	1139	PRELEVEMENT FAUNE CCA2 sample asteroid, Madrepora, octocoral, crinoids, Brachiopod in AUTT2
08/10/2011 10:16:54	BOB-1	479 - 17	Coral box A		3	N 47 22.659	W 006 37.515	1142	PRELEVEMENT FAUNE CCA3 Narella, crinoide, Hexadella sur AUTT_3
08/10/2011 10:46:38	BOB-1	479 - 17	Coral box A		4	N 47 22.654	W 006 37.527	1140	PRELEVEMENT FAUNE CCA4 Hexadella, anemone sur AUTT_4
08/10/2011 10:59:29	BOB-1	479 - 17	Coral box A		5	N 47 22.656	W 006 37.527	1139	PRELEVEMENT FAUNE CCA5 Hexadella attache a Madrepora rose sur AUTT_4
08/10/2011 11:45:40	BOB-1	479 - 17	Coral box A		6	N 47 22.647	W 006 37.536	1138	PRELEVEMENT FAUNE CCA6 Lophelia tombe dans CC-A2 au lieu de CC-A6 et crinoide dans CC-A6 sur AUTT_6
08/10/2011 12:09:27	BOB-1	479 - 17	Coral box A		7	N 47 22.643	W 006 37.510	1148	PRELEVEMENT FAUNE CCA7 Lophelia et crinoide sur AUTT_7
08/10/2011 12:38:36	BOB-1	479 - 17	Coral box A		8	N 47 22.653	W 006 37.488	1153	PRELEVEMENT FAUNE CCA8 Desmophyllum + petits polypes non identifies + crinoid - AUTT8

08/10/2011 17:02:11	BOB-1	479 - 17	Coral box B		1	N 47 22.644	W 006 37.506	1146	PRELEVEMENT FAUNE CCB1 sample Lophelia at AUTT-12
08/10/2011 17:17:47	BOB-1	479 - 17	Coral box B		2	N 47 22.650	W 006 37.506	1145	PRELEVEMENT FAUNE CCB2 sample of Lophelia, in AUTT- 13
08/10/2011 17:38:50	BOB-1	479 - 17	Coral box B		3	N 47 22.640	W 006 37.492	1050	PRELEVEMENT FAUNE CCB3 sample of Lophelia, AUTT-14
08/10/2011 16:30:48	BOB-1	479 - 17	Coral box B		4	N 47 22.640	W 006 37.500	1131	PRELEVEMENT FAUNE CCB4 sample sea urchin, at AUTT- 11
08/10/2011 18:05:10	BOB-1	479 - 17	Coral box B		5	N 47 22.590	W 006 37.502	1162	PRELEVEMENT FAUNE CCB5 sample Narella at AUTT_15
08/10/2011 18:29:54	BOB-1	479 - 17	Coral box B		6	N 47 22.584	W 006 37.498	1166	PRELEVEMENT FAUNE CCB6 sample Lophelia and Crinoid at AUTT_16
08/10/2011 18:52:16	BOB-1	479 - 17	Coral box B		7	N 47 22.597	W 006 37.473	1169	PRELEVEMENT FAUNE CCB7 sample Pink Madrepora at AUTT_17
08/10/2011 19:06:50	BOB-1	479 - 17	Coral box B		8	N 47 22.605	W 006 37.469	1166	PRELEVEMENT FAUNE CCB8 sample White Lophelia at AUTT_18 with Dendrophelia
08/10/2011 00:22:50	BOB-1	479 - 17	ROV big box	GBT	1	N 47 22.461	W 006 37.361	1248	PRELEVEMENT FAUNE GBT-1 sample of Narella

08/10/2011 15:33:45	BOB-1	479 - 17	Little Collection Box	PBT	1	N 47 22.606	W 006 37.490	1161	PRELEVEMENT FAUNE PBT-1 sample sediment PBT1 next to sampling PBT2 (Lophelia, Madrepora) AUTT_10
08/10/2011 15:20:34	BOB-1	479 - 17	Little Collection Box	PBT	2	N 47 22.604	W 006 37.488	1161	PRELEVEMENT FAUNE PBT-2 sample Lophelia POINT REMARQUABLE AUTT_10
08/10/2011 14:41:30	BOB-1	479 - 17	Little Collection Box	PBT	4	N 47 22.625	W 006 37.485	1157	PRELEVEMENT FAUNE PBT-4 sample Hexadella1 - AUTT_9

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
07/10/2011 22:00:00	BOB-1	479 - 17	PEP bottle	PEP	1	N 47 22.005	W 006 37.321	230	PRELEVEMENT PEP- 1 - 109m
07/10/2011 22:13:00	BOB-1	479 - 17	PEP bottle	PEP	2	N 47 22.052	W 006 37.292	406	PRELEVEMENT PEP- 2 - 290-305
07/10/2011 22:22:00	BOB-1	479 - 17	PEP bottle	PEP	3	N 47 22.082	W 006 37.272	606	PRELEVEMENT PEP- 3 - 492-503
07/10/2011 22:30:00	BOB-1	479 - 17	PEP bottle	PEP	4	N 47 22.116	W 006 37.257	792	PRELEVEMENT PEP- 4 - 695-705
07/10/2011 22:40:00	BOB-1	479 - 17	PEP bottle	PEP	5	N 47 22.161	W 006 37.192	1002	PRELEVEMENT PEP- 5 - 895-905
07/10/2011 22:48:00	BOB-1	479 - 17	PEP bottle	PEP	6	N 47 22.186	W 006 37.158	1193	PRELEVEMENT PEP- 6 - 1110m

07/10/2011 22:57:41	BOB-1	479 - 17	PEP bottle	PEP	7	N 47 22.183	W 006 37.132	1413	PRELEVEMENT PEP-7
07/10/2011 23:14:00	BOB-1	479 - 17	PEP bottle	PEP	8	N 47 22.263	W 006 37.232	1393	PRELEVEMENT PEP-8 - 1390m
07/10/2011 23:53:22	BOB-1	479 - 17	PEP bottle	PEP	9	N 47 22.409	W 006 37.317	1278	PRELEVEMENT PEP-9 - 1274m
08/10/2011 00:58:31	BOB-1	479 - 17	PEP bottle	PEP	10	N 47 22.579	W 006 37.475	1181	PRELEVEMENT PEP-10 on coral framework 1179m
08/10/2011 15:40:56	BOB-1	479 - 17	PEP bottle	PEP	11	N 47 22.606	W 006 37.490	1161	PRELEVEMENT PEP-11 sur colonie Madrepora AUTT_10
08/10/2011 15:41:55	BOB-1	479 - 17	PEP bottle	PEP	12	N 47 22.606	W 006 37.490	1161	PRELEVEMENT PEP-12 sur colonie Madrepora idem PEP11
08/10/2011 15:43:41	BOB-1	479 - 17	PEP bottle	PEP	13	N 47 22.606	W 006 37.490	1161	PRELEVEMENT PEP-13 - 531 sec poche 5L sur meme colonie Madrepora AUTT_10 pour Valerie
08/10/2011 15:52:21	BOB-1	479 - 17	PEP bottle	PEP	14	N 47 22.605	W 006 37.490	1161	PRELEVEMENT PEP-14 - 510 sec poche 5L sur meme colonie Madrepora pour Julie AUTT_10
08/10/2011 21:26:37	BOB-1	479 - 17	PEP bottle	PEP	15	N 47 22.638	W 006 37.470	1161	PRELEVEMENT PEP-15

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : [\(Up\)](#)

Date Time	Location	Description
07/10/2011 22:00:00	BOB-1	PRELEVEMENT PEP-1 - 109m
07/10/2011 22:03:40	BOB-1	change of shift:Giulia and Anna
07/10/2011 22:13:00	BOB-1	PRELEVEMENT PEP-2 - 290-305
07/10/2011 22:13:51	BOB-1	sample PEP 2 290-305m
07/10/2011 22:22:00	BOB-1	PRELEVEMENT PEP-3 - 492-503
07/10/2011 22:30:00	BOB-1	PRELEVEMENT PEP-4 - 695-705
07/10/2011 22:40:00	BOB-1	PRELEVEMENT PEP-5 - 895-905
07/10/2011 22:48:00	BOB-1	PRELEVEMENT PEP-6 - 1110m
07/10/2011 22:57:41	BOB-1	PRELEVEMENT PEP-7
07/10/2011 23:12:00	BOB-1	Calibrating ROV, on bottom, muddy seabed
07/10/2011 23:13:09	BOB-1	bottom
07/10/2011 23:13:24	BOB-1	mud, synaphobranchus
07/10/2011 23:14:00	BOB-1	PRELEVEMENT PEP-8 - 1390m
07/10/2011 23:16:00	BOB-1	start transect
07/10/2011 23:22:20	BOB-1	Still image sponge
07/10/2011 23:23:03	BOB-1	sample of sponge in GBT 1
07/10/2011 23:32:33	BOB-1	start recording video
07/10/2011 23:33:30	BOB-1	antropogenic impact (could be a bomb)
07/10/2011 23:36:35	BOB-1	synaphobrancus , anthipatharian
07/10/2011 23:38:24	BOB-1	coral
07/10/2011 23:39:37	BOB-1	hoplostethus atlanticus

07/10/2011 23:41:23	BOB-1	macrourid
07/10/2011 23:43:24	BOB-1	moved sediment
07/10/2011 23:44:01	BOB-1	acanella
07/10/2011 23:44:55	BOB-1	macrourid, coryphenoides
07/10/2011 23:45:09	BOB-1	trachyscorpia on mud
07/10/2011 23:45:25	BOB-1	trachyscorpia
07/10/2011 23:47:38	BOB-1	antropogenic impact, maybe carrot
07/10/2011 23:52:07	BOB-1	fish
07/10/2011 23:53:22	BOB-1	PRELEVEMENT PEP-9 - 1274m
07/10/2011 23:55:56	BOB-1	dead coral on mud
07/10/2011 23:57:01	BOB-1	synaphobranchus, rayidae
07/10/2011 23:57:52	BOB-1	stock sponge
07/10/2011 23:58:53	BOB-1	synaphobrancus,lepidion
07/10/2011 23:59:48	BOB-1	coral,maybe narella rock
08/10/2011 00:01:00	BOB-1	rock with narella paranthipathes lophelia actinian stychiopates brisingid aphrocalistis squid
08/10/2011 00:03:28	BOB-1	still image of rock with corals
08/10/2011 00:07:34	BOB-1	still image of hydrozoan?
08/10/2011 00:11:21	BOB-1	sample ASPI of hydrozoan? in BOL 6
08/10/2011 00:19:20	BOB-1	crinoids on the rock,glass bottle,big barnacles
08/10/2011 00:22:50	BOB-1	PRELEVEMENT FAUNE GBT-1 sample of Narella
08/10/2011 00:28:58	BOB-1	still picture of fan like coral and actinian
08/10/2011 00:30:03	BOB-1	orange roughy
08/10/2011 00:32:15	BOB-1	sample of fan like coral with galatheid in CCA1

08/10/2011 00:34:45	BOB-1	back to transect
08/10/2011 00:35:32	BOB-1	ray next to narella
08/10/2011 00:37:55	BOB-1	stock sponge,dropstones
08/10/2011 00:39:05	BOB-1	actinian and sponge
08/10/2011 00:39:40	BOB-1	phycis blennoides
08/10/2011 00:40:38	BOB-1	mixed sediment,sand,cobbles,pebbles,
08/10/2011 00:41:15	BOB-1	boulder with corals
08/10/2011 00:42:27	BOB-1	chimaera
08/10/2011 00:42:57	BOB-1	narella,few corals between dropstones
08/10/2011 00:43:27	BOB-1	boulder with corals
08/10/2011 00:44:38	BOB-1	dead coral
08/10/2011 00:45:08	BOB-1	narellas,boulder,macrourid
08/10/2011 00:46:33	BOB-1	orange rouhgy,boulders with corals
08/10/2011 00:47:06	BOB-1	boulder with actinian
08/10/2011 00:48:06	BOB-1	dead corals patch
08/10/2011 00:48:58	BOB-1	aphrocalistes over dead framework
08/10/2011 00:52:41	BOB-1	little black shark
08/10/2011 00:54:17	BOB-1	dead coral framework
08/10/2011 00:55:05	BOB-1	side of the dune with live corals
08/10/2011 00:55:49	BOB-1	exploring to see wether to put sampling box, seems not enough big.more or less 20x20 m
08/10/2011 00:58:31	BOB-1	PRELEVEMENT PEP-10 on coral framework 1179m
08/10/2011 01:13:13	BOB-1	framework
08/10/2011 01:15:55	BOB-1	neocyttus over reef

08/10/2011 01:18:50	BOB-1	exploring.field of crinoids over dead framework.some rubbish
08/10/2011 01:22:33	BOB-1	plastic bag
08/10/2011 01:23:46	BOB-1	patch of rippled sand between coral patch
08/10/2011 01:26:02	BOB-1	again dead framework
08/10/2011 01:26:21	BOB-1	urchin on top of coral
08/10/2011 01:28:38	BOB-1	lepidion
08/10/2011 01:32:48	BOB-1	bottle
08/10/2011 01:34:00	BOB-1	start reef again (still exploring area)
08/10/2011 01:36:17	BOB-1	bottle
08/10/2011 01:37:52	BOB-1	metal bar
08/10/2011 01:42:08	BOB-1	lophelia next to madrepora
08/10/2011 01:44:22	BOB-1	coke tin
08/10/2011 01:48:54	BOB-1	closing exploratory tour,going back to transect line
08/10/2011 01:59:54	BOB-1	waste
08/10/2011 02:00:27	BOB-1	metal bar
08/10/2011 02:01:17	BOB-1	change of shift: Mathieu and Andreia
08/10/2011 02:03:56	BOB-1	Chimera
08/10/2011 02:04:43	BOB-1	4mn-vertical
08/10/2011 02:04:44	BOB-1	4mn
08/10/2011 02:07:39	BOB-1	Asteroidea
08/10/2011 02:11:35	BOB-1	End of the reef
08/10/2011 02:13:06	BOB-1	Reef again
08/10/2011 02:13:54	BOB-1	sea star
08/10/2011 02:15:59	BOB-1	reef dense

08/10/2011 02:18:43	BOB-1	Bathypathes
08/10/2011 02:19:24	BOB-1	reef not so dense again
08/10/2011 02:19:36	BOB-1	glass bottle
08/10/2011 02:20:36	BOB-1	Venus basket sponge
08/10/2011 02:20:59	BOB-1	Aphrocallistes
08/10/2011 02:21:45	BOB-1	Sponge and sea urchin
08/10/2011 02:22:06	BOB-1	4mn
08/10/2011 02:22:08	BOB-1	4mn-vertical
08/10/2011 02:22:34	BOB-1	Aphrocallistes with zoanthids
08/10/2011 02:23:57	BOB-1	end of reef
08/10/2011 02:25:41	BOB-1	Sea star
08/10/2011 02:26:12	BOB-1	4mn-vertical
08/10/2011 02:26:14	BOB-1	4mn
08/10/2011 02:26:31	BOB-1	Glass bottle
08/10/2011 02:26:50	BOB-1	Start of reef (not so dense)
08/10/2011 02:27:30	BOB-1	Narella
08/10/2011 02:28:37	BOB-1	Pheronema carpenteri
08/10/2011 02:28:53	BOB-1	Chiemera
08/10/2011 02:31:55	BOB-1	bifurcate Narella?
08/10/2011 02:32:29	BOB-1	Fish, crinoids
08/10/2011 02:32:53	BOB-1	4mn
08/10/2011 02:32:55	BOB-1	4mn-vertical
08/10/2011 02:33:48	BOB-1	Pheronema
08/10/2011 02:34:17	BOB-1	Pheronema

08/10/2011 02:36:03	BOB-1	4mn-vertical
08/10/2011 02:36:04	BOB-1	4mn
08/10/2011 02:37:11	BOB-1	Litter and fish
08/10/2011 02:38:02	BOB-1	Antipatharian?
08/10/2011 02:40:56	BOB-1	4mn-vertical
08/10/2011 02:40:57	BOB-1	4mn
08/10/2011 02:41:10	BOB-1	glass bottle
08/10/2011 02:44:38	BOB-1	4mn
08/10/2011 02:44:42	BOB-1	4mn-vertical
08/10/2011 02:46:18	BOB-1	Antipatharia
08/10/2011 02:46:53	BOB-1	4mn-vertical
08/10/2011 02:46:55	BOB-1	4mn
08/10/2011 02:47:38	BOB-1	Pheronema
08/10/2011 02:49:12	BOB-1	Shark
08/10/2011 02:50:07	BOB-1	4mn-vertical
08/10/2011 02:50:09	BOB-1	4mn
08/10/2011 02:51:28	BOB-1	Plastic bag
08/10/2011 02:51:38	BOB-1	Plastic bag and glass bottle
08/10/2011 02:55:44	BOB-1	Narella sp.2
08/10/2011 02:57:56	BOB-1	glass bottle
08/10/2011 02:58:14	BOB-1	4mn-vertical
08/10/2011 02:58:16	BOB-1	4mn
08/10/2011 03:01:04	BOB-1	Antipatharian
08/10/2011 03:02:11	BOB-1	4mn-vertical

08/10/2011 03:02:12	BOB-1	4mn
08/10/2011 03:03:46	BOB-1	fish family
08/10/2011 03:04:27	BOB-1	Fish and bottle
08/10/2011 03:06:14	BOB-1	shark
08/10/2011 03:06:34	BOB-1	4mn-vertical
08/10/2011 03:06:35	BOB-1	4mn
08/10/2011 03:08:36	BOB-1	Octopus
08/10/2011 03:10:47	BOB-1	Narella sp.2, 4mn
08/10/2011 03:12:38	BOB-1	Trachyscorpia
08/10/2011 03:14:37	BOB-1	4mn
08/10/2011 03:14:44	BOB-1	4mn-vertical
08/10/2011 03:17:36	BOB-1	Anthropogenic impact
08/10/2011 03:18:21	BOB-1	4mn-vertical
08/10/2011 03:18:25	BOB-1	4mn
08/10/2011 03:20:52	BOB-1	Pheronema
08/10/2011 03:25:43	BOB-1	bottle
08/10/2011 03:27:03	BOB-1	4mn
08/10/2011 03:28:38	BOB-1	end of reef
08/10/2011 03:30:26	BOB-1	scleractinian colonies again
08/10/2011 03:31:00	BOB-1	4mn-vertical
08/10/2011 03:31:01	BOB-1	4mn
08/10/2011 03:31:42	BOB-1	Narella sp.2
08/10/2011 03:32:33	BOB-1	Trachyscorpia
08/10/2011 03:34:13	BOB-1	4mn-vertical

08/10/2011 03:34:15	BOB-1	4mn
08/10/2011 03:35:07	BOB-1	Trachyscorpia
08/10/2011 03:38:27	BOB-1	4mn-vertical
08/10/2011 03:38:29	BOB-1	4mn
08/10/2011 03:39:32	BOB-1	Narella sp.2
08/10/2011 03:40:04	BOB-1	Plastic bag
08/10/2011 03:41:54	BOB-1	fish
08/10/2011 03:42:09	BOB-1	4mn-vertical
08/10/2011 03:42:10	BOB-1	4mn
08/10/2011 03:45:29	BOB-1	Narella sp.2
08/10/2011 03:46:18	BOB-1	fish
08/10/2011 03:46:42	BOB-1	4mn-vertical
08/10/2011 03:46:43	BOB-1	4mn
08/10/2011 03:47:28	BOB-1	fish- Trachyscorpia
08/10/2011 03:49:47	BOB-1	fish
08/10/2011 03:50:26	BOB-1	4mn-vertical
08/10/2011 03:50:27	BOB-1	4mn
08/10/2011 03:50:51	BOB-1	Plastic bag
08/10/2011 03:51:09	BOB-1	Bottle
08/10/2011 03:54:44	BOB-1	4mn, Shark
08/10/2011 03:54:52	BOB-1	4mn, Narella sp.2
08/10/2011 03:56:12	BOB-1	Fish-good shot
08/10/2011 03:57:23	BOB-1	Glove
08/10/2011 03:58:30	BOB-1	4mn-vertical

08/10/2011 03:58:43	BOB-1	4mn
08/10/2011 04:01:19	BOB-1	Sticopathes
08/10/2011 04:01:45	BOB-1	Narella sp.2
08/10/2011 04:02:46	BOB-1	4mn
08/10/2011 04:03:04	BOB-1	Conglomerate rock
08/10/2011 04:06:30	BOB-1	4mn-vertical
08/10/2011 04:06:31	BOB-1	4mn
08/10/2011 04:08:29	BOB-1	Narella sp.2, Leiopathes, Lophelia, Cidaris, fish
08/10/2011 04:10:54	BOB-1	4mn-vertical
08/10/2011 04:10:55	BOB-1	4mn
08/10/2011 04:12:03	BOB-1	Fish
08/10/2011 04:13:59	BOB-1	fish
08/10/2011 04:15:03	BOB-1	4mn-vertical
08/10/2011 04:15:04	BOB-1	4mn-vertical
08/10/2011 04:16:58	BOB-1	Shark
08/10/2011 04:18:06	BOB-1	Shark, 4mn
08/10/2011 04:19:10	BOB-1	Trachyscorpia
08/10/2011 04:19:36	BOB-1	Trachyscorpia
08/10/2011 04:21:09	BOB-1	cable
08/10/2011 04:22:34	BOB-1	4mn-vertical
08/10/2011 04:22:36	BOB-1	4mn
08/10/2011 04:26:27	BOB-1	4mn-vertical
08/10/2011 04:26:32	BOB-1	4mn
08/10/2011 04:30:38	BOB-1	4mn-vertical

08/10/2011 04:30:40	BOB-1	4mn
08/10/2011 04:31:40	BOB-1	Plastic bag
08/10/2011 04:33:17	BOB-1	4mn-vertical
08/10/2011 04:34:03	BOB-1	4mn
08/10/2011 04:34:32	BOB-1	fish
08/10/2011 04:38:18	BOB-1	4mn-vertical
08/10/2011 04:38:19	BOB-1	4mn
08/10/2011 04:38:40	BOB-1	fish
08/10/2011 04:39:53	BOB-1	Sponge
08/10/2011 04:42:04	BOB-1	4mn-vertical
08/10/2011 04:42:05	BOB-1	4mn
08/10/2011 04:45:19	BOB-1	fish
08/10/2011 04:46:23	BOB-1	4mn-vertical
08/10/2011 04:46:26	BOB-1	4mn
08/10/2011 04:50:48	BOB-1	4mn-vertical
08/10/2011 04:50:50	BOB-1	4mn
08/10/2011 04:51:47	BOB-1	Trachyscorpia
08/10/2011 04:54:11	BOB-1	4mn-vertical
08/10/2011 04:54:13	BOB-1	4mn
08/10/2011 04:55:51	BOB-1	Bifurcate Narella
08/10/2011 04:56:19	BOB-1	fish
08/10/2011 04:58:34	BOB-1	4mn, dead reef
08/10/2011 05:00:18	BOB-1	Trawling impact
08/10/2011 05:02:15	BOB-1	4mn-vertical

08/10/2011 05:02:16	BOB-1	4mn
08/10/2011 05:06:43	BOB-1	4mn-vertical
08/10/2011 05:06:44	BOB-1	4mn
08/10/2011 05:07:07	BOB-1	crab
08/10/2011 05:08:52	BOB-1	Bathypathes
08/10/2011 05:10:35	BOB-1	4mn-vertical
08/10/2011 05:10:37	BOB-1	4mn
08/10/2011 05:11:10	BOB-1	fish
08/10/2011 05:14:05	BOB-1	4mn-vertical
08/10/2011 05:14:07	BOB-1	4mn
08/10/2011 05:15:02	BOB-1	Trawling marks
08/10/2011 05:16:06	BOB-1	glass bottle
08/10/2011 05:18:02	BOB-1	4mn-vertical
08/10/2011 05:18:04	BOB-1	4mn
08/10/2011 05:20:41	BOB-1	Narella sp.2
08/10/2011 05:21:40	BOB-1	leiopathes
08/10/2011 05:22:17	BOB-1	4mn-vertical
08/10/2011 05:22:19	BOB-1	4mn
08/10/2011 05:26:06	BOB-1	4mn-vertical, fish
08/10/2011 05:26:21	BOB-1	Bathypathes
08/10/2011 05:30:05	BOB-1	4mn-vertical
08/10/2011 05:30:06	BOB-1	4mn
08/10/2011 05:34:06	BOB-1	Bottle and plastic bag
08/10/2011 05:34:49	BOB-1	4mn-vertical

08/10/2011 05:34:50	BOB-1	4mn
08/10/2011 05:35:12	BOB-1	Bottle
08/10/2011 05:35:28	BOB-1	Bottle
08/10/2011 05:35:43	BOB-1	Leiopathes and blottle
08/10/2011 05:38:04	BOB-1	fish
08/10/2011 05:38:20	BOB-1	4mn-vertical
08/10/2011 05:38:21	BOB-1	4mn
08/10/2011 05:41:53	BOB-1	Leiopathes
08/10/2011 05:42:27	BOB-1	4mn-vertical
08/10/2011 05:42:28	BOB-1	4mn
08/10/2011 05:42:43	BOB-1	Alcyonidae
08/10/2011 05:44:22	BOB-1	fish
08/10/2011 05:44:57	BOB-1	Echinus?
08/10/2011 05:45:16	BOB-1	crab
08/10/2011 05:45:43	BOB-1	Sponges
08/10/2011 05:46:08	BOB-1	4mn
08/10/2011 05:46:10	BOB-1	4mn-vertical
08/10/2011 05:50:04	BOB-1	4mn-vertical
08/10/2011 05:50:05	BOB-1	4mn
08/10/2011 05:51:14	BOB-1	dead reef - very dense, with few alive colonies
08/10/2011 05:52:43	BOB-1	crab
08/10/2011 05:52:54	BOB-1	Narella sp.2
08/10/2011 05:53:24	BOB-1	beatiful - INGE
08/10/2011 05:53:55	BOB-1	ALcyonidae

