ALBACORE CRUISE

Report and preliminary results

Toulon October 14th 2021 - Toulon November 15th 2021

Onboard R/V Pourquoi Pas?

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Abstract

The ALBACORE cruise on board N/O Pourquoi Pas? took place between October 14th and November 15th in 2021. The scientific party was constituted by an international team of 27 scientists from Moroco, France, Spain, and Sweden. The main objective of the expedition was the collection of sediment cores along the Alboran Sea, mostly in its southern margin, in order to address the scientific objectives of a multidisciplinary project. Beyond coring operations, seafloor mapping and observation of sub-seabed sediments with swath bathymetry and sub-bottom profilers was undertaken in areas were high resolution data was still missing.

The investigated areas of the ALBACORE cruise include (i) contourites on the northern and southern margins, (ii) Xauen bank and surrounding landslides and deformation fronts, (iii) the Francesc Pagès bank, (iv) the southern continuation of the Al-Idrissi fault, the Bokkoya fault, the Trougout fault as well as (v) the Al-Hoceima platform.

These following operations were carried out: 9 Penfeld dives; 65 Calypso coring (11 cores with more than 20m of recovery and 22 cores between 10 and 20m of recovery); 39 interface coring (with the Fantacore tool); 12 gravity coring; 15 heat flux measurements; 18 Cnexoville rock coring. The total length of sediment recovered by the Calypso and Gravity devices reaches 768m. A total of 107 interface cores (with lengths from 20 to 60 cm) were recovered.

Résumé

La campagne océanographique ALBACORE à bord du N/O Pourquoi Pas ? a eu lieu du 14 octobre au 15 novembre 2021. L'équipe scientifique était constituée d'une équipe internationale de 27 scientifiques du Maroc, de France, d'Espagne et de Suède. L'objectif principal de l'expédition était la collecte de carottes de sédiments le long de la mer d'Alboran, principalement sur sa marge sud, afin de répondre aux objectifs scientifiques d'un projet multidisciplinaire. En plus des opérations de carottage, la cartographie du fond marin et des sédiments superficiels avec les outils de bathymétrie et de sondeur de sédiment a été entreprise dans les zones où les données à haute résolution manquaient encore.

Les zones étudiées lors de la campagne ALBACORE comprennent (i) les contourites sur les marges nord et sud, (ii) le banc de Xauen et les glissements de terrain et fronts de déformation environnants, (iii) le banc de Francesc Pagès, (iv) le système de faille sud de la faille d'Al-Idrissi ainsi que (v) la plate-forme d'Al-Hoceima.

Ces opérations ont été réalisées : 9 plongées Penfeld; 65 carottes Calypso (11 carottes dont le remplissage a été de plus de 20m et 22 carottes entre 10 et 20m de remplissage); 39 carottiers d'interfaces (Fantacore); 12 carottes gravitaires; 15 mesures de flux de chaleur; 18 carottiers à roche Cnexoville. La longueur totale de sédiments récupérés grâce aux dispositifs Calypso et Gravitaire atteint les 768m. Un total de 107 carottes d'interface a été récupérées.

1. Study area and geological background

Records of tectonic processes in the Alboran Sea

Strike-slip and reverse faults accommodated the convergence between the Eurasian and African plates (Gràcia et al., 2019; d'Acremont et al. 2020; Estrada et al., 2021). In the southern part of the Alboran basin, thrusts and folds form large E-W to NE-SW prominent morpho-structural highs (Figure 1). The Xauen-Tofiño Banks (XB and TB, respectively) and Francesc Pagès Seamount (FP) form the South Alboran compressive Ridge above the thick Miocene shales (called SAR; d'Acremont et al. 2020; Lafosse et al. 2020). North of the SAR, blind thrusts limit the front of the compressional deformation (d'Acremont et al. 2020; Lafosse et al. 2020).

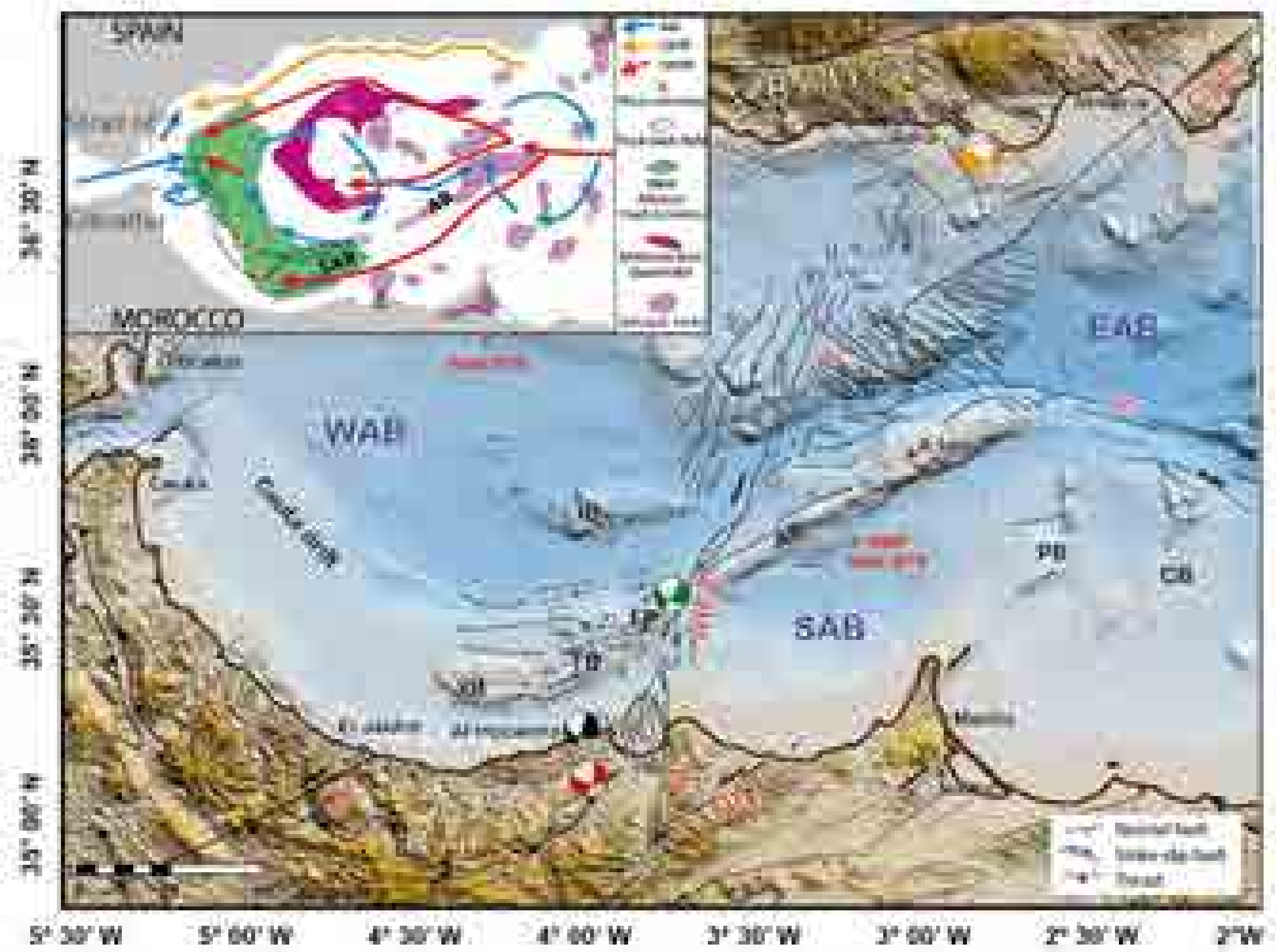


Figure 1: *Bathymetric map of the Alboran Sea showing the structural features of the area. Shaded bathymetry from compilation of ISTEP and CSIC multibeam cruises with GEBCO 2014 database, topography from SRTM database. Focal mechanism in black: 1994 main shock (El Alami et al., 1998; Biggs et al., 2006). Focal mechanism in red: 2004 main shock (van der Woerd et al., 2014). Focal mechanism in green: 2016 main shock (Kariche et al., 2017; Medina and Cherkaoui, 2017). Focal mechanism in orange: Location and moment tensor solution obtained for the 1910 Adra Earthquake from Stich et al. (2003). AF, Averroes Fault; AIFZ, Al Idrissi Fault Zone; A.Is, Alboran Island; AR, Alboran Ridge (Alboran ridge thrust front, ARTF); CB, Cabliers Bank; CSF, Carboneras Serrata Fault; EAB, East Alboran Basin; FP, Francesc Pagès Seamount; IB, Ibn-Batouta Bank; JF, Jebha Fault; NB, Nekor Basin; NF, Nekor Fault; PB, Pytheas Bank; SAB, South Alboran Basin; SAR, South Alboran Ridge; TB, Tofiño Bank; WAB, West Alboran Basin; XB, Xauen Bank; YF, Yusuf Fault. Offshore structural features from Estrada et al. (2018); d'Acremont et al. (2020). Inset: water currents between Mediterranean Sea and Atlantic Ocean and main features of the basement. The arrows representing water masses are from Ercilla et al. (2019); AW, Atlantic Water; LMW, Light Mediterranean intermediate Water; DMW, Dense Mediterranean Water.*

Recent deformations are related to the growth of the anticline related to these blind thrust activities (d'Acremont et al. 2020). Eastward, the Alboran Ridge is a compressive structure with blind thrusts, accommodating the African plate indentation in the Alboran block (Figs 1 and 2A; Martínez-García et al., 2017, Estrada et al., 2018). Compared to the SAR, the Alboran Ridge is narrower and is characterized by steeper slopes. The Al Idrissi Fault Zone, AIFZ (Gracia et al., 2019; d'Acremont et al., 2020; Lafosse et al., 2020; Figures 1 and 2), crosses these structures and extends over the Alboran basin from southern Spain (Campo de Dalías/Adra region) to Morocco (Al Hoceima area; d'Acremont et al. 2014; Lafosse et al. 2020) (Figs 1 and 2). The AIFZ is a Quaternary NNE-SSW sinistral strike-slip structure (Gràcia et al., 2019; Lafosse et al., 2016, 2020), conjugated with NW-SE dextral faults toward the northern tip of the Alboran Ridge (Yusuf Fault and Averroes Fault Estrada et al., 2021; Figure 1). Most of the seismicity in the Alboran Basin is concentrated along this NNE-SSW AIFZ (Fig. 2A; Grevemeyer et al., 2015; Gracia et al., 2019; Stich et al., 2020). In southern Spain, the Adra 1910 earthquake has been estimated up to magnitude Mw= 6.1 (Stich et al., 2003), while in Northern Morocco, the Al Hoceima area has been affected by three recent seismic events (earthquakes, Fig. 1): May 26, 1994 (Mw=5.6), February 21, 2004 (Mw=6.4), January 25, 2016 (Mw= 6.4), (Medina and Cherkaoui, 2017; Galindo-Zaldívar et al., 2018; Kariche et al., 2018; Gràcia et al., 2019). The February 21, 2004 event yielded 628 casualties (Stich et al., 2005). These earthquakes are located along the AIFZ or related segments. Historical earthquakes are also described with intensities between VIII and X (MSK Intensity; Peláez et al., 2007; Palano et al., 2015). Long recurrence periods are suggested for these large earthquakes, due to the low plate convergence velocity (>1,000 years, Gràcia et al., 2006).

Water masses circulation and contourites

Sedimentation in the Alboran Sea is dominated by contouritic processes related to the circulation of Mediterranean water masses merging into the Mediterranean Outflow Water at the Strait of Gibraltar (Figures 1 and 2; Ercilla et al., 2002; 2015; 2016; Juan et al., 2016; Somoza et al., 2012). Since the opening of the Gibraltar Strait at 5.45 Ma (Bache et al., 2015) and the end of erosive events related to the Messinian (Bache et al., 2009; Estrada et al., 2011; Garcia-Castellanos et al., 2009; Hernández-Molina et al., 2014; Loget and van Den Driessche, 2006; Martínez-García et al., 2013; Roveri et al., 2014), contourite drifts, as the 650-m-thick Ceuta contourite drift, built-up synchronously with the growth of tectonic structures (Ercilla et al., 2015; Hernández-Molina et al., 2011; Juan et al., 2016; Somoza et al., 2012). At least two main factors have controlled water masses circulation and contourite deposition in the Alboran Sea: (i) tectonics and (ii) climate and related sea-level changes. The morpho-tectonically active seafloor landscape (i.e., the Alboran Ridge and the Xauen and Tofiño Banks) and basin configurations (Western Alboran, Eastern Alboran Basin, and Southern Alboran Basin) have controlled the main flow pathways and their circulation, thus likely their deposits.

Submarine landslides

In the southern Alboran Sea, the sedimentary architecture on the edge of growth-faults as the Xauen-Tofiño, Francesc Pagès Banks and the Alboran Ridge is mainly composed of contourites locally reworked by submarine landslides (Figure 2). Considering the geodynamic context of the Alboran basin, earthquake shaking related to the activity of the Al Idrissi fault zone could be considered as a potential triggering mechanism of the identified landslides (d'Acremont et al., 2022). However, the difference between the landslide distribution (following fold structures) to the west and east of the Al Idrissi fault zone, and away from it, is still unresolved. Available seismic reflection data illustrates the existence of active deformation manifested by creeping features in a contourite drift above the AIFZ. That is to say that in the most active area, landslides are not present. Landslides are located relatively far from this active fault zone and aligned following the contourite drifts and fold structures. On the other hand, high sedimentation rates (>100 m/Myrs) in the Ceuta contourite drift (Somoza et al., 2012) and diapiric mud volcanoes have been pointed as preconditioning factors of slope failures (Rebesco et al., 2014). Huge accumulations of contourite result in steep slopes that easily collapse during seismic events (Somoza et al., 2012). Consequences of high sedimentation rates are the generation of high pore fluid (gas and/or interstitial water) pressure that reduces the sediment strength up to a certain situation in which a triggering factor, e.g. an earthquake, creates the sediment failure.