08/10/2011 05:54:59	BOB-1	4mn-vertical
08/10/2011 05:55:00	BOB-1	4mn
08/10/2011 05:58:37	BOB-1	4mn
08/10/2011 05:59:10	BOB-1	4mn-vertical
08/10/2011 05:59:40	BOB-1	crab
08/10/2011 06:00:00	BOB-1	QUART Thom and Inge
08/10/2011 06:07:00	BOB-1	Unknown gadid fish
08/10/2011 06:10:00	BOB-1	Trawl mark?
08/10/2011 06:13:42	BOB-1	Scarce coral rubble and live coral colonies with antpatharians, Narella and sometimes gorgonians, echinoid
08/10/2011 06:15:07	BOB-1	Leiopathes, 2 species Narella
08/10/2011 06:16:13	BOB-1	Trachyscorpia
08/10/2011 06:16:47	BOB-1	Cerianthus
08/10/2011 06:18:29	BOB-1	Sandy patch
08/10/2011 06:19:42	BOB-1	Piece of pipe
08/10/2011 06:20:16	BOB-1	Previous piece of pipe on vertical camera
08/10/2011 06:20:46	BOB-1	Narella, Leiopathes, anemones
08/10/2011 06:21:19	BOB-1	Bathynectes
08/10/2011 06:21:32	BOB-1	Monkfish
08/10/2011 06:22:14	BOB-1	Dead corals
08/10/2011 06:24:06	BOB-1	Sand with small coral fragments and pebbles. Sometimes living coral colony and black corals
08/10/2011 06:25:01	BOB-1	Antipatharian and Naralla
08/10/2011 06:25:59	BOB-1	Pseudarchasters
08/10/2011 06:26:26	BOB-1	Cidaris

08/10/2011 06:28:06	BOB-1	Forkbeard
08/10/2011 06:30:55	BOB-1	Holothurian
08/10/2011 06:31:42	BOB-1	Burrow
08/10/2011 06:32:38	BOB-1	Narella and antipatharians
08/10/2011 06:33:07	BOB-1	More gravel and pebbles
08/10/2011 06:33:55	BOB-1	Forkbeard
08/10/2011 06:34:28	BOB-1	Narella and antipatharians
08/10/2011 06:35:18	BOB-1	Narella 2 species
08/10/2011 06:35:42	BOB-1	Coral fragments present
08/10/2011 06:37:39	BOB-1	Burrows
08/10/2011 06:39:03	BOB-1	Ledge????
08/10/2011 06:39:25	BOB-1	Narella
08/10/2011 06:40:57	BOB-1	Echinoid
08/10/2011 06:41:21	BOB-1	fish
08/10/2011 06:42:33	BOB-1	Burrow
08/10/2011 06:42:51	BOB-1	Narellas echinoid
08/10/2011 06:44:03	BOB-1	Probably Monkfish
08/10/2011 06:44:12	BOB-1	Bottle
08/10/2011 06:46:07	BOB-1	dropstone, Narella and antipatharian
08/10/2011 06:49:14	BOB-1	Narella
08/10/2011 06:49:41	BOB-1	Going down to nice reef for genetic sampling approx 3 km
08/10/2011 06:50:01	BOB-1	Gadid fish
08/10/2011 06:51:11	BOB-1	Strange thing
08/10/2011 06:51:42	BOB-1	Relief

08/10/2011 06:52:30	BOB-1	Dead coral, boulder, lots of Narella and fish on a sand mount
08/10/2011 06:53:36	BOB-1	Sandripples
08/10/2011 06:54:17	BOB-1	Sandripples and gravel
08/10/2011 06:54:32	BOB-1	pebbles
08/10/2011 06:55:08	BOB-1	anthropogenic impact, forkbeards, dead coral colonies/rubble
08/10/2011 06:55:33	BOB-1	Trachyscorpia
08/10/2011 06:56:54	BOB-1	Asteroid
08/10/2011 06:57:28	BOB-1	Echinoid
08/10/2011 06:58:22	BOB-1	fish
08/10/2011 06:58:40	BOB-1	Forkbeard
08/10/2011 06:59:50	BOB-1	Sand
08/10/2011 07:00:32	BOB-1	Echinoid, fish
08/10/2011 07:00:56	BOB-1	Horizontal alignment
08/10/2011 07:01:56	BOB-1	Plastic?
08/10/2011 07:02:15	BOB-1	Anthropogenic impact
08/10/2011 07:02:37	BOB-1	Forkbeard, bifurcating Narella
08/10/2011 07:03:56	BOB-1	Cable?
08/10/2011 07:04:32	BOB-1	Cable?
08/10/2011 07:07:08	BOB-1	Bolocera
08/10/2011 07:08:03	BOB-1	dropstone, fish
08/10/2011 07:08:33	BOB-1	Gadid fish
08/10/2011 07:08:47	BOB-1	Bifurcating Narella
08/10/2011 07:11:44	BOB-1	Sand with some coral colonies and lots of Narella
08/10/2011 07:12:23	BOB-1	Dropstones with Narella

08/10/2011 07:14:05	BOB-1	Dead and live coral colonies, Narella, Antipatharians and cobbles
08/10/2011 07:16:36	BOB-1	Trachyscorpia
08/10/2011 07:17:59	BOB-1	Previous gadid fish
08/10/2011 07:18:53	BOB-1	Sand with dead and live coral colonies and Narella
08/10/2011 07:20:26	BOB-1	Narella with actinian on top of it????
08/10/2011 07:21:31	BOB-1	More coral rubble and dead colonies
08/10/2011 07:21:59	BOB-1	echinoids, gadid fish and anthropogenic impact (plate)?
08/10/2011 07:23:00	BOB-1	Beryx
08/10/2011 07:23:25	BOB-1	Denser coral rubble with more Live colonies
08/10/2011 07:23:48	BOB-1	More sand between the dead and live coral colonies
08/10/2011 07:25:04	BOB-1	Scarce dead and live colonies on sandy bottom. Narella and antipatharians present
08/10/2011 07:25:32	BOB-1	Ling
08/10/2011 07:25:47	BOB-1	Forkbeard
08/10/2011 07:26:22	BOB-1	Ling Molva dypterygia
08/10/2011 07:26:30	BOB-1	Beryx and probably ling
08/10/2011 07:27:24	BOB-1	Ridge of coral and sand altered
08/10/2011 07:28:14	BOB-1	Paromola with antipatharian
08/10/2011 07:29:14	BOB-1	Coral rubble followed by sand
08/10/2011 07:29:34	BOB-1	Sandy bottom with burrow and some coral colonies and antipatharians
08/10/2011 07:31:04	BOB-1	blue ling
08/10/2011 07:32:23	BOB-1	Forkbeard
08/10/2011 07:32:39	BOB-1	Chimaera
08/10/2011 07:33:20	BOB-1	Echinoid

08/10/2011 07:33:45	BOB-1	Bifurcating Narella
08/10/2011 07:35:42	BOB-1	Catshark
08/10/2011 07:35:53	BOB-1	Acanella
08/10/2011 07:37:47	BOB-1	Principal HD stops recording because of problem
08/10/2011 07:38:20	BOB-1	Vertical camera stops recording as well because of problem
08/10/2011 07:38:43	BOB-1	Coral rubble, dead and live colonies
08/10/2011 07:39:14	BOB-1	Cupsponge
08/10/2011 07:39:16	BOB-1	Relief
08/10/2011 07:39:35	BOB-1	Vertical camera recording again
08/10/2011 07:39:57	BOB-1	Boulder with coral colonies
08/10/2011 07:40:08	BOB-1	Vertical camera stopped recording again, sponge
08/10/2011 07:49:41	BOB-1	Vertical camera recording again, able to make snapshots
08/10/2011 07:49:45	BOB-1	Oblique camera recording again, able to make snapshots
08/10/2011 07:50:13	BOB-1	Something shiny
08/10/2011 07:50:39	BOB-1	Cerianthid?
08/10/2011 07:51:39	BOB-1	Nice jellyfish
08/10/2011 07:52:07	BOB-1	Sand with coral colonies
08/10/2011 07:52:44	BOB-1	Sand with some coral rubble and dead and live coral colonies
08/10/2011 07:52:45	BOB-1	Sand with some coral rubble and dead and live coral colonies
08/10/2011 07:57:03	BOB-1	Sand following the dead and live coral colonies
08/10/2011 07:57:49	BOB-1	Band of dead and live coral colonies again on sandy bottom
08/10/2011 07:58:13	BOB-1	Vertical view of dead and live coral colonies band
08/10/2011 07:58:26	BOB-1	Fish
08/10/2011 07:58:48	BOB-1	Dead and live coral colonies on sandy bottom

08/10/2011 07:59:37	BOB-1	Coral colonies on sandy bottom, ling?
08/10/2011 08:01:29	BOB-1	QUART Chris and Inge
08/10/2011 08:01:48	BOB-1	Sponge
08/10/2011 08:02:03	BOB-1	Fish
08/10/2011 08:05:31	BOB-1	Chimaera and fish
08/10/2011 08:08:42	BOB-1	Due to current cruising on higher altitude
08/10/2011 08:09:39	BOB-1	Echinoid
08/10/2011 08:10:44	BOB-1	No change in substrate, still sandy bottom with coral rubble and dead and live coral colonies, sometimes antipatharians, Narella and fish
08/10/2011 08:14:01	BOB-1	Echinoid
08/10/2011 08:16:23	BOB-1	Ling
08/10/2011 08:16:52	BOB-1	Forkbeard
08/10/2011 08:18:53	BOB-1	Echinoid, slightly denser live coral colonies
08/10/2011 08:19:09	BOB-1	Bottle, missed it on the photo
08/10/2011 08:19:58	BOB-1	Less dense
08/10/2011 08:21:02	BOB-1	Shark
08/10/2011 08:23:05	BOB-1	Sponge?
08/10/2011 08:24:34	BOB-1	Cerianthus
08/10/2011 08:25:23	BOB-1	Echinoid
08/10/2011 08:25:38	BOB-1	Strange fish and mora on the background
08/10/2011 08:26:53	BOB-1	Fish
08/10/2011 08:27:20	BOB-1	Echinoid
08/10/2011 08:29:11	BOB-1	Crab
08/10/2011 08:29:59	BOB-1	Cidarid

08/10/2011 08:31:01	BOB-1	Echinoid and Parantipathes
08/10/2011 08:31:44	BOB-1	Pentametrocrinus
08/10/2011 08:32:57	BOB-1	strange thing
08/10/2011 08:36:53	BOB-1	Sponge
08/10/2011 08:37:29	BOB-1	Echinoid
08/10/2011 08:37:35	BOB-1	Denser coral colonies, both dead and alive with sponges and Narella, Cidaris
08/10/2011 08:38:02	BOB-1	Live colonies
08/10/2011 08:38:33	BOB-1	Dropstone
08/10/2011 08:38:41	BOB-1	Two fish and copepod
08/10/2011 08:39:43	BOB-1	Dropstone with sponge on it and fish before it
08/10/2011 08:40:10	BOB-1	Less dense, sand with dead and live coral colonies, sometime antipatharians and Narella and echinoids and fish
08/10/2011 08:40:55	BOB-1	Chimaera
08/10/2011 08:41:18	BOB-1	Previous chimaera on vertical camera
08/10/2011 08:41:53	BOB-1	fish and echinoid
08/10/2011 08:42:14	BOB-1	Echinoid and fish
08/10/2011 08:43:24	BOB-1	2 fish
08/10/2011 08:44:16	BOB-1	Shark
08/10/2011 08:44:43	BOB-1	Echinoid
08/10/2011 08:45:58	BOB-1	Mora
08/10/2011 08:46:53	BOB-1	Sponges (Aphrocallistes?)
08/10/2011 08:47:02	BOB-1	sponge, echinoid
08/10/2011 08:47:37	BOB-1	Pentametrocrinus and sponge
08/10/2011 08:48:57	BOB-1	Echinoids

08/10/2011 08:49:39	BOB-1	Beryx or Hoplostetus
08/10/2011 08:49:50	BOB-1	Anthropogenic impact?
08/10/2011 08:49:53	BOB-1	Strange fish just disappeared from screen
08/10/2011 08:55:25	BOB-1	Crinoid?
08/10/2011 08:55:35	BOB-1	Previous fish
08/10/2011 08:56:10	BOB-1	Narella
08/10/2011 08:56:56	BOB-1	Echinoids, fish
08/10/2011 08:57:47	BOB-1	Shark
08/10/2011 08:57:59	BOB-1	Sand ripples with coral colonies, and sometimes Narella and antipatharians
08/10/2011 08:58:15	BOB-1	Mora, echinoid, something shiny
08/10/2011 08:58:22	BOB-1	Beryx or Hoplostetus, echinoids
08/10/2011 08:59:38	BOB-1	Shark
08/10/2011 09:00:20	BOB-1	Euplectella?
08/10/2011 09:01:02	BOB-1	Narella
08/10/2011 09:01:22	BOB-1	Fish
08/10/2011 09:02:06	BOB-1	Echinoid and stones
08/10/2011 09:02:17	BOB-1	Sponge
08/10/2011 09:02:31	BOB-1	Shark, Trachyscorpia and undetermined fish
08/10/2011 09:03:13	BOB-1	Sponge?
08/10/2011 09:03:25	BOB-1	Fish
08/10/2011 09:03:56	BOB-1	Narella
08/10/2011 09:04:13	BOB-1	Sandripples and Narella
08/10/2011 09:04:35	BOB-1	Fish
08/10/2011 09:04:46	BOB-1	Bottle

08/10/2011 09:05:28	BOB-1	Previous shark or other fish?
08/10/2011 09:07:11	BOB-1	Shark
08/10/2011 09:07:20	BOB-1	fish
08/10/2011 09:09:33	BOB-1	fish
08/10/2011 09:10:05	BOB-1	Echinoid
08/10/2011 09:10:13	BOB-1	Orange roughy
08/10/2011 09:10:19	BOB-1	Orange roughy
08/10/2011 09:11:09	BOB-1	Sponge?
08/10/2011 09:11:57	BOB-1	rock, fish
08/10/2011 09:13:44	BOB-1	Hoplostethus and fish
08/10/2011 09:14:08	BOB-1	Sponge
08/10/2011 09:14:15	BOB-1	Entering quadrat for genetic sampling
08/10/2011 09:15:33	BOB-1	Pentametrocrinus
08/10/2011 09:16:01	BOB-1	Synaphobranchus
08/10/2011 09:17:10	BOB-1	3 fish
08/10/2011 09:21:29	BOB-1	Surroundings sample Madrepora and Narella CCA1 AUTT1
08/10/2011 09:22:11	BOB-1	PRELEVEMENT FAUNE CCA1 sample Madrepora (right colony) and 3 Narella, nice Stylasterid
08/10/2011 09:24:20	BOB-1	sample Madrepora and 3 Narella
08/10/2011 09:25:17	BOB-1	Fish
08/10/2011 09:27:20	BOB-1	sample Madrepora and 3 Narella CCA1
08/10/2011 09:30:39	BOB-1	Parantipathes and fish
08/10/2011 09:35:55	BOB-1	sample Madrepora (2 colonies), ascidian and crinoids CCA1
08/10/2011 09:38:58	BOB-1	sample Madrepora (2 colonies), ascidian and crinoids CCA1

08/10/2011 09:41:01	BOB-1	NO LOPHELIA PRESENT ON AUTT1
08/10/2011 09:41:59	BOB-1	Stalked crinoid
08/10/2011 09:42:04	BOB-1	Sponge
08/10/2011 09:43:02	BOB-1	Sponges
08/10/2011 09:44:32	BOB-1	Sponge and crinoids
08/10/2011 09:55:00	BOB-1	Surrounding sample AUTT2
08/10/2011 09:55:28	BOB-1	PRELEVEMENT FAUNE CCA2 sample asteroid, Madrepora, octocoral, crinoids, Brachiopod in AUTT2
08/10/2011 09:56:42	BOB-1	sample Madrepora, asteroid, octocoral, crinoid, brachiopod in CCA2 AUTT2
08/10/2011 09:59:55	BOB-1	sample Narella and crinoid in CCA2 AUTT 2
08/10/2011 10:02:49	BOB-1	sample Narella and crinoid in CCA2
08/10/2011 10:03:00	BOB-1	sample Narella in GBT
08/10/2011 10:05:04	BOB-1	changement de quart: Valerie, Cecile P. et Julie
08/10/2011 10:11:08	BOB-1	poisson
08/10/2011 10:14:36	BOB-1	poisson
08/10/2011 10:16:54	BOB-1	PRELEVEMENT FAUNE CCA3 Narella, crinoide, Hexadella sur AUTT_3
08/10/2011 10:18:33	BOB-1	PRELEVEMENT Hexadella dans CC-A3 sur AUTT_3
08/10/2011 10:26:39	BOB-1	vers
08/10/2011 10:35:36	BOB-1	Madrepora rose a prelever
08/10/2011 10:36:33	BOB-1	PRELEVEMENT Madrepora rose et crinoide dans CC-A3 sur AUTT_3
08/10/2011 10:42:30	BOB-1	bouteille en verre
08/10/2011 10:46:02	BOB-1	POINT REMARQUABLE AUTT_4
08/10/2011 10:46:38	BOB-1	PRELEVEMENT FAUNE CCA4 Hexadella, anemone sur AUTT_4
08/10/2011 10:52:05	BOB-1	Prelevement Madrepora rose avec Lophellia attache, Narella dans CC-A4 sur AUTT_4

08/10/2011 10:59:29	BOB-1	PRELEVEMENT FAUNE CCA5 Hexadella attache a Madrepora rose sur AUTT_4
08/10/2011 11:06:42	BOB-1	Prelevement oursin dans CC-A4 sur AUTT_4
08/10/2011 11:16:47	BOB-1	Prelevement Lophelia (tres petit bout, 2 ou 3 polypes), Narella, crinoid, Madrepora (en morceau) dans CC-A5 sur POINT REMARQUABLE AUTT_5 cree
08/10/2011 11:35:40	BOB-1	Prelevement hexadella et crinoid dans CC-A5 sur AUTT_5
08/10/2011 11:42:06	BOB-1	POINT REMARQUABLE AUTT_6
08/10/2011 11:45:40	BOB-1	PRELEVEMENT FAUNE CCA6 Lophelia tombe dans CC-A2 au lieu de CC-A6 et crinoide dans CC-A6 sur AUTT_6
08/10/2011 11:49:18	BOB-1	
08/10/2011 11:49:25	BOB-1	choix Madrepora a prelever dans CC-A6
08/10/2011 11:49:35	BOB-1	Prelevement Madrepora avec lophelia dans CC-A6 sur AUTT_6
08/10/2011 11:55:17	BOB-1	Prelevement oursin dans CC-A6 sur AUTT_6
08/10/2011 12:04:15	BOB-1	POINT REMARQUABLE AUTT_7
08/10/2011 12:09:27	BOB-1	PRELEVEMENT FAUNE CCA7 Lophelia et crinoide sur AUTT_7
08/10/2011 12:14:25	BOB-1	end sampling Lophelia + crinoid CCA7 - AUTT7
08/10/2011 12:16:12	BOB-1	sample Madrepora CCA7- AUTT7
08/10/2011 12:18:40	BOB-1	end sampling Madrepora CCA7 - AUTT7
08/10/2011 12:20:46	BOB-1	Sampling sponge Hexadella + crinoid + little Lophelia + little Madrepora CCA7 - AUTT7
08/10/2011 12:22:44	BOB-1	morceau tombe dans CCA2 au lieu de CCA7 - AUTT7
08/10/2011 12:25:37	BOB-1	choix Narella a prelever
08/10/2011 12:27:33	BOB-1	Prelevement Narella dans CC-A7 sur AUTT_7
08/10/2011 12:38:36	BOB-1	PRELEVEMENT FAUNE CCA8 Desmophyllum + petits polypes non identifies + crinoid - AUTT8
08/10/2011 12:41:32	BOB-1	Prelevement colonie de Madrepora de 2 couleurs orange et rose CCA8 - AUTT8

08/10/2011 12:48:27	BOB-1	sample crinoid CCA8 - AUTT8
08/10/2011 12:51:00	BOB-1	end sampling crinoid CCA8 - AUTT8
08/10/2011 12:51:48	BOB-1	sponge to sample
08/10/2011 12:54:48	BOB-1	tentative prelevement Hexadella perdue
08/10/2011 12:56:04	BOB-1	new sponge to sample
08/10/2011 12:56:19	BOB-1	sample Hexadella with Madrepora orange CCA8 - AUTT8
08/10/2011 12:58:44	BOB-1	end sampling Hexadella CCA8 - AUTT8
08/10/2011 13:00:06	BOB-1	oursin a prelever
08/10/2011 13:00:43	BOB-1	sample sea orchius CCA8 - AUTT8
08/10/2011 13:09:04	BOB-1	end sampling sea orchius CCA8 - AUTT8
08/10/2011 13:15:50	BOB-1	sample Narella CCA8 AUTT8
08/10/2011 13:17:53	BOB-1	end sampling Narella CCA8 - AUTT8
08/10/2011 13:20:30	BOB-1	direction ascenseur
08/10/2011 13:28:38	BOB-1	pose CCA au pied ascenseur, recuperation Narella dans CCA7
08/10/2011 13:34:28	BOB-1	recuperation CCB dans panier 2 ascenseur
08/10/2011 13:35:51	BOB-1	transfert CCB dans panier ROV
08/10/2011 13:37:31	BOB-1	recuperation CCC dans panier 2 ascenseur pour aller les poser au sol au pied ascenseur
08/10/2011 13:40:34	BOB-1	panier CCB pose pied ascenseur
08/10/2011 13:44:35	BOB-1	panier CCC pose pied ascenseur
08/10/2011 13:50:38	BOB-1	recuperation CCA plein dans panier ROV pour charger dans ascenseur
08/10/2011 14:00:51	BOB-1	depot CCA plein dans panier 2 ascenseur
08/10/2011 14:04:27	BOB-1	ouverture panier 1 ascenseur
08/10/2011 14:07:05	BOB-1	depot PBT2 dans panier ROV

08/10/2011 14:08:49	BOB-1	depot PBT1 dans panier ROV
08/10/2011 14:10:13	BOB-1	depot PBT3 dans panier ROV
08/10/2011 14:11:34	BOB-1	depot PBT4 dans panier ROV
08/10/2011 14:16:27	BOB-1	arrivee zone pas terrible, tres peu de petites eponges et pas de Lophelia donc on change de point
08/10/2011 14:34:36	BOB-1	POINT REMARQUABLE AUTT_9 pour echantillonner eponges Hexadella pour Julie
08/10/2011 14:35:50	BOB-1	systeme ouverture PBT3 casse avec Maestro
08/10/2011 14:41:30	BOB-1	PRELEVEMENT FAUNE PBT-4 sample Hexadella1 - AUTT_9
08/10/2011 14:42:56	BOB-1	problem with sampling Hexadella 1 in PBT4 - AUTT_9, one part lost
08/10/2011 14:47:36	BOB-1	end sampling Hexadella 1 in PBT4 - AUTT_9
08/10/2011 14:49:27	BOB-1	sample Hexadella 2 in PBT4 - AUTT_9 for Julie
08/10/2011 14:51:06	BOB-1	seulement une partie de Hexadella 2 dans PBT4
08/10/2011 14:52:57	BOB-1	end sampling Hexadella 2 in PBT4 - AUTT_9
08/10/2011 14:58:59	BOB-1	sample Hexadella 3 for PBT4 - AUTT_9
08/10/2011 15:01:51	BOB-1	end sampling Hexadella PBT4
08/10/2011 15:07:26	BOB-1	change Julie with Cecile G.
08/10/2011 15:10:56	BOB-1	sortie PBT2 du panier ROV
08/10/2011 15:14:41	BOB-1	bouteille de verre
08/10/2011 15:20:34	BOB-1	PRELEVEMENT FAUNE PBT-2 sample Lophelia POINT REMARQUABLE AUTT_10
08/10/2011 15:23:05	BOB-1	PRELEVEMENT hybride Lophelia + Madrepora a cote de 1ere colonie
08/10/2011 15:24:00	BOB-1	end sampling Madrepora + lophelia PBT2 AUTT_10
08/10/2011 15:26:04	BOB-1	end sampling little colony of Madrepora in front of other colony PBT2 AUTT_10
08/10/2011 15:29:29	BOB-1	PBT2 dans panier ROV, on prend PBT1

08/10/2011 15:33:45	BOB-1	PRELEVEMENT FAUNE PBT-1 sample sediment PBT1 next to sampling PBT2 (Lophelia, Madrepora) AUTT_10
08/10/2011 15:35:02	BOB-1	end sampling PBT1 sediment AUTT_10
08/10/2011 15:40:20	BOB-1	purge PEP11 sur colonie Madrepora AUTT_10
08/10/2011 15:40:56	BOB-1	PRELEVEMENT PEP-11 sur colonie Madrepora AUTT_10
08/10/2011 15:41:39	BOB-1	purge PEP12 meme endroit
08/10/2011 15:41:55	BOB-1	PRELEVEMENT PEP-12 sur colonie Madrepora idem PEP11
08/10/2011 15:43:41	BOB-1	PRELEVEMENT PEP-13 - 531 sec poche 5L sur meme colonie Madrepora AUTT_10 pour Valerie
08/10/2011 15:52:21	BOB-1	PRELEVEMENT PEP-14 - 510 sec poche 5L sur meme colonie Madrepora pour Julie AUTT_10
08/10/2011 16:01:16	BOB-1	fin prelevements sur AUTT_10, retour ascenseur
08/10/2011 16:03:02	BOB-1	doute sur etat canules PEP, a verifier a l'arrivee
08/10/2011 16:11:59	BOB-1	Andreia arrived and Valerie left
08/10/2011 16:21:33	BOB-1	CCB in ROV
08/10/2011 16:29:38	BOB-1	sample
08/10/2011 16:30:48	BOB-1	PRELEVEMENT FAUNE CCB4 sample sea urchin, at AUTT-11
08/10/2011 16:31:21	BOB-1	Autt11
08/10/2011 16:38:58	BOB-1	sample sea urchin in CCB4, at AUTT-11
08/10/2011 16:40:22	BOB-1	sample Narella to be in CCB4, at AUTT-11
08/10/2011 16:40:43	BOB-1	sample Narella in CCB4, at AUTT-11
08/10/2011 16:42:51	BOB-1	sample Madrepora to be in CCB4, at AUTT-11
08/10/2011 16:44:23	BOB-1	sample Madrepora in CCB4, at AUTT-11
08/10/2011 16:48:07	BOB-1	sample Madrepora-2 to be in CCB4, at AUTT-11
08/10/2011 16:49:21	BOB-1	sample Madrepora-2 to be in CCB4, at AUTT-11

08/10/2011 16:50:03	BOB-1	One Galatheid fall in CCB6 collected at AUTT-11
08/10/2011 16:57:17	BOB-1	Plastic bag
08/10/2011 16:58:10	BOB-1	AUTT-12
08/10/2011 17:01:50	BOB-1	Zoanthids
08/10/2011 17:02:11	BOB-1	PRELEVEMENT FAUNE CCB1 sample Lophelia at AUTT-12
08/10/2011 17:02:55	BOB-1	sample Lophelia in CCB1, at AUTT-12
08/10/2011 17:03:59	BOB-1	sample Madrepora to be in CCB1, at AUTT-12
08/10/2011 17:04:34	BOB-1	sample Madrepora in CCB1, at AUTT-12
08/10/2011 17:07:12	BOB-1	sample Pennatuloids
08/10/2011 17:08:03	BOB-1	sample pennatuloids in CCB1 AUTT12
08/10/2011 17:10:46	BOB-1	sample of Lophelia
08/10/2011 17:12:43	BOB-1	sample of Lophelia in CCB1, AUTT-12
08/10/2011 17:16:40	BOB-1	sample of Lophelia
08/10/2011 17:17:47	BOB-1	PRELEVEMENT FAUNE CCB2 sample of Lophelia, in AUTT-13
08/10/2011 17:19:04	BOB-1	sample of Cidaris
08/10/2011 17:20:37	BOB-1	sample of Cidaris in CCB2, in AUTT-13
08/10/2011 17:22:04	BOB-1	sample of Narella and Madrepora
08/10/2011 17:22:24	BOB-1	Samples of Narella and Madrepora in CCB2, in AUTT-13
08/10/2011 17:24:56	BOB-1	sample of Narella
08/10/2011 17:25:19	BOB-1	Madrepora
08/10/2011 17:25:48	BOB-1	sample of Narella in CCB2, in AUTT-13 (failed, only the base in the cc)
08/10/2011 17:27:32	BOB-1	sample of Narella (see Nareall 1 fall near the cc)
08/10/2011 17:27:59	BOB-1	sample of Narella in CCB2, in AUTT-13
08/10/2011 17:28:43	BOB-1	Try to take the Narella 1 fall

08/10/2011 17:30:06	BOB-1	sample of Narella 1 resampled put in CCB2, AUTT-13
08/10/2011 17:37:13	BOB-1	Macropod?
08/10/2011 17:37:42	BOB-1	sample of Lophelia
08/10/2011 17:38:50	BOB-1	PRELEVEMENT FAUNE CCB3 sample of Lophelia, AUTT-14
08/10/2011 17:40:30	BOB-1	sample of Narella
08/10/2011 17:41:02	BOB-1	sample of Narella bis
08/10/2011 17:41:46	BOB-1	sample of Narella in CCB3, AUTT-14
08/10/2011 17:42:31	BOB-1	sample of Madrepora
08/10/2011 17:44:22	BOB-1	sample of Madrepora failed
08/10/2011 17:45:40	BOB-1	sample of Madrepora
08/10/2011 17:46:07	BOB-1	sample of MADrepورا in CCB3, AUTT-14
08/10/2011 17:51:28	BOB-1	sample of Lophelia
08/10/2011 17:52:10	BOB-1	sample of Lophelia in CCB3, AUTT-14
08/10/2011 17:53:19	BOB-1	Coral case turned
08/10/2011 17:55:04	BOB-1	Landscape Madrepora
08/10/2011 17:57:44	BOB-1	Change shift Yann and Thomas
08/10/2011 18:03:45	BOB-1	ARRIVING at AUTT_15
08/10/2011 18:05:10	BOB-1	PRELEVEMENT FAUNE CCB5 sample Narella at AUTT_15
08/10/2011 18:07:36	BOB-1	sample Madrepora, Crinoid and garbage carton at AUTT_15 on Garbage carton in CCB5
08/10/2011 18:13:24	BOB-1	Garbage at AUTT_15
08/10/2011 18:20:52	BOB-1	sample Asteroid at AUTT_15 in CCB5
08/10/2011 18:24:51	BOB-1	sample Lophelia at AUTT_15 in CCB5
08/10/2011 18:29:07	BOB-1	ARRIVING at AUTT_16

08/10/2011 18:29:54	BOB-1	PRELEVEMENT FAUNE CCB6 sample Lophelia and Crinoid at AUTT_16
08/10/2011 18:33:40	BOB-1	sample Madrepora at AUTT_16 in CCB6
08/10/2011 18:37:16	BOB-1	sample weird Branches at AUTT_16 in CCB6
08/10/2011 18:39:22	BOB-1	sample Bivalve? at AUTT_16 in CCB6
08/10/2011 18:43:35	BOB-1	sample Narella at AUTT_16 in CCB6
08/10/2011 18:45:31	BOB-1	sample Lophelia 2 at AUTT_16 in CCB4
08/10/2011 18:50:51	BOB-1	ARRIVING at AUTT_17
08/10/2011 18:52:16	BOB-1	PRELEVEMENT FAUNE CCB7 sample Pink Madrepora at AUTT_17
08/10/2011 18:54:46	BOB-1	sample Lophelia at AUTT_17 in CCAB7
08/10/2011 18:58:23	BOB-1	sample Lophelia 2 at AUTT_17 in CCB7
08/10/2011 19:01:03	BOB-1	sample Hexadella at AUTT_17 in CCB7
08/10/2011 19:05:41	BOB-1	ARRIVING at AUTT_18
08/10/2011 19:06:50	BOB-1	PRELEVEMENT FAUNE CCB8 sample White Lophelia at AUTT_18 with Dendrophelia
08/10/2011 19:11:09	BOB-1	sample Lophelia (pink) at AUTT_18 in CCB8
08/10/2011 19:13:08	BOB-1	sample Madrepora at AUTT_18 in CCB8
08/10/2011 19:14:12	BOB-1	sample Crinoid at AUTT_18 in CCB8
08/10/2011 19:16:27	BOB-1	sample Narella at AUTT_18 in CCB8
08/10/2011 19:20:18	BOB-1	sample Lophelia and Crinoid at AUTT_18 in GBT1
08/10/2011 19:22:21	BOB-1	sample Madrepora at AUTT_18 in GBT1
08/10/2011 19:58:54	BOB-1	CCB in lift
08/10/2011 21:12:46	BOB-1	Boîtes dans Tiroir
08/10/2011 21:24:37	BOB-1	PEP15 purge
08/10/2011 21:26:37	BOB-1	PRELEVEMENT PEP-15

08/10/2011 21:27:20	BOB-1	PEP15 fin
08/10/2011 21:27:31	BOB-1	Remontée

18. Dive report 480 - 18

Submersible : Victor 6000

Starting Dive : 09/10/2011 08:26

Arrival on the bottom: 09/10/2011 09:31

Deprture from the bottom: 10/10/2011 05:50

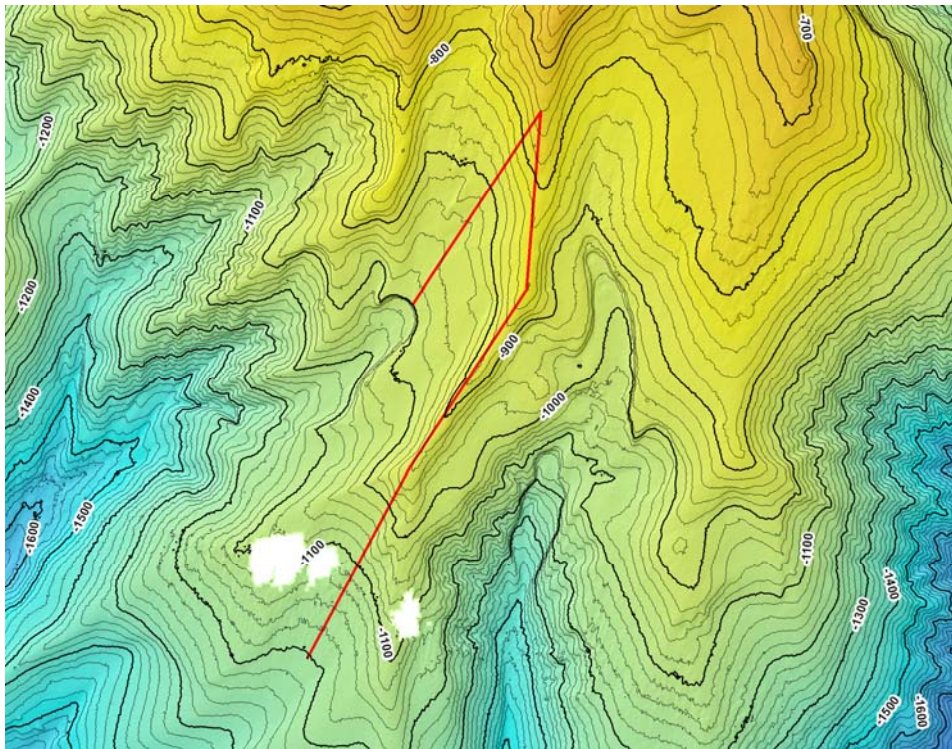
Ending dive : 10/10/2011 07:10

Location : BOB-1

Dives objectives :

BobEco - Dive 480-18 Explo&Sampling dive

Canyon de Douarnenez 1350-600m



Point d'immersion et début de transect: N47°16.465 W 6°22.745

Total Duration : depending on the observations

Time on the 'bottom' : 10h or 24ç

Objectives :

- Exploration of Douarnenez canyon and sampling if observed

L. pertusa and M. oculata

Narella sp.

Sponges

Sea urchins

Any new octocoral

-Sampling of water from the bottom in 8 PEP bottles during the descent (microbiology)

Summary :

Visited locations : BOB-1,

Scientist(s): [\(Up\)](#)

Scientist(s)	Institut
GREHAN Anthony	NUIGalway
DOUVILLE Eric	LSCE
CUEFF Valerie	IFREMER BREST
YESSON Chris	ZSL
STEVENSON Angela	UNIV DUBLIN IRELAND
LINLEY Thomas	UNIV ABERDEEN
REVEILLAUD Julie	UNIV GENT
VAN DEN BELDE Inge	IFREMER BREST
BECHELER Ronan	IFREMER BREST
RENGSTORF Anna Maria	NUIGalway
PRATO Guilia	NUIGalway
PERTUISOT Cecile	IFREMER BREST
GONZALES Cécile	LSCE
HENRIQUEZ Andreia Braga	IMAR

Fauna samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
09/10/2011 12:01:11	BOB-1	480 - 18	Coral box A		1	N 47 17.645	W 006 21.690	1017	PRELEVEMENT FAUNE CCA1 sample of Calveriozoma
09/10/2011 13:17:51	BOB-1	480 - 18	Coral box A		2	N 47 18.187	W 006 21.188	966	PRELEVEMENT FAUNE CCA2

									sample of bathypathes
09/10/2011 13:25:29	BOB-1	480 - 18	Coral box A		3	N 47 18.186	W 006 21.179	969	PRELEVEMENT FAUNE CCA3 sample of Sponge
09/10/2011 14:52:57	BOB-1	480 - 18	Coral box A		4	N 47 18.757	W 006 21.024	897	PRELEVEMENT FAUNE CCA4 Sample Narella
09/10/2011 14:17:53	BOB-1	480 - 18	Coral box A		5	N 47 18.531	W 006 21.058	935	PRELEVEMENT FAUNE CCA5 Sample Narella on rock
09/10/2011 19:12:37	BOB-1	480 - 18	Coral box A		6	N 47 19.359	W 006 20.981	725	PRELEVEMENT FAUNE CCA6 sample Cidaris in AUTT12
09/10/2011 19:34:01	BOB-1	480 - 18	Coral box A		7	N 47 19.377	W 006 20.969	620	PRELEVEMENT FAUNE CCA7 sample Madrepora
09/10/2011 19:54:04	BOB-1	480 - 18	Coral box A		8	N 47 19.392	W 006 20.967	718	PRELEVEMENT FAUNE CCA8 sample Lophelia AUTT14
10/10/2011 03:16:33	BOB-1	480 - 18	Coral box B		1	N 47 19.444	W 006 20.976	817	PRELEVEMENT FAUNE CCB1 sample AUTT 28 Lophelia
10/10/2011 01:46:06	BOB-1	480 - 18	Coral box B		2	N 47 19.438	W 006 20.945	712	PRELEVEMENT FAUNE CCB2 sample pink madrepora AUTT_25
10/10/2011 00:30:33	BOB-1	480 - 18	Coral box B		3	N 47 19.423	W 006 20.929	714	PRELEVEMENT FAUNE CCB3

									Sample of pink lophelia and narella AUTT 21
10/10/2011 02:48:13	BOB-1	480 - 18	Coral box B		4	N 47 19.451	W 006 20.928	815	PRELEVEMENT FAUNE CCB4 AUTT 27 Madrepora
10/10/2011 00:59:57	BOB-1	480 - 18	Coral box B		5	N 47 19.426	W 006 20.961	612	PRELEVEMENT FAUNE CCB5 sample pink Madrepora AUTT_22
10/10/2011 02:16:08	BOB-1	480 - 18	Coral box B		6	N 47 19.435	W 006 20.935	710	PRELEVEMENT FAUNE CCB6 sample AUTT 26 gorgonian, Narella
10/10/2011 01:20:12	BOB-1	480 - 18	Coral box B		7	N 47 19.427	W 006 20.977	714	PRELEVEMENT FAUNE CCB7 sample pink Lophelia AUTT_24
10/10/2011 01:11:23	BOB-1	480 - 18	Coral box B		8	N 47 19.428	W 006 20.980	614	PRELEVEMENT FAUNE CCB8 sample of pink Madrepora AUTT_23
10/10/2011 05:06:42	BOB-1	480 - 18	Coral box C		1	N 47 19.434	W 006 20.990	815	PRELEVEMENT FAUNE CCC1 sample Yellow sponge
10/10/2011 04:44:30	BOB-1	480 - 18	Coral box C		2	N 47 19.405	W 006 21.000	724	PRELEVEMENT FAUNE CCC2 Echinoid in CCC2 instead of CCC5
10/10/2011 04:49:29	BOB-1	480 - 18	Coral box C		3	N 47 19.429	W 006 20.996	828	PRELEVEMENT FAUNE CCC3

									sample Cidaris - AUTT 31
10/10/2011 05:07:15	BOB-1	480 - 18	Coral box C		4	N 47 19.434	W 006 20.993	768	PRELEVEMENT FAUNE CCC4 , Rock broke up (chalky)
10/10/2011 04:34:10	BOB-1	480 - 18	Coral box C		5	N 47 19.403	W 006 21.000	834	PRELEVEMENT FAUNE CCC5 sample AUTT 30 - Madrepora and Lophelia + solitary coral
10/10/2011 05:28:55	BOB-1	480 - 18	Coral box C		7	N 47 19.361	W 006 21.012	735	PRELEVEMENT FAUNE CCC7 sample Lophelia - AUTT 32
10/10/2011 04:09:53	BOB-1	480 - 18	Coral box C		8	N 47 19.399	W 006 20.968	718	PRELEVEMENT FAUNE CCC8 sample AUTT 29 - Madrepora
09/10/2011 23:22:24	BOB-1	480 - 18	ROV big box	GBT	1	N 47 19.433	W 006 20.967	609	PRELEVEMENT FAUNE GBT-1 Sample Madrepora AUTT_20
09/10/2011 23:03:24	BOB-1	480 - 18	ROV big box	GBT	2	N 47 19.438	W 006 20.958	711	PRELEVEMENT FAUNE GBT-2 Sample Madrepora, AUTT_20
09/10/2011 21:59:19	BOB-1	480 - 18	ROV big box	GBT	3	N 47 19.451	W 006 20.987	609	PRELEVEMENT FAUNE GBT-3 Lophelia AUTT19
09/10/2011 21:33:23	BOB-1	480 - 18	Little Collection Box	PBT	1	N 47 19.392	W 006 21.006	725	PRELEVEMENT FAUNE PBT-1

									Lophelia (2 colonies) AUTT18
09/10/2011 22:20:26	BOB-1	480 - 18	Little Collection Box	PBT	2	N 47 19.440	W 006 20.961	710	PRELEVEMENT FAUNE PBT-2 Hexadella AUTT4 zone impactee
09/10/2011 20:55:00	BOB-1	480 - 18	Little Collection Box	PBT	4	N 47 19.389	W 006 21.011	727	PRELEVEMENT FAUNE PBT-4 Madrepora colonie blanche AUTT18
09/10/2011 22:40:20	BOB-1	480 - 18	Little Collection Box	PBT	5	N 47 19.439	W 006 20.960	710	PRELEVEMENT FAUNE PBT-5 sample sediment AUTT4

Water samples : [\(Up\)](#)

Date Time	Location	Dive	Equipment	Acronym	Num	Latitude	Longitude	Depth	Description
09/10/2011 08:52:23	BOB-1	480 - 18	PEP bottle	PEP	1				PRELEVEMENT PEP-1 start 115m Bottle 1
09/10/2011 08:58:34	BOB-1	480 - 18	PEP bottle	PEP	2	N 47 16.406	W 006 22.745	416	PRELEVEMENT PEP-2 start 303m Bottle 2
09/10/2011 09:07:05	BOB-1	480 - 18	PEP bottle	PEP	3	N 47 16.368	W 006 22.722	618	PRELEVEMENT PEP-3 Start 497m Bottle 3
09/10/2011 09:15:29	BOB-1	480 - 18	PEP bottle	PEP	4	N 47 16.378	W 006 22.697	810	PRELEVEMENT PEP-4 Start 700m Bottle 4

09/10/2011 09:20:25	BOB-1	480 - 18	PEP bottle	PEP	5	N 47 16.378	W 006 22.648	939	PRELEVEMENT PEP-5 Start 790- 805m Bottle 5
09/10/2011 09:22:40	BOB-1	480 - 18	PEP bottle	PEP	6	N 47 16.379	W 006 22.633	1005	PRELEVEMENT PEP-6 Start 890 - 905m Bottle 5
09/10/2011 09:26:18	BOB-1	480 - 18	PEP bottle	PEP	7	N 47 16.383	W 006 22.612	1111	PRELEVEMENT PEP-7 Start 1001m Bottle 7
09/10/2011 09:29:55	BOB-1	480 - 18	PEP bottle	PEP	8	N 47 16.401	W 006 22.606	1189	PRELEVEMENT PEP-8 Start 1092m Bottle 8
09/10/2011 11:17:54	BOB-1	480 - 18	PEP bottle	PEP	10	N 47 17.349	W 006 22.003	935	PRELEVEMENT PEP-10
09/10/2011 13:35:19	BOB-1	480 - 18	PEP bottle	PEP	11	N 47 18.225	W 006 21.138	852	PRELEVEMENT PEP-11
09/10/2011 15:49:00	BOB-1	480 - 18	PEP bottle	PEP	12	N 47 19.255	W 006 20.966	741	PRELEVEMENT PEP-12
09/10/2011 16:38:57	BOB-1	480 - 18	PEP bottle	PEP	13	N 47 19.432	W 006 20.959	712	PRELEVEMENT PEP-13 - Start at 708 m depth
09/10/2011 22:47:00	BOB-1	480 - 18	PEP bottle	PEP	14	N 47 19.439	W 006 20.960	710	PRELEVEMENT PEP-14

No sediment or rock sample during this dive ([Up](#))

Chronological Report of the dive : ([Up](#))

Date Time	Location	Description
09/10/2011 08:46:18	BOB-1	Start of decent - Thom and Eric on shift

09/10/2011 08:52:23	BOB-1	PRELEVEMENT PEP-1 start 115m Bottle 1
09/10/2011 08:58:34	BOB-1	PRELEVEMENT PEP-2 start 303m Bottle 2
09/10/2011 09:07:05	BOB-1	PRELEVEMENT PEP-3 Start 497m Bottle 3
09/10/2011 09:15:29	BOB-1	PRELEVEMENT PEP-4 Start 700m Bottle 4
09/10/2011 09:20:25	BOB-1	PRELEVEMENT PEP-5 Start 790-805m Bottle 5
09/10/2011 09:22:40	BOB-1	PRELEVEMENT PEP-6 Start 890 - 905m Bottle 5
09/10/2011 09:26:18	BOB-1	PRELEVEMENT PEP-7 Start 1001m Bottle 7
09/10/2011 09:29:55	BOB-1	PRELEVEMENT PEP-8 Start 1092m Bottle 8
09/10/2011 09:31:07	BOB-1	Video started ready for arrival
09/10/2011 09:44:32	BOB-1	Arrival at seabed - golden sand with some coarse grains/gravel
09/10/2011 09:45:39	BOB-1	Seabed
09/10/2011 09:45:49	BOB-1	Fish
09/10/2011 09:46:24	BOB-1	Fish
09/10/2011 09:47:06	BOB-1	Moving to transect. Open sandy sediment, occasional urchin (dark flat type)
09/10/2011 09:48:31	BOB-1	Grenadier
09/10/2011 09:49:42	BOB-1	Cutthroat eels
09/10/2011 09:51:33	BOB-1	Urchin (seems more red)
09/10/2011 09:52:59	BOB-1	Grenadier (blunt nose)
09/10/2011 09:53:51	BOB-1	Asteroid
09/10/2011 09:55:42	BOB-1	Asteroid
09/10/2011 09:57:03	BOB-1	Start of transect proper
09/10/2011 09:57:29	BOB-1	Deep sea squid
09/10/2011 09:57:41	BOB-1	Deep sea squid
09/10/2011 09:57:44	BOB-1	Deep sea squid

09/10/2011 09:57:56	BOB-1	Deep sea squid
09/10/2011 09:58:06	BOB-1	Deep sea squid
09/10/2011 09:58:36	BOB-1	Deep sea squid
09/10/2011 09:58:55	BOB-1	Deep sea squid
09/10/2011 09:59:17	BOB-1	Deep sea squid
09/10/2011 10:00:36	BOB-1	Deep sea squid
09/10/2011 10:00:55	BOB-1	Deep sea squid
09/10/2011 10:01:06	BOB-1	Deep sea squid
09/10/2011 10:01:44	BOB-1	Deep sea squid
09/10/2011 10:03:58	BOB-1	Change of shift:Giulia and Anna
09/10/2011 10:05:36	BOB-1	mixed sediment
09/10/2011 10:06:58	BOB-1	macrourid
09/10/2011 10:08:45	BOB-1	macrourid lepidion
09/10/2011 10:09:36	BOB-1	mora moro
09/10/2011 10:10:34	BOB-1	synaphobrancus
09/10/2011 10:12:30	BOB-1	sea star
09/10/2011 10:13:05	BOB-1	many synaphobrancus
09/10/2011 10:14:30	BOB-1	macrourids
09/10/2011 10:15:01	BOB-1	stock sponge
09/10/2011 10:15:18	BOB-1	long nose shark
09/10/2011 10:17:21	BOB-1	again long nose shark
09/10/2011 10:17:49	BOB-1	long nose shark
09/10/2011 10:18:01	BOB-1	Etmopterus spinax
09/10/2011 10:18:26	BOB-1	coryphenoides rupestris

09/10/2011 10:18:50	BOB-1	long noseshark
09/10/2011 10:19:20	BOB-1	orange roughy
09/10/2011 10:19:46	BOB-1	many synaphobranchus and macrourids
09/10/2011 10:20:37	BOB-1	plastic bottle
09/10/2011 10:21:54	BOB-1	shark (different)
09/10/2011 10:23:14	BOB-1	shark
09/10/2011 10:24:49	BOB-1	narella on rock
09/10/2011 10:26:04	BOB-1	trachyscorpia
09/10/2011 10:30:11	BOB-1	narella
09/10/2011 10:34:33	BOB-1	crinoids?
09/10/2011 10:37:35	BOB-1	narellas on stones
09/10/2011 10:38:22	BOB-1	trachyscorpia and shark
09/10/2011 10:39:21	BOB-1	chimaera
09/10/2011 10:40:06	BOB-1	little shark
09/10/2011 10:40:37	BOB-1	dropstones,narella
09/10/2011 10:49:26	BOB-1	tusk?
09/10/2011 10:49:55	BOB-1	trachyscorpia
09/10/2011 10:53:13	BOB-1	big boulder
09/10/2011 11:01:38	BOB-1	hydrolagus?
09/10/2011 11:03:22	BOB-1	some dead corals
09/10/2011 11:04:35	BOB-1	antropogenic impact
09/10/2011 11:06:38	BOB-1	fishing line
09/10/2011 11:09:26	BOB-1	chain
09/10/2011 11:09:55	BOB-1	dead framework