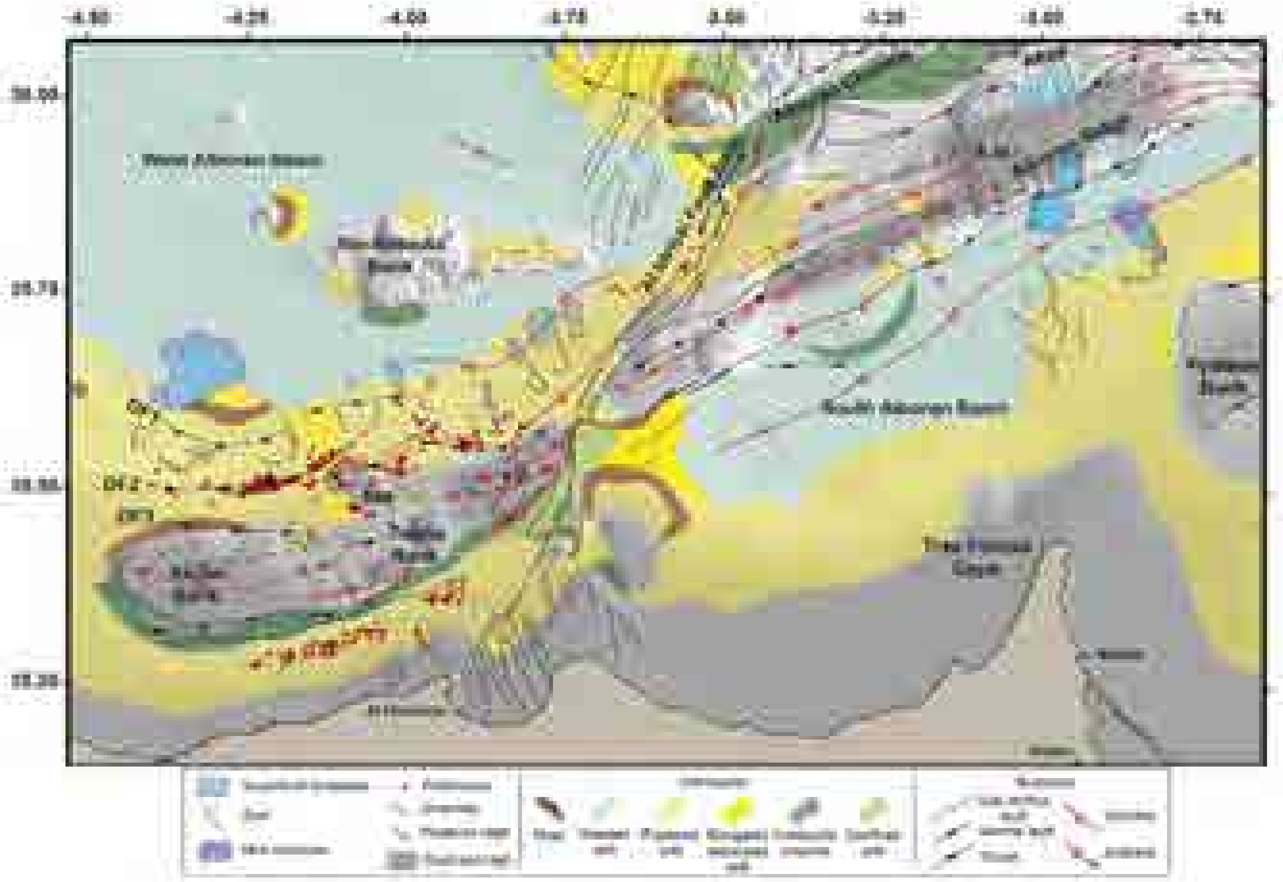


Figure 2: *Morpho-structural map of the south Alboran Sea. Contourite deposits from Ercilla et al. 2019, structural features from d'Acremont et al. (2020) and Lafosse et al. (2020). A.Is, Alboran Island; BBFZ, Boussekkour-Bokkoya Fault Zone; FP, Francesc Pagès Seamount; RM, Ramon Margalef High. DF1, DF2, DF3, deformation front highlighted by blind thrusts (d'Acremont et al., 2022).*

Deep water coral carbonate mounds

The Alboran deep water corals (DWC) Mounds have large dimensions and varied geomorphology, reaching heights of up to 150 m and lengths of tens of kilometres. According to previous studies, one of the most thriving periods for the DWC Mounds in the Gulf of Cadiz and Alboran Sea was the Last Glacial period (Weinberg et al., 2009; Fink et al., 2013; Lo Iacono et al., 2014). When stronger hydrodynamics and enhanced sediment transport processes created suitable condition for deep-water corals, thriving under moderate bottom current regimes which transported considerable amounts of organic-rich sediments. A subsequent general demise of the DWC mounds is generally observed soon after the Last Glacial Period, starting during the Younger Dryas cold period (12.8-11.5 kyr Cal BP) and culminated around 9 kyr Cal BP, corresponding to the end of the Alboran Organic Rich Layer-1 and with the final stage of the last sea level rise (Lo Iacono et al., 2015). These climate-related changes in the environmental setting of the area (oceanography, sedimentary regimes) have a crucial role on the maintenance of deep-sea ecosystems and are in parallel responsible for the morpho-sedimentary evolution of the sedimentary succession in the Alboran Sea. However, the available information is still scarce and lacks of an increased density of core sampling along specific transects, such as Cabliers Mound (Figure 1).

Late Quaternary sequence stratigraphy of Al-Hoceima shelf

Our research group tend to develop a high-resolution tail for quantifying the cinematic of the basin inversion at the limit between the African and European plate. The Al-Hoceima continental shelf offers the opportunity to examine the architecture of Quaternary deposits rarely documented along the southern Mediterranean margin and to better constrain the variability and controlling process of sedimentation during the last glacio-eustatic cycles. Furthermore, the Al-Hoceima shelf constitutes a very favourable setting to study the variability of shelf deposits as a response to differences in sediment supply, shelf physiography and tectonics that vary along the margin (Figure 3). The interpretation of high-resolution seismic data collected in the Al-Hoceima area during the Marlboro and SARAS cruises led to individualization of depositional sequences at the border of the Quaternary subsiding platform, corresponding to a repetition of paired prisms. This repetition is interpreted as cyclic pattern of 100 kyr duration, succession of low and high energy environment of 5th order depositional sequence bounded by erosional surfaces: their associated bounding surfaces seem to be in agreement with a stacking pattern controlled by 100ky global cycles (Lafosse et al., 2016). In front of the Nekor-Riss prodelta, similar processes can form crescent shape bedforms on the head of the marine incision. Sampling these facies will give us the age and the nature of the sediments offshore. It will give clues on the active sedimentary processes in this active tectonic area. It is thus essential to constraint the ages and nature of Quaternary deposits to understand the factors that triggered the variability of these deposits along the Al-Hoceima shelf and test the 100000 years cyclicity hypothesis.

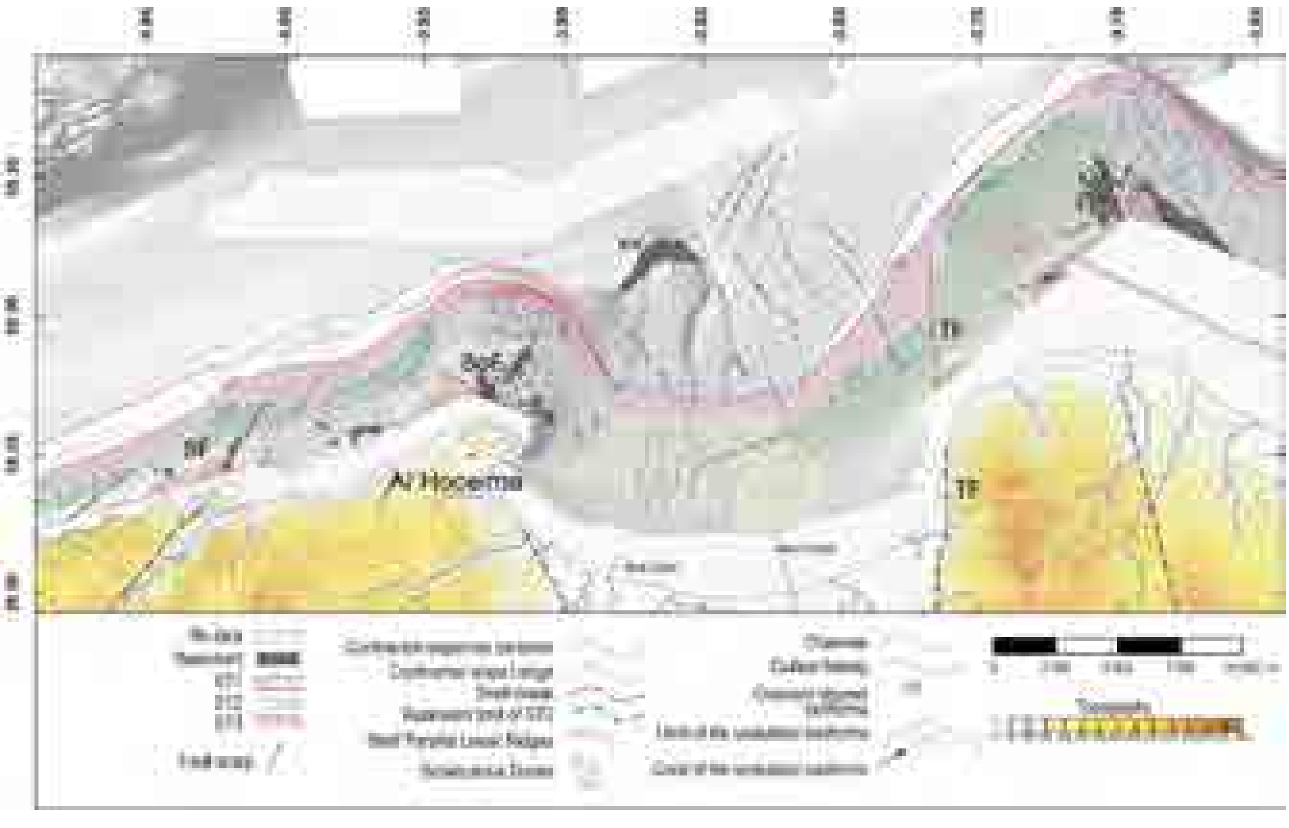


Figure 3. *Geomorphological map showing the main morphological features of the Nekor basin, Al Hoceima platform. Onshore: contour lines of the topography. BF: Bousekkour fault; BoF: Bokkoya fault; TF: Trougout fault. Lafosse et al., 2016 and 2018.*

2. Scientific objectives

The overall goal of the ALBACORE Oceanographic Cruise is to collect unique sedimentary sequences in the Alboran Sea, one of the most tectonically active areas surrounding Iberia, with the following scientific objectives:

Objective 1

To understand the present-day morpho-structural pattern of the South Alboran Sea and date the tectonic pulse and associated sedimentary systems, and precise the source and nature of the Xauen-Tofino Banks.

One of our aims is to characterize the evolution of the Plio-quaternary deformation by analysing the sedimentary evolution including the chronostratigraphic framework of the south Alboran structural highs (Xauen-Tofiño and Francesc Pagès Banks; Alboran Ridge) and related submarine landslides. This project will play special attention to the present-day tectonics on the Moroccan northern margin and its relationships with the Al Idrissi fault zone. The following specific objectives are listed below:

- In the Xauen-Tofiño Banks, the Francesc Pagès Bank and the Alboran Ridge, to determine the age and nature of the outcropping rocks.
- On the deformation front of these structural highs (thrust and fold systems) and on the tectonically active transtensional Moroccan margin (Lafosse et al 2016; d'Acremont et al 2014): to determine the chronostratigraphic framework, estimate sedimentation rates on the Pliocene and Quaternary units and quantify the active deformation.
- Along the south Al Idrissi Fault Zone, a paleoseismic study of earthquake recurrence on different fault segments will allow to evaluate the risk in the area and to understand the initiation and evolution of this plate boundary.
- To reconstruct the structural evolution of the Xauen/Tofiño banks and of the Moroccan margin by the chronostratigraphy of the sedimentary cover.

Objective 2

To determine the Late Pleistocene-Holocene stratigraphic pattern of contourites in the Alboran Sea and of the Moroccan continental shelf and their paleoceanographic implications: models and processes.

The main objective is to determine the Late Pleistocene-Holocene stratigraphic pattern of contourites in the Alboran Sea and their paleoceanographic implications. In order to achieve this, the work will have the following specific objectives:

- To establish the sediment types, type associations and stratigraphic architecture of contourites.
- To define millennial and sub-millennial cyclical events in the sedimentary record from the palaeoceanographics "proxies" and their correlation with cyclicity observed in the sedimentary facies.
- To assess the role played by the bottom currents in the transport, deposition, erosion and reworking of sediments.
- To determine the recent environmental changes (climate, sea level…) which affect the characteristics of water masses.

Objective 3

To explore the chronological evolution of DWC Mounds and their paleoceanographic and palaeoclimatic signature since the Late Pleistocene.

- Based on the previous knowledge, the potential outcomes of new collected cores along selected sites could better highlight the Late Pleistocene to present day paleoceanographic evolution in the Alboran Sea and the response of deep-coral ecosystems to these environmental changes. To achieve this, we propose to:

- Refine a chronological model of DWC mound evolution in the Alboran Sea.
- Highlight the regional oceanographic and climatic evolution (Late Pleistocene-present-day) registered by the corals in the study area using specific isotopic composition of carbonate material (corals) as geochemical proxies.
- Explore which are the intrinsic environmental boundaries in space and time for the maintenance of deep-coral communities of the Alboran Sea
- Contribute to better define a paleoenvironmental model of the Alboran Sea studying the parallel response of deep-sea ecosystems and sedimentary regimes to the oceanographic and climate changes.
- Register the present-day oceanographic dynamics along DWC mounds, to investigate the actual environmental and sedimentary conditions along specific areas, where cores will be collected. This last point would help in tie the actual conditions with those registered by corals in the cores during the recent most Holocene events.

Objective 4

To investigate the causal factors of slope instability processes and evaluate the geological hazard associated with tectonic pulses acting in the South Alboran Sea.

This objective aims to understand what has caused slope failures in the past and what causes active sediment deformation. Our goal is to constrain the history of the observed landslide events, to determine their frequency, and their future probability of occurrence and their link with the geodynamical context (Objective 1). These objectives will be addressed through:

- The identification of major differences in the mechanical properties of the sedimentary cover along the Xauen-Tofiño Banks, the Francesc Pagès Bank and the Alboran Ridge structures.
- The determination of the chronology between different landslides present along the north of the Xauen-Tofiño Banks and to link their occurrence with the tectonic uplift of these structures.
- The evaluation of the instability of the sedimentary cover above the Al-Idrissi fault.
- The evaluation of triggering mechanisms linked to the observed (old) landslides.

Objective 5

to determine the recent high-resolution sequence stratigraphy of the Al-Hoceima shelf in order to decode the late Pleistocene and Holocene sea-level changes, varying from millennial, centennial, to multi-decadal scales, and to better constraint the processes controlling the variability and processes of sedimentation along the shelf.

Sampling the clinoforms bottom sets of the regressive and transgressive para-sequences will give us crucial information on ages and depositional environment in the Nekor basin and its boundaries. This will:

- Confirm our sequential interpretation of the shelf architecture, and key information on sedimentological and hydro dynamical processes acting in this unique natural laboratory, close to Gibraltar strait.

- Provide constraints on the nature and volume of the sedimentary flux and on the ages and nature of the major unconformity surfaces.
- Allow to confirm or infirm precedent studies done in the northern margin of Alboran, and in other areas in Mediterranean which have never been sampled (Hernández-Molina et al 1996; Ercilla et al 1992, 1994).

Originality of the study

The ALBACORE cruise forms a cornerstone of our international initiative to understand the Pliocene-Quaternary development of the Alboran Sea and the larger scale geodynamic processes that have occurred in the Alboran domain. The Alboran Domain has received much scientific attention in recent years, including oceanographic cruises covering much of the Alboran Sea (including the entire Northern, Spanish domain) and ODP drilling campaigns (Figure 4). The proposed area is part of the North and South Alboran Sea, an area where the topography is strongly disturbed by shallow and deep processes like water mass currents, submarine landslides, fluid seeps and tectonics (Figure 1). Although the Alboran Sea is a key oceanographic location in the Mediterranean Sea because of its proximity to the Strait of Gibraltar, most of the sedimentary and stratigraphic studies performed on the Pliocene and Quaternary deposits in the deep-sea areas have failed to approach the sedimentary record and the active circulation that characterizes this sea as an integrated system (Alonso and Maldonado, 1992; Maldonado et al., 1992; Ercilla et al., 1994; Chiocci et al., 1997). The South Alboran Sea is critical because it is affected by strong seismic activity and numerous gravitational instabilities and both may generate tsunamis and therefore constitute a geological hazard to society and infrastructures. Seismic hazard assessment depends strongly on our ability to understand where strain in the Earth's crust is accumulated and how much of it is accommodated seismically. The recent deformation history is recorded in the sedimentary basins, of which the best preserved are located offshore, in the Alboran Sea. This study, combined with the interpretation of deep structures obtained from seismic-reflection data already recorded (datasets of French, Moroccan and Spanish partners) will allow to better understand the regional dynamics at different scale through an analysis of the link between deep and shallow structures. The availability of the integrated database is crucial in increasing our knowledge and understanding of the tectonic and sedimentary processes acting at different spatial and temporal scales that are responsible for creating potentially catastrophic earthquakes, slope failures and tsunamis. Geohazard assessment for the densely populated western Mediterranean region will significantly benefit from this novel integrated approach.