09/10/2011 11:10:47	BOB-1	sea urchins
09/10/2011 11:11:23	BOB-1	bottle
09/10/2011 11:11:51	BOB-1	fishing net
09/10/2011 11:12:30	BOB-1	many calveriozoma
09/10/2011 11:17:54	BOB-1	PRELEVEMENT PEP-10
09/10/2011 11:18:59	BOB-1	crab
09/10/2011 11:28:33	BOB-1	edge of big dune?
09/10/2011 11:33:56	BOB-1	Going back to crest
09/10/2011 11:35:01	BOB-1	big Orange roughy
09/10/2011 11:35:41	BOB-1	fish
09/10/2011 11:48:23	BOB-1	plastic bag
09/10/2011 11:50:05	BOB-1	dead framework
09/10/2011 11:56:33	BOB-1	coral rubble
09/10/2011 12:01:11	BOB-1	PRELEVEMENT FAUNE CCA1 sample of Calveriozoma
09/10/2011 12:12:18	BOB-1	top of crest
09/10/2011 12:16:08	BOB-1	hardground under mud
09/10/2011 12:16:57	BOB-1	bottle
09/10/2011 12:21:01	BOB-1	fish(same as before)
09/10/2011 12:25:58	BOB-1	trachyscorpia
09/10/2011 12:26:08	BOB-1	bottle
09/10/2011 12:26:35	BOB-1	chimaera
09/10/2011 12:27:02	BOB-1	mettallic lines
09/10/2011 12:28:04	BOB-1	many calveriosoma over old dead framework
09/10/2011 12:32:39	BOB-1	ray

09/10/2011 12:34:52	BOB-1	bottle
09/10/2011 12:35:56	BOB-1	wooden door
09/10/2011 12:36:36	BOB-1	trachyscorpia
09/10/2011 12:37:17	BOB-1	bottle
09/10/2011 12:37:54	BOB-1	plastic
09/10/2011 12:40:43	BOB-1	phycis blennoides
09/10/2011 12:41:47	BOB-1	coral rubble
09/10/2011 12:43:15	BOB-1	cables
09/10/2011 12:46:37	BOB-1	bottle
09/10/2011 12:47:10	BOB-1	temperature swithced off
09/10/2011 12:47:27	BOB-1	metal bar
09/10/2011 12:50:46	BOB-1	ling?
09/10/2011 12:52:35	BOB-1	black boulder
09/10/2011 12:52:59	BOB-1	metal ring
09/10/2011 12:54:11	BOB-1	orange roughy
09/10/2011 12:54:34	BOB-1	orange roughy or other fish
09/10/2011 12:54:59	BOB-1	orange roughy and shark (scyliorinidae?)
09/10/2011 12:55:55	BOB-1	o.roughy
09/10/2011 12:58:04	BOB-1	o.roughy
09/10/2011 13:02:11	BOB-1	chimaera
09/10/2011 13:04:54	BOB-1	lophius
09/10/2011 13:06:21	BOB-1	sponge
09/10/2011 13:15:51	BOB-1	Bathypathes sp.
09/10/2011 13:17:51	BOB-1	PRELEVEMENT FAUNE CCA2 sample of bathypathes

09/10/2011 13:21:39	BOB-1	sample of octocoral in CCA1
09/10/2011 13:25:29	BOB-1	PRELEVEMENT FAUNE CCA3 sample of Sponge
09/10/2011 13:28:05	BOB-1	sample of Cidaris in CCA3
09/10/2011 13:35:19	BOB-1	PRELEVEMENT PEP-11
09/10/2011 13:48:25	BOB-1	ling
09/10/2011 13:49:29	BOB-1	top of crest
09/10/2011 13:52:46	BOB-1	chimaera
09/10/2011 13:54:45	BOB-1	change of shift:angela and cecile g
09/10/2011 13:57:22	BOB-1	slope
09/10/2011 13:58:26	BOB-1	Narella
09/10/2011 13:58:45	BOB-1	Antipatharian
09/10/2011 13:59:17	BOB-1	Lots of crinoids
09/10/2011 13:59:33	BOB-1	Shark
09/10/2011 13:59:50	BOB-1	Chimaera
09/10/2011 14:00:32	BOB-1	Cidaris
09/10/2011 14:00:47	BOB-1	Calveriosoma
09/10/2011 14:01:09	BOB-1	Calveriosoma
09/10/2011 14:01:35	BOB-1	Rocks in sediment
09/10/2011 14:01:55	BOB-1	Cidaris
09/10/2011 14:02:17	BOB-1	Chimaera
09/10/2011 14:03:06	BOB-1	Cidaris
09/10/2011 14:03:32	BOB-1	Crinoid
09/10/2011 14:03:48	BOB-1	Cup (garbage) and Cidaris
09/10/2011 14:04:59	BOB-1	Parantipathes

09/10/2011 14:05:26	BOB-1	Calveriosoma
09/10/2011 14:07:17	BOB-1	Cidaris
09/10/2011 14:08:41	BOB-1	Asteroid
09/10/2011 14:08:57	BOB-1	Cidaris
09/10/2011 14:09:08	BOB-1	urchins
09/10/2011 14:09:39	BOB-1	Asteroid
09/10/2011 14:09:56	BOB-1	Anemone
09/10/2011 14:10:07	BOB-1	Parantipathes
09/10/2011 14:10:15	BOB-1	Calveriosoma
09/10/2011 14:10:30	BOB-1	Rock
09/10/2011 14:10:44	BOB-1	Coral rubble
09/10/2011 14:11:17	BOB-1	Coral rubble
09/10/2011 14:11:38	BOB-1	Narella sp
09/10/2011 14:12:28	BOB-1	Orange ruffy
09/10/2011 14:13:08	BOB-1	Antipatharian
09/10/2011 14:13:29	BOB-1	Rubble
09/10/2011 14:13:38	BOB-1	Antipatharian
09/10/2011 14:14:03	BOB-1	Leiopathes
09/10/2011 14:14:51	BOB-1	Narella belissima
09/10/2011 14:15:20	BOB-1	Narella among rubble
09/10/2011 14:15:41	BOB-1	Orange ruffy
09/10/2011 14:16:05	BOB-1	Antipatharian
09/10/2011 14:16:41	BOB-1	Sediment
09/10/2011 14:17:53	BOB-1	PRELEVEMENT FAUNE CCA5 Sample Narella on rock

09/10/2011 14:20:37	BOB-1	On top of sand bank
09/10/2011 14:21:03	BOB-1	Rubble on sand bank
09/10/2011 14:21:46	BOB-1	rubble
09/10/2011 14:22:14	BOB-1	Antipatharian
09/10/2011 14:22:45	BOB-1	Antipatharian and asteroid
09/10/2011 14:23:34	BOB-1	anemone and Cidaris
09/10/2011 14:24:08	BOB-1	Loads of Cidaris
09/10/2011 14:24:20	BOB-1	Cidaris
09/10/2011 14:25:14	BOB-1	Beer bottle
09/10/2011 14:25:34	BOB-1	Antipatharian
09/10/2011 14:25:55	BOB-1	Black coral branch ?
09/10/2011 14:27:48	BOB-1	cable and rubble
09/10/2011 14:28:24	BOB-1	Fish and cable
09/10/2011 14:29:19	BOB-1	Fish and cable
09/10/2011 14:30:16	BOB-1	Coral rubble and cable
09/10/2011 14:30:33	BOB-1	Coral rubble and cable
09/10/2011 14:30:49	BOB-1	Parantipathes
09/10/2011 14:31:26	BOB-1	Antipatharian, Chimaera and cable
09/10/2011 14:32:18	BOB-1	Anemone
09/10/2011 14:33:03	BOB-1	Crinoids
09/10/2011 14:33:16	BOB-1	Crinoids
09/10/2011 14:33:45	BOB-1	Black rocks in sediment
09/10/2011 14:35:26	BOB-1	Branched Parantepathes?
09/10/2011 14:37:11	BOB-1	Parantipathes

09/10/2011 14:39:19	BOB-1	Narella
09/10/2011 14:40:54	BOB-1	Asteroid
09/10/2011 14:41:02	BOB-1	Trachyscorpia
09/10/2011 14:44:49	BOB-1	Rubble and Narella bellissima
09/10/2011 14:45:15	BOB-1	Narella
09/10/2011 14:45:31	BOB-1	Following cable
09/10/2011 14:46:06	BOB-1	Lepidisis
09/10/2011 14:46:35	BOB-1	Stalked anemone
09/10/2011 14:46:55	BOB-1	Rubble
09/10/2011 14:47:23	BOB-1	Cidaris
09/10/2011 14:47:58	BOB-1	Anemone
09/10/2011 14:49:16	BOB-1	Rubble
09/10/2011 14:49:41	BOB-1	Sponge and antipatharian
09/10/2011 14:49:57	BOB-1	Bottle and sponges
09/10/2011 14:50:25	BOB-1	Black coral and crab
09/10/2011 14:50:47	BOB-1	Trachyscorpia
09/10/2011 14:51:42	BOB-1	Narella
09/10/2011 14:51:55	BOB-1	Madrepora
09/10/2011 14:52:57	BOB-1	PRELEVEMENT FAUNE CCA4 Sample Narella
09/10/2011 14:59:12	BOB-1	Bottle
09/10/2011 14:59:36	BOB-1	Parantipathes
09/10/2011 14:59:53	BOB-1	Fish
09/10/2011 15:00:12	BOB-1	Cup and black corals
09/10/2011 15:00:26	BOB-1	Narella sp

09/10/2011 15:00:59	BOB-1	Narella
09/10/2011 15:01:08	BOB-1	Coral rubble
09/10/2011 15:01:26	BOB-1	Anemone
09/10/2011 15:01:30	BOB-1	Black coral
09/10/2011 15:01:51	BOB-1	Calveriosoma
09/10/2011 15:03:19	BOB-1	Calveriosoma
09/10/2011 15:03:55	BOB-1	Narella
09/10/2011 15:04:43	BOB-1	Coral rubble
09/10/2011 15:04:52	BOB-1	Antipatharians
09/10/2011 15:05:22	BOB-1	Narella
09/10/2011 15:05:50	BOB-1	Forked Narella and parantepathes
09/10/2011 15:06:58	BOB-1	Antipatharian
09/10/2011 15:07:09	BOB-1	Antipatharian and Cidaris
09/10/2011 15:08:04	BOB-1	bottle
09/10/2011 15:09:16	BOB-1	Rocks
09/10/2011 15:10:44	BOB-1	Narella
09/10/2011 15:11:00	BOB-1	Asteroid and Narella sp
09/10/2011 15:11:40	BOB-1	Different spp of Narella
09/10/2011 15:11:54	BOB-1	Lepidisis
09/10/2011 15:12:03	BOB-1	Rubble
09/10/2011 15:12:48	BOB-1	Asteroid
09/10/2011 15:13:00	BOB-1	Narella and Calveriosoma
09/10/2011 15:14:55	BOB-1	Parantepathes and Cidaris
09/10/2011 15:15:26	BOB-1	Narella

09/10/2011 15:16:15	BOB-1	Lophelia
09/10/2011 15:16:34	BOB-1	Lophelia and Madrepora
09/10/2011 15:17:09	BOB-1	Parantepathes, Lophelia and Madrepora
09/10/2011 15:17:58	BOB-1	Sample Madrepora at AUTT1 for CCA1
09/10/2011 15:20:07	BOB-1	Madrepora at AUTT1 in CCA1
09/10/2011 15:21:20	BOB-1	Sample Lophelia at AUTT1 for CCA1
09/10/2011 15:22:15	BOB-1	Lepidisis and Narella
09/10/2011 15:22:33	BOB-1	Sample Lophelia at AUTT1 for CCA1
09/10/2011 15:23:01	BOB-1	bottle
09/10/2011 15:23:13	BOB-1	bottle
09/10/2011 15:23:32	BOB-1	garbage
09/10/2011 15:24:00	BOB-1	Rock
09/10/2011 15:24:14	BOB-1	Stalked anemone
09/10/2011 15:25:10	BOB-1	Parantepathes, fish, asteroid
09/10/2011 15:26:09	BOB-1	Coral rubble
09/10/2011 15:26:39	BOB-1	Rubble
09/10/2011 15:26:57	BOB-1	Lots of Cidaris and rubble
09/10/2011 15:28:03	BOB-1	Narella
09/10/2011 15:28:06	BOB-1	Plate
09/10/2011 15:28:26	BOB-1	Bottle
09/10/2011 15:28:41	BOB-1	Narella sp
09/10/2011 15:29:02	BOB-1	Narella sp
09/10/2011 15:29:30	BOB-1	Madrepora
09/10/2011 15:30:04	BOB-1	Narella

09/10/2011 15:30:12	BOB-1	Rubble
09/10/2011 15:30:33	BOB-1	Parantheopathes
09/10/2011 15:31:20	BOB-1	bottle
09/10/2011 15:31:34	BOB-1	Narella
09/10/2011 15:31:45	BOB-1	Narella
09/10/2011 15:31:47	BOB-1	Narella
09/10/2011 15:32:23	BOB-1	Rubble and asteroid
09/10/2011 15:33:04	BOB-1	Narella
09/10/2011 15:34:06	BOB-1	Calveriosoma
09/10/2011 15:34:20	BOB-1	Parantepathes
09/10/2011 15:34:51	BOB-1	Bottle
09/10/2011 15:35:00	BOB-1	Cidaris and stalked anemones
09/10/2011 15:35:28	BOB-1	Calveriosoma and Cidaris
09/10/2011 15:35:54	BOB-1	Narella
09/10/2011 15:36:07	BOB-1	Coral rubble
09/10/2011 15:36:31	BOB-1	Asteroid
09/10/2011 15:36:45	BOB-1	Garbage and rubble
09/10/2011 15:37:09	BOB-1	Garbage
09/10/2011 15:37:37	BOB-1	garbage
09/10/2011 15:37:48	BOB-1	Narella sp
09/10/2011 15:38:07	BOB-1	Rubble
09/10/2011 15:38:50	BOB-1	Coral rubble
09/10/2011 15:39:21	BOB-1	Slope
09/10/2011 15:39:32	BOB-1	Cidaris and Calveriosoma

09/10/2011 15:40:17	BOB-1	fish
09/10/2011 15:40:38	BOB-1	fish and garbage
09/10/2011 15:40:55	BOB-1	Narella
09/10/2011 15:41:20	BOB-1	Sediment on other side of mound
09/10/2011 15:41:45	BOB-1	Current ripples
09/10/2011 15:42:29	BOB-1	Narelloa sp
09/10/2011 15:43:23	BOB-1	Madrepora and Narella sp
09/10/2011 15:43:52	BOB-1	Asteroid and Cidaris
09/10/2011 15:44:13	BOB-1	Garbage
09/10/2011 15:44:24	BOB-1	Garbage - close up
09/10/2011 15:44:40	BOB-1	Lots of stalked anemone
09/10/2011 15:45:24	BOB-1	Rubble and sand
09/10/2011 15:45:41	BOB-1	Top of mound, crossing to other side of mound
09/10/2011 15:46:16	BOB-1	Two types of Narella
09/10/2011 15:46:53	BOB-1	Calveriosoma on Narella
09/10/2011 15:47:20	BOB-1	Narella
09/10/2011 15:47:59	BOB-1	Stalked anemone
09/10/2011 15:48:30	BOB-1	Garbage
09/10/2011 15:48:43	BOB-1	Rubble
09/10/2011 15:48:55	BOB-1	Anemone
09/10/2011 15:49:00	BOB-1	PRELEVEMENT PEP-12
09/10/2011 15:52:49	BOB-1	Sample Madrepora at AUTT2 in CCA3
09/10/2011 15:53:35	BOB-1	Sample Madrepora at AUTT2 in CCA3
09/10/2011 15:54:23	BOB-1	Lepidisis

09/10/2011 15:55:26	BOB-1	Madrepora at AUTT2 in CCA3
09/10/2011 15:56:13	BOB-1	Squat lobster
09/10/2011 16:01:48	BOB-1	Sample Lophelia at AUTT 2 in CCA3
09/10/2011 16:03:13	BOB-1	Lophelia at AUTT 2 in CCA3
09/10/2011 16:04:44	BOB-1	Sample Cidaris at AUTT 2 in CCA3
09/10/2011 16:05:10	BOB-1	Cidaris at AUTT 2 in CCA3
09/10/2011 16:09:01	BOB-1	End of shift of Angela and Cecile, Start of Quart Andreia and Sandra
09/10/2011 16:11:17	BOB-1	Leiopathes, Antipatheria, Sea star
09/10/2011 16:12:54	BOB-1	Bottle
09/10/2011 16:13:48	BOB-1	Dead dense reef
09/10/2011 16:15:36	BOB-1	Lepidion and bottle
09/10/2011 16:16:01	BOB-1	Lepidion and bottle
09/10/2011 16:19:20	BOB-1	Leiopathes, Antipatharia, Ceriantharia
09/10/2011 16:23:00	BOB-1	Dead reef, sea star
09/10/2011 16:25:53	BOB-1	Sponge
09/10/2011 16:27:06	BOB-1	Sponge on dead reef
09/10/2011 16:28:23	BOB-1	Anthropogenic impact
09/10/2011 16:31:13	BOB-1	Live colonies
09/10/2011 16:33:06	BOB-1	live colonies again- scleractinians and Narella
09/10/2011 16:37:45	BOB-1	Glass bottle
09/10/2011 16:38:57	BOB-1	PRELEVEMENT PEP-13 - Start at 708 m depth
09/10/2011 16:41:18	BOB-1	Sample PEP13
09/10/2011 16:42:40	BOB-1	Sample PEP13
09/10/2011 16:44:59	BOB-1	Some colonies of coral alive

09/10/2011 16:46:19	BOB-1	Lepidion
09/10/2011 16:46:31	BOB-1	Dead reef
09/10/2011 16:47:11	BOB-1	Sponge
09/10/2011 16:47:53	BOB-1	Crab
09/10/2011 16:48:06	BOB-1	Sample PEP13- finished
09/10/2011 16:50:18	BOB-1	Some live colonies of Scleractinia
09/10/2011 16:50:57	BOB-1	Lepidion
09/10/2011 16:53:03	BOB-1	Sponge on dead reef
09/10/2011 16:53:15	BOB-1	Sponge Hexadella
09/10/2011 16:54:11	BOB-1	Parantipathes
09/10/2011 16:54:53	BOB-1	Dead reef
09/10/2011 16:55:14	BOB-1	Landscape
09/10/2011 16:57:22	BOB-1	Bottle
09/10/2011 16:57:40	BOB-1	Leiopathes and Cidaris
09/10/2011 17:00:22	BOB-1	Anthropogenic impact
09/10/2011 17:01:14	BOB-1	Plastic bag
09/10/2011 17:02:21	BOB-1	Trawl scar?
09/10/2011 17:03:32	BOB-1	Narella, sea star and Leiopathes
09/10/2011 17:03:47	BOB-1	Rocks
09/10/2011 17:05:33	BOB-1	Narella, Cidaris, Lepidion and some colonies of coral alive
09/10/2011 17:06:26	BOB-1	Helicolenus
09/10/2011 17:08:46	BOB-1	Gorgonian
09/10/2011 17:09:17	BOB-1	Leiopathes
09/10/2011 17:10:57	BOB-1	Lepidion and Leiopathes?

09/10/2011 17:11:48	BOB-1	Bathypathes
09/10/2011 17:12:06	BOB-1	Acanthogorgia, Narella, Madrepora
09/10/2011 17:13:51	BOB-1	Anthropogenic impact
09/10/2011 17:14:55	BOB-1	Plastic bag
09/10/2011 17:16:34	BOB-1	Narella and others
09/10/2011 17:16:52	BOB-1	Plastic bag
09/10/2011 17:18:01	BOB-1	Phelliactis
09/10/2011 17:20:14	BOB-1	Crab
09/10/2011 17:28:03	BOB-1	Coral Case to be turned
09/10/2011 17:33:27	BOB-1	Coral Case turned
09/10/2011 17:35:09	BOB-1	Plastic bag
09/10/2011 17:38:39	BOB-1	Beatiful - crab and antipatharian- good for Hermione project competition
09/10/2011 17:39:08	BOB-1	Beatiful - crab and antipatharian - Cidaris
09/10/2011 17:40:08	BOB-1	Carb
09/10/2011 17:40:42	BOB-1	Crab
09/10/2011 17:43:54	BOB-1	Anthropogenic impact bis
09/10/2011 17:47:03	BOB-1	Cable
09/10/2011 17:50:32	BOB-1	Trawl impact
09/10/2011 17:53:25	BOB-1	Crab
09/10/2011 17:53:43	BOB-1	Ascenceur
09/10/2011 18:09:51	BOB-1	QUART Chris and Inge
09/10/2011 18:09:59	BOB-1	Start sampling
09/10/2011 18:13:36	BOB-1	Surroundings sample area AUTT-8
09/10/2011 18:14:04	BOB-1	Sample Madrepora, Lophelia, Narella (2 species) in CCA2 at AUTT 8

09/10/2011 18:20:17	BOB-1	Sample Madrepora in CCA2
09/10/2011 18:22:07	BOB-1	Sample Lophelia in CCA2
09/10/2011 18:23:11	BOB-1	
09/10/2011 18:25:50	BOB-1	Sample Narella sp 2 in CCA2
09/10/2011 18:32:09	BOB-1	Sample area AUTT 9
09/10/2011 18:32:42	BOB-1	Sample Lophelia and Madrepora and crinoid in CCA4 at AUTT 9
09/10/2011 18:36:48	BOB-1	Sample Madrepora and Lophelia in CCA4
09/10/2011 18:40:16	BOB-1	Sample Cidaris CCA4 AUTT 9
09/10/2011 18:42:43	BOB-1	Sample Cidaris CCA4
09/10/2011 18:46:19	BOB-1	Surroundings sample point AUTT10
09/10/2011 18:47:00	BOB-1	Sample Madrepora, gorgonian and Narella CCA5 AUTT 10
09/10/2011 18:48:32	BOB-1	Sample Narella on red rock CCA5
09/10/2011 18:50:03	BOB-1	Sample Narella in CCA5
09/10/2011 18:51:01	BOB-1	Sample Madrepora in CCA5
09/10/2011 18:51:50	BOB-1	Sample Madrepora in CCA5
09/10/2011 18:52:44	BOB-1	Sample Gorgonian in CCA5
09/10/2011 18:53:49	BOB-1	Sample Gorgonian in CCA5
09/10/2011 18:55:53	BOB-1	sample Acanthogorgia in CCA5
09/10/2011 18:56:41	BOB-1	Sample Acanthogorgia CCA5
09/10/2011 18:58:31	BOB-1	Sample area AUTT11
09/10/2011 19:01:28	BOB-1	Jellyfish
09/10/2011 19:04:57	BOB-1	sample Lophelia pink in AUTT11 CCA5
09/10/2011 19:05:49	BOB-1	Still Chaceon
09/10/2011 19:05:58	BOB-1	Sample Lophelia pink in CCA5

09/10/2011 19:07:00	BOB-1	Previous Chaceon close up
09/10/2011 19:07:28	BOB-1	Bathynectes and Chaceon
09/10/2011 19:09:09	BOB-1	Trawled???
09/10/2011 19:12:08	BOB-1	AUTT12
09/10/2011 19:12:37	BOB-1	PRELEVEMENT FAUNE CCA6 sample Cidaris in AUTT12
09/10/2011 19:13:24	BOB-1	Sample Cidaris in CCA6
09/10/2011 19:14:10	BOB-1	Sample Cidaris 2 in CCA6
09/10/2011 19:14:45	BOB-1	Sample Cidaris 2 in CCA6
09/10/2011 19:17:59	BOB-1	Sample Madrepora, Alcyoniina and dead antipatharian in CCA6 AUTT 12
09/10/2011 19:18:23	BOB-1	Sample Alcyonidae and Madrepora in CCA6 AUTT 12
09/10/2011 19:22:13	BOB-1	Sample Madrepora and dead antipatharian in CCA6
09/10/2011 19:23:31	BOB-1	Sample Alcyonidae
09/10/2011 19:24:15	BOB-1	Sample Alcyonidae in CCA6
09/10/2011 19:25:06	BOB-1	Sample Narella CCA6
09/10/2011 19:25:15	BOB-1	Sample Narella CCA6
09/10/2011 19:28:04	BOB-1	Large sandridge
09/10/2011 19:28:26	BOB-1	Gadid fish
09/10/2011 19:29:15	BOB-1	No coral on point
09/10/2011 19:30:23	BOB-1	Jellyfish
09/10/2011 19:34:01	BOB-1	PRELEVEMENT FAUNE CCA7 sample Madrepora
09/10/2011 19:34:01	BOB-1	AUTT 13
09/10/2011 19:35:23	BOB-1	Sample Madrepora pink
09/10/2011 19:35:55	BOB-1	Sample Narella CCA7
09/10/2011 19:38:22	BOB-1	Sample Narella CCA7