3. Previous cruises on the Alboran sea

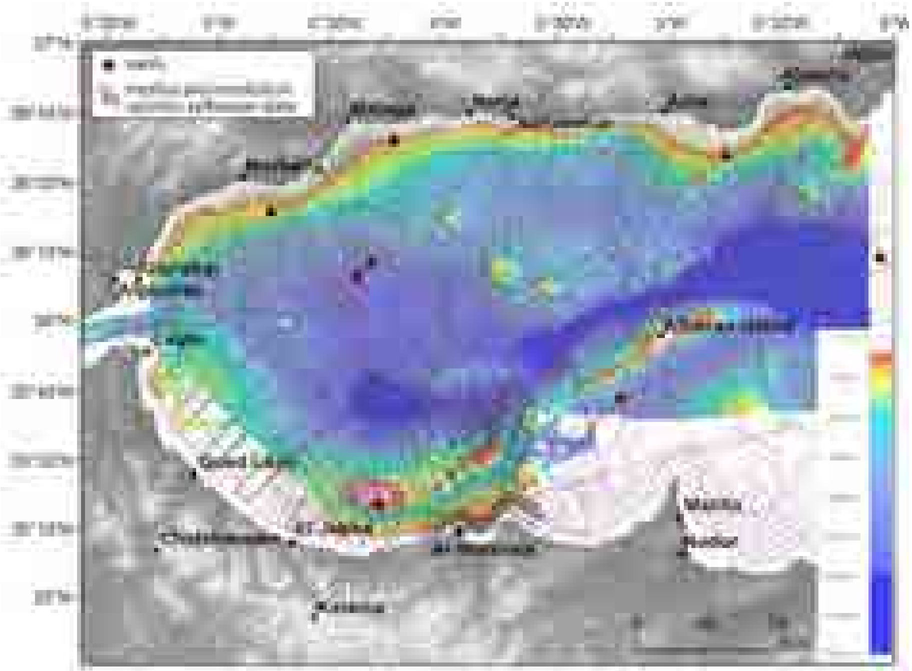


Figure 4: *Compilation of the swath bathymetry and seismic reflection available in the Alboran Sea (ICM-CSIC, ISTEP-UPMC, Univ. Mohamed-V, Univ. Grenade collaborations, Kingdom Suite and ArcGis projects). Red circles: ODP Leg 161 sites and industrial wells.*

The ALBACORE cruise completes and integrates current national and international projects, the marine oceanographic cruises Contouriber, Marlboro-1, Marlboro-2, SARAS and INCRISIS cruises (Figures 4 and 5). The Marlboro-1 cruise, R/V Côtes de la Manche (7 days 12-channels seismic reflection campaign) has imaged contourites, submarine landslides and tectonic features. In the same area, the SARAS cruise, 9-days multi-parameter oceanographic Eurofleet cruise (Ship-time Application R/V Ramon Margalef). The 10 days Marlboro-2 cruise, onboard the R/V Téthys II, imaged, offshore morocco, the present-day tectonic structures related to the Al Hoceima seismically active region (d'Acremont et al. 2014, Lafosse et al. 2016)These cruises have provided a high and very-high resolution seismic dataset of the contouritic features and deposits, as well as, of the tectonic structures that have favoured their onset and development on a larger scale (Ercilla et al. 2016; Juan et al. 2016; Rodriguez et al., 2017). The recent cruises carry out by Spanish partners (Institute of Marine Sciences-ICM and IEO) are the followings: The SAGAS cruise (El Sistema del Arco de Gibraltar), a seismic, sediment sounding and multibeam bathymetry acquisition cruise, was carried out in June 2010 along the northwestern Spanish Alboran margin with the participation of Professor El Moumni (Université de Tanger) and two French PhD students of UPMC-ISTEP. Contouriber-1, in the western Moroccan margin has included single-channel seismic reflection, sub-bottom profiler (Parasound), multibeam bathymetry and coring (Figure 6). The Montera-1 cruise acquired single-channel seismic reflection, sub-bottom profiler (Parasound), multibeam bathymetry and coring located on the south Alboran ridge. The recent Incrisis cruise (2016) acquired sub-bottom profiler (Parasound) and multibeam bathymetry in the area of the last seismic event with the participation of scientists from Université de Oujda and UPMC-ISTEP. The integration of these results with those from ALBACORE will allow the necessary link between a basin scale analyses and the higher resolution of this study.

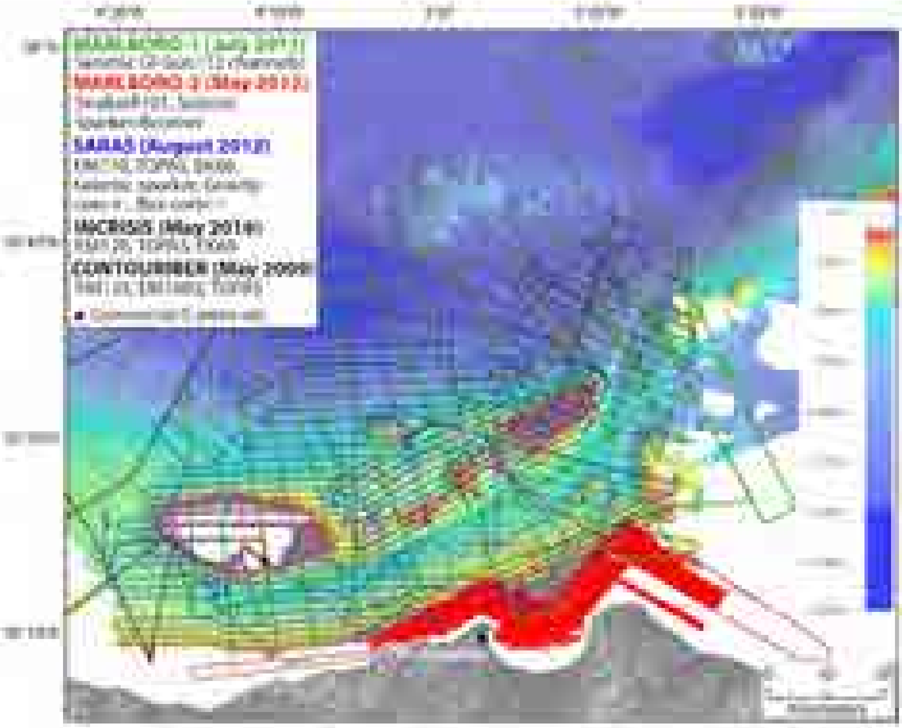


Figure 5: *Cruise tracks of the french Marlboro-1, Marlboro-2 cruises (R/V Tethys and Côtes de la Manche, CNFC, INSU) and SARAS cruise (R/V Ramon Margalef, Eurofleets Ship-time Application), and Spanish Contouriber and Incrisis Cruises (ICM-CSIC). Available French-spanish swath bathymetry compilation.*

4. Summary of operations

The ALBACORE campaign took place between October 15 and November 14, 2021 (Figure 6, Table 1). No acoustic acquisition in the Spanish waters could be carried out because of the verbal note in the work authorizations mentioning a noise limitation of 160 decibels. The acquisitions made are presented in Figures 6 to 9. Acoustic data acquisition is further detailed in Chapter 5, Coring operations in Chapter 6, in-situ geotechnical testing in Chapter 7, Heat flow measurements in Chapter 8 and the onboard laboratory analyses in Chapter 9.

The geophysical data were acquired with:

1. The RESON 7150 multibeam echosounder (12/24 kHz) installed under the ship's hull for bathymetry, bottom backscatter and water column maps (detection of echoes in the water column) (Figure 7);

2. The SUBOP sediment sounder for the analysis of the sediment cover (Figure 8);

3. The 150 kHz and 38kHz hull ADCP for surface water mass currentometry;

4. The Bodenseewerk KSS32M gravimeter, acquired along all the route of the ship (from October 15 to November 14, 2021) (Figure 6)

5. Temperature sensors installed on the gravity corer for heat flux measurement (Figure 9).

Geological data were acquired with:

1. A gravity or calypso type corer for sediment sampling

2. A rock corer (CNEXOville)

3. A multitube corer (Fantacore) for the collection of surficial sediments

4. In-situ geotechnical testing (Penfeld)

The different acquisition phases are summarized in Table 1.

The positioning of the ship is provided by a GPS positioned above the bridge of the ship.

Figure 6: *Navigation of the ALBACORE campaign. Red dots: Measuring and coring sites.*

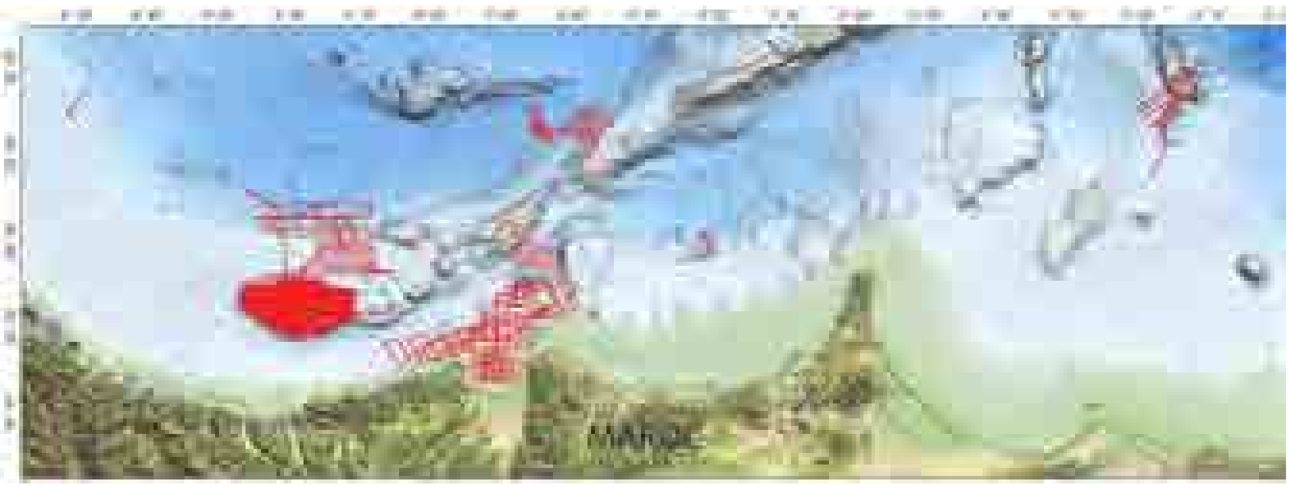


Figure 7: *Thick red line: swath bathymetry and water column profilers.*

Figure 8: *Thick blue line: sub-bottom profiles.*

Figure 9*: Location of measuring and coring stations in the Alboran Sea waters.*

Table 1: Operations of the ALBACORE Campaign.

MT, Multitube; CL, Calypso; GC, Gravity Core; TR, Transit; SBP, sub-bottom profile survey; PF, Penfeld; CN, Cnexoville, HF, Heat flow.

SITE	STATION	LON WGS84	LAT WGS84	ARRIVAL ON SITE DATE/HOUR (BOAT DATE/HOUR)	DEPARTURE FROM SITE DATE/HOUR (BOAT DATE/HOUR)	WATER DEPTH
TOULON	DEPARTURE	5.88691	43.10473	vendredi 15/10/2021 17:00:00	vendredi 15/10/2021 17:00:00	
TRANSIT	ALB-TR	5.89005	43.10787	vendredi 15/10/2021 17:01:20	vendredi 15/10/2021 17:01:20	
SITE_90	ALB-MT01	-3.59317	36.08233	lundi 18/10/2021 04:08:59	lundi 18/10/2021 05:08:59	700
SITE_90	ALB-GC01	-3.59317	36.08233	lundi 18/10/2021 05:08:59	lundi 18/10/2021 07:38:59	700
SITE_01	ALB-MT02	-4.84708	36.35438	lundi 18/10/2021 13:39:06	lundi 18/10/2021 14:39:06	344
SITE_01	ALB-CL01	-4.84708	36.35438	lundi 18/10/2021 14:39:06	lundi 18/10/2021 18:09:06	344
SITE_01	ALB-CL02	-4.84708	36.35438	lundi 18/10/2021 18:09:06	lundi 18/10/2021 23:39:06	344
TRANSIT	ALB-TR	-4.80500	35.79400	mardi 19/10/2021 02:51:19	mardi 19/10/2021 02:51:19	
SV	ALB-SBP	-4.85100	35.74300	mardi 19/10/2021 03:29:14	mardi 19/10/2021 03:29:14	
SITE_02	ALB-MT03	-4.81487	35.78315	mardi 19/10/2021 03:46:17	mardi 19/10/2021 04:46:17	678
SITE_02	ALB-CL03	-4.81487	35.78315	mardi 19/10/2021 04:46:17	mardi 19/10/2021 08:59:14	682
SITE_02	ALB-CL04	-4.81487	35.78315	mardi 19/10/2021 08:59:14	mardi 19/10/2021 17:29:14	682
TRANSIT	ALB-TR	-4.34600	35.55700	mardi 19/10/2021 19:54:28	mardi 19/10/2021 19:54:28	
SV	ALB-SBP	-4.38500	35.52900	mardi 19/10/2021 20:19:53	mardi 19/10/2021 20:19:53	
SITE_12_18	ALB-PF01-01	-4.37866	35.53400	mardi 19/10/2021 20:22:13	mardi 19/10/2021 23:43:53	783
SITE_13_17	ALB-PF01-02	-4.37553	35.53613	mardi 19/10/2021 23:44:58	mercredi 20/10/2021 02:08:58	812
SITE_16	ALB-PF01-03	-4.37288	35.53797	mercredi 20/10/2021 02:09:55	mercredi 20/10/2021 04:33:55	835
SITE_15	ALB-PF01-04	-4.37062	35.53942	mercredi 20/10/2021 04:34:41	mercredi 20/10/2021 08:07:40	861
TRANSIT	ALB-TR	-4.27800	35.67600	mercredi 20/10/2021 08:58:41	mercredi 20/10/2021 08:58:41	
SV	ALB-SBP	-4.23300	35.66800	mercredi 20/10/2021 09:21:12	mercredi 20/10/2021 09:21:12	
TRANSIT	ALB-TR	-4.27245	35.56724	mercredi 20/10/2021 09:55:46	mercredi 20/10/2021 09:55:46	
SV	ALB-SBP	-4.26539	35.54027	mercredi 20/10/2021 10:12:17	mercredi 20/10/2021 10:12:17	
SV	ALB-SBP	-4.19900	35.54281	mercredi 20/10/2021 10:44:50	mercredi 20/10/2021 10:44:50	
SV	ALB-SBP	-4.18147	35.52442	mercredi 20/10/2021 10:58:48	mercredi 20/10/2021 10:58:48	
SV	ALB-SBP	-4.17292	35.49852	mercredi 20/10/2021 11:14:52	mercredi 20/10/2021 12:29:52	
SV	ALB-SBP	-4.20470	35.48277	mercredi 20/10/2021 12:48:05	mercredi 20/10/2021 12:48:05	
SV	ALB-SBP	-4.22316	35.54181	mercredi 20/10/2021 13:24:35	mercredi 20/10/2021 13:54:35	
SITE_13_17	ALB-GC02	-4.37557	35.53614	mercredi 20/10/2021 14:35:20	mercredi 20/10/2021 15:54:35	813
SITE_12_18	ALB-GC03	-4.37854	35.53384	mercredi 20/10/2021 15:55:40	mercredi 20/10/2021 18:24:35	787
SITE_10	ALB-GC04	-4.25158	35.67081	mercredi 20/10/2021 19:20:43	mercredi 20/10/2021 23:24:35	1508
SITE_24	ALB-PF02-01	-4.21167	35.50387	jeudi 21/10/2021 00:20:10	jeudi 21/10/2021 02:48:35	586
SITE_24	ALB-PF02-02	-4.21165	35.50387	jeudi 21/10/2021 02:51:30	jeudi 21/10/2021 04:07:37	589
SITE_26	ALB-PF02-03	-4.21242	35.50870	jeudi 21/10/2021 04:25:30	jeudi 21/10/2021 11:07:37	605
SITE_21	ALB-GC05	-4.26860	35.55219	jeudi 21/10/2021 11:45:30	jeudi 21/10/2021 14:15:30	997
SITE_21	ALB-MT04	-4.26860	35.55219	jeudi 21/10/2021 14:15:30	jeudi 21/10/2021 15:15:30	998
SITE_21	ALB-CL05	-4.26860	35.55219	jeudi 21/10/2021 15:15:30	jeudi 21/10/2021 17:45:30	998
SITE_21	ALB-GC06	-4.26860	35.55219	jeudi 21/10/2021 17:45:30	jeudi 21/10/2021 20:15:30	998
SV N Xauen	ALB-TR	-4.25684	35.44892	jeudi 21/10/2021 20:15:30	jeudi 21/10/2021 23:00:00	

SV N Xauen	ALB-SBP	-4.25684	35.44892	jeudi 21/10/2021 23:49:23	samedi 23/10/2021 07:49:23	
SITE_24	ALB-CL06	-4.21164	35.50389	samedi 23/10/2021 08:29:04	samedi 23/10/2021 09:49:23	591
SITE_24	ALB-MT05	-4.21164	35.50389	samedi 23/10/2021 09:49:23	samedi 23/10/2021 10:49:23	591
SITE_22	ALB-MT06	-4.21122	35.50490	samedi 23/10/2021 10:50:02	samedi 23/10/2021 12:20:02	592
SITE_22	ALB-CL07	-4.21122	35.50490	samedi 23/10/2021 12:20:02	samedi 23/10/2021 13:59:46	592
SITE_28	ALB-MT07	-4.18923	35.53227	samedi 23/10/2021 14:19:23	samedi 23/10/2021 16:19:23	769
SITE_28	ALB-CL08	-4.18923	35.53227	samedi 23/10/2021 16:19:23	samedi 23/10/2021 18:16:59	769
SITE_27	ALB-MT08	-4.19167	35.53576	samedi 23/10/2021 18:19:24	samedi 23/10/2021 19:19:24	832
SITE_27	ALB-CL09	-4.19167	35.53576	samedi 23/10/2021 19:19:24	samedi 23/10/2021 22:32:38	832
SV Xauen	ALB-SBP	-4.16252	35.49888	samedi 23/10/2021 22:46:59	dimanche 24/10/2021 06:46:59	713
SITE_20	ALB-MT09	-4.26912	35.55410	dimanche 24/10/2021 07:20:42	dimanche 24/10/2021 08:20:42	1019
SITE_20	ALB-CL10	-4.26912	35.55410	dimanche 24/10/2021 08:20:42	dimanche 24/10/2021 10:45:49	1019
SITE_21	ALB-CL11	-4.26860	35.55219	dimanche 24/10/2021 10:46:59	dimanche 24/10/2021 13:50:53	1003
SITE_12_18	ALB-MT10	-4.37854	35.53384	dimanche 24/10/2021 14:45:49	dimanche 24/10/2021 15:45:49	787
SITE_12_18	ALB-CL12	-4.37854	35.53384	dimanche 24/10/2021 15:45:49	dimanche 24/10/2021 19:45:49	787
SV Xauen	ALB-SBP	-4.29753	35.35889	dimanche 24/10/2021 20:46:57	lundi 25/10/2021 05:46:57	713
SITE_12_18	ALB-CL13	-4.37854	35.53384	lundi 25/10/2021 06:48:05	lundi 25/10/2021 10:02:26	787
SITE_24	ALB-HF01	-4.21162	35.50402	lundi 25/10/2021 10:48:05	lundi 25/10/2021 11:18:05	592
SITE_22	ALB-HF02	-4.21120	35.50502	lundi 25/10/2021 11:18:43	lundi 25/10/2021 12:18:43	593
SITE_29	ALB-HF03	-4.13193	35.44573	lundi 25/10/2021 13:11:55	lundi 25/10/2021 14:11:55	387
SITE_96	ALB-HF04	-4.13425	35.44348	lundi 25/10/2021 14:13:33	lundi 25/10/2021 14:43:33	397
SITE_29	ALB-MT11	-4.13137	35.44474	lundi 25/10/2021 14:45:11	lundi 25/10/2021 18:45:11	387
SITE_96	ALB-CL14	-4.13425	35.44339	lundi 25/10/2021 18:46:49	lundi 25/10/2021 19:43:33	397
SITE_29	ALB-CL15	-4.13137	35.44474	lundi 25/10/2021 19:45:11	lundi 25/10/2021 22:00:11	387
SV Xauen	ALB-SBP	-4.13137	35.44474	lundi 25/10/2021 22:00:11	mardi 26/10/2021 07:43:33	
SITE_96	ALB-MT12	-4.13425	35.44339	mardi 26/10/2021 07:45:11	mardi 26/10/2021 08:45:11	397
SITE_31A	ALB-CN01	-4.19164	35.44860	mardi 26/10/2021 09:13:29	mardi 26/10/2021 10:13:29	408
SITE_31B	ALB-CN02	-4.21391	35.44137	mardi 26/10/2021 10:25:13	mardi 26/10/2021 11:25:13	358
SITE_32B	ALB-CN03	-4.22624	35.38200	mardi 26/10/2021 12:01:18	mardi 26/10/2021 13:01:18	103
SV S Xauen	ALB-SBP	-3.79364	35.50683	mardi 26/10/2021 16:46:10	mardi 26/10/2021 16:46:10	250
SV Xauen	ALB-SBP	-3.80948	35.53709	mardi 26/10/2021 17:05:54	mardi 26/10/2021 17:05:54	112
SV Xauen	ALB-SBP	-3.82287	35.53569	mardi 26/10/2021 17:12:30	mardi 26/10/2021 17:12:30	097
SV Xauen	ALB-SBP	-3.85709	35.49515	mardi 26/10/2021 17:42:01	mardi 26/10/2021 21:42:01	194
SITE_41_47	ALB-PF03-01	-3.62105	35.71630	mardi 26/10/2021 23:17:56	mercredi 27/10/2021 02:11:56	863
SITE_49	ALB-PF03-02	-3.62773	35.72038	mercredi 27/10/2021 02:16:04	mercredi 27/10/2021 05:40:04	945
SITE_51	ALB-PF03-03	-3.63433	35.73008	mercredi 27/10/2021 05:45:42	mercredi 27/10/2021 08:09:42	1075
SITE_51bis	ALB-PF03-04	-3.63305	35.72982	mercredi 27/10/2021 08:10:15	mercredi 27/10/2021 10:49:21	1082
SITE_38_43	ALB-CL16	-3.71914	35.70357	mercredi 27/10/2021 11:34:15	mercredi 27/10/2021 14:30:06	1189
SITE_39_46	ALB-CL17	-3.72467	35.70882	mercredi 27/10/2021 14:34:15	mercredi 27/10/2021 17:37:42	1268
SITE_40	ALB-HF05	-3.61758	35.70383	mercredi 27/10/2021 18:30:06	mercredi 27/10/2021 19:30:06	705
SITE_41_47	ALB-HF06	-3.62089	35.71655	mercredi 27/10/2021 19:37:54	mercredi 27/10/2021 20:37:54	848
SITE_42_50	ALB-HF07	-3.63135	35.72697	mercredi 27/10/2021 20:45:53	mercredi 27/10/2021 21:45:53	1037
SITE_38_43	ALB-PF04-01	-3.71908	35.70355	mercredi 27/10/2021 22:30:59	jeudi 28/10/2021 01:09:53	1186
SITE_44	ALB-PF04-02	-3.72337	35.70737	jeudi 28/10/2021 01:11:43	jeudi 28/10/2021 03:35:43	1251
SITE_45	ALB-PF04-03	-3.72490	35.70890	jeudi 28/10/2021 03:36:45	jeudi 28/10/2021 06:00:45	1267
SITE_39_46	ALB-PF04-04	-3.72863	35.71258	jeudi 28/10/2021 06:02:02	jeudi 28/10/2021 08:35:07	1315

SITE_41_47	**ALB-CL18**	-3.62089	35.71643	jeudi 28/10/2021 09:26:02	jeudi 28/10/2021 12:18:14	866
SITE_40	**ALB-CL19**	-3.61763	35.70368	jeudi 28/10/2021 12:26:02	jeudi 28/10/2021 15:14:50	705
SITE_49	**ALB-CL20**	-3.62776	35.72045	jeudi 28/10/2021 15:26:02	jeudi 28/10/2021 17:26:02	950
SITE_90	**ALB-CL21**	-3.59317	36.08233	jeudi 28/10/2021 19:24:39	jeudi 28/10/2021 21:30:00	699
SV W AIFZ	ALB-SBP	-3.59317	36.08233	jeudi 28/10/2021 21:30:00	vendredi 29/10/2021 05:54:39	
SITE_49	ALB-MT13	-3.62776	35.72045	vendredi 29/10/2021 07:53:16	vendredi 29/10/2021 08:53:16	949
SITE_41_47	ALB-MT14	-3.62089	35.71643	vendredi 29/10/2021 08:57:24	vendredi 29/10/2021 09:57:24	868
SITE_40	ALB-MT15	-3.61763	35.70368	vendredi 29/10/2021 10:05:12	vendredi 29/10/2021 11:05:12	705
SITE_36	ALB-MT16	-3.80164	35.52222	vendredi 29/10/2021 12:22:11	vendredi 29/10/2021 13:22:11	111
SITE_100	ALB-MT17	-3.83518	35.52125	vendredi 29/10/2021 13:38:38	vendredi 29/10/2021 14:38:38	103
SITE_103a	**ALB-CN04**	-3.83325	35.52067	vendredi 29/10/2021 14:39:38	vendredi 29/10/2021 15:39:38	096
SITE_101a	**ALB-CN05**	-3.84502	35.50890	vendredi 29/10/2021 15:48:45	vendredi 29/10/2021 16:48:45	099
SITE_102a	**ALB-CN06**	-3.83848	35.51553	vendredi 29/10/2021 16:53:51	vendredi 29/10/2021 17:53:51	102
SITE_104	**ALB-CN07**	-3.80520	35.53010	vendredi 29/10/2021 18:12:20	vendredi 29/10/2021 19:12:20	084
SV W AIFZ	ALB-SBP	-3.76393	35.41345	vendredi 29/10/2021 20:25:05	vendredi 29/10/2021 20:25:05	
SV W AIFZ	ALB-SBP	-3.79595	35.41888	vendredi 29/10/2021 20:41:07	vendredi 29/10/2021 20:41:07	
SITE_91	**ALB-PF05-01**	-3.78853	35.41738	vendredi 29/10/2021 20:44:20	vendredi 29/10/2021 21:44:20	401
SITE_93	**ALB-PF05-02**	-3.78415	35.41662	vendredi 29/10/2021 21:50:20	vendredi 29/10/2021 23:31:01	411
SITE_93	**ALB-PF05-03**	-3.78412	35.41662	vendredi 29/10/2021 23:41:01	samedi 30/10/2021 02:56:11	412
SITE_94	**ALB-PF05-04**	-3.78140	35.41622	samedi 30/10/2021 02:56:11	samedi 30/10/2021 04:00:44	428
SITE_94bis	**ALB-PF05-05**	-3.78010	35.41600	samedi 30/10/2021 04:00:44	samedi 30/10/2021 05:00:44	428
SITE_95	**ALB-PF05-06**	-3.77735	35.41557	samedi 30/10/2021 05:00:44	samedi 30/10/2021 07:00:01	417
SV Nekor	ALB-SBP	-3.79595	35.41888	samedi 30/10/2021 07:00:01	samedi 30/10/2021 20:45:00	
SITE_93	ALB-MT18	-3.78411	35.41661	samedi 30/10/2021 20:45:54	samedi 30/10/2021 21:45:54	412
SITE_93	**ALB-CL22**	-3.78411	35.41661	samedi 30/10/2021 21:45:54	samedi 30/10/2021 22:44:12	412
SITE_94bis	ALB-MT19	-3.78010	35.41600	samedi 30/10/2021 22:45:54	samedi 30/10/2021 23:45:54	429
SITE_94bis	**ALB-CL23**	-3.78010	35.41600	samedi 30/10/2021 23:45:54	dimanche 31/10/2021 01:44:44	429
SITE_95	ALB-MT20	-3.77735	35.41556	dimanche 31/10/2021 01:45:54	dimanche 31/10/2021 02:45:54	417
SITE_95	**ALB-CL24**	-3.77735	35.41556	dimanche 31/10/2021 02:45:54	dimanche 31/10/2021 04:43:00	418
SITE_94	ALB-MT21	-3.78140	35.41621	dimanche 31/10/2021 04:44:44	dimanche 31/10/2021 05:44:44	425
SITE_94	**ALB-CL25**	-3.78140	35.41621	dimanche 31/10/2021 05:44:44	dimanche 31/10/2021 07:43:35	425
SITE_93	**ALB-CL26**	-3.78411	35.41661	dimanche 31/10/2021 07:44:44	dimanche 31/10/2021 09:02:01	412
SITE_A6	**ALB-CN08**	-3.87584	35.31397	dimanche 31/10/2021 09:43:35	dimanche 31/10/2021 11:43:35	166
SITE_84	**ALB-CN09**	-3.90619	35.30961	dimanche 31/10/2021 11:56:33	dimanche 31/10/2021 12:56:33	125
SITE_83	**ALB-CN10**	-3.90805	35.30879	dimanche 31/10/2021 12:57:26	dimanche 31/10/2021 13:57:26	110
SITE_82	**ALB-CN11**	-3.91383	35.30642	dimanche 31/10/2021 14:00:09	dimanche 31/10/2021 15:00:09	103
SITE_81	ALB-MT22	-3.91509	35.30586	dimanche 31/10/2021 15:00:46	dimanche 31/10/2021 15:33:46	104
SITE_A5	ALB-MT23	-3.92689	35.30081	dimanche 31/10/2021 15:39:21	dimanche 31/10/2021 16:39:21	101
SITE_A1	**ALB-CN12**	-3.95432	35.28937	dimanche 31/10/2021 16:52:19	dimanche 31/10/2021 17:52:19	086
SITE_A2	**ALB-CN13**	-3.73471	35.35980	dimanche 31/10/2021 18:55:28	dimanche 31/10/2021 19:55:28	094
SITE_A3	**ALB-CN14**	-3.70645	35.35128	dimanche 31/10/2021 20:08:08	dimanche 31/10/2021 20:38:08	072
SITE_65	**ALB-PF06-01**	-3.83780	35.35057	dimanche 31/10/2021 21:13:18	dimanche 31/10/2021 23:02:08	257
SITE_63_3	**ALB-PF06-02**	-3.83595	35.35062	dimanche 31/10/2021 23:02:54	lundi 01/11/2021 00:26:54	255
SITE_63_2	**ALB-PF06-03**	-3.83445	35.35065	lundi 01/11/2021 00:27:38	lundi 01/11/2021 01:51:38	253
SITE_63_1	**ALB-PF06-04**	-3.83287	35.35063	lundi 01/11/2021 01:52:12	lundi 01/11/2021 03:16:12	252
SITE_63	**ALB-PF06-05**	-3.83207	35.35068	lundi 01/11/2021 03:16:33	lundi 01/11/2021 04:40:33	251