09/10/2011 19:39:15	BOB-1	Net
09/10/2011 19:39:45	BOB-1	Still net
09/10/2011 19:43:51	BOB-1	Sample blackcoral/gorgonian CCA7
09/10/2011 19:44:53	BOB-1	Black coral/gorgonian in CCA7
09/10/2011 19:46:10	BOB-1	Lepidion
09/10/2011 19:51:20	BOB-1	Fish
09/10/2011 19:54:04	BOB-1	PRELEVEMENT FAUNE CCA8 sample Lophelia AUTT14
09/10/2011 19:54:19	BOB-1	Surrounding AUTT14
09/10/2011 19:55:30	BOB-1	Sample Cidaris CCA8
09/10/2011 19:56:11	BOB-1	Sample Cidaris CCA8
09/10/2011 19:57:34	BOB-1	Sample Narella and Madrepora CCA8 AUTT14
09/10/2011 19:57:40	BOB-1	Alcyoniina on vertical camera
09/10/2011 19:58:28	BOB-1	Sample Narella in CCA8
09/10/2011 19:59:23	BOB-1	Sample Narella in CCA8
09/10/2011 20:00:10	BOB-1	Sample Madrepora in CCA8
09/10/2011 20:01:04	BOB-1	Sample Madrepora and Eunice in CCA8
09/10/2011 20:03:59	BOB-1	Changement de quart Thomas et Julie pour la microbiologie
09/10/2011 20:12:37	BOB-1	panier CC-A pose en bas ascenseur. un narella est perdu (a priori de A5). Il est rattrapé et mis dans A5
09/10/2011 20:18:46	BOB-1	arrivee sur ascenseur
09/10/2011 20:19:51	BOB-1	ouverture panier 1 ascenseur
09/10/2011 20:38:14	BOB-1	les 4 boites PBT sont dans le panier ROV
09/10/2011 20:40:45	BOB-1	on quitte l ascenseur avec un cap 329
09/10/2011 20:46:51	BOB-1	creation point remarquable AUTT 18 pour microbiologie

09/10/2011 20:49:16	BOB-1	ouverture PBT4
09/10/2011 20:55:00	BOB-1	PRELEVEMENT FAUNE PBT-4 Madrepora colonie blanche AUTT18
09/10/2011 20:59:52	BOB-1	prelevement Madrepora colonie rose PBT4 AUTT18
09/10/2011 21:01:51	BOB-1	fin prelevement Madrepora (2 colonies) PBT4 AUTT18
09/10/2011 21:11:20	BOB-1	on prend la PBT1
09/10/2011 21:30:00	BOB-1	picture crete
09/10/2011 21:33:23	BOB-1	PRELEVEMENT FAUNE PBT-1 Lophelia (2 colonies) AUTT18
09/10/2011 21:40:20	BOB-1	fin prelevement Lophelia (2 colonies) PBT1 AUTT18
09/10/2011 21:46:54	BOB-1	trait de chalut?
09/10/2011 21:49:43	BOB-1	traces chalut?
09/10/2011 21:58:00	BOB-1	Quart Julie - Thomas
09/10/2011 21:59:19	BOB-1	PRELEVEMENT FAUNE GBT-3 Lophelia AUTT19
09/10/2011 22:06:32	BOB-1	Prelevement Narella GBT3 AUTT19
09/10/2011 22:08:23	BOB-1	fin prelevement Narella GBT3 AUTT19
09/10/2011 22:08:53	BOB-1	Prelevement Madrepora GBT3 AUTT19
09/10/2011 22:10:05	BOB-1	fin prelevement Madrepora GBT3 AUTT19
09/10/2011 22:10:38	BOB-1	changement de quart Julie et Anna
09/10/2011 22:18:45	BOB-1	zone impactee
09/10/2011 22:20:26	BOB-1	PRELEVEMENT FAUNE PBT-2 Hexadella AUTT4 zone impactee
09/10/2011 22:26:11	BOB-1	prelevement Hexadella 1
09/10/2011 22:30:40	BOB-1	prelevement Hexadella 2
09/10/2011 22:32:13	BOB-1	prelevement Hexadella 3
09/10/2011 22:34:11	BOB-1	prelevement Hexadella 4 et fin prelevement Hexadella PBT2 AUTT4
09/10/2011 22:40:20	BOB-1	PRELEVEMENT FAUNE PBT-5 sample sediment AUTT4

09/10/2011 22:47:00	BOB-1	PRELEVEMENT PEP-14
09/10/2011 23:00:00	BOB-1	Sample Lophelia GBT3 AUTT20
09/10/2011 23:03:24	BOB-1	PRELEVEMENT FAUNE GBT-2 Sample Madrepora, AUTT_20
09/10/2011 23:06:52	BOB-1	Sample Cidaris GBT2 AUTT_20
09/10/2011 23:07:00	BOB-1	Sample Lophelia GBT2 AUTT_20
09/10/2011 23:22:06	BOB-1	madrepora
09/10/2011 23:22:24	BOB-1	PRELEVEMENT FAUNE GBT-1 Sample Madrepora AUTT_20
09/10/2011 23:28:33	BOB-1	crab
09/10/2011 23:36:59	BOB-1	Sample of Lophelia (small fragment,not sure if alive) in GBT1 AUTT_20 (sample taken 10m away from point,could not find any lophelia)
09/10/2011 23:42:30	BOB-1	lepidion
09/10/2011 23:54:22	BOB-1	stop recording,problem with video (seems that some data was lost,not clear how much)
09/10/2011 23:57:16	BOB-1	start recording again
09/10/2011 23:58:10	BOB-1	end transfer PBT in lift
10/10/2011 00:02:01	BOB-1	picking up coral case
10/10/2011 00:03:34	BOB-1	picking up CCB
10/10/2011 00:08:48	BOB-1	picking up CCA
10/10/2011 00:11:25	BOB-1	bottle
10/10/2011 00:12:10	BOB-1	plastic bag
10/10/2011 00:14:03	BOB-1	recovering CCA (full)
10/10/2011 00:16:19	BOB-1	bottle
10/10/2011 00:18:39	BOB-1	putting CCA into lift
10/10/2011 00:20:59	BOB-1	moving to new AUTT
10/10/2011 00:28:09	BOB-1	Arrived in AUTT 21

10/10/2011 00:29:59	BOB-1	lophelia pink
10/10/2011 00:30:33	BOB-1	PRELEVEMENT FAUNE CCB3 Sample of pink lophelia and narella AUTT 21
10/10/2011 00:47:18	BOB-1	Sample of pink madrepora in CCB3 AUTT_21
10/10/2011 00:53:41	BOB-1	Arrived in AUTT22
10/10/2011 00:56:05	BOB-1	Sample of pink madrepora in CCB3 (fell down before CCB5) AUTT_22
10/10/2011 00:59:57	BOB-1	PRELEVEMENT FAUNE CCB5 sample pink Madrepora AUTT_22
10/10/2011 01:02:13	BOB-1	Sample pink Lophelia in CCB5 AUTT_22
10/10/2011 01:04:45	BOB-1	Sample of Narella in CCB5 AUTT_22
10/10/2011 01:11:23	BOB-1	PRELEVEMENT FAUNE CCB8 sample of pink Madrepora AUTT_23
10/10/2011 01:13:00	BOB-1	Sample of Pink Lophelia in CCB8 AUTT23
10/10/2011 01:13:58	BOB-1	Sample of Cidaris in CCB8 AUTT_23
10/10/2011 01:18:07	BOB-1	Arrived in AUTT 24
10/10/2011 01:20:12	BOB-1	PRELEVEMENT FAUNE CCB7 sample pink Lophelia AUTT_24
10/10/2011 01:32:10	BOB-1	sample Madrepora CCB7 AUTT_24
10/10/2011 01:34:30	BOB-1	sample of Narella in CCB7 AUTT24
10/10/2011 01:46:06	BOB-1	PRELEVEMENT FAUNE CCB2 sample pink madrepora AUTT_25
10/10/2011 01:55:10	BOB-1	Still image octocoral
10/10/2011 01:56:04	BOB-1	sample of octocoral in CCB2 AUTT_25
10/10/2011 02:04:20	BOB-1	sample of Lophelia in CCB2 AUTT_25
10/10/2011 02:05:55	BOB-1	Change of shift:Anthony and Cecile g
10/10/2011 02:06:38	BOB-1	Position change of CCB in ROV
10/10/2011 02:13:32	BOB-1	Trawl trace?
10/10/2011 02:16:08	BOB-1	PRELEVEMENT FAUNE CCB6 sample AUTT 26 gorgonian, Narella
10/10/2011 02:20:34	BOB-1	AUTT 26 in CCB6

10/10/2011 02:21:45	BOB-1	sample Narella on drop stone - slightly displaced? CCB6
10/10/2011 02:23:42	BOB-1	sample AUTT 26 - Madrepora?
10/10/2011 02:25:05	BOB-1	Drop stone
10/10/2011 02:26:20	BOB-1	Cidaris
10/10/2011 02:27:13	BOB-1	sample AUTT 26 Lophelia
10/10/2011 02:29:23	BOB-1	sample AUTT 26 Cidaris
10/10/2011 02:30:23	BOB-1	Squat lobsters
10/10/2011 02:32:16	BOB-1	Abundant small drop stones
10/10/2011 02:34:02	BOB-1	Drop stones
10/10/2011 02:35:36	BOB-1	sample AUTT 27 Lophelia
10/10/2011 02:36:39	BOB-1	sample AUTT 27 in CCB4
10/10/2011 02:42:24	BOB-1	Coral rubble - strong current from the east
10/10/2011 02:44:39	BOB-1	Monkfish
10/10/2011 02:48:13	BOB-1	PRELEVEMENT FAUNE CCB4 AUTT 27 Madrepora
10/10/2011 02:49:46	BOB-1	AUTT 27 in CCB4
10/10/2011 02:51:33	BOB-1	Monkfish
10/10/2011 02:52:15	BOB-1	Monkfish
10/10/2011 02:52:41	BOB-1	Monkfish
10/10/2011 02:52:44	BOB-1	Monkfish
10/10/2011 02:52:58	BOB-1	Monkfish
10/10/2011 02:53:14	BOB-1	Monkfish
10/10/2011 02:53:49	BOB-1	sample AUTT 27 - Echinoid in CCB4
10/10/2011 02:55:50	BOB-1	Fish
10/10/2011 02:55:53	BOB-1	Fish

10/10/2011 02:55:55	BOB-1	Fish
10/10/2011 02:57:47	BOB-1	Sandy with coral rubble
10/10/2011 03:05:22	BOB-1	Sandy
10/10/2011 03:05:52	BOB-1	Echinoid
10/10/2011 03:08:17	BOB-1	Sandy with drop stones
10/10/2011 03:09:26	BOB-1	Gouge mark?
10/10/2011 03:10:02	BOB-1	Gouge mark
10/10/2011 03:11:05	BOB-1	Gouge
10/10/2011 03:11:54	BOB-1	Reaching top of ridge
10/10/2011 03:12:47	BOB-1	Larger coral colonies
10/10/2011 03:13:26	BOB-1	Corals
10/10/2011 03:16:33	BOB-1	PRELEVEMENT FAUNE CCB1 sample AUTT 28 Lophelia
10/10/2011 03:16:44	BOB-1	AUTT 28 in CCB1
10/10/2011 03:17:17	BOB-1	Spotted fish
10/10/2011 03:17:28	BOB-1	Spotted fish
10/10/2011 03:17:34	BOB-1	Spotted fish
10/10/2011 03:17:42	BOB-1	Spotted fish
10/10/2011 03:17:44	BOB-1	Spotted fish
10/10/2011 03:18:36	BOB-1	sample AUTT 28 Madrepora CCB1
10/10/2011 03:20:20	BOB-1	sample AUTT 28 Madrepora encore CCB1
10/10/2011 03:20:52	BOB-1	Thick fossil coral layer
10/10/2011 03:22:42	BOB-1	sample AUTT 28 Madrepora again CCB1
10/10/2011 03:25:06	BOB-1	Zoom
10/10/2011 03:25:22	BOB-1	Zoom

10/10/2011 03:25:31	BOB-1	Zoom
10/10/2011 03:25:59	BOB-1	Two Cidaris
10/10/2011 03:28:07	BOB-1	sample AUTT 28 Cidaris CCB1
10/10/2011 03:28:29	BOB-1	Close up Cidaris
10/10/2011 03:37:34	BOB-1	at elevator
10/10/2011 03:43:44	BOB-1	Ascenseur - urchin escaping from CCA1?
10/10/2011 03:48:48	BOB-1	CCB in ascenseur
10/10/2011 03:53:13	BOB-1	Antipatharian?
10/10/2011 03:55:15	BOB-1	Sandy ridge with drop stones
10/10/2011 03:55:52	BOB-1	Recovering caisse
10/10/2011 03:56:10	BOB-1	Recovering caisse
10/10/2011 03:56:26	BOB-1	Recovering caisse
10/10/2011 04:00:15	BOB-1	Top of ridge with current winnowed coral rubble ?
10/10/2011 04:00:45	BOB-1	Plastic bag
10/10/2011 04:03:57	BOB-1	Sandy with drop stones
10/10/2011 04:07:03	BOB-1	Ridge with corals on one side, sand on the other
10/10/2011 04:09:53	BOB-1	PRELEVEMENT FAUNE CCC8 sample AUTT 29 - Madrepora
10/10/2011 04:10:38	BOB-1	sample AUTT 29 - Madrepora CCC8
10/10/2011 04:10:47	BOB-1	sample AUTT 29 - Madrepora CCC8
10/10/2011 04:11:13	BOB-1	AUTT 29 in CCC8
10/10/2011 04:14:31	BOB-1	sample AUTT 29 - Narella (a cheval CCC6-7-8)
10/10/2011 04:16:14	BOB-1	Squat lobster
10/10/2011 04:19:50	BOB-1	sample Cidaris - AUTT 29 CCC8
10/10/2011 04:22:55	BOB-1	sample Lophelia - AUTT29 CCC8

10/10/2011 04:23:48	BOB-1	sample Lophelia - Gorgonian - AUTT29 CCC8
10/10/2011 04:26:24	BOB-1	sample gorgonian fan
10/10/2011 04:30:14	BOB-1	Sand and drop stones
10/10/2011 04:30:43	BOB-1	Sand and drop stones
10/10/2011 04:31:10	BOB-1	Hard ground outcrop
10/10/2011 04:31:34	BOB-1	Coral ridge
10/10/2011 04:33:34	BOB-1	Crinoids
10/10/2011 04:34:10	BOB-1	PRELEVEMENT FAUNE CCC5 sample AUTT 30 - Madrepora and Lophelia + solitary coral
10/10/2011 04:34:57	BOB-1	AUTT 30 in CCC5
10/10/2011 04:39:02	BOB-1	Closeup Madrepora with strong Eunice tube as trunk
10/10/2011 04:39:27	BOB-1	sample Cidaris - AUTT 30
10/10/2011 04:41:37	BOB-1	sample Lophelia and echinoid- AUTT30 CCC5
10/10/2011 04:44:30	BOB-1	PRELEVEMENT FAUNE CCC2 Echinoid in CCC2 instead of CCC5
10/10/2011 04:45:27	BOB-1	sample Narella - AUTT 30 in CCC5
10/10/2011 04:46:55	BOB-1	Moving to next point
10/10/2011 04:47:19	BOB-1	Coral rubble
10/10/2011 04:48:07	BOB-1	Coral rubble
10/10/2011 04:49:29	BOB-1	PRELEVEMENT FAUNE CCC3 sample Cidaris - AUTT 31
10/10/2011 04:50:49	BOB-1	AUTT 31 in CCC3
10/10/2011 04:52:48	BOB-1	Lepidion
10/10/2011 04:53:45	BOB-1	sample Narella - AUTT31 CCC3
10/10/2011 04:54:36	BOB-1	sample Narella - AUTT31 CCC3
10/10/2011 04:56:38	BOB-1	sample Lophelia - AUTT31 CCC3

10/10/2011 04:58:04	BOB-1	AUTT 31 Lophelia in CCC3
10/10/2011 04:59:53	BOB-1	sample Madrepora - AUTT31 CCC3
10/10/2011 05:00:31	BOB-1	sample Madrepora - AUTT31 CCC3
10/10/2011 05:01:21	BOB-1	Closeup coral rubble - brachipod
10/10/2011 05:03:24	BOB-1	Hexadella? on a rock
10/10/2011 05:05:00	BOB-1	sample yellow sponge
10/10/2011 05:06:08	BOB-1	sample yellow sponge
10/10/2011 05:06:42	BOB-1	PRELEVEMENT FAUNE CCC1 sample Yellow sponge
10/10/2011 05:07:15	BOB-1	PRELEVEMENT FAUNE CCC4 , Rock broke up (chalky)
10/10/2011 05:08:31	BOB-1	Plastic bag out of shot on the left
10/10/2011 05:17:37	BOB-1	Paramola crab
10/10/2011 05:17:58	BOB-1	Paramola crab
10/10/2011 05:18:25	BOB-1	Paramola crab
10/10/2011 05:18:36	BOB-1	Paramola crab
10/10/2011 05:20:54	BOB-1	Phycis blennoides?
10/10/2011 05:22:33	BOB-1	Coral rubble
10/10/2011 05:24:25	BOB-1	Coral rubble
10/10/2011 05:24:59	BOB-1	Coral rubble
10/10/2011 05:26:28	BOB-1	Coral rubble - some Narella
10/10/2011 05:28:55	BOB-1	PRELEVEMENT FAUNE CCC7 sample Lophelia - AUTT 32
10/10/2011 05:29:39	BOB-1	Plastic bag bottom left
10/10/2011 05:33:46	BOB-1	Eunis escaping
10/10/2011 05:34:12	BOB-1	AUTT32 in CCC7
10/10/2011 05:36:18	BOB-1	sample Madrepora - AUTT 32 CCC7

10/10/2011 05:38:35	BOB-1	sample Narella/Cidaris CCC7
10/10/2011 05:39:01	BOB-1	sample Narella/Cidaris CCC7
10/10/2011 05:45:08	BOB-1	Coral rubble
10/10/2011 05:46:06	BOB-1	Approaching ascenseur to release it back to the surface
10/10/2011 05:47:39	BOB-1	Ascenseur released

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XI. Annexes

Annexe 1 : Work realized

TRAVAUX REALISES A PARTIR DU NAVIRE									
Jours	Date	Heure	Latitude(deg., min.milli)	Longitude(deg., min.milli)	Nom Phase	Type De Phase	Type	Nom Appareil	Nom Action
1	10/09/2011	06:17:00	N 999° 0'	E 999° 0'	PROFIL1	PROFIL	PHA		
	10/09/2011	06:17:00	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	06:18:00	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	06:26:00	N 999° 0'	E 999° 0'	PROFIL2	PROFIL	PHA		
	10/09/2011	06:26:00	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	06:41:00	N 48° 20,3089'	W 4° 35,41536'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	06:45:00	N 48° 19,82951'	W 4° 36,53509'	PROFIL3	PROFIL	PHA		
	10/09/2011	06:45:00	N 48° 19,82951'	W 4° 36,53509'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	06:54:21	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	06:56:00	N 48° 18,65628'	W 4° 39,458'	PROFIL4	PROFIL	PHA		
	10/09/2011	06:56:00	N 48° 18,65628'	W 4° 39,458'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	07:00:00	N 48° 18,26901'	W 4° 40,49398'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	07:04:00	N 48° 17,88771'	W 4° 41,51384'	PROFIL5	PROFIL	PHA		
	10/09/2011	07:04:00	N 48° 17,88771'	W 4° 41,51384'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	07:22:00	N 48° 15,90032'	W 4° 45,44701'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	07:23:00	N 48° 15,72337'	W 4° 45,41578'	PROFIL6	PROFIL	PHA		
	10/09/2011	07:23:00	N 48° 15,72337'	W 4° 45,41578'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	08:23:53	N 48° 4,39904'	W 4° 45,44539'			OPE	SIPPICAN	Tir
	10/09/2011	08:26:06	N 48° 4,02583'	W 4° 45,552'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	08:28:06	N 48° 3,7082'	W 4° 45,84143'	PROFIL7	PROFIL	PHA		
	10/09/2011	08:28:24	N 48° 3,66171'	W 4° 45,88825'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	10/09/2011	08:52:39	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	08:53:00	N 999° 0'	E 999° 0'	PROFIL8	PROFIL	PHA		
	10/09/2011	08:53:00	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	13:24:33	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	13:26:33	N 47° 28,03539'	W 5° 17,10379'	PROFIL9	PROFIL	PHA		
	10/09/2011	13:26:40	N 47° 28,03539'	W 5° 17,10379'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	14:01:00	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	14:03:00	N 999° 0'	E 999° 0'	PROFIL10	PROFIL	PHA		
	10/09/2011	14:03:12	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	14:42:00	N 999° 0'	E 999° 0'			OPE	SIPPICAN	Raté
	10/09/2011	14:56:00	N 999° 0'	E 999° 0'			OPE	SIPPICAN	Tir
	10/09/2011	17:37:49	N 46° 56,15192'	W 5° 21,58855'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	10/09/2011	17:52:22	N 46° 56,27533'	W 5° 21,62577'	ADCP EEP	STATION	PHA		
	10/09/2011	18:32:13	N 46° 56,2581'	W 5° 21,64618'			OPE	ADCP EEP	Mise à l'eau
	10/09/2011	23:34:40	N 46° 53,7237'	W 5° 15,9177'	PROFIL11	PROFIL	PHA		
	10/09/2011	23:41:53	N 46° 53,3868'	W 5° 14,3614'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/09/2011	23:59:45	N 46° 52,5589'	W 5° 11,4858'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
2	11/09/2011	00:03:22	N 46° 52,70971'	W 5° 10,96626'	PROFIL12	PROFIL	PHA		
	11/09/2011	00:04:29	N 46° 52,65969'	W 5° 10,80581'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	00:57:43	N 46° 50,1456'	W 5° 0,68196'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	00:57:56	N 46° 50,13413'	W 5° 0,63298'	PROFIL13	PROFIL	PHA		
	11/09/2011	00:58:26	N 46° 50,10153'	W 5° 0,54118'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	01:27:59	N 46° 47,02391'	W 4° 56,08633'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	01:28:20	N 46° 46,99079'	W 4° 56,08799'	PROFIL14	PROFIL	PHA		
	11/09/2011	01:28:49	N 46° 46,95814'	W 4° 56,10331'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	11/09/2011	02:10:49	N 46° 43,73627'	W 5° 1,40563'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	02:19:56	N 46° 44,67131'	W 5° 2,47458'	PROFIL15	PROFIL	PHA		
	11/09/2011	02:20:18	N 46° 44,72648'	W 5° 2,43529'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	02:53:18	N 46° 48,45363'	W 4° 57,68809'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	02:53:57	N 46° 48,52838'	W 4° 57,59263'	PROFIL16	PROFIL	PHA		
	11/09/2011	02:54:11	N 46° 48,52838'	W 4° 57,59263'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	03:22:00	N 46° 51,23276'	W 5° 1,51028'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	03:24:50	N 46° 51,43159'	W 5° 2,08145'	PROFIL17	PROFIL	PHA		
	11/09/2011	03:26:08	N 46° 51,49979'	W 5° 2,28949'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	04:39:57	N 46° 56,65337'	W 5° 15,6852'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	04:40:10	N 46° 56,65337'	W 5° 15,6852'	PROFIL18	PROFIL	PHA		
	11/09/2011	04:40:11	N 46° 56,65337'	W 5° 15,6852'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	05:03:53	N 46° 56,6899'	W 5° 19,9715'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	05:23:14	N 46° 56,15583'	W 5° 21,9599'	Lander1	STATION	PHA		
	11/09/2011	06:02:01	N 46° 56,22725'	W 5° 22,26017'			OPE	LANDER	Mise à l'eau
	11/09/2011	06:28:00	N 46° 56,235'	W 5° 21,708'			OPE	LANDER	Au fond
	11/09/2011	07:24:07	N 46° 57,79348'	W 5° 19,20073'			OPE	SIPPICAN	Tir
	11/09/2011	08:00:00	N 46° 57,43074'	W 5° 19,31929'	Victor 463		OPE	Victor	Mise à l'eau
	11/09/2011	08:50:00	N 46° 57,40781'	W 5° 19,81128'			OPE	Victor	fond
	11/09/2011	09:22:00	N 46° 57,4079'	W 5° 19,81115'			OPE	Victor	remontée
	11/09/2011	10:58:47	N 46° 57,6103'	W 5° 20,21498'			OPE	Victor	A bord
	11/09/2011	14:23:58	N 46° 58,73154'	W 5° 20,06463'	PROFIL19	PROFIL	PHA		
	11/09/2011	14:23:59	N 46° 58,73154'	W 5° 20,06463'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	14:57:09	N 46° 59,79006'	W 5° 26,33714'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	14:58:57	N 46° 59,71833'	W 5° 26,5963'	PROFIL20	PROFIL	PHA		