SITE_63_bis	ALB-PF06-06	-3.83152	35.35090	lundi 01/11/2021	04:40:47	lundi 01/11/2021	06:04:47	251
SITE_63_ter	ALB-PF06-07	-3.82863	35.35070	lundi 01/11/2021	06:05:48	lundi 01/11/2021	07:51:54	249
SITE_73	ALB-CL27	-3.84491	35.27831	lundi 01/11/2021	08:29:48	lundi 01/11/2021	09:59:48	123
SITE_74	ALB-MT24	-3.84505	35.26401	lundi 01/11/2021	10:07:09	lundi 01/11/2021	11:07:09	095
SITE_74	ALB-GC07	-3.84505	35.26401	lundi 01/11/2021	11:07:09	lundi 01/11/2021	12:07:09	095
SITE_74	ALB-CL28	-3.84505	35.26401	lundi 01/11/2021	12:07:09	lundi 01/11/2021	13:37:09	095
SITE_75_77	ALB-MT25	-3.84508	35.25888	lundi 01/11/2021	13:39:47	lundi 01/11/2021	14:39:47	090
SITE_75_77	ALB-CL29	-3.84508	35.25888	lundi 01/11/2021	14:39:47	lundi 01/11/2021	15:39:47	089
SITE_75_77	ALB-CL30	-3.84508	35.25888	lundi 01/11/2021	15:39:47	lundi 01/11/2021	17:09:47	089
SITE_A8	ALB-CL31	-3.84516	35.25476	lundi 01/11/2021	17:11:54	lundi 01/11/2021	19:11:54	082
SITE_A7	ALB-CL32	-3.90351	35.31681	lundi 01/11/2021	19:52:08	mardi 02/11/2021	04:22:08	201
SITE_66	ALB-MT26	-3.77902	35.32962	mardi 02/11/2021	04:55:44	mardi 02/11/2021	05:55:44	150
SITE_66	ALB-CL33	-3.77902	35.32962	mardi 02/11/2021	05:55:44	mardi 02/11/2021	06:55:44	150
SITE_67	ALB-MT27	-3.79796	35.32022	mardi 02/11/2021	07:05:03	mardi 02/11/2021	08:05:03	158
SITE_67	ALB-CL34	-3.79796	35.32022	mardi 02/11/2021	08:05:03	mardi 02/11/2021	09:05:03	158
SITE_68	ALB-MT28	-3.80103	35.31944	mardi 02/11/2021	09:06:24	mardi 02/11/2021	10:06:24	161
SITE_68	ALB-CL35	-3.80103	35.31944	mardi 02/11/2021	10:06:24	mardi 02/11/2021	11:06:24	161
SITE_57	ALB-CL36	-3.78030	35.35912	mardi 02/11/2021	11:28:34	mardi 02/11/2021	12:28:34	225
SITE_57	ALB-MT29	-3.78030	35.35912	mardi 02/11/2021	12:28:34	mardi 02/11/2021	13:28:34	225
SITE_63_1	ALB-MT30	-3.83286	35.35063	mardi 02/11/2021	13:51:06	mardi 02/11/2021	14:51:06	257
SITE_129	ALB-MT31	-3.88110	35.31441	mardi 02/11/2021	15:18:38	mardi 02/11/2021	17:18:38	181
SITE_78	ALB-MT32	-4.00161	35.27067	mardi 02/11/2021	17:53:56	mardi 02/11/2021	18:23:56	095
SITE_79	ALB-MT33	-4.00845	35.28423	mardi 02/11/2021	18:31:28	mardi 02/11/2021	19:31:28	156
SV Xauen	ALB-SBP	-4.00845	35.28423	mardi 02/11/2021	19:31:28	mercredi 03/11/2021	23:58:28	Bad Sea !
TRANSIT N	ALB-TR	-4.44539	35.38491	mercredi 03/11/2021	23:58:28	jeudi 04/11/2021	05:15:53	Bad Sea !
SITE_128	ALB-CL37	-4.18408	36.32840	jeudi 04/11/2021	05:15:53	jeudi 04/11/2021	07:45:53	731
SITE_128	ALB-MT34	-4.18408	36.32840	jeudi 04/11/2021	07:45:53	jeudi 04/11/2021	08:45:53	730
SITE_128	ALB-CL38	-4.18408	36.32840	jeudi 04/11/2021	08:45:53	jeudi 04/11/2021	12:45:53	730
TRANSIT S	ALB-TR	-4.18408	36.32840	jeudi 04/11/2021	12:45:53	jeudi 04/11/2021	16:48:51	
SITE_133	ALB-CL39	-4.33429	35.59500	jeudi 04/11/2021	16:48:51	jeudi 04/11/2021	18:48:51	1366
SITE_134	ALB-CL40	-4.33138	35.59979	jeudi 04/11/2021	18:51:36	jeudi 04/11/2021	21:00:00	1384
SV Xauen	ALB-SBP	-4.33138	35.59979	jeudi 04/11/2021	21:00:00	vendredi 05/11/2021	06:51:36	
SITE_130	ALB-CL41	-4.20899	35.50091	vendredi 05/11/2021	07:37:34	vendredi 05/11/2021	09:37:34	580
SITE_131	ALB-CL42	-4.19917	35.50124	vendredi 05/11/2021	09:41:41	vendredi 05/11/2021	11:41:41	581
SITE_32C	ALB-CN15	-4.21773	35.36821	vendredi 05/11/2021	12:25:26	vendredi 05/11/2021	13:25:26	098
SITE_32D	ALB-CN16	-4.21749	35.36026	vendredi 05/11/2021	13:29:31	vendredi 05/11/2021	14:29:31	106
SITE_32E	ALB-CN17	-4.29748	35.35518	vendredi 05/11/2021	15:03:57	vendredi 05/11/2021	16:03:57	100
SITE_32A	ALB-CN18	-4.08930	35.36940	vendredi 05/11/2021	16:59:53	vendredi 05/11/2021	19:59:53	258
SITE_150	ALB-PF07-01	-3.84520	35.25293	vendredi 05/11/2021	22:05:33	vendredi 05/11/2021	23:41:33	077
SITE_151	ALB-PF07-02	-3.84513	35.25468	vendredi 05/11/2021	23:42:27	samedi 06/11/2021	01:18:27	080
SITE_152	ALB-PF07-03	-3.84508	35.25748	samedi 06/11/2021	01:19:54	samedi 06/11/2021	02:55:54	084
SITE_153	ALB-PF07-04	-3.84517	35.25907	samedi 06/11/2021	02:56:42	samedi 06/11/2021	04:32:42	087
SITE_154	ALB-PF07-05	-3.84988	35.25802	samedi 06/11/2021	04:34:45	samedi 06/11/2021	05:27:24	084
SITE_74	ALB-PF07-06	-3.84507	35.26397	samedi 06/11/2021	05:27:24	06/11/2021 07:0024		091
SITE_79	ALB-CL43	-4.00845	35.28423	samedi 06/11/2021	07:10:45	samedi 06/11/2021	08:55:45	153

SITE_65	ALB-MT35	-3.83778	35.35069	samedi 06/11/2021 09:46:22	samedi 06/11/2021 10:46:22	259
SITE_65	ALB-CL44	-3.83778	35.35069	samedi 06/11/2021 10:46:22	samedi 06/11/2021 13:16:22	258
SITE_65	ALB-CL45	-3.83778	35.35069	samedi 06/11/2021 13:16:22	samedi 06/11/2021 15:16:22	259
SITE_63_1	ALB-CL46	-3.83286	35.35063	samedi 06/11/2021 15:18:26	samedi 06/11/2021 17:18:26	254
SITE_63	ALB-MT36	-3.83023	35.35082	samedi 06/11/2021 17:19:33	samedi 06/11/2021 18:19:33	254
SITE_63	ALB-CL47	-3.83023	35.35082	samedi 06/11/2021 18:19:33	samedi 06/11/2021 20:19:33	254
SITE_61	ALB-CL48	-3.81612	35.35077	samedi 06/11/2021 20:25:29	samedi 06/11/2021 22:55:29	235
SITE_138A	ALB-PF08-01	-3.73295	35.45905	samedi 06/11/2021 23:37:17	dimanche 07/11/2021 01:31:29	487
SITE_138	ALB-PF08-02	-3.72910	35.45745	dimanche 07/11/2021 01:32:59	dimanche 07/11/2021 03:08:59	486
SITE_137	ALB-PF08-03	-3.72503	35.45745	dimanche 07/11/2021 03:10:55	dimanche 07/11/2021 04:46:55	482
SITE_136	ALB-PF08-04	-3.72037	35.45645	dimanche 07/11/2021 04:48:57	dimanche 07/11/2021 06:24:57	478
SITE_136A	ALB-PF08-05	-3.72005	35.45645	dimanche 07/11/2021 06:25:05	dimanche 07/11/2021 08:00:57	477
SITE_136	ALB-HF08	-3.72035	35.45652	dimanche 07/11/2021 08:01:05	dimanche 07/11/2021 09:16:05	476
SITE_137	ALB-HF09	-3.72505	35.45742	dimanche 07/11/2021 09:18:06	dimanche 07/11/2021 10:33:06	483
SITE_138	ALB-HF10	-3.72952	35.45828	dimanche 07/11/2021 10:35:02	dimanche 07/11/2021 11:20:02	485
SITE_138	ALB-MT37	-3.72947	35.45831	dimanche 07/11/2021 11:20:02	dimanche 07/11/2021 12:20:02	485
SITE_138	ALB-CL49	-3.72947	35.45831	dimanche 07/11/2021 12:20:02	dimanche 07/11/2021 14:20:02	485
SITE_137	ALB-MT38	-3.72500	35.45743	dimanche 07/11/2021 14:21:58	dimanche 07/11/2021 15:21:58	485
SITE_137	ALB-CL50	-3.72500	35.45743	dimanche 07/11/2021 15:21:58	dimanche 07/11/2021 17:21:58	485
SITE_136B	ALB-CL51	-3.71820	35.45614	dimanche 07/11/2021 17:24:54	dimanche 07/11/2021 19:30:00	477
SV AIFZ Bok.	ALB-SBP	-3.71820	35.45614	dimanche 07/11/2021 19:30:00	lundi 08/11/2021 06:54:54	
SITE_93	ALB-HF11	-3.78415	35.41660	lundi 08/11/2021 07:29:14	lundi 08/11/2021 07:44:14	412
SITE_94	ALB-HF12	-3.78143	35.41622	lundi 08/11/2021 07:45:24	lundi 08/11/2021 09:00:24	425
SITE_94bis	ALB-HF13	-3.78013	35.41598	lundi 08/11/2021 09:00:57	lundi 08/11/2021 10:15:57	427
SITE_95	ALB-HF14	-3.77740	35.41557	lundi 08/11/2021 10:17:07	lundi 08/11/2021 11:32:07	416
SITE_95	ALB-CL52	-3.77735	35.41556	lundi 08/11/2021 11:32:07	lundi 08/11/2021 13:32:07	416
SITE_94bis	ALB-CL53	-3.78010	35.41600	lundi 08/11/2021 13:33:18	lundi 08/11/2021 15:33:18	433
SITE_94	ALB-CL54	-3.78140	35.41621	lundi 08/11/2021 15:33:51	lundi 08/11/2021 17:33:51	427
SITE_190	ALB-CL55	-3.80733	35.40044	lundi 08/11/2021 17:47:26	lundi 08/11/2021 19:47:26	419
SITE_193	ALB-CL56	-3.78526	35.39598	lundi 08/11/2021 19:56:59	lundi 08/11/2021 21:56:59	399
SITE_193	ALB-PF09-01	-3.78528	35.39600	lundi 08/11/2021 22:06:33	mardi 09/11/2021 00:32:59	397
SITE_192	ALB-PF09-02	-3.78900	35.39662	mardi 09/11/2021 00:35:31	mardi 09/11/2021 02:11:31	398
SITE_191	ALB-PF09-03	-3.80148	35.39935	mardi 09/11/2021 02:16:57	mardi 09/11/2021 03:52:57	408
SITE_190	ALB-PF09-04	-3.80738	35.40043	mardi 09/11/2021 03:54:33	mardi 09/11/2021 05:30:30	418
SITE_190bis	ALB-PF09-05	-3.80998	35.40155	mardi 09/11/2021 05:40:30	mardi 09/11/2021 07:11:30	420
SITE_57	ALB-CL57	-3.78030	35.35912	mardi 09/11/2021 07:30:33	mardi 09/11/2021 09:30:33	223
SITE_161	ALB-CL58	-3.86680	35.31207	mardi 09/11/2021 10:14:14	mardi 09/11/2021 12:14:14	191
SITE_160	ALB-CL59	-3.84507	35.25751	mardi 09/11/2021 12:43:42	mardi 09/11/2021 15:13:42	087
SITE_170	ALB-CL60	-3.85729	35.25810	mardi 09/11/2021 15:18:52	mardi 09/11/2021 16:48:52	088
SITE_175	ALB-CL61	-3.84511	35.25514	mardi 09/11/2021 16:54:13	mardi 09/11/2021 18:24:13	085
SITE_173	ALB-CL62	-3.95321	35.30331	mardi 09/11/2021 18:57:11	mardi 09/11/2021 20:27:11	135
SITE_172	ALB-CL63	-3.98866	35.28757	mardi 09/11/2021 20:44:09	mardi 09/11/2021 22:00:00	150
SV Nekor	ALB-SBP	-3.98866	35.28757	mardi 09/11/2021 22:00:00	mercredi 10/11/2021 12:44:09	
SITE_80	ALB-MT39	-3.36758	35.46956	mercredi 10/11/2021 15:40:41	mercredi 10/11/2021 16:40:41	650
SITE_80	ALB-CL64	-3.36758	35.46956	mercredi 10/11/2021 16:40:41	jeudi 11/11/2021 18:40:41	650
SBP Cabliers	ALB-SBP			jeudi 11/11/2021 18:40:41	jeudi 11/11/2021 07:10:39	

SITE_85	**ALB-CL65**	-2.28762	35.72380	jeudi 11/11/2021 07:10:39	jeudi 11/11/2021 09:10:39	623
SITE_85	**ALB-HF15**	-2.28755	35.72382	jeudi 11/11/2021 09:10:39	jeudi 11/11/2021 10:25:39	623
SITE_86	**ALB-GC08**	-2.26650	35.72328	jeudi 11/11/2021 10:34:30	jeudi 11/11/2021 12:25:39	512
SITE_87	**ALB-GC09**	-2.25022	35.75017	jeudi 11/11/2021 12:41:02	jeudi 11/11/2021 14:25:39	459
SITE_87bis	**ALB-GC10**	-2.24988	35.74992	jeudi 11/11/2021 14:25:52	jeudi 11/11/2021 16:25:39	467
SITE_88	**ALB-GC11**	-2.23530	35.77345	jeudi 11/11/2021 16:39:09	jeudi 11/11/2021 18:25:39	379
SITE_89	**ALB-GC12**	-2.25313	35.79967	jeudi 11/11/2021 18:41:02	jeudi 11/11/2021 20:25:39	273
TOULON	ARRIVAL	5.88691	43.10473	dimanche 14/11/2021 08:00:00		

5. Acoustic data acquisition

5.1 Swath bathymetry, water column and reflectivity:

According to the water depth range, two multibeam Reson echosounders were used to map the seafloor and detect objects in the water column or along the seafloor (Figure 7).

Characteristics:

- Deep waters (>800m): Seabat 7150, with a frequency of 12 kHz, 880 receivers equidistant across swath beams and a swath coverage of 150°
- Shallow waters (<800m): Seabat 7111, with a frequency of 100 kHz, 301 receivers equidistant across swath beams and a swath coverage of 5 x depth.

The processing was performed using Globe and Sonarscope.

5.2 Sub-bottom sediment sounder

In order to investigate the sub-seafloor, the sub-bottom sediment sounder (SBP) was used (Figure 8).

Characteristics:

- Electronic: Ixblue PWM 4kVA
- Water deep: 20-5000m
- Penetration: ≈ 100m in the soft sediments
- vertical resolution: ≈25cm
- Emission level: from 209 and 212 dB ref. 1µPa at 1m depending of the antenna geometry
- Signal: Chirp 1500-6500 Hz from 10 to 100ms

The sub-bottom sediment sounder (SBP) is based on the same principle of emission/reception of an acoustic wave as seismic reflection and heavy seismic. What differentiates it from other acquisition methods is the frequency of the acoustic signal emitted, generally between 1.5 and 6.5 kHz. These high frequencies allow a sub-metric vertical resolution (c. 25 cm), but limit the penetration to a hundred meters.

During the ALBACORE campaign, the Ixblue PWM (4kVA) echosounder was operated in "overlapping shots" mode. This corresponds to the emission of a wave whose frequency varies increasingly between 2.8 and 5.1 kHz. The shots are said to be overlapping because the sounder waits for the signal associated with the current shot to be received before transmitting the next shot.

The thickness of the reflectors imaged during the campaign with this sounder is at least decimetric. The depth of penetration of the signal is 50 to 100 meters on average, but has locally exceeded 100 meters. These variations in penetration depend primarily on the nature of the surface sediments (mud offers better penetration than sand), the sea conditions at the time and the thickness, and the slice of water crossed by the signal.

The sampling window duration was set to 1000 ms during the cruise (v = 6-7 knots).

The set of SBP acquisition profiles performed during ALBACORE are presented in Annexe.

The processing was performed using QC_subop.

5.3 Configuration during the ALBACORE cruise

Sounder	Equipment	Operation
<300m	7111 100kHz SDS SUBOP ADCP 38	**Reference sounder** 120° 880 beams Manual Mode 50m < depth < 500m Non Synchronized - Autonomous Synchronized with multibeam
300m - 400m	7111 100kHz 7150 24kHz SDS SUBOP ADCP 150	Manual Non Synchronized **Reference sounder** 120° 880 beams Manual Mode 50m < depth < 500m Non Synchronized - Autonomous Synchronized
400m - 500m	7150 24kHz SDS SUBOP ADCP 150	Manual **Reference sounder** Mode 50m < depth < 500m Non Synchronized - Autonomous Synchronized
>500m	7150 24kHz SDS SUBOP ADCP 150	**Reference sounder** Manual Mode depth > 500m Non Synchronized - Autonomous Interlocking shots Synchronized
Survey Speed	6-7 knots	

Day of November 3, 2021 bad sea, the data are noisy on the top of the Xauen Bank. During all the rest of the ALBACORE cruise, the sea was fine.

5.4 Celerity profiles

Hydrology Profile			Thermo (3)		Celerimeter (4)	Sensor (m) (5)	Equipment1: SMF 7150	Equipment2: SMF71111	Comments
Date/Time	Profile Type (1)	File (2)	Temp (°C)	Celerity (m/s)	Celerity (m/s)		Profile Transfer Date/Time	Profile Transfer Date/Time	
19/10/2021 01:34	Sippican	T7_00002	21.1	1526.1	1525	890	19/10/2021 01:55		
19/10/2021 17:30	Sippican	T7_00003	21.4	1526.8	1526.7	1100	19/10/2021 17:38		
20/10/2021 07:45	Sippican	T7_00004	21.1	1525.9	1525.9	1477	20/10/2021 08:05		
21/10/2021 08:50	Sippican	T7_00005	21.5	1526.9	1526.8	1365	20/10/2021 08:58		
21/10/2021 22:44	Sippican	T7_00006	21.5			1364	21/10/2021 22:54		
22/10/2021 04:10	Sippican	T10_00007	22	1528.3	1528	200	22/10/2021 04:25		
22/10/2021 09:52	Sippican	T10_00008	22	1528.2	1528.1	100		22/10/2021 10:08	
22/10/2021 11:54	Sippican	T10_00009	21.8	1527.7	1527.6	130		22/10/2021 12:08	
23/10/2021 20:48	Sippican	T7_00010	21.5	1527	1526.9	940	23/10/2021 20:57		
24/10/2021 21:45	Sippican	T7_00011	20.6	1524.5	1524.5	460	24/10/2021 21:55		
25/10/2021 20:45	Sippican	T7_00012	21.07	1525.8	1525.7	108		25/10/2021 20:55	Not good for sounder - Back to T7_00002 - Sensor ok
25/10/2021 22:31	Sippican	T10_00013	20.8	1524.5	1524.5	100		25/10/2021 22:41	No effect on sounder speed during integration
25/10/2021 17:20	Sippican	T7_00014	21.8	1527.5	1527.6	310	25/10/2021 17:35	25/10/2021 17:30	
26/10/2021 19:50	Sippican	T7_00015	21.56	1527.1	1527	380	26/10/2021	26/10/2021	
28/10/2021 21:40	Sippican	T7_00016	21.3	1526.6	1526.4	1354	28/10/2021 21:51		
30/10/2021 08:40	Sippican	T10_00017	18.3	1520.7	1520.8	158	30/10/2021 06:25	30/10/2021 06:25	
02/11/2021 00:00	Sippican	T10_00018	19.7	1521.9	1521.9	105		02/11/2021 00:10	No effect on sounder speed during integration
07/11/2021 20:06	Sippican	T7_00019	19.2	1520.6	1520.5	537	07/11/2021 20:23		
10/11/2021 21:48	Sippican	T7_00020	19.2	1521	1521	682	10/11/2021 21:59	10/11/2021 22:04	No effect on sounder speed during integration

(1) Type of Profile: XBT (Turo or Sippican), Bathysonde, bathycelerimetry,…
(2) Name or number of celerity file
(3) Thermo measurement (Temperature/Celerity)
(4) Hull celerometer measurements (celerity)
(5) Depth at vertical (probe)

5.5 Coverage

The ALBACORE campaign has allowed to insonify, at 10 knots during transits and at 7 knots on average during acquisition stages (Figure 6, 7 and 8):

- Swath-bathymetric data coverage (bathymetry, reflectivity, water column)

1621 nautical miles were acquired, i.e. approximately 3000 Km, an area of more than 4295 km^2.

4 bathymetric acquisition boxes were acquired. A 250 km^2 box at the slides and pockmarks areas north of the Xauen Bank. A box of 220km2 on the top of Xauen Bank. A box of 40km2 at the creeping zone of the Al Idrissi fault system and finally a box of 25km2 at the slide near the Al Idrissi fault.

- Sub-bottom sediment profiler data coverage

1621 nautical miles were acquired, i.e. approximately 3000 Km.

309 sub-bottom sediment lines were acquired on average at 7 knots.

6. Coring

Sediment sampling operations included Calypso piston coring for investigating long sedimentary successions. Short gravity coring was used at sites were more consolidated sediments were expected but core recovery was in general shorter than with the Calypso. For this reason, gravity coring was used at sites were heat flow measurements were planned. In order to collect well preserved seafloor sediments, the interface "Fantacore" corer was used. At sites were rock outcrops were investigated, the Cnexoville rock sampler was used.

Sediment successions from the different target areas were collected mostly with the piston coring device (Table 2). Gravity coring operations were planned to collect short (<12m) successions at the beginning of the cruise but the short recovery obtained with it (~ 40% recovery, Table 3) brought us to keep calypso coring as the best technique for recovering long sediment cores.

We have carried out numerous tests to optimize the coring (gravity versus Calypso, duplicated on the same sites by changing the settings, readings and interpretations of the data, Table 4).

6.1 Calypso corer

Use of the PP heavy corer (8T) with different configurations of weights (ingots) depending on the sediments encountered.

Operations of long coring (36 m) were tempted twice without success. The presence of very cohesive sediments prevented us from making the long cores we had hoped for in the campaign application. However, of the 65 Calypso cores taken, 11 cores have a fill of more than 20m and 22 cores have collected between 10 and 20m of sediment (Table 2). The maximum length collected is 24.6 m. The total length of sediment collected with the Calypso corer is 728 m. At two stations, the Calypso corer was bent when trying core lengths of 36m (CL04 and CL13). Bent core CL13 (SITE_12_18), was partially recovered (23.88m, Table 2) and labelled in two sub-cores (CL13bis and CL13, Figure 10).

SITE	STATION	TOP Depth (m)	BOTTOM Depth (m)
SITE_12_18	ALB-CL13bis	0	3.52
SITE_12_18	ALB-CL13	7	27.3

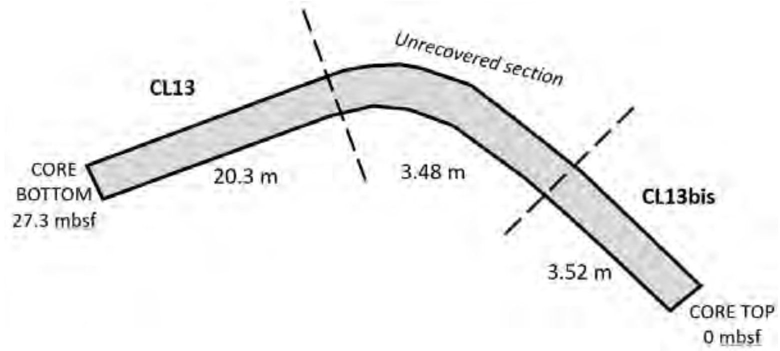


***Figure 10**: ALB-CL13 characteristics due to bending*

Figure 11 shows photos of Calypso deployment. Figures 12 and 13 and table 2 give the Calypso piston coring information.

During the Calypso coring, at depths below 450m, we identified a mismatch between the settings proposed by the cinema software and the reality of the field. Confronted with sediments of quite complex and varied natures (very soft then very hard in the contourites, sandy near the coasts, or mixed with a very cohesive clay), many coring tests were necessary to identify the cause of the problem. The fast rhythm of the campaign did not allow us to analyse and rationalize this problem until several days after having noticed this defect. We were finally able to compensate for it in the last part of the campaign and to optimize the quality of the cores following a review and systematic measurements of the piston/interface distances and the realization of some kind of field-related abacus. The systematic occurrence of this problem in the shallow waters leads us to believe that the first 450 meters of the Gf cable no longer have the same mechanical and elastic properties as the rest of the spool. A few meters were cut for bench testing and verification of this hypothesis.

The nature of the seabed was not favourable to gravity coring, which tended to have a low filling rate, despite various adjustments. We were able to verify, thanks to comparisons on the MSCL bench using gravity and Calypso cores taken on the same sites, that the gravity cores were extremely compressed. We therefore very quickly gave preference to Calypso cores.

Table 2. Coring stations with the Calypso corer (CLXX) performed. Invest. Investigated depth. Geochemistry analysis (I: isojar; P: porewater sampling). Tube length deployed.

SITE	STATION	LON	LAT	WATER DEPTH (m)	Invest. Depth (m)	Number of cut sections	Geoch. analysis	Tube length (m)	STORAGE
SITE_01	ALB-CL01	-4.84708	36.35438	344.00	14.18	15		21.48	CSIC_Barcelona
SITE_01	ALB-CL02	-4.84708	36.35438	344.00	14.78	15		21.48	CSIC_Barcelona
SITE_02	ALB-CL03	-4.81487	35.78315	682.00	19.40	20	I	21.48	CSIC_Barcelona
SITE_02	ALB-CL04	-4.81487	35.78315	682.00	23.46	26	IP	35.59	CSIC_Barcelona
SITE_21	ALB-CL05	-4.26860	35.55219	998.00	9.88	10	IP	12.15	ISTEP_Paris
SITE_24	ALB-CL06	-4.21164	35.50389	591.00	19.62	20	IP	22.05	ISTEP_Paris
SITE_22	ALB-CL07	-4.21122	35.50490	592.00	20.62	22	IP	22.05	ISTEP_Paris
SITE_28	ALB-CL08	-4.18923	35.53227	769.00	20.36	21		22.05	ISTEP_Paris
SITE_27	ALB-CL09	-4.19167	35.53576	832.00	10.76	11		12.15	ISTEP_Paris
SITE_20	ALB-CL10	-4.26912	35.55410	1019.00	20.70	21	IP	22.05	ISTEP_Paris
SITE_21	ALB-CL11	-4.26860	35.55219	1003.00	20.24	21	I	22.05	ISTEP_Paris
SITE_12_18	ALB-CL12	-4.37854	35.53384	787.00	19.99	20		22.05	ISTEP_Paris
SITE_12_18	ALB-CL13	-4.37854	35.53384	787.00	23.88	21	I	36.15	ISTEP_Paris
SITE_96	ALB-CL14	-4.13425	35.44339	397.00	5.02	5	IP	6.44	ISTEP_Paris
SITE_29	ALB-CL15	-4.13137	35.44474	387.00	0.00	0		6.44	ISTEP_Paris
SITE_38_43	ALB-CL16	-3.71914	35.70357	1189.00	19.47	20		22.25	ISTEP_Paris
SITE_39_46	ALB-CL17	-3.72467	35.70882	1268.00	7.34	8		12.28	ISTEP_Paris
SITE_41_47	ALB-CL18	-3.62089	35.71643	866.00	6.59	8	IP	8.48	ISTEP_Paris
SITE_40	ALB-CL19	-3.61763	35.70368	705.00	5.00	5	IP	6.44	ISTEP_Paris
SITE_49	ALB-CL20	-3.62776	35.72045	950.00	3.69	4	IP	6.44	ISTEP_Paris
SITE_90	ALB-CL21	-3.59317	36.08233	699.00	10.73	11		12.28	CSIC_Barcelona
SITE_93	ALB-CL22	-3.78411	35.41661	412.00	5.10	6	I	6.44	ISTEP_Paris

SITE_94bis	ALB-CL23	-3.78010	35.41600	429.00	9.14	10	IP	12.28	ISTEP_Paris
SITE_95	ALB-CL24	-3.77735	35.41556	418.00	10.36	11	IP	12.28	ISTEP_Paris
SITE_94	ALB-CL25	-3.78140	35.41621	425.00	10.92	12	IP	12.28	ISTEP_Paris
SITE_93	ALB-CL26	-3.78411	35.41661	412.00	10.72	11	IP	12.28	ISTEP_Paris
SITE_73	ALB-CL27	-3.84491	35.27831	123.00	4.57	5		12.28	ISTEP_Paris
SITE_74	ALB-CL28	-3.84505	35.26401	95.00	4.73	5		6.44	ISTEP_Paris
SITE_75_77	ALB-CL29	-3.84508	35.25888	89.00	4.59	5		6.44	ISTEP_Paris
SITE_75_77	ALB-CL30	-3.84508	35.25888	89.00	10.60	11	P	12.28	ISTEP_Paris
SITE_A8	ALB-CL31	-3.84516	35.25476	84.00	10.25	11	P	12.28	ISTEP_Paris
SITE_A7	ALB-CL32	-3.90351	35.31681	201.00	4.65	5		12.28	ISTEP_Paris
SITE_66	ALB-CL33	-3.77902	35.32962	148.00	3.36	5		12.28	ISTEP_Paris
SITE_67	ALB-CL34	-3.79796	35.32022	156.00	4.42	5		12.28	ISTEP_Paris
SITE_68	ALB-CL35	-3.80103	35.31944	160.00	3.95	5		6.44	ISTEP_Paris
SITE_57	ALB-CL36	-3.78030	35.35912	225.00	4.48	5		6.44	ISTEP_Paris
SITE_128	ALB-CL37	-4.18408	36.32840	731	19.67	20		22.5	CSIC_Barcelona
SITE_128	ALB-CL38	-4.18408	36.32840	730	24.60	25		28.66	CSIC_Barcelona
SITE_133	ALB-CL39	-4.33429	35.59500	1366.00	4.85	5		6.44	ISTEP_Paris
SITE_134	ALB-CL40	-4.33138	35.59979	1384.00	5.02	6		6.44	ISTEP_Paris
SITE_130	ALB-CL41	-4.20899	35.50091	580.00	23.43	24	IP	28.66	ISTEP_Paris
SITE_131	ALB-CL42	-4.19917	35.50124	581.00	20.77	21	IP	28.66	ISTEP_Paris
SITE_79	ALB-CL43	-4.00845	35.28423	153.00	1.66	2		6.44	ISTEP_Paris
SITE_65	ALB-CL44	-3.83778	35.35069	258.00	4.25	5		6.44	ISTEP_Paris
SITE_65	ALB-CL45	-3.83778	35.35069	259.00	6.1	7	IP	12.28	ISTEP_Paris
SITE_63_1	ALB-CL46	-3.83286	35.35063	254.00	5.05	5	IP	12.28	ISTEP_Paris
SITE_63	ALB-CL47	-3.83023	35.35082	254.00	6.55	7	IP	12.28	ISTEP_Paris
SITE_61	ALB-CL48	-3.81612	35.35077	235.00	5.94	7	P	12.28	ISTEP_Paris
SITE_138	ALB-CL49	-3.72947	35.45831	485.00	12.9	13	IP	22.25	ISTEP_Paris
SITE_137	ALB-CL50	-3.72500	35.45743	485.00	14.92	16	IP	22.25	ISTEP_Paris
SITE_136B	ALB-CL51	-3.71820	35.45614	477.00	16.25	18	IP	22.25	ISTEP_Paris
SITE_95	ALB-CL52	-3.77735	35.41556	416.00	15.68	16		22.25	ISTEP_Paris
SITE_94bis	ALB-CL53	-3.78010	35.41600	433.00	16.46	18		22.25	ISTEP_Paris
SITE_94	ALB-CL54	-3.78140	35.41621	427.00	16.04	16		22.25	ISTEP_Paris
SITE_190	ALB-CL55	-3.80733	35.40044	419.00	16.81	17	IP	22.25	ISTEP_Paris
SITE_193	ALB-CL56	-3.78526	35.39598	399.00	10.67	11	IP	12.28	ISTEP_Paris
SITE_57	ALB-CL57	-3.78030	35.35912	223.00	7.67	8		12.28	ISTEP_Paris
SITE_161	ALB-CL58	-3.86680	35.31207	191.00	1.99	2		12.28	ISTEP_Paris
SITE_160	ALB-CL59	-3.84507	35.25751	87.00	10.7	11		12.28	ISTEP_Paris
SITE_170	ALB-CL60	-3.85729	35.25810	88.00	4.94	5		6.44	ISTEP_Paris
SITE_175	ALB-CL61	-3.84511	35.25514	85.00	14.94	15		22.25	ISTEP_Paris
SITE_173	ALB-CL62	-3.95321	35.30331	135.00	0.53	1		6.44	ISTEP_Paris
SITE_172	ALB-CL63	-3.98866	35.28757	150.00	2.1	3		6.44	ISTEP_Paris
SITE_80	ALB-CL64	-3.36758	35.46956	650.00	20.12	20		22.25	CSIC_Barcelona
SITE_85	ALB-CL65	-2.28762	35.72380	623.00	20.2	21		22.25	CSIC_Barcelona

Figure 11: *Calypso deployment.*

Figure 12: *Map of the 65 Calypso coring sites.*

Figure 13: *Map of the Calypso coring sites in the Bokkoya fault system and Nekor basin.*

6.2 Gravity corer

The deployment of the gravity corer was carried out in priority in the zones where we feared the presence of sand levels and indurated sediments (Figure 14). The operations carried out with the gravity corer were inconclusive (Table 3). The sediment collected was compressed and the length taken always much less important than with the calypso corer (Table 4). 12 cores were taken with the gravity corer for a total length of 40m (Table 3). The maximum length of sediment collected was 10 m, the average was 3 m.