	11/09/2011	14:59:06	N 46° 59,71833'	W 5° 26,5963'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	15:03:32	N 46° 59,11172'	W 5° 26,95364'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	15:04:41	N 46° 58,96585'	W 5° 26,98937'	PROFIL21	PROFIL	PHA		
	11/09/2011	15:04:44	N 46° 58,96585'	W 5° 26,98937'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	15:34:59	N 46° 58,06177'	W 5° 21,02091'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	15:36:23	N 46° 57,9984'	W 5° 20,77717'	PROFIL22	PROFIL	PHA		
	11/09/2011	15:36:24	N 46° 57,9984'	W 5° 20,77717'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	15:40:04	N 46° 57,69887'	W 5° 20,89771'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	15:40:13	N 46° 57,70124'	W 5° 20,91998'	PROFIL23	PROFIL	PHA		
	11/09/2011	15:40:14	N 46° 57,6976'	W 5° 20,88693'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	16:12:15	N 46° 58,51825'	W 5° 26,95721'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	16:15:12	N 46° 58,17922'	W 5° 27,01654'	PROFIL24	PROFIL	PHA		
	11/09/2011	16:16:48	N 46° 58,0998'	W 5° 26,69701'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	11/09/2011	16:52:42	N 46° 57,73316'	W 5° 19,27678'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	11/09/2011	17:23:00	N 46° 57,53596'	W 5° 19,27087'	Victor 464		OPE	Victor	Mise à l'eau
	11/09/2011	18:06:00	N 46° 57,45625'	W 5° 19,57609'			OPE	Victor	fond
4	13/09/2011	08:10:00	N 46° 55,71773'	W 5° 23,12508'			OPE	Victor	remontée
	13/09/2011	09:30:23	N 46° 55,74213'	W 5° 24,27267'			OPE	Victor	A bord
	13/09/2011	10:18:00	N 46° 55,68046'	W 5° 21,70064'			OPE	LANDER	larguage
	13/09/2011	11:15:24	N 46° 55,7018'	W 5° 22,81862'			OPE	LANDER	A bord
	13/09/2011	11:20:00	N 46° 55,77776'	W 5° 22,99639'			OPE	SIPPICAN	Raté
	13/09/2011	11:49:11	N 46° 55,92625'	W 5° 20,97645'	PAP1	STATION	PHA		
	13/09/2011	11:49:25	N 46° 55,92858'	W 5° 20,98063'			OPE	PIEGES A PARTICULES	largué
	13/09/2011	11:59:00	N 46° 56,01098'	W 5° 21,11596'			OPE	PIEGES A PARTICULES	En surface
	13/09/2011	12:42:12	N 46° 56,80522'	W 5° 21,91256'			OPE	PIEGES A PARTICULES	A bord
	13/09/2011	12:45:04	N 46° 56,91694'	W 5° 21,73541'	PROFIL25	PROFIL	PHA		

	13/09/2011	12:57:09	N 46° 56,20429'	W 5° 19,13267'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	14:45:00	N 46° 49,74683'	W 4° 57,97661'			OPE	SIPPICAN	Raté
	13/09/2011	15:03:00	N 46° 47,75403'	W 4° 55,67284'			OPE	SIPPICAN	Tir
	13/09/2011	15:05:24	N 46° 47,45369'	W 4° 55,3954'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	15:05:39	N 46° 47,45369'	W 4° 55,3954'	PROFIL26	PROFIL	PHA		
	13/09/2011	15:05:41	N 46° 47,45369'	W 4° 55,3954'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	15:20:50	N 46° 45,34958'	W 4° 54,53165'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	15:21:15	N 46° 45,31849'	W 4° 54,50112'	PROFIL27	PROFIL	PHA		
	13/09/2011	15:21:27	N 46° 45,29366'	W 4° 54,47476'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	15:57:00	N 46° 41,77768'	W 4° 49,05871'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	15:58:21	N 46° 41,62397'	W 4° 48,89655'	PROFIL28	PROFIL	PHA		
	13/09/2011	15:59:03	N 46° 41,52981'	W 4° 48,87325'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	16:24:00	N 46° 38,03672'	W 4° 48,90007'			OPE	SIPPICAN	Tir
	13/09/2011	16:30:25	N 46° 37,1269'	W 4° 48,92781'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	16:30:58	N 46° 37,0497'	W 4° 48,92702'	PROFIL29	PROFIL	PHA		
	13/09/2011	16:33:00	N 46° 36,76581'	W 4° 48,82856'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	16:56:16	N 46° 33,64511'	W 4° 47,4773'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	16:57:14	N 46° 33,5482'	W 4° 47,33795'	PROFIL30	PROFIL	PHA		
	13/09/2011	16:57:15	N 46° 33,57151'	W 4° 47,37281'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	16:57:16	N 46° 33,5482'	W 4° 47,33795'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut fichier
	13/09/2011	18:07:00	N 46° 27,26129'	W 4° 36,17022'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	18:10:24	N 46° 26,85028'	W 4° 36,23429'	PROFIL31	PROFIL	PHA		
	13/09/2011	18:10:24	N 46° 26,85028'	W 4° 36,23429'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	18:22:24	N 46° 25,02583'	W 4° 37,94059'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil

	13/09/2011	18:45:00	N 46° 22,42239'	W 4° 40,50948'	Lander2	STATION	PHA		
	13/09/2011	19:12:12	N 46° 22,90409'	W 4° 40,7789'			OPE	LANDER	Mise à l'eau
	13/09/2011	19:39:23	N 46° 22,53406'	W 4° 40,87427'			OPE	LANDER	Au fond
	13/09/2011	20:07:16	N 46° 25,81882'	W 4° 38,21471'	PROFIL32	PROFIL	PHA		
	13/09/2011	20:07:37	N 46° 25,87086'	W 4° 38,17034'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	20:18:00	N 46° 27,3376'	W 4° 36,85526'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	20:20:13	N 46° 27,41728'	W 4° 36,50122'	PROFIL33	PROFIL	PHA		
	13/09/2011	20:20:13	N 46° 27,41728'	W 4° 36,50122'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	21:18:00	N 46° 22,29018'	W 4° 27,35281'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	21:19:34	N 46° 22,1661'	W 4° 27,08272'	PROFIL34	PROFIL	PHA		
	13/09/2011	21:19:59	N 46° 22,13753'	W 4° 27,00737'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	21:53:00	N 46° 20,12942'	W 4° 20,96586'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	21:56:46	N 46° 19,82951'	W 4° 20,31595'	PROFIL35	PROFIL	PHA		
	13/09/2011	21:56:46	N 46° 19,82951'	W 4° 20,31595'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	22:24:40	N 46° 16,69786'	W 4° 17,31257'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	22:27:34	N 46° 16,31279'	W 4° 17,43248'	PROFIL36	PROFIL	PHA		
	13/09/2011	22:27:53	N 46° 16,26754'	W 4° 17,45146'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	13/09/2011	22:30:56	N 46° 15,84628'	W 4° 17,61294'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	13/09/2011	22:32:22	N 46° 15,65959'	W 4° 17,60726'	PROFIL37	PROFIL	PHA		
	13/09/2011	22:33:13	N 46° 15,57491'	W 4° 17,50516'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
5	14/09/2011	01:52:58	N 45° 54,33397'	W 3° 49,90484'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	01:53:12	N 45° 54,30043'	W 3° 49,89109'	PROFIL38	PROFIL	PHA		
	14/09/2011	01:53:27	N 45° 54,2666'	W 3° 49,87715'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	14/09/2011	02:38:02	N 45° 48,34749'	W 3° 47,43594'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	02:38:39	N 45° 48,26407'	W 3° 47,39534'	PROFIL39	PROFIL	PHA		

	14/09/2011	02:38:47	N 45° 48,26407'	W 3° 47,39534'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	14/09/2011	02:59:06	N 45° 45,52081'	W 3° 46,11097'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	03:11:19	N 45° 45,50258'	W 3° 45,81056'	Victor 465	STATION	PHA		
	14/09/2011	04:16:00	N 45° 45,62743'	W 3° 46,16992'			OPE	Victor	Mise à l'eau
	14/09/2011	05:14:00	N 45° 45,75489'	W 3° 46,26857'			OPE	Victor	fond
	14/09/2011	11:04:19	N 45° 47,4245'	W 3° 46,55012'			OPE	Victor	remontée
	14/09/2011	11:54:16	N 45° 47,70378'	W 3° 46,20388'			OPE	Victor	A bord
	14/09/2011	12:16:00	N 45° 48,48257'	W 3° 46,53749'	PROFIL40	PROFIL	PHA		
	14/09/2011	12:17:36	N 45° 48,66796'	W 3° 46,74466'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	14/09/2011	12:29:00	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	12:30:00	N 45° 49,32227'	W 3° 46,8188'	PROFIL41	PROFIL	PHA		
	14/09/2011	12:30:17	N 45° 49,29504'	W 3° 46,79569'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	14/09/2011	13:39:39	N 45° 41,18988'	W 3° 38,5788'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	13:40:00	N 45° 41,15642'	W 3° 38,53691'	PROFIL42	PROFIL	PHA		
	14/09/2011	13:40:22	N 45° 41,14051'	W 3° 38,48359'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	14/09/2011	13:55:55	N 45° 42,57785'	W 3° 36,19145'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	13:56:55	N 45° 42,63438'	W 3° 36,03227'	PROFIL43	PROFIL	PHA		
	14/09/2011	13:57:54	N 45° 42,58506'	W 3° 35,89948'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	14/09/2011	14:31:01	N 45° 38,70266'	W 3° 32,09908'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	14:40:00	N 45° 38,82421'	W 3° 32,21591'	Benne Hamon1	STATION	PHA		
	14/09/2011	14:42:00	N 45° 38,83354'	W 3° 32,19954'			OPE	BENNE HAMON	Mise à l'eau
	14/09/2011	15:10:00	N 45° 38,83445'	W 3° 32,19941'			OPE	BENNE HAMON	Au fond
	14/09/2011	15:26:59	N 45° 38,83531'	W 3° 32,19843'			OPE	BENNE HAMON	A bord
	14/09/2011	16:06:06	N 45° 39,21314'	W 3° 31,88927'	PROFIL44	PROFIL	PHA		
	14/09/2011	16:06:27	N 45° 39,24229'	W 3° 31,85337'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	14/09/2011	16:40:34	N 45° 43,18448'	W 3° 35,08259'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	16:40:43	N 45° 43,17458'	W 3° 35,09643'	PROFIL45	PROFIL	PHA		
	14/09/2011	16:40:48	N 45° 43,16861'	W 3° 35,10391'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	14/09/2011	17:07:38	N 45° 39,93616'	W 3° 37,94506'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	14/09/2011	17:15:55	N 45° 39,88385'	W 3° 38,34419'	Victor 466-04	STATION	PHA		
	14/09/2011	18:06:48	N 45° 39,87059'	W 3° 38,16542'			OPE	Victor	Mise à l'eau
	14/09/2011	19:20:03	N 45° 40,00138'	W 3° 37,88428'			OPE	Victor	fond
6	15/09/2011	01:25:04	N 45° 41,38432'	W 3° 36,89479'			OPE	Victor	remontée
	15/09/2011	02:22:00	N 45° 41,45948'	W 3° 36,52814'			OPE	Victor	A bord
	15/09/2011	02:41:40	N 45° 42,25897'	W 3° 34,56491'	PROFIL46	PROFIL	PHA		
	15/09/2011	02:41:42	N 45° 42,2621'	W 3° 34,56029'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	02:45:49	N 45° 42,72964'	W 3° 34,53358'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	02:46:32	N 45° 42,80843'	W 3° 34,58926'	PROFIL47	PROFIL	PHA		
	15/09/2011	02:46:36	N 45° 42,81597'	W 3° 34,59437'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	03:15:48	N 45° 45,89537'	W 3° 38,10294'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	03:16:22	N 45° 45,94867'	W 3° 38,18213'	PROFIL48	PROFIL	PHA		
	15/09/2011	03:17:00	N 45° 45,97708'	W 3° 38,28796'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	03:28:37	N 45° 45,5699'	W 3° 40,493'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	03:30:13	N 45° 45,54653'	W 3° 40,77575'	PROFIL49	PROFIL	PHA		
	15/09/2011	03:30:19	N 45° 45,55232'	W 3° 40,78996'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	04:10:41	N 45° 49,81186'	W 3° 45,22598'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	04:10:49	N 45° 49,82714'	W 3° 45,23999'	PROFIL50	PROFIL	PHA		
	15/09/2011	04:10:58	N 45° 49,84434'	W 3° 45,2558'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	06:57:11	N 46° 6,2345'	W 4° 7,57855'			OPE	SIPPICAN	Tir

	15/09/2011	08:33:00	N 46° 15,90989'	W 4° 20,3804'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	08:33:04	N 46° 15,91411'	W 4° 20,3914'	PROFIL51	PROFIL	PHA		
	15/09/2011	08:33:43	N 46° 15,9412'	W 4° 20,50855'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	08:36:00	N 46° 15,98221'	W 4° 20,96828'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	08:38:18	N 46° 16,10162'	W 4° 21,31753'	PROFIL52	PROFIL	PHA		
	15/09/2011	08:43:00	N 46° 16,60341'	W 4° 21,07332'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	09:05:50	N 46° 19,50156'	W 4° 19,41003'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	09:06:00	N 46° 19,50156'	W 4° 19,41003'	PROFIL53	PROFIL	PHA		
	15/09/2011	09:07:00	N 46° 19,63613'	W 4° 19,43183'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	09:11:51	N 46° 20,22562'	W 4° 20,04359'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	09:12:00	N 46° 20,22562'	W 4° 20,04359'	PROFIL54	PROFIL	PHA		
	15/09/2011	09:12:00	N 46° 20,22562'	W 4° 20,04359'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	09:27:38	N 46° 21,21556'	W 4° 22,83328'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	09:29:59	N 46° 21,07108'	W 4° 23,01359'	PROFIL55	PROFIL	PHA		
	15/09/2011	09:30:44	N 46° 21,02569'	W 4° 22,94359'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	09:47:05	N 46° 20,05392'	W 4° 20,22676'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	09:47:07	N 46° 20,04192'	W 4° 20,21209'	PROFIL56	PROFIL	PHA		
	15/09/2011	09:48:29	N 46° 19,90342'	W 4° 20,05136'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	09:51:43	N 46° 19,53271'	W 4° 19,74815'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	09:51:45	N 46° 19,53271'	W 4° 19,74815'	PROFIL57	PROFIL	PHA		
	15/09/2011	09:52:00	N 46° 19,53271'	W 4° 19,74815'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	10:02:59	N 46° 18,1335'	W 4° 20,78329'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	10:03:25	N 46° 18,09385'	W 4° 20,84753'	PROFIL58	PROFIL	PHA		
	15/09/2011	10:03:34	N 46° 18,0803'	W 4° 20,86997'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	15/09/2011	10:15:25	N 46° 16,98334'	W 4° 22,66219'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	10:15:46	N 46° 16,94909'	W 4° 22,71269'	PROFIL59	PROFIL	PHA		
	15/09/2011	10:15:57	N 46° 16,92991'	W 4° 22,737'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	10:34:47	N 46° 14,71805'	W 4° 24,71059'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	11:00:28	N 46° 14,86748'	W 4° 25,13189'	Victor 467	STATION	PHA		
	15/09/2011	11:01:03	N 46° 14,86653'	W 4° 25,12951'			OPE	Victor	Mise à l'eau
	15/09/2011	12:42:51	N 46° 14,92053'	W 4° 24,47417'			OPE	Victor	fond
	15/09/2011	17:48:00	N 46° 15,94548'	W 4° 24,97432'			OPE	Victor	remontée
	15/09/2011	19:08:03	N 46° 16,24409'	W 4° 24,24832'			OPE	Victor	A bord
	15/09/2011	19:40:58	N 46° 13,18373'	W 4° 25,53011'			OPE	SIPPICAN	Tir
	15/09/2011	19:48:06	N 46° 12,97623'	W 4° 26,33'	PROFIL60	PROFIL	PHA		
	15/09/2011	19:48:28	N 46° 13,00115'	W 4° 26,38919'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	20:10:31	N 46° 14,46834'	W 4° 30,09226'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	20:13:34	N 46° 14,72139'	W 4° 29,85088'	PROFIL61	PROFIL	PHA		
	15/09/2011	20:13:55	N 46° 14,74363'	W 4° 29,78529'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	20:34:00	N 46° 16,01357'	W 4° 26,34258'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	20:34:31	N 46° 16,0448'	W 4° 26,25505'	PROFIL62	PROFIL	PHA		
	15/09/2011	20:35:09	N 46° 16,09771'	W 4° 26,17204'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	20:37:35	N 46° 16,37591'	W 4° 26,05835'	PROFIL63	PROFIL	PHA		
	15/09/2011	20:37:35	N 46° 16,37591'	W 4° 26,05835'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	20:38:07	N 46° 16,42357'	W 4° 26,04351'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	20:59:05	N 46° 17,99764'	W 4° 29,11143'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	20:59:06	N 46° 17,98747'	W 4° 29,10745'	PROFIL64	PROFIL	PHA		
	15/09/2011	21:00:01	N 46° 18,11687'	W 4° 29,13726'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	21:13:04	N 46° 19,85569'	W 4° 28,57335'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil

	15/09/2011	21:13:06	N 46° 19,85917'	W 4° 28,5752'	PROFIL65	PROFIL	PHA		
	15/09/2011	21:14:00	N 46° 19,92374'	W 4° 28,67509'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	21:49:30	N 46° 22,90279'	W 4° 34,06002'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	21:49:31	N 46° 22,90279'	W 4° 34,06002'	PROFIL66	PROFIL	PHA		
	15/09/2011	21:50:00	N 46° 22,94093'	W 4° 34,13357'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	22:10:00	N 46° 24,93698'	W 4° 32,23339'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	22:11:50	N 46° 25,04276'	W 4° 32,00422'	PROFIL67	PROFIL	PHA		
	15/09/2011	22:12:44	N 46° 24,98179'	W 4° 31,8972'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	22:43:53	N 46° 22,35884'	W 4° 27,14778'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	22:45:43	N 46° 22,26515'	W 4° 26,81962'	PROFIL68	PROFIL	PHA		
	15/09/2011	22:46:41	N 46° 22,21914'	W 4° 26,64449'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	23:11:35	N 46° 21,1442'	W 4° 22,58195'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	23:12:29	N 46° 21,18502'	W 4° 22,69168'	PROFIL69	PROFIL	PHA		
	15/09/2011	23:14:08	N 46° 21,26022'	W 4° 22,95179'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	15/09/2011	23:38:46	N 46° 22,61281'	W 4° 27,24904'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	15/09/2011	23:39:20	N 46° 22,65305'	W 4° 27,33734'	PROFIL70	PROFIL	PHA		
	15/09/2011	23:40:27	N 46° 22,74689'	W 4° 27,49817'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
7	16/09/2011	01:21:00	N 46° 31,08101'	W 4° 42,57719'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	16/09/2011	01:22:41	N 46° 30,92704'	W 4° 42,47934'	PROFIL71	PROFIL	PHA		
	16/09/2011	01:25:58	N 46° 30,64751'	W 4° 41,93826'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	16/09/2011	02:26:45	N 46° 25,36778'	W 4° 32,51186'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	16/09/2011	02:28:35	N 46° 25,1695'	W 4° 32,38059'	PROFIL72	PROFIL	PHA		
	16/09/2011	02:29:00	N 46° 25,12393'	W 4° 32,3977'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	16/09/2011	03:11:51	N 46° 22,1618'	W 4° 39,39011'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil

	16/09/2011	03:12:59	N 46° 22,13622'	W 4° 39,57261'	PROFIL73	PROFIL	PHA		
	16/09/2011	03:13:05	N 46° 22,13998'	W 4° 39,58777'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	16/09/2011	03:19:39	N 46° 22,50256'	W 4° 40,67734'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	16/09/2011	03:46:50	N 46° 22,37552'	W 4° 40,15466'	Victor 468	STATION	PHA		
	16/09/2011	04:11:56	N 46° 22,45738'	W 4° 40,36732'			OPE	Victor	Mise à l'eau
	16/09/2011	06:29:00	N 46° 22,69608'	W 4° 41,95528'			OPE	Victor	fond
8	17/09/2011	12:52:00	N 46° 23,72654'	W 4° 40,85072'			OPE	Victor	remontée
	17/09/2011	13:58:06	N 46° 23,63588'	W 4° 41,61946'			OPE	Victor	A bord
	17/09/2011	14:37:59	N 46° 22,81129'	W 4° 40,28668'			OPE	LANDER	l'arguage
	17/09/2011	15:50:00	N 46° 22,78076'	W 4° 42,382'			OPE	LANDER	A bord
	17/09/2011	16:09:32	N 46° 22,41382'	W 4° 42,16783'	PROFIL74	PROFIL	PHA		
	17/09/2011	16:09:45	N 46° 22,4013'	W 4° 42,13801'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	17/09/2011	16:19:56	N 46° 22,51561'	W 4° 40,69158'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	17/09/2011	16:20:01	N 46° 22,52565'	W 4° 40,69219'	PROFIL75	PROFIL	PHA		
	17/09/2011	16:20:08	N 46° 22,53568'	W 4° 40,6922'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	17/09/2011	17:03:49	N 46° 26,19127'	W 4° 41,84657'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	17/09/2011	17:04:02	N 46° 26,19391'	W 4° 41,84779'	PROFIL76	PROFIL	PHA		
	17/09/2011	17:04:22	N 46° 26,21901'	W 4° 41,86115'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	17/09/2011	19:17:43	N 46° 38,54369'	W 4° 58,46568'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	17/09/2011	23:50:47	N 46° 51,72548'	W 5° 24,14912'			OPE	Bonus	Début
	18/09/2011	04:11:00	N 46° 57,90444'	W 5° 28,46087'	PROFIL77	PROFIL	PHA		
9	18/09/2011	04:11:47	N 46° 57,85298'	W 5° 28,28969'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	18/09/2011	04:34:49	N 46° 55,8512'	W 5° 25,35181'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	18/09/2011	04:34:51	N 46° 55,8512'	W 5° 25,35181'	PROFIL78	PROFIL	PHA		
	18/09/2011	04:34:56	N 46° 55,8512'	W 5° 25,35181'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	18/09/2011	04:56:00	N 46° 56,20816'	W 5° 20,60257'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	18/09/2011	05:05:05	N 46° 56,36249'	W 5° 20,84587'	Victor 469	STATION	PHA		
	18/09/2011	06:15:35	N 46° 56,14927'	W 5° 20,7574'			OPE	Victor	Mise à l'eau
	18/09/2011	08:40:47	N 46° 56,23092'	W 5° 21,17885'			OPE	Victor	fond
10	19/09/2011	19:50:00	N 46° 55,50446'	W 5° 22,25535'			OPE	Victor	remontée
	19/09/2011	21:00:09	N 46° 55,70621'	W 5° 22,23293'			OPE	Victor	A bord
	19/09/2011	21:00:13	N 46° 55,70537'	W 5° 22,23443'	Carottier calypso1	STATION	PHA		
	19/09/2011	21:36:00	N 46° 56,05671'	W 5° 21,56273'			OPE	CAROTTIER CALYPSO	Mise à l'eau
	19/09/2011	22:17:00	N 46° 56,03775'	W 5° 21,65506'			OPE	CAROTTIER CALYPSO	Déclenché
	19/09/2011	23:00:00	N 46° 56,03776'	W 5° 21,65572'			OPE	CAROTTIER CALYPSO	A bord
	19/09/2011	23:49:00	N 46° 55,94465'	W 5° 21,55942'			OPE	CAROTTIER CALYPSO	Mise à l'eau
11	20/09/2011	00:39:00	N 46° 55,94482'	W 5° 21,559'			OPE	CAROTTIER CALYPSO	Déclenché
	20/09/2011	01:10:00	N 46° 55,94458'	W 5° 21,55859'			OPE	CAROTTIER CALYPSO	A bord
	20/09/2011	02:55:00	N 46° 55,95531'	W 5° 21,48992'			OPE	CAROTTIER CALYPSO	Mise à l'eau
	20/09/2011	04:03:00	N 46° 55,95502'	W 5° 21,4894'			OPE	CAROTTIER CALYPSO	Déclenché
	20/09/2011	04:36:00	N 46° 55,95486'	W 5° 21,49031'			OPE	CAROTTIER CALYPSO	A bord
	20/09/2011	05:39:54	N 46° 56,58411'	W 5° 21,42185'			OPE	ADCP EEP	Larguage
	20/09/2011	05:48:07	N 46° 56,47637'	W 5° 21,41087'			OPE	ADCP EEP	En Surface
	20/09/2011	06:20:00	N 46° 56,102'	W 5° 21,46965'			OPE	ADCP EEP	A bord
	20/09/2011	06:39:00	N 46° 54,98588'	W 5° 20,69955'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	20/09/2011	06:39:46	N 46° 55,04893'	W 5° 20,68505'	PROFIL79	PROFIL	PHA		
	20/09/2011	07:39:00	N 46° 59,61544'	W 5° 23,632'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	20/09/2011	07:39:47	N 46° 59,67592'	W 5° 23,66672'	PROFIL80	PROFIL	PHA		
	20/09/2011	07:40:00	N 46° 59,67464'	W 5° 23,66585'			OPE	SIPPICAN	Tir
	20/09/2011	07:40:41	N 46° 59,74069'	W 5° 23,73283'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	20/09/2011	08:18:55	N 47° 1,01122'	W 5° 30,9503'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	20/09/2011	08:18:56	N 47° 1,01172'	W 5° 30,9503'	PROFIL81	PROFIL	PHA		

	20/09/2011	08:20:37	N 47° 1,08784'	W 5° 31,2639'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	20/09/2011	09:18:23	N 47° 6,39614'	W 5° 39,65014'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	20/09/2011	09:18:24	N 47° 6,39614'	W 5° 39,65014'	PROFIL82	PROFIL	PHA		
	20/09/2011	09:19:20	N 47° 6,48184'	W 5° 39,78316'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	20/09/2011	09:37:44	N 47° 8,26349'	W 5° 42,09307'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	20/09/2011	09:37:45	N 47° 8,26349'	W 5° 42,09307'	PROFIL83	PROFIL	PHA		
	20/09/2011	09:38:00	N 47° 8,26349'	W 5° 42,09307'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	20/09/2011	11:54:49	N 47° 16,25907'	W 6° 7,21284'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	20/09/2011	11:55:08	N 47° 16,27103'	W 6° 7,27831'	PROFIL84	PROFIL	PHA		
	20/09/2011	11:55:35	N 47° 16,28833'	W 6° 7,36436'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	20/09/2011	17:41:12	N 47° 31,60318'	W 7° 32,29414'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	20/09/2011	17:54:04	N 47° 32,0224'	W 7° 32,09329'	Victor 470	STATION	PHA		
	20/09/2011	19:14:21	N 47° 31,76066'	W 7° 32,08361'			OPE	Victor	Mise à l'eau
	20/09/2011	21:15:00	N 47° 31,67112'	W 7° 32,35285'			OPE	Victor	fond
12	21/09/2011	19:35:00	N 47° 36,90289'	W 7° 31,92202'			OPE	Victor	remontée
	21/09/2011	20:43:59	N 47° 37,01197'	W 7° 32,12915'			OPE	Victor	A bord
	21/09/2011	21:06:05	N 47° 37,13567'	W 7° 31,23116'	PROFIL85	PROFIL	PHA		
	21/09/2011	21:06:37	N 47° 37,16286'	W 7° 31,13296'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	21/09/2011	21:23:54	N 47° 37,89729'	W 7° 28,01694'			OPE	SIPPICAN	Tir
13	22/09/2011	13:06:34	N 48° 19,63856'	W 4° 36,89854'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
15	24/09/2011	05:14:08	N 48° 22,50511'	W 4° 29,2992'	ESCALE1	ESCALE	PHA		
	24/09/2011	06:02:00	N 48° 18,463'	W 4° 41,38172'	PROFIL86	PROFIL	PHA		
	24/09/2011	06:03:00	N 48° 18,38699'	W 4° 41,65768'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	24/09/2011	06:41:00	N 48° 16,2219'	W 4° 49,5866'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	24/09/2011	06:41:16	N 48° 16,21958'	W 4° 49,64555'	PROFIL87	PROFIL	PHA		

	24/09/2011	06:42:44	N 48° 16,21406'	W 4° 49,9744'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	24/09/2011	10:11:18	N 48° 15,6'	W 5° 36'			OPE	SIPPICAN	Tir
	24/09/2011	15:40:52	N 48° 14,6054'	W 6° 49,98058'			OPE	SIPPICAN	Tir
	24/09/2011	21:31:49	N 48° 13,51501'	W 8° 10,81666'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	24/09/2011	21:35:00	N 48° 13,36933'	W 8° 11,60723'	PROFIL88	PROFIL	PHA		
	24/09/2011	21:35:04	N 48° 13,36625'	W 8° 11,6243'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	24/09/2011	22:37:14	N 48° 10,93453'	W 8° 26,83078'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	24/09/2011	22:37:15	N 48° 10,95307'	W 8° 26,79697'	PROFIL89	PROFIL	PHA		
	24/09/2011	22:37:45	N 48° 10,89384'	W 8° 26,90635'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	24/09/2011	23:09:28	N 48° 8,82778'	W 8° 30,72337'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	24/09/2011	23:09:30	N 48° 8,82778'	W 8° 30,72337'	PROFIL90	PROFIL	PHA		
	24/09/2011	23:09:36	N 48° 8,81893'	W 8° 30,73415'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	24/09/2011	23:14:55	N 48° 8,42236'	W 8° 30,29492'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	24/09/2011	23:15:00	N 48° 8,42236'	W 8° 30,29492'	PROFIL91	PROFIL	PHA		
	24/09/2011	23:15:04	N 48° 8,41844'	W 8° 30,27322'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	24/09/2011	23:47:50	N 48° 10,53596'	W 8° 26,27277'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	24/09/2011	23:48:00	N 48° 10,53596'	W 8° 26,27277'	PROFIL92	PROFIL	PHA		
	24/09/2011	23:48:59	N 48° 10,59764'	W 8° 26,15435'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	24/09/2011	23:55:22	N 48° 10,24736'	W 8° 25,56309'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	24/09/2011	23:55:30	N 48° 10,24736'	W 8° 25,56309'	PROFIL93	PROFIL	PHA		
	24/09/2011	23:55:32	N 48° 10,23393'	W 8° 25,56391'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
16	25/09/2011	00:32:00	N 48° 7,95085'	W 8° 29,84185'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	00:32:31	N 48° 7,88774'	W 8° 29,88156'	PROFIL94	PROFIL	PHA		
	25/09/2011	00:32:46	N 48° 7,88774'	W 8° 29,88156'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	25/09/2011	00:38:16	N 48° 7,53425'	W 8° 29,29832'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	00:38:30	N 48° 7,53425'	W 8° 29,29832'	PROFIL95	PROFIL	PHA		
	25/09/2011	00:38:30	N 48° 7,54427'	W 8° 29,26398'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	25/09/2011	00:48:45	N 48° 8,26852'	W 8° 27,8953'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	00:49:00	N 48° 8,26852'	W 8° 27,8953'	PROFIL96	PROFIL	PHA		
	25/09/2011	00:49:00	N 48° 8,26852'	W 8° 27,8953'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	25/09/2011	01:10:28	N 48° 9,9295'	W 8° 29,82944'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	01:10:30	N 48° 9,9295'	W 8° 29,82944'	PROFIL97	PROFIL	PHA		
	25/09/2011	01:10:32	N 48° 9,93663'	W 8° 29,83699'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	25/09/2011	02:57:54	N 48° 9,30638'	W 8° 48,75841'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	02:59:00	N 48° 9,21403'	W 8° 48,74572'	PROFIL98	PROFIL	PHA		
	25/09/2011	02:59:00	N 48° 9,21403'	W 8° 48,74572'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	25/09/2011	03:14:00	N 48° 7,74452'	W 8° 47,82314'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	03:16:46	N 48° 7,51647'	W 8° 47,89611'	PROFIL99	PROFIL	PHA		
	25/09/2011	03:17:04	N 48° 7,50297'	W 8° 47,93668'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	25/09/2011	03:24:02	N 48° 7,24718'	W 8° 48,8809'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	03:25:17	N 48° 7,32143'	W 8° 48,99454'	PROFIL100	PROFIL	PHA		
	25/09/2011	03:25:27	N 48° 7,32143'	W 8° 48,99454'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	25/09/2011	03:42:30	N 48° 9,03025'	W 8° 49,36621'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	03:45:08	N 48° 9,16056'	W 8° 49,56358'	PROFIL101	PROFIL	PHA		
	25/09/2011	03:45:12	N 48° 9,1594'	W 8° 49,57016'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	25/09/2011	03:54:28	N 48° 8,93492'	W 8° 50,86411'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	03:56:14	N 48° 8,81291'	W 8° 50,95146'	PROFIL102	PROFIL	PHA		
	25/09/2011	03:56:23	N 48° 8,79808'	W 8° 50,95052'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	25/09/2011	04:15:48	N 48° 6,78169'	W 8° 50,52114'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	25/09/2011	05:19:04	N 48° 7,42574'	W 8° 48,46398'			OPE	LANDER	Mise à l'eau
	25/09/2011	05:40:44	N 48° 7,3512'	W 8° 50,4938'			OPE	LANDER	Au fond
	25/09/2011	06:07:55	N 48° 7,18189'	W 8° 50,72356'			OPE	Victor	Mise à l'eau
	25/09/2011	07:11:50	N 48° 6,87787'	W 8° 50,82757'			OPE	Victor	fond
17	26/09/2011	12:02:00	N 48° 9,09782'	W 8° 48,67968'			OPE	Victor	remontée
	26/09/2011	12:53:02	N 48° 9,18212'	W 8° 49,21117'			OPE	Victor	A bord
	26/09/2011	13:55:00	N 48° 7,80594'	W 8° 48,22774'			OPE	LANDER	larguage
	26/09/2011	14:37:52	N 48° 7,35804'	W 8° 48,58312'			OPE	LANDER	A bord
	26/09/2011	16:12:01	N 48° 8,46331'	W 8° 48,06773'	Lander4		OPE	LANDER	Mise à l'eau
	26/09/2011	16:28:07	N 48° 8,64538'	W 8° 48,62743'	PROFIL103	PROFIL	PHA		
	26/09/2011	16:28:35	N 48° 8,66814'	W 8° 48,70151'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	26/09/2011	17:33:00	N 48° 11,60117'	W 9° 2,85959'			OPE	LANDER	Au fond
	26/09/2011	17:44:00	N 48° 11,62608'	W 9° 4,71202'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	17:56:12	N 48° 10,88257'	W 9° 5,47777'	PROFIL104	PROFIL	PHA		
	26/09/2011	17:56:47	N 48° 10,9568'	W 9° 5,39228'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	26/09/2011	18:05:56	N 48° 11,30798'	W 9° 5,32966'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	18:06:00	N 48° 11,30798'	W 9° 5,32966'	PROFIL105	PROFIL	PHA		
	26/09/2011	18:06:13	N 48° 11,28818'	W 9° 5,34808'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	26/09/2011	19:07:31	N 48° 5,27198'	W 9° 10,93386'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	19:08:28	N 48° 5,2031'	W 9° 11,03765'	PROFIL106	PROFIL	PHA		
	26/09/2011	19:08:58	N 48° 5,20871'	W 9° 11,10878'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	26/09/2011	19:09:44	N 48° 5,25211'	W 9° 11,20675'			OPE	SIPPICAN	Tir
	26/09/2011	19:26:28	N 48° 6,17139'	W 9° 13,86236'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	19:28:00	N 48° 6,264'	W 9° 14,06088'	PROFIL107	PROFIL	PHA		
	26/09/2011	19:28:06	N 48° 6,264'	W 9° 14,06088'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	26/09/2011	20:35:18	N 48° 12,21076'	W 9° 6,51172'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	20:35:19	N 48° 12,21076'	W 9° 6,51172'	PROFIL108	PROFIL	PHA		
	26/09/2011	20:35:59	N 48° 12,23375'	W 9° 6,41882'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	26/09/2011	20:54:26	N 48° 11,29108'	W 9° 3,54491'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	20:54:43	N 48° 11,26796'	W 9° 3,51657'	PROFIL109	PROFIL	PHA		
	26/09/2011	20:54:52	N 48° 11,25453'	W 9° 3,50608'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	26/09/2011	21:35:41	N 48° 6,82844'	W 9° 6,11399'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	21:35:59	N 48° 6,797'	W 9° 6,13268'	PROFIL110	PROFIL	PHA		
	26/09/2011	21:37:05	N 48° 6,71292'	W 9° 6,2382'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	26/09/2011	21:59:39	N 48° 6,84542'	W 9° 9,68328'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	26/09/2011	21:59:41	N 48° 6,84542'	W 9° 9,68328'	Victor 472-10	STATION	PHA		
	26/09/2011	22:15:00	N 48° 6,69105'	W 9° 9,56957'			OPE	Victor	Mise à l'eau
18	27/09/2011	00:38:00	N 48° 6,70808'	W 9° 9,71271'			OPE	Victor	fond
	27/09/2011	05:15:32	N 48° 7,85073'	W 9° 8,38645'			OPE	Victor	remontée
	27/09/2011	06:44:29	N 48° 7,76171'	W 9° 8,11156'			OPE	Victor	A bord
	27/09/2011	06:48:21	N 48° 7,77505'	W 9° 7,85045'	PROFIL111	PROFIL	PHA		
	27/09/2011	06:48:31	N 48° 7,7795'	W 9° 7,83145'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	27/09/2011	08:26:43	N 48° 10,26193'	W 8° 49,06352'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	27/09/2011	08:26:44	N 48° 10,26193'	W 8° 49,06352'	PROFIL112	PROFIL	PHA		
	27/09/2011	08:27:14	N 48° 10,27735'	W 8° 49,03167'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	27/09/2011	09:26:00	N 48° 14,23311'	W 8° 41,28892'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	27/09/2011	09:27:09	N 48° 14,27446'	W 8° 41,13363'	PROFIL113	PROFIL	PHA		
	27/09/2011	09:28:02	N 48° 14,2252'	W 8° 41,04622'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	27/09/2011	09:34:00	N 48° 13,74055'	W 8° 40,31652'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil

	27/09/2011	09:35:05	N 48° 13,64439'	W 8° 40,23209'	PROFIL114	PROFIL	PHA		
	27/09/2011	09:35:49	N 48° 13,59258'	W 8° 40,28702'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	27/09/2011	10:22:38	N 48° 10,12983'	W 8° 46,56991'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	27/09/2011	10:22:52	N 48° 10,11317'	W 8° 46,60339'	PROFIL115	PROFIL	PHA		
	27/09/2011	10:23:05	N 48° 10,09777'	W 8° 46,63478'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	27/09/2011	10:36:39	N 48° 9,07981'	W 8° 48,54723'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	27/09/2011	11:04:14	N 48° 8,70392'	W 8° 48,23925'	Carottier calypso2	STATION	PHA		
	27/09/2011	11:06:00	N 48° 8,72192'	W 8° 48,24703'			OPE	LANDER	larguage
	27/09/2011	11:37:00	N 48° 8,39029'	W 8° 48,1247'			OPE	LANDER	A bord
	27/09/2011	12:38:50	N 48° 8,3864'	W 8° 48,24131'			OPE	CAROTTIER CALYPSO	Mise à l'eau
	27/09/2011	13:04:00	N 48° 8,38642'	W 8° 48,24035'			OPE	CAROTTIER CALYPSO	Déclenché
	27/09/2011	13:45:00	N 48° 8,37997'	W 8° 48,24409'			OPE	CAROTTIER CALYPSO	A bord
	27/09/2011	16:05:00	N 48° 7,38568'	W 8° 48,48729'			OPE	CAROTTIER CALYPSO	Mise à l'eau
	27/09/2011	16:40:02	N 48° 7,38557'	W 8° 48,48671'			OPE	CAROTTIER CALYPSO	Déclenché
	27/09/2011	17:08:19	N 48° 7,38631'	W 8° 48,48692'			OPE	CAROTTIER CALYPSO	En surface
	27/09/2011	17:30:53	N 48° 7,36488'	W 8° 48,34747'			OPE	CAROTTIER CALYPSO	A bord
	27/09/2011	18:24:00	N 48° 8,3455'	W 8° 48,00029'			OPE	Victor	Mise à l'eau
	27/09/2011	19:11:00	N 48° 8,1429'	W 8° 47,78474'			OPE	Victor	fond
19	28/09/2011	03:54:00	N 48° 8,15282'	W 8° 48,70993'			OPE	Victor	remontée
	28/09/2011	05:14:19	N 48° 8,48653'	W 8° 47,98035'			OPE	Victor	A bord
	28/09/2011	05:15:09	N 48° 8,47382'	W 8° 47,95385'	PROFIL116	PROFIL	PHA		
	28/09/2011	05:16:10	N 48° 8,44841'	W 8° 47,92114'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	28/09/2011	06:45:00	N 48° 16,63894'	W 9° 7,40204'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
20	29/09/2011	09:43:01	N 51° 16,65873'	W 14° 42,53267'	Lander5	STATION	PHA		
	29/09/2011	09:55:16	N 51° 16,55522'	W 14° 42,46968'			OPE	LANDER	Mise à l'eau
	29/09/2011	10:18:07	N 51° 16,45809'	W 14° 42,40303'			OPE	LANDER	Au fond

	29/09/2011	10:40:50	N 51° 15,71468'	W 14° 41,9261'	PROFIL117	PROFIL	PHA		
	29/09/2011	10:41:10	N 51° 15,73549'	W 14° 41,94699'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	11:07:27	N 51° 18,17597'	W 14° 43,69532'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	11:09:13	N 51° 18,32776'	W 14° 43,65533'	PROFIL118	PROFIL	PHA		
	29/09/2011	11:09:24	N 51° 18,34288'	W 14° 43,6493'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	11:31:47	N 51° 20,59519'	W 14° 42,89914'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	11:32:00	N 51° 20,61787'	W 14° 42,90103'	PROFIL119	PROFIL	PHA		
	29/09/2011	11:32:09	N 51° 20,6335'	W 14° 42,90308'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	11:49:49	N 51° 22,35131'	W 14° 43,62551'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	11:50:21	N 51° 22,37042'	W 14° 43,70069'	PROFIL120	PROFIL	PHA		
	29/09/2011	11:50:28	N 51° 22,37432'	W 14° 43,71831'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	12:35:23	N 51° 22,3727'	W 14° 50,8644'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	12:37:54	N 51° 22,22041'	W 14° 51,10448'	PROFIL121	PROFIL	PHA		
	29/09/2011	12:38:03	N 51° 22,20827'	W 14° 51,11084'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	12:51:33	N 51° 20,94296'	W 14° 51,07759'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	12:51:40	N 51° 20,93789'	W 14° 51,06389'	PROFIL122	PROFIL	PHA		
	29/09/2011	12:51:52	N 51° 20,93061'	W 14° 51,03874'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	13:19:00	N 51° 20,97618'	W 14° 46,59459'			OPE	SIPPICAN	Tir
	29/09/2011	14:02:36	N 51° 21,09329'	W 14° 39,56682'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	14:02:56	N 51° 21,09842'	W 14° 39,51084'	PROFIL123	PROFIL	PHA		
	29/09/2011	14:03:10	N 51° 21,1006'	W 14° 39,47318'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	29/09/2011	14:16:13	N 51° 19,98552'	W 14° 39,02432'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	14:16:38	N 51° 19,95397'	W 14° 39,07444'	PROFIL124	PROFIL	PHA		
	29/09/2011	14:16:46	N 51° 19,94473'	W 14° 39,09614'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	15:23:00	N 51° 19,31755'	W 14° 49,68657'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	15:24:00	N 51° 19,31752'	W 14° 49,84944'	PROFIL125	PROFIL	PHA		
	29/09/2011	15:25:00	N 51° 19,31955'	W 14° 50,01331'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	29/09/2011	16:10:46	N 51° 21,47452'	W 14° 42,54793'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	29/09/2011	16:11:36	N 51° 21,5275'	W 14° 42,44838'	Victor 474-12	STATION	PHA		
	29/09/2011	16:33:02	N 51° 21,80893'	W 14° 43,42561'			OPE	Victor	Mise à l'eau
	29/09/2011	17:20:14	N 51° 21,773'	W 14° 43,22025'			OPE	Victor	fond
21	30/09/2011	15:19:00	N 51° 22,21208'	W 14° 48,23715'			OPE	Victor	remontée
	30/09/2011	16:05:00	N 51° 22,11254'	W 14° 48,20779'			OPE	Victor	A bord
	30/09/2011	17:15:00	N 51° 16,78493'	W 14° 41,94671'	Lander6	STATION	PHA		
	30/09/2011	17:19:00	N 51° 16,63205'	W 14° 42,0406'			OPE	LANDER	larguage
	30/09/2011	17:59:05	N 51° 16,0321'	W 14° 41,9301'			OPE	LANDER	A bord
	30/09/2011	18:35:00	N 51° 20,82841'	W 14° 43,31059'	CS06	STATION	PHA		
	30/09/2011	18:58:00	N 51° 21,01729'	W 14° 43,6915'			OPE	CAROTTIER CALYPSO	Mise à l'eau
	30/09/2011	19:27:00	N 51° 21,01643'	W 14° 43,69411'			OPE	CAROTTIER CALYPSO	Déclenché
	30/09/2011	19:57:00	N 51° 21,01744'	W 14° 43,69366'			OPE	CAROTTIER CALYPSO	En surface
	30/09/2011	20:10:00	N 51° 21,08698'	W 14° 43,48577'			OPE	CAROTTIER CALYPSO	A bord
	30/09/2011	20:26:00	N 51° 21,23347'	W 14° 43,0506'	CS07	STATION	PHA		
	30/09/2011	20:32:00	N 51° 21,23263'	W 14° 43,0515'			OPE	CAROTTIER CALYPSO	Mise à l'eau
	30/09/2011	21:00:00	N 51° 21,23569'	W 14° 43,03459'			OPE	CAROTTIER CALYPSO	Déclenché
	30/09/2011	22:01:00	N 51° 21,23025'	W 14° 43,04105'			OPE	CAROTTIER CALYPSO	En surface
	30/09/2011	22:19:00	N 51° 21,23084'	W 14° 43,04239'			OPE	CAROTTIER CALYPSO	A bord

22	01/10/2011	18:50:00	N 55° 31,88849'	W 15° 38,67755'	Victor 475	STATION	PHA		
	01/10/2011	18:59:42	N 55° 31,82744'	W 15° 38,68377'			OPE	Victor	Mise à l'eau
	01/10/2011	20:37:00	N 55° 31,56926'	W 15° 38,83445'			OPE	Victor	fond
23	02/10/2011	10:08:00	N 55° 31,19165'	W 15° 39,18131'			OPE	Victor	remontée
	02/10/2011	10:44:00	N 55° 31,22234'	W 15° 39,31495'			OPE	Victor	A bord
25	04/10/2011	07:02:00	N 48° 38,26978'	W 9° 14,2168'	PROFIL126	PROFIL	PHA		
	04/10/2011	07:02:01	N 48° 38,26978'	W 9° 14,2168'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	04/10/2011	09:44:42	N 48° 11,06978'	W 8° 49,84694'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	04/10/2011	09:44:47	N 48° 11,0567'	W 8° 49,8379'	PROFIL127	PROFIL	PHA		
	04/10/2011	09:45:38	N 48° 10,93271'	W 8° 49,75322'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	04/10/2011	10:04:38	N 48° 8,27176'	W 8° 48,15308'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	04/10/2011	10:42:52	N 48° 8,40266'	W 8° 48,28442'			OPE	LANDER	Mise à l'eau
	04/10/2011	10:55:00	N 48° 8,16089'	W 8° 48,48601'			OPE	LANDER	Au fond
	04/10/2011	12:12:00	N 48° 7,24942'	W 8° 48,26179'	Victor 476		OPE	Victor	Mise à l'eau
	04/10/2011	14:12:00	N 48° 7,21162'	W 8° 48,65987'			OPE	Victor	fond
26	05/10/2011	11:05:00	N 48° 7,26577'	W 8° 48,78599'			OPE	Victor	remontée
	05/10/2011	12:08:00	N 48° 6,89094'	W 8° 48,63004'			OPE	Victor	A bord
	05/10/2011	12:46:00	N 48° 8,68031'	W 8° 47,92698'			OPE	LANDER	language
	05/10/2011	13:46:00	N 48° 8,41457'	W 8° 48,16168'			OPE	LANDER	A bord
	05/10/2011	14:22:45	N 48° 11,60342'	W 8° 51,54671'	PROFIL128	PROFIL	PHA		
	05/10/2011	14:23:00	N 48° 11,60342'	W 8° 51,54671'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	05/10/2011	15:33:50	N 48° 15,68559'	W 9° 2,60741'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	05/10/2011	15:34:00	N 48° 15,68559'	W 9° 2,60741'	PROFIL129	PROFIL	PHA		
	05/10/2011	15:34:29	N 48° 15,6247'	W 9° 2,59976'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	05/10/2011	16:38:00	N 48° 9,45094'	W 9° 2,76679'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	05/10/2011	16:41:08	N 48° 9,4475'	W 9° 2,75125'	Victor 477	STATION	PHA		