Figure 14: *Map of the 12 Gravity coring sites.*

Table 3. Coring stations with the Gravity corer (GCXX) performed. Invest. Investigated depth. Geochemical analysis (I: isojar; P: porewater sampling). Tube length deployed.

SITE	STATION	LON	LAT	WATER DEPTH (m)	Invest. Depth (m)	Number of cut sections	Geoch. analysis	Tube length	STORAGE
SITE_90	ALB-GC01	-3.59316	36.08233	700.00	6.44	8		12.15	CSIC_Barcelona
SITE_13_17	ALB-GC02	-4.37557	35.53614	813.00	5.26	6		12.15	ISTEP_Paris
SITE_12_18	ALB-GC03	-4.37854	35.53384	787.00	3.34	4		12.15	ISTEP_Paris
SITE_10	ALB-GC04	-4.25158	35.67081	1508.00	3.00	3		12.15	ISTEP_Paris
SITE_21	ALB-GC05	-4.26860	35.55219	997.00	4.47	5	P	12.15	ISTEP_Paris
SITE_21	ALB-GC06	-4.26860	35.55219	998.00	2.00	2		6.56	ISTEP_Paris
SITE_74	ALB-GC07	-3.84505	35.26401	95.00	1.93	2		6.44	ISTEP_Paris
SITE_86	ALB-GC08	-2.26650	35.72328	512.00	0.2	1		12.28	CSIC_Barcelona
SITE_87	ALB-GC09	-2.25022	35.75017	459.00	0	0		12.28	CSIC_Barcelona
SITE_87bis	ALB-GC10	-2.24988	35.74992	467.00	10.13	10		12.28	CSIC_Barcelona
SITE_88	ALB-GC11	-2.23530	35.77345	379.00	3.67	1		12.28	CSIC_Barcelona
SITE_89	ALB-GC12	-2.25313	35.79967	273.00	0.1	0		12.28	CSIC_Barcelona

Table 4. Stations where Gravity corer (GCXX) and Calypso corer have been performed in the same sites.

SITE	STATION	Investigated Depth (m)	Tube length (m)
SITE_12_18	ALB-GC03	3.34	12.15
SITE_12_18	ALB-CL12	19.99	22.05
SITE_12_18	ALB-CL13	23.88	36.15
SITE_21	ALB-GC05	4.47	12.15
SITE_21	ALB-CL05	9.88	12.15
SITE_21	ALB-GC06	2.00	6.56
SITE_90	ALB-GC01	6.44	12.15
SITE_90	ALB-CL21	10.73	12.28

6.3 Multicorer (“multitube”) corer (Fantacore)

In order to obtain undisturbed sediments presents below the seabed surface we used the Fantacore interface sampler (Figure 15). 35 stations have been realised, for each station we collect up to 4 cores between 35 and 55 cm length (Table 5 and Figure 16). For some stations only two cores were acquired. 107 interface tubes were collected in total.

We used the Fantacore from the wet hydrology lab, which saved us time on deployments and chaining between calypso and multitubes. There are many advantages to working from this location, including the ability to take control of the winch from the dry lab without having to go through the catwalk.

The tension values of the Kley winch are also much more accurate than those of the McCartney and allow a better view of the landing and retrieval of the device.

Good functioning of the Fantacam, which only "crashed" once during a mode change test.

Figure 15 *: Multitube (Fantacore).*

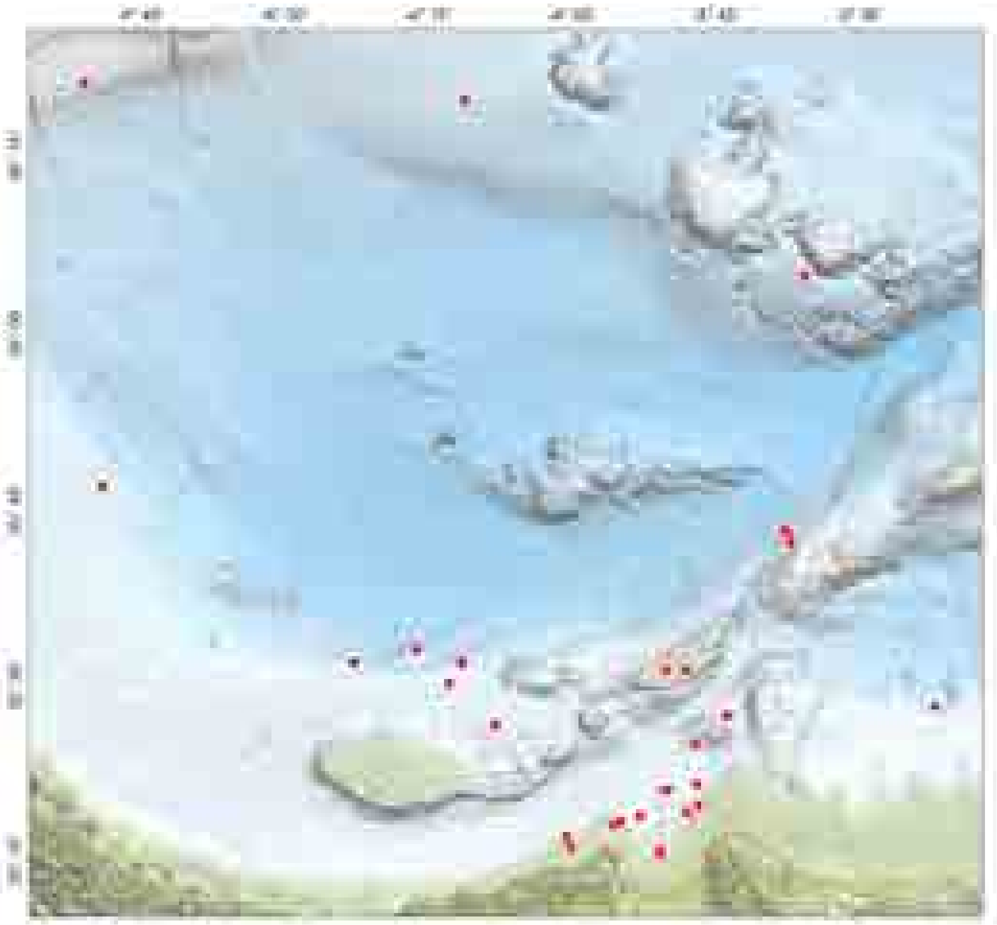


Figure 16: *Map of the 39 Multitube coring sites.*

Table 5. Coring stations with the Multitube corer (MTXX) performed.

SITE	STATION	LON	LAT	WATER DEPTH (m)	Number of tubes	STORAGE
SITE_90	ALB-MT01	-3.59317	36.08233	700.00	4	CSIC_Barcelona
SITE_01	ALB-MT02	-4.84708	36.35438	344.00	4	CSIC_Barcelona
SITE_02	ALB-MT03	-4.81487	35.78315	678.00	4	CSIC_Barcelona
SITE_21	ALB-MT04	-4.26860	35.55219	998.00	4	ISTEP_Paris
SITE_24	ALB-MT05	-4.21164	35.50389	591.00	4	ISTEP_Paris
SITE_22	ALB-MT06	-4.21122	35.50490	592.00	4	ISTEP_Paris
SITE_28	ALB-MT07	-4.18923	35.53227	769.00	4	ISTEP_Paris
SITE_27	ALB-MT08	-4.19167	35.53576	832.00	4	ISTEP_Paris
SITE_20	ALB-MT09	-4.26912	35.55410	1019.00	4	ISTEP_Paris
SITE_12_18	ALB-MT10	-4.37854	35.53384	787.00	4	ISTEP_Paris
SITE_29	ALB-MT11	-4.13137	35.44474	387.00	4	ISTEP_Paris
SITE_96	ALB-MT12	-4.13425	35.44339	397.00	4	ISTEP_Paris
SITE_49	ALB-MT13	-3.62776	35.72045	949.00	4	ISTEP_Paris
SITE_41_47	ALB-MT14	-3.62089	35.71643	868.00	4	ISTEP_Paris
SITE_40	ALB-MT15	-3.61763	35.70368	705.00	2	ISTEP_Paris
SITE_36	ALB-MT16	-3.80164	35.52222	111.00	2	ISTEP_Paris
SITE_100	ALB-MT17	-3.83518	35.52125	103.00	2	ISTEP_Paris
SITE_93	ALB-MT18	-3.78411	35.41661	412.00	2	ISTEP_Paris
SITE_94bis	ALB-MT19	-3.78010	35.41600	429.00	2	ISTEP_Paris
SITE_95	ALB-MT20	-3.77735	35.41556	417.00	2	ISTEP_Paris
SITE_94	ALB-MT21	-3.78140	35.41621	425.00	2	ISTEP_Paris
SITE_81	ALB-MT22	-3.91509	35.30586	104.00	2	ISTEP_Paris
SITE_A5	ALB-MT23	-3.92689	35.30081	101.00	2	ISTEP_Paris
SITE_74	ALB-MT24	-3.84505	35.26401	95.00	2	ISTEP_Paris
SITE_75_77	ALB-MT25	-3.84508	35.25888	90.00	2	ISTEP_Paris
SITE_66	ALB-MT26	-3.77902	35.32962	147.00	2	ISTEP_Paris
SITE_67	ALB-MT27	-3.79796	35.32022	156.00	2	ISTEP_Paris
SITE_68	ALB-MT28	-3.80103	35.31944	160.00	2	ISTEP_Paris
SITE_57	ALB-MT29	-3.78030	35.35912	225.00	2	ISTEP_Paris
SITE_63_1	ALB-MT30	-3.83286	35.35063	256.00	2	ISTEP_Paris
SITE_129	ALB-MT31	-3.88110	35.31441	181.00	2	ISTEP_Paris
SITE_78	ALB-MT32	-4.00161	35.27067	95.00	2	ISTEP_Paris
SITE_79	ALB-MT33	-4.00845	35.28423	156.00	2	ISTEP_Paris
SITE_128	ALB-MT34	-4.18408	36.32840	730	2	CSIC_Barcelona
SITE_65	ALB-MT35	-3.83778	35.35069	259.00	1	ISTEP_Paris
SITE_63	ALB-MT36	-3.83023	35.35082	254.00	2	ISTEP_Paris
SITE_138	ALB-MT37	-3.72947	35.45831	485.00	2	ISTEP_Paris
SITE_137	ALB-MT38	-3.72500	35.45743	485.00	2	ISTEP_Paris
SITE_80	ALB-MT39	-3.36758	35.46956	650.00	4	CSIC_Barcelona

6.4 Rock corer (Cnexoville)

This rock corer had not been mobilized since 2015 (Figure 17). The deployment was done by the back deck, using a Kullenberg release clamped on 50m of Ø16mm steel cable wound on the manoeuvring winch, with messenger and then change of hand with the TGF. This solution allowed us to have a clear back deck and to work in complete safety by submerging the machine 25m before using the messenger, during the handover, to lift the last safety device. The deployments of Cnexoville were planned around the Penfeld dives in order to optimize the operation time and the change of orientation of the pulley. The device worked well, after establishing a satisfactory operating mode during the first three dives.

The targets were structural highs to determine the nature and age of morpho-structural features, such as potentially Miocene banks in the heart of eroded anticlines, marine terraces, ancient cold water corals, mud volcanoes, Miocene slides... (See Annexe 3; Figure 18 and Table 6). Out of the 18 stations realized, only one station was found to be empty (CN03), but most of the samples showed to be sands and bedded crusts.

Table 6. Coring stations with the Cnexoville rock sampler (CNXX) performed.

SITE	STATION	LON	LAT	WATER DEPTH (m)	STORAGE	Sample
SITE_31A	ALB-CN01	-4.191641	35.448597	408.00	ISTEP_Paris	yes
SITE_31B	ALB-CN02	-4.213906	35.441373	358.00	ISTEP_Paris	yes
SITE_32B	ALB-CN03	-4.226243	35.382002	103.00	ISTEP_Paris	no
SITE_103a	ALB-CN04	-3.833250	35.520667	96.00	ISTEP_Paris	yes
SITE_101a	ALB-CN05	-3.845017	35.508900	99.00	ISTEP_Paris	yes
SITE_102a	ALB-CN06	-3.838483	35.515533	102.00	ISTEP_Paris	yes
SITE_104	ALB-CN07	-3.805197	35.530103	84.00	ISTEP_Paris	yes
SITE_A6	ALB-CN08	-3.875836	35.313966	166.00	ISTEP_Paris	yes
SITE_84	ALB-CN09	-3.906190	35.309613	125.00	ISTEP_Paris	yes
SITE_83	ALB-CN10	-3.908048	35.308794	110.00	ISTEP_Paris	yes
SITE_82	ALB-CN11	-3.913825	35.306420	103.00	ISTEP_Paris	yes
SITE_A1	ALB-CN12	-3.954324	35.289365	86.00	ISTEP_Paris	yes
SITE_A2	ALB-CN13	-3.734707	35.359800	94.00	ISTEP_Paris	yes
SITE_A3	ALB-CN14	-3.706451	35.351280	72.00	ISTEP_Paris	yes
SITE_32C	ALB-CN15	-4.217734	35.368213	98.00	ISTEP_Paris	yes
SITE_32D	ALB-CN16	-4.217487	35.360257	106.00	ISTEP_Paris	yes
SITE_32A	ALB-CN17	-4.297482	35.355184	100.00	ISTEP_Paris	yes
SITE_32E	ALB-CN18	-4.089300	35.369400	258.00	ISTEP_Paris	yes

Figure 17: Rock corer Cnexoville

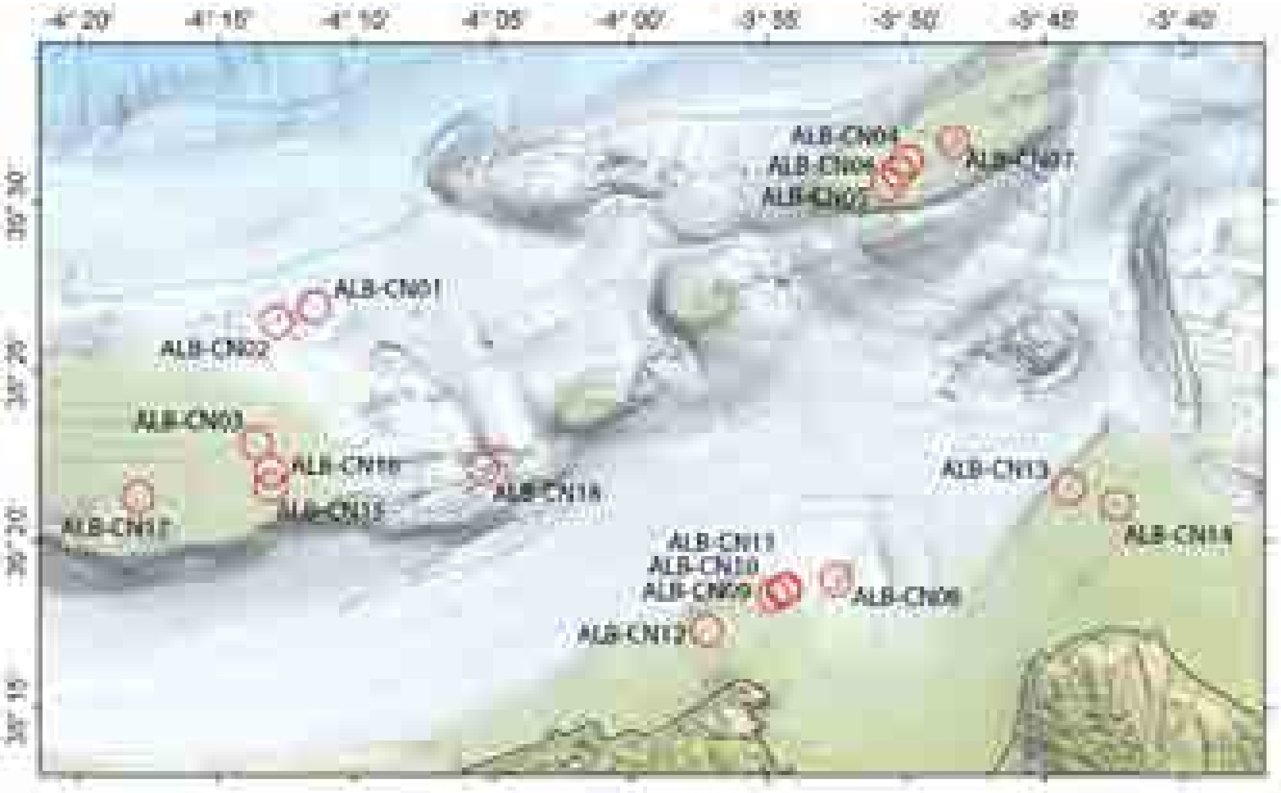


Figure 18*: Map of the 18 rock sampling (CNEXOVILLE) sites.*

7. In situ geotechnical testing

In-situ geotechnical measurements were carried out using the Penfeld piezocone CPTU system (Figures 19, 20 and Table 7). The piezocone was equipped with a rod which can penetrate the sediment to a depth of 50 m. Three parameters are recorded continuously at 2cm/s speed: the cone tip resistance qc; the sleeve friction fs and the excess pore pressure u_2. The 36mm diameter rod is coiled around a 2.20m diameter drum and is straightened during penetration using the 'coiled tubing' technique. During the ALBACORE cruise, the new CPTU cone (standard Icone) manufactured by van der Berg was used, which can be used up to 1000 m water depth.