	05/10/2011	16:48:17	N 48° 9,4053'	W 9° 2,86252'			OPE	Victor	Mise à l'eau
	05/10/2011	18:00:00	N 48° 9,18073'	W 9° 3,42723'			OPE	Victor	fond
27	06/10/2011	06:13:00	N 48° 12,45766'	W 9° 5,53064'			OPE	Victor	remontée
	06/10/2011	07:15:15	N 48° 12,47951'	W 9° 6,05133'			OPE	Victor	A bord
	06/10/2011	07:24:58	N 48° 12,13341'	W 9° 5,59169'	PROFIL130	PROFIL	PHA		
	06/10/2011	07:25:18	N 48° 12,10539'	W 9° 5,54789'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	06/10/2011	07:40:09	N 48° 10,70177'	W 9° 3,26171'			OPE	SIPPICAN	Tir
	06/10/2011	07:45:30	N 48° 10,27442'	W 9° 2,30541'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	07:45:31	N 48° 10,27442'	W 9° 2,30541'	PROFIL131	PROFIL	PHA		
	06/10/2011	07:45:43	N 48° 10,27042'	W 9° 2,26284'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	06/10/2011	08:07:03	N 48° 10,14888'	W 8° 57,63249'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	08:07:04	N 48° 10,1518'	W 8° 57,64196'	PROFIL132	PROFIL	PHA		
	06/10/2011	08:07:39	N 48° 10,10706'	W 8° 57,51223'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	06/10/2011	08:38:09	N 48° 7,77085'	W 8° 51,79169'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	08:38:10	N 48° 7,78273'	W 8° 51,82168'	PROFIL133	PROFIL	PHA		
	06/10/2011	08:38:38	N 48° 7,72525'	W 8° 51,71326'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	06/10/2011	08:52:00	N 48° 6,00122'	W 8° 50,31085'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	08:52:01	N 48° 6,00122'	W 8° 50,31085'	PROFIL134	PROFIL	PHA		
	06/10/2011	08:53:00	N 48° 5,91722'	W 8° 50,16849'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	06/10/2011	15:28:00	N 47° 40,25741'	W 7° 39,34757'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	15:28:42	N 47° 40,21382'	W 7° 39,23515'	PROFIL135	PROFIL	PHA		
	06/10/2011	15:29:00	N 47° 40,19417'	W 7° 39,18877'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	06/10/2011	16:00:00	N 47° 37,56517'	W 7° 34,706'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	16:00:36	N 47° 37,50515'	W 7° 34,63105'	PROFIL136	PROFIL	PHA		
	06/10/2011	16:00:58	N 47° 37,46435'	W 7° 34,5831'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	06/10/2011	16:15:30	N 999° 0'	E 999° 0'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	16:55:50	N 47° 36,08028'	W 7° 33,3148'			OPE	LANDER	Mise à l'eau
	06/10/2011	17:06:00	N 47° 36,06736'	W 7° 33,11894'	PROFIL137	PROFIL	PHA		
	06/10/2011	17:06:00	N 47° 36,06736'	W 7° 33,11894'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	06/10/2011	17:07:07	N 47° 36,05698'	W 7° 33,07844'			OPE	LANDER	Au fond
	06/10/2011	17:29:00	N 47° 36,66538'	W 7° 31,50952'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	17:29:23	N 47° 36,66548'	W 7° 31,5108'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	06/10/2011	17:29:28	N 47° 36,66538'	W 7° 31,5111'	Victor 478	STATION	PHA		
	06/10/2011	18:30:00	N 47° 36,78588'	W 7° 31,61087'			OPE	Victor	Mise à l'eau
	06/10/2011	19:30:00	N 47° 36,89825'	W 7° 31,8767'			OPE	Victor	fond
28	07/10/2011	13:22:00	N 47° 38,09809'	W 7° 31,80072'			OPE	Victor	remontée
	07/10/2011	14:09:00	N 47° 38,27312'	W 7° 32,01871'			OPE	LANDER	larguage
	07/10/2011	14:20:26	N 999° 0'	E 999° 0'			OPE	Victor	A bord
	07/10/2011	14:53:00	N 47° 36,40243'	W 7° 31,34074'			OPE	LANDER	A bord
	07/10/2011	16:08:00	N 47° 37,15078'	W 7° 33,41953'	PROFIL138	PROFIL	PHA		
	07/10/2011	16:08:15	N 47° 37,15078'	W 7° 33,41953'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	07/10/2011	16:30:51	N 47° 39,36814'	W 7° 32,4656'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	07/10/2011	16:30:53	N 47° 39,36991'	W 7° 32,45971'	PROFIL139	PROFIL	PHA		
	07/10/2011	16:31:00	N 47° 39,36814'	W 7° 32,4656'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	07/10/2011	17:05:00	N 47° 41,06816'	W 7° 26,67567'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	07/10/2011	17:05:12	N 47° 41,053'	W 7° 26,64232'	PROFIL140	PROFIL	PHA		
	07/10/2011	17:05:12	N 47° 41,053'	W 7° 26,64232'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	07/10/2011	17:31:00	N 47° 40,76008'	W 7° 25,83837'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	07/10/2011	17:31:10	N 47° 40,76008'	W 7° 25,83837'	PROFIL141	PROFIL	PHA		
	07/10/2011	17:31:10	N 47° 40,76008'	W 7° 25,83837'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil

	07/10/2011	18:00:00	N 47° 38,98583'	W 7° 20,91191'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	07/10/2011	18:00:45	N 47° 38,92254'	W 7° 20,74281'	PROFIL142	PROFIL	PHA		
	07/10/2011	18:00:50	N 47° 38,92254'	W 7° 20,74281'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	07/10/2011	18:03:50	N 47° 38,69807'	W 7° 20,19478'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	07/10/2011	21:32:03	N 47° 22,01776'	W 6° 37,11127'	Victor 479		OPE	Victor	Mise à l'eau
	07/10/2011	23:13:33	N 999° 0'	E 999° 0'			OPE	Victor	fond
29	08/10/2011	21:29:30	N 999° 0'	E 999° 0'			OPE	Victor	remontée
	08/10/2011	22:47:54	N 47° 22,89661'	W 6° 38,3453'			OPE	Victor	A bord
	08/10/2011	23:16:02	N 47° 21,26994'	W 6° 37,88468'	PROFIL143	PROFIL	PHA		
	08/10/2011	23:16:19	N 47° 21,30491'	W 6° 37,87981'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	08/10/2011	23:42:28	N 47° 23,98396'	W 6° 37,71869'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	08/10/2011	23:42:49	N 47° 24,01852'	W 6° 37,712'	PROFIL144	PROFIL	PHA		
	08/10/2011	23:43:00	N 47° 24,03598'	W 6° 37,70459'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
30	09/10/2011	00:33:08	N 47° 28,75016'	W 6° 34,9336'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	09/10/2011	00:47:07	N 47° 28,65297'	W 6° 35,00132'	PROFIL145	PROFIL	PHA		
	09/10/2011	00:47:14	N 47° 28,64218'	W 6° 35,00882'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	09/10/2011	01:25:50	N 47° 23,94624'	W 6° 37,74804'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	09/10/2011	01:26:04	N 47° 23,91529'	W 6° 37,7469'	PROFIL146	PROFIL	PHA		
	09/10/2011	01:26:31	N 47° 23,85472'	W 6° 37,74113'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	09/10/2011	01:35:57	N 47° 22,60206'	W 6° 37,79293'			OPE	SONDEUR DE SEDIMENT CHIRP	Fin de Profil
	09/10/2011	02:08:00	N 47° 22,70422'	W 6° 37,45769'	Carottier calypso8	STATION	PHA		
	09/10/2011	02:24:00	N 47° 22,68659'	W 6° 37,47218'			OPE	CAROTTIER CALYPSO	Mise à l'eau
	09/10/2011	03:27:00	N 47° 22,68667'	W 6° 37,47254'			OPE	CAROTTIER CALYPSO	Déclenché
	09/10/2011	03:55:00	N 47° 22,6864'	W 6° 37,47317'			OPE	CAROTTIER CALYPSO	En surface
	09/10/2011	04:28:00	N 47° 22,62725'	W 6° 37,45931'			OPE	CAROTTIER CALYPSO	A bord

	09/10/2011	08:26:50	N 47° 16,4651'	W 6° 22,29373'	Victor 480		OPE	Victor	Mise à l'eau
	09/10/2011	10:04:32	N 999° 0'	E 999° 0'			OPE	Victor	fond
31	10/10/2011	06:10:00	N 47° 19,20818'	W 6° 21,05535'			OPE	Victor	remontée
	10/10/2011	07:10:00	N 47° 19,69594'	W 6° 20,92213'			OPE	Victor	A bord
	10/10/2011	07:15:39	N 47° 19,81774'	W 6° 20,81265'	PROFIL147	PROFIL	PHA		
	10/10/2011	07:15:53	N 47° 19,82503'	W 6° 20,8007'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut Profil
	10/10/2011	07:29:40	N 47° 21,04722'	W 6° 19,47574'			OPE	SIPPICAN	Tir
	10/10/2011	07:41:39	N 47° 23,25739'	W 6° 18,07226'			OPE	SONDEUR DE SEDIMENT CHIRP	Debut fichier

Annexe 2 : Teams onboard

Découpage de la campagne	Parties	Chef(s) de mission
Du Vendredi 9 septembre au Jeudi 22 septembre	1	Sophie Arnaud-Haond
Du Vendredi 23 septembre au Mardi 11 octobre	2	Sophie Arnaud-Haond & Anthony Grehan

EQUIPE SCIENTIFIQUE et EQUIPE GENAVIR (sédentaires et inscrits maritimes supplémentaires)

NOM et PRENOM	Organisme employeur	Siège social de l'organisme employeur ⁽¹⁾			Chercheur ⁽²⁾	ITA ou Technicien	Doctorant	Etudiant	Personnel sédentaire gestionnaire technique	Autres (observateur, ...)	Parties de la campagne		
		F	E	A							1	2	3
Sophie Arnaud-Haond	Ifremer-DEEP-LEP	F			o						o	o	
Anthony Grehan	NUIG (Irlande)		E		o							o	
Jean-François Bourillet	Ifremer-GM-LES	F			o						o	o	
Brigitte Guillaumont	Ifremer-EEP-LEP	F			o						o		
Joëlle Galéron	Ifremer-EEP-LEP	F			o						o		
Alexis Khripounoff	Ifremer-EEP-LEP	F			o						o		
Jean Claude Caprais	Ifremer-EEP-LEP	F			o						o		

Yann Moalic	Ifremer-EEP-LEP	F			o						o	o	
Christophe Bayle	Ifremer-EEP-LEP	F			o						o	o	
Jaime Davie	Ifremer-EEP-LEP	F			o						o		
Inge van den Belde	Ifremer-EEP-LEP	F			o						o	o	
Olivier Mouchel	Ifremer-EEP-LEP	F				o					o	o	
Ronan Becheler	Ifremer-EEP-LEP	F					o				o	o	
Sandra Fuchs	Ifremer-EEP-LEP	F			o						o		
Philippe Noël	Ifremer-EEP-LEP	F				o					o		
Jean-Pierre Brulport	Ifremer-EEP-LEP	F				o					o	o	
Valérie Cueff-Gauchard	Ifremer-EEP-LMEE	F			o						o	o	
Olivier Soubigou	Ifremer-NSE-ILE	F			o						o		
Benoit Loubrieu	Ifremer-GM-CTDI	F			o							o	
Cécile Pertuisot	Ifremer-IDM/SISMER	F			o							o	
Arnaud Gaillot	Ifremer-GM-LES	F			o						o		
Mathieu Veslin	Ifremer-GM-LES	F			o						o	o	
Karou Essis	Ifremer-GM-LES	F						o			o		
Rémi Laxenaire	Ifremer-GM-LES	F						o			o		
Clara Bellon	Ifremer-GM-LES	F						o			o		
Coralyne Marin	Ifremer-GM-LES	F				o					o		
Michel Gouillou	Ifremer	F								o		o	

Anna Maria Rengstorf	NUIG(Irlande)		E					o				o	o	
Joana Boavida	Ifremer/CCMAR		E					o				o		
Andreia Braga Henriquez	IMAR (Portugal)		E					o				o	o	
Angela STEVENSON	Dublin University: Center from Environment, Trinity Colleage		E					o				o	o	
Thomas Linley	Oceanlab, University of Aberdeen (Grande- Bretagne)		E				o					o	o	
Sandra Brocheray	EPOC-Univ. Bordeaux	F						o				o		
Norbert Franck	LSCE	F					o					o		
Eric Douville	LSCE	F					o						o	
Cécile Gonsalez	LSCE	F					o						o	
Julie Réveillaud	University Ghent		E			o							o	
Chris Yesson	SZL (UK)		E			o							o	
Giula Prato	NUIG (Irlande)		E			o							o	
Jean-Jacques BOUBERT	Centre de Recherche sur les Mammifères Marins	F									o	o		

(1) F : France, E : Europe, A : Autres pays

(2) Définition du chercheur embarqué :

- chercheur à partir de doctorants,
- ingénieur ayant une activité de recherche,
- ingénieur-chercheur (au sens de chercheur en technologies marines) considéré chercheur.

Annexe 3 : Fiche de valorisation

Cruise name : BobEco	
Vessel : PP?	Heavy equipment : ROV
Dates : Sept11st –Oct 10th	Area : Bay of Biscay, Irish Sea

Project leader N°1 : Sophie ARNAUD-HAOND	Institute : Ifremer
Project leader N°2 : Anthony Grehan	Institute : NIOZ
Project leader N°3 :	Institute :

Sheet completed by : Sophie ARNAUD-HAOND	Date of sheet completion : 31/07/2014	
Address : Ifremer, centre de Sète; Boulevard Jean Monet, BP71; 34203 Sète Cedex 3		
E-mail :sarnaud@ifremer.fr	Tel :	Fax :

Major cruise results

1to 3 pages description of cruise results for general public access

Exploration summary :

Discovery of :

- Four new reefs or dense fields of corals in the French Area : Douarnenez, Crozon, Petite Sole et Sorlingues
- Two « falls »/cliffs areas : Saint-Nazaire et Lampaul

Exploration of two previously known sites (Croisic et Guilvinec)

Systematic sampling (standardized and random) in 6 areas from Northern Ireland to the Croisic Canyon Croisic

Discovery of trawl scarces and fish items in numerous areas particularly in the French EEZ

Numbers

29 days at sea

11 days high resolution mapping from the boat

15 days ROV Victor (18 dives) including 3 days very high resolution using MMR OTUS camera

4000 pictures

6 To videos

Acquisition of data on water mass properties (CTD, ADCP)

6 Calypso cores

Deployment & recovery :

-1 ADCP

-1 particle trap

-7 landers

-1 Benne Hamon

Geomorphology :

- SMF allowed completing maps for data missing after BobGeo
- New data on Sorlingue and Arc Mounds areas
- Microbathymetry (ROV) and OTUS camera in Guilvinec & Petite Sole canyons as well as in Arc Mounds

Sampling :

- About 1000 coral samples together with other species (for barcoding/molecular identification of taxa and population genetics)
- About 50 microbiology samples (for metagenomics)
- About 250 isolated specimens (for morphological identification)
- 1000 living and fossil samples for geochemistry, datation and ageing, as well as reconstitution of paleoenvironmental conditions.

Summary table

Items		Number
1	Original papers in JCR reviews (<i>Verify in Journal Citation Reports database</i>)	Year 2013 : 3 Year 2014 : 2 Year 2015: 1 accepted, 6 submitted
2	Publications in other types of review or book	
3	Internet papers	
4	Technical reports	
5	Papers in popular reviews	
6	International communications	13
7	National communications	3
8	New species (animals, microorganisms) discovered	Metagenomics (hundreds OTUs being analysed for procaryotes) & morphological and molecular taxonomy still in course
9	Reports to international institutions (UE, FAO...)	2 (EU report coralFISH & DCSMM report on vulnerable habitats)
10	Applications (therapeutic, clinical, AMM ...)	
11	Licences	
12	Atlas publications (maps, photos)	1
13	Videos, films	2 TV
14	Masters students having used cruise data	5

15	PHD students having used cruise data	4
16	Data validation in progress :	Completed :
17	Transmission to SISMER	Yes
18	Transmission to other data banks	Yes : GenBank (genetic data) & OBIS (being processed)
19	Transmission to other teams	Yes : partners of coralFISH
20	Current state of exploitation in progress:...	In Progress

In annex furnish the references of all papers, communications, reports....classified according to each item.

Articles

1. Dolan, E., P.A. Tyler, C. Yesson, and A.D. Rogers (2013) *Phylogeny and systematics of deep-sea sea pens (Anthozoa: Octocorallia: Pennatulacea)*. Molecular Phylogenetics and Evolution. **69**(3): p. 610-618.
2. Rengstorf, A.M., C. Yesson, C. Brown, and A.J. Grehan (2013) *High-resolution habitat suitability modelling can improve conservation of vulnerable marine ecosystems in the deep sea*. Journal of Biogeography. **40**(9): p. 1702-1714.
3. Stevenson, A. and C. Rocha (2013) *Evidence for the bioerosion of deep-water corals by echinoids in the Northeast Atlantic*. Deep-Sea Research Part I. **71**: p. 71-78.
4. Khripounoff A., Caprais J.-C., Le Bruchec J., Rodier Ph., Noel Ph., and Cathalot C. (2014) *Deep cold-water ecosystems in the Brittany submarine canyons (Northeast Atlantic): Hydrodynamics, particle supply, respiration and carbon cycling*. Limnology and Oceanography. **59**(1): p. 87-98.
5. Reveillaud, J., L. Maignien, A.M. Eren, J.A. Huber, A. Apprill, M.L. Sogin, and A. Vanreusel (2014) *Host-specificity among abundant and rare taxa in the sponge microbiome*. Isme Journal. **8**(6): p. 1198-1209.
6. Stevenson, A., Mitchell, F.J.G., Davies, J.S., 2015. Predation has no competition: factors influencing space and resource use by echinoids in deep-sea coral habitats, as evidenced by continuous video transects. Marine Ecology, n/a-n/a.
7. Becheler, R., A.-L. Cassonne, P. Noel, O. Mouchel, C.L. Morrison, and A.-H. S. (submitted) *Standardized and randomized sampling strategy in the deep allows unravelling fine-grained spatial genetic patterns in cold-water corals and reveals low incidence of clonality*. Deep Sea Research II.
8. S., A.-H., v.d.B. I., R. Becheler, N. Frank, and J.-F. Bourillet (submitted) *Two pillars for cold water coral reefs reefs along Atlantic European margins: prevalent association of Madrepora oculata to Lophelia pertusa, from reef to colony scale*. Deep Sea Research II.
9. van den Belt, I., G. B., M. L., B. C., A.-H. S., and B. J-F. (submitted) *Marine litter in submarine canyons of the Bay of Biscay*. Deep Sea Research II.
10. Linley, T.D., Lavaleye, M., P. M., Bergman, M., Capezzuto, F., Cousins, N., D'Onghia, G., Duineveld, G., Shields, M., Sion, L., Tursi, A., Priede, I.G., submitted. Interaction of cold-water corals with fish diversity and density across differing European regions: data from three baited lander systems. . Deep Sea Research II.
11. Stevenson, A., J.S., D., A., W., Althaus, F., Rowden, A.A., Bowden, D.A., Clarck, M.R., Mitchell, F., submitted. Echinoid taxa-specific distribution and abundance in deep-sea coral habitats.
12. Stevenson, A., Mitchell, F., submitted. Nutrition for growth and reproduction in coexisting deep-sea echinoids: Perspectives from a stable isotope analysis.

International conferences

1. Arnaud-Haond, S., R. Becheler, S. Teixeira, C. Chruvel, M. Choquet, A.-L. Cassonne, . . . J.-F. Bourillet, 2012, *Did cold water coral reef of the Atlantic follow the Mediterranean outflow water and when? A phylogeographic assessment. Talk.*, in *CoralFISH*: Galway.
2. Becheler, R., I.M.J. van den Beld, J.F. Bourillet, O. Mouchel, M. Dahl, P. Noël, and S. Arnaud-Haond, 2012, *Genetic diversity of the cold water coral *Lophelia pertusa* in reefs exhibiting different levels of environmental impacts. Talk.*, in *CoralFISH*: Galway.
3. Becheler, R., I.M.J. van den Beld, J.F. Bourillet, O. Mouchel, M. Dahl, P. Noël, and S. Arnaud-Haond, 2012, *Genetic diversity of the cold water coral *Lophelia pertusa* in reefs exhibiting different levels of environmental impacts. Talk.*, in *Deep Sea Symposium*: Wellington, New Zealand.
4. Bourillet J.-F., de Chambure L., Loubrieu B., Arnaud-Haond S., Guillaumont B., V. M., and a. BobGeo_BobEco_scientific_teams. *Geomorphology of the Bay of Biscay and cold-water corals habitat mapping (NE Atlantic)*. . in *Deepfishman & Coralfish meeting*. 2012. August 28-31 2012, Galway, Ireland.
5. Stevenson, A., D.R. Gröcke, and F. Mitchell, 2012, *Investigation of deep-sea echinoid feeding ecology in the NE Atlantic: Implications for deep-sea coral ecosystems (Oral presentation)*, in *13th International Symposium on Deep-Sea Biology*: Wellington, New Zealand.
6. Stevenson, A. and C. Rocha, 2012, *Evidence of bioerosion by echinoids in deep-sea coral habitats of the Northeast Atlantic (Poster presentation)*, in *5th International Deep-Sea Coral Symposium*: Amsterdam, Netherlands.
7. van den Beld, I.M.J., B. Guillaumont¹, J.S. Davies, C. Carré, C. Bayle, L. de Mol, and S. Arnaud-Haond, 2012, *The distribution of coral reefs in the Bay of Biscay*, in *5th International Deepsea Coral Symposium 2012*: Amsterdam.
8. Veslin M., Bourillet J.-F., Toucanne S., Bosq M., and Khripounoff A. *Elements for the hydrodynamic regime along the slope at the northern margin of the Bay of Bisacy. Study using geophysical and sedimentological data*. in *Deepfishman & Coralfish meeting*. 2012. August 28-31 2012, Galway, Ireland.
9. Arnaud-Haond, S., 2013, *Technical Challenges of Deep Sea Corals sampling*, in *Challenges for the setup of MPA I Deep Sea*, in *International marine Protected Area Congress (IMPAC)*: Marseilles.
10. Davies J., Guillaumont B., van den Beld I., Tempera F., Vertino A., Ólafsdóttir S.H., . . . Grehan A. *A cold-water coral biota classification scheme for ecosystem based management of the deep sea*. in *Geohab*. 2013. Roma, 6-10 May 2013.
11. Grehan A., de Chambure L., Savini A., Bourillet J.-F., Rengstorff A., Kutti T., . . . Tempera F. *Developing tools and methodologies to promote ecosystem based management of deep-sea resources - some key outputs from the EU FP7 'CoralFISH' project*. in *Geohab*. 2013. Roma, 6-10 May 2013.
12. Veslin M., Bourillet J.-F., Toucanne S., Bosq M., and Rochat A. *The continental slope of the northern Bay of Biscay (French Atlantic margin), characterisation and architecture of contouritic deposits. (Preliminary results 1st year of Phd)*. in *Dialogue between contourite & oceanography processes*. 2013. Hull, UK, 28-31 January 2013.
13. Stapleton F., Murray J., Duffy G., Grehan A., Williams M., and B. J.-F. *Geologically and geophysically describing the Arc Mounds, Porcupine Bank*. in *2014 Irish Geological Research meeting*. 2014. Dublin.

National Conferences

1. van den Beld, I., B. Guillaumont, C. Bayle, J. Davies, and S. Arnaud-Haond. *Anthropogenic impacts in submarine canyons of the Bay of Biscay*. in *International Canyon Workshop*. 2012. Brest, France.
2. Bourillet J.-F., de Chambure L., Loubrieu B., Toucanne S., Veslin M., Davies J., . . . S. Arnaud-Haon. *Géomorphologie du golfe de Gascogne et cartographie des habitats des coraux d'eau froide (Atlantique NE)*. in *Carhamb'ar, 2è édition*. 2013. Brest, 26-28 mars 2013.
3. Davies J., Guillaumont B., van den Beld I., Savini A., Vertino A., Tempera F., . . . Grehan A. *A cold-water coral biota classification scheme for ecosystem based management of the deep sea*. in *Carhamb'ar, 2è édition*. 2013. Brest, 26-28 mars 2013.

Broad audience communication

1. Arnaud-Haond, S., A. Grehan, and J.-F. Bourillet, 2011, *Conférence de presse retour de la campagne BobEco*: Institut Océanographique, Paris, 18 octobre 2011.

2. Arnaud-Haond, S., 2012, *Dispersion et connectivité en environnement profond*, Grand Public: Océanopolis, Brest, Octobre 2012.
3. Arnaud-Haond, S. and D. Desbruyères, 2012, *Abysses : désert stérile ou eldorado ?*, Grand Public: Institut Océanographique, Paris.

Maps

1. J-F., B., L. de Chambure, and B. Loubrieu, 2012, *Sur les traces des coraux d'eau froide du golfe de Gascogne. 8 cartes bathymorphologiques et géomorphologiques au 1/100.000*, I.Q. (Ed.). Editor.

Master & PhD thesis

1. Bosq M., 2012, *Caractérisation et évolution des processus sédimentaires sur la pente du Golfe de Gascogne*, Université bordeaux III. p. 20 figures, 4 tables, 18 annexes, 67 pp.
2. Chauvel, C., 2012, *Analyse de la dispersion du polychaete Eunice norvegica en lien avec les coraux d'eaux profondes Lophelia pertusa et Madrepora oculata*, in *Ifremer, Département Environnement Profond*, IUEM: Institut Universitaire Européen de la Mer: Brest. Master 1, p. 22 p.
3. Choquet, M., 2012, *Etude de la connectivité ancienne entre les populations de scléactiniaires de la Méditerranée et de l'Atlantique Nord, en particulier de Lophelia pertusa* in *Ifremer, Département Environnement Profond*, IUEM: Institut Universitaire Européen de la Mer: Brest. Master 1, p. 23 p.
4. Kimbangu C., 2012, *Renaissance d'un récif corallien dans les profondeurs du canyon de Croisic*, in *LSCE*, université de Versailles Saint-Quentin en Yvelines: Gif sur Yvette. p. 41.
5. Choquet, M., 2013, *Phylogeography and connectivity of the polychaete Eunice norvegica associated to Cold Water Corals along European margins, a non exclusive association?*, in *CCMar, Centro das Ciencias do Mar*, Algarve University, Portugal: Faro, Portugal. Master 2, 30 p.
6. Linley, T., 2012. *Baited Photo-Lander Studies of the Deep Sea Mobile Fauna of Inaccessible Habitats : European Cold-Water Coral Reefs and the Deep Mediterranean Sea*. University of Aberdeen, PhD p. 190pp.
7. Becheler, R., 2013, *Feedbacks between genetic diversity and demographic stability in clonal organisms*, in *Ifremer, Département Environnement Profond*, IUEM: Institut Universitaire Européen de la Mer: Brest, PhD.
8. van den Beld, I., en cours, in *Ifremer, EEP*, IUEM, Institut Européen des Sciences de la Mer, PhD.

Reports

1. Sarradin, P.-M., L. Menot, P. Laffargue, B. Guillaumont, J.-F. Bourillet, S. Arnaud-Haond, and B. Raguenes, 2013, *Contribution to the final periodic report CoralFish European Union*, FP7.
2. Stapleton F., Murray J. W., Grehan A., Duffy G., and Williams M., 2013, *A geological and geophysical description of the Arc Mounds, southwest Pourcupine Bank*, in *Eart & Ocean Sciences, NUI Galway in collaboration with Ifremer*, Infomar final report: Galway. p. 104.
3. S., A.-H., 2012, *Rapport de la campagne BobEco a destination de l'Agence des Aires Marines Protégées*. p. 16p.
4. Arnaud-Haond, S. and Y. Moalic, 2011, *Compte Rendu de Campagne à la Mer BobEco*. p. 119p.