Operations were operated by the Genavir team and updated/modified with the scientific team. The Albacore operations plan included 6 Penfeld stations but the impossibility of coring during night time resulted in extra time for deploying the Penfeld piezocone. As a result, 9 Penfeld stations were run and investigated depths varied between 50m (maximum depth) and 9 m at sites were coarse/cemented sediments prevented testing operations (cf. Table 7, Figure 20).

Figure 18: *Penfeld deployment.*

Table 7. Penfeld stations (PFXX) performed. Each station consisted on several tests (PFXX-YY).

SITE	STATION	LON	LAT	WATER_DEPTH (m)	Investigated_depth (m)
SITE_12_18	ALB-PF01-01	-4.378655	35.534	783.00	50.00
SITE_13_17	ALB-PF01-02	-4.375533333	35.53613333	812.00	50.00
SITE_16	ALB-PF01-03	-4.372883333	35.53796667	835.00	50.00
SITE_15	ALB-PF01-04	-4.370616667	35.53941667	861.00	50.00
SITE_24	ALB-PF02-01	-4.211666667	35.50386667	586.00	0.10
SITE_24	ALB-PF02-02	-4.21165	35.50386667	589.00	50.00
SITE_26	ALB-PF02-03	-4.212416667	35.5087	605.00	50.00
SITE_41_47	ALB-PF03-01	-3.62105	35.7163	863.00	27.95
SITE_49	ALB-PF03-02	-3.627733333	35.72038333	945.00	40.20
SITE_51	ALB-PF03-03	-3.634333333	35.73008333	1075.00	39.08
SITE_51bis	ALB-PF03-04	-3.63305	35.72981667	1082.00	36.95
SITE_38_43	ALB-PF04-01	-3.719083333	35.70355	1186.00	40.00
SITE_44	ALB-PF04-02	-3.723366667	35.70736667	1251.00	36.66
SITE_45	ALB-PF04-03	-3.7249	35.7089	1267.00	30.73
SITE_39_46	ALB-PF04-04	-3.728633333	35.71258333	1315.00	37.18
SITE_91	ALB-PF05-01	-3.788533333	35.41738333	401.00	42.28
SITE_93	ALB-PF05-02	-3.78415	35.41661667	411.00	9.83
SITE_93	ALB-PF05-03	-3.784116667	35.41661667	412.00	38.83
SITE_94	ALB-PF05-04	-3.7814	35.41621667	428.00	45.66

SITE_94bis	ALB-PF05-05	-3.7801	35.416	428.00	38.67
SITE_95	ALB-PF05-06	-3.77735	35.41556667	417.00	50.00
SITE_65	ALB-PF06-01	-3.8378	35.35056667	257.00	30.91
SITE_63_3	ALB-PF06-02	-3.83595	35.35061667	255.00	30.85
SITE_63_2	ALB-PF06-03	-3.83445	35.35065	253.00	33.10
SITE_63_1	ALB-PF06-04	-3.832866667	35.35063333	252.00	34.31
SITE_63	ALB-PF06-05	-3.832066667	35.35068333	251.00	33.04
SITE_63_bis	ALB-PF06-06	-3.817716667	35.3507	251.00	34.76
SITE_61bis	ALB-PF06-07	-3.828633333	35.3507	249.00	36.89
SITE_150	ALB-PF07-01	-3.8452	35.25293333	77.00	26.66
SITE_151	ALB-PF07-02	-3.845133333	35.25468333	80.00	25.62
SITE_152	ALB-PF07-03	-3.845083333	35.25748333	84.00	16.59
SITE_153	ALB-PF07-04	-3.845166667	35.25906667	87.00	14.24
SITE_154	ALB-PF07-05	-3.849883333	35.25801667	84.00	29.61
SITE_74	ALB-PF07-06	-3.845066667	35.26396667	91.00	28.22
SITE_138A	ALB-PF08-01	-3.73295	35.45905	487.00	50.00
SITE_138B	ALB-PF08-02	-3.7291	35.45745	486.00	50.00
SITE_137	ALB-PF08-03	-3.725033333	35.45745	482.00	50.00
SITE_136	ALB-PF08-04	-3.720366667	35.45645	478.00	36.51
SITE_136A	ALB-PF08-05	-3.72005	35.45645	477.00	34.26
SITE_193	ALB-PF09-01	-3.785283333	35.396	397.00	40.00
SITE_192	ALB-PF09-02	-3.789	35.39661667	398.00	40.00
SITE_191	ALB-PF09-03	-3.801483333	35.39935	408.00	40.00
SITE_190	ALB-PF09-04	-3.807383333	35.40043333	418.00	40.00
SITE_190bis	ALB-PF09-05	-3.809933333	35.40113333	420.00	11.48

CPTU data were interpreted onboard by using derived parameters, such as corrected tip resistance, q_t (Equation 1), which accounts for avoiding the unequal area effect. Due to the geometric design of the piezocone, the pore pressure acts on the shoulder above the tip and at both ends of the friction sleeve. This influences the total stress measured from the cone tip resistance, q_c, and the sleeve friction, f_s (Lunne et al. 1997).

$q_t = q_c + u_2 \cdot (1-a)$ (Equation 1)

In fine-grained sediments, q_c, f_s and u_2 tend to increase with increasing overburden stress, preventing the identification of mechanical changes. To solve this problem, the direct CPTU parameters are usually normalized, being the net tip resistance, q_{net} (Equation 2) and the normalized tip resistance (Equation 3), Q_t useful parameters for stratigraphic interpretations:

$q_{net} = q_t - \sigma_{v0}$ (Equation 2)

$Q_t = (q_t - s_{v0}) / \sigma'_{v0}$ (Equation 3)

where a is the cone area ratio of the cross-sectional area at the gap between cone and friction sleeve to the cone base area, which is 1 for the Icone. σ_{vo} is the total in situ vertical stress relative to seafloor and σ'_{vo}, the vertical effective stress.

Based on normalized parameters, an estimate of the undrained shear strength Su (Equation 4) was performed onboard from the following equation:

$Su = q_{net} / N_k$ (Equation 4)

We have calculated the lower and upper boundaries of Su by using the empirical cone factor N_k equal to 17 and 10, respectively (Lunne et al. 1997). The systematic interpretation of normalized and Su profiles at each Penfeld station constituted a valuable data for the interpretation of the compaction state of sediments prior to coring operations.

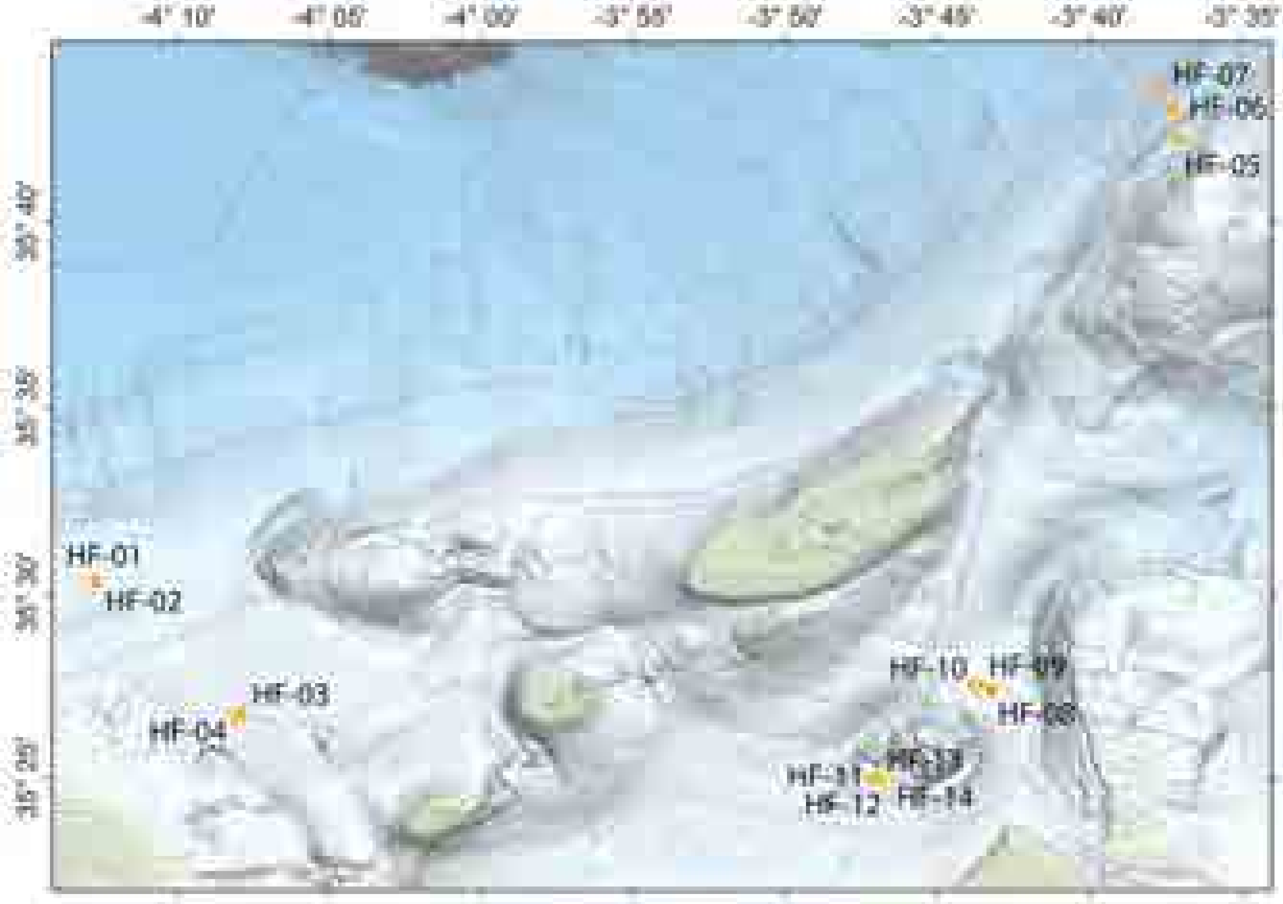
Plots in Appendix 4 illustrate the continuous profile with depth of q_c, q_t, f_s, u_2 and Su for the different tests at the performed stations.

At each Penfeld station, of a mean duration of 12h (of battery power), four to six testing sites were performed. At sites were the sediments was very soft, the friction sleeve was obstructed and resulted in reduced fs values.

Figure 20: *Map of the 9 Penfeld operations.*

8. Heat flow measurement

During the ALBACORE campaign, 15 thermal cores were taken (Figure 21, Table 8) to obtain the Heat flux. Thermal coring was performed with a 6 m gravity corer for all sites (Figures 22, 23).



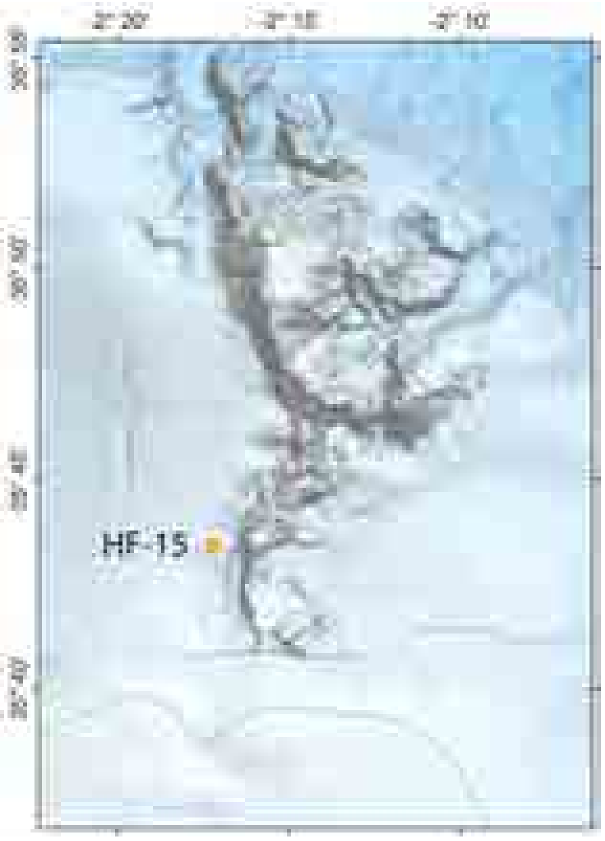


Figure 21: *Maps of 15 thermal coring locations*

Methodology

The calculation of heat flux is based on Fourier's law of thermal conduction:

$Q = k\, dT/\, dz$

Where k represents the thermal conductivity (W/m/K) and dT/dz represents the thermal gradient (mK/m). Thermal conductivity is the ability of the sediment to conduct heat and is measured on board. The temperature gradient is measured in-situ in the sediment. The heat flux obtained is in mW/m2.

The temperature measurements are obtained thanks to autonomous THP sensors of high precision (thousandth of degree). These sensors are equipped with two thermistors and a time base. An autonomous acquisition system allows to record these data with a sampling of one second and to download them by an induction pen and the software provided by NKE Winmemo.

Figure 22: *Left panel, Activation of THP sensors before corer launch. Right panel, launching of the corer equipped with the sensors.*

Four temperature sensors were placed on the core barrel (Sx, Figure 23). They are attached to the corer with a bracket directly welded to it (Figure 22). In addition, an inclinometer is fixed in the ballast of the corer to control the verticality of the corer during its penetration in the sediments.

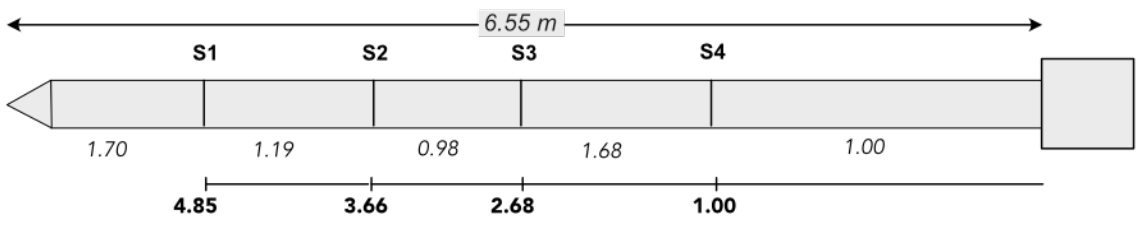


Figure 23: *Not to scale sketch showing the positioning of the sensors (in meters) on the core tube dedicated to Heat Flow measurements.*

Figure 24 shows an example of temperature acquisition by a THP sensor. The sensors are activated before the corer is launched. They will therefore record the water temperature, the thermocline, during the descent and ascent of the corer. As the corer penetrates the sediments, the sensors heat up significantly due to friction, the amplitude of which depends on the nature and cohesion of the sediments. The temperatures in the sediments gradually return to an equilibrium value that can be extrapolated from the cooling curve as a function of time (Figure 24): the longer the evolution sequence is recorded, the better the temperature extrapolation in the sediments.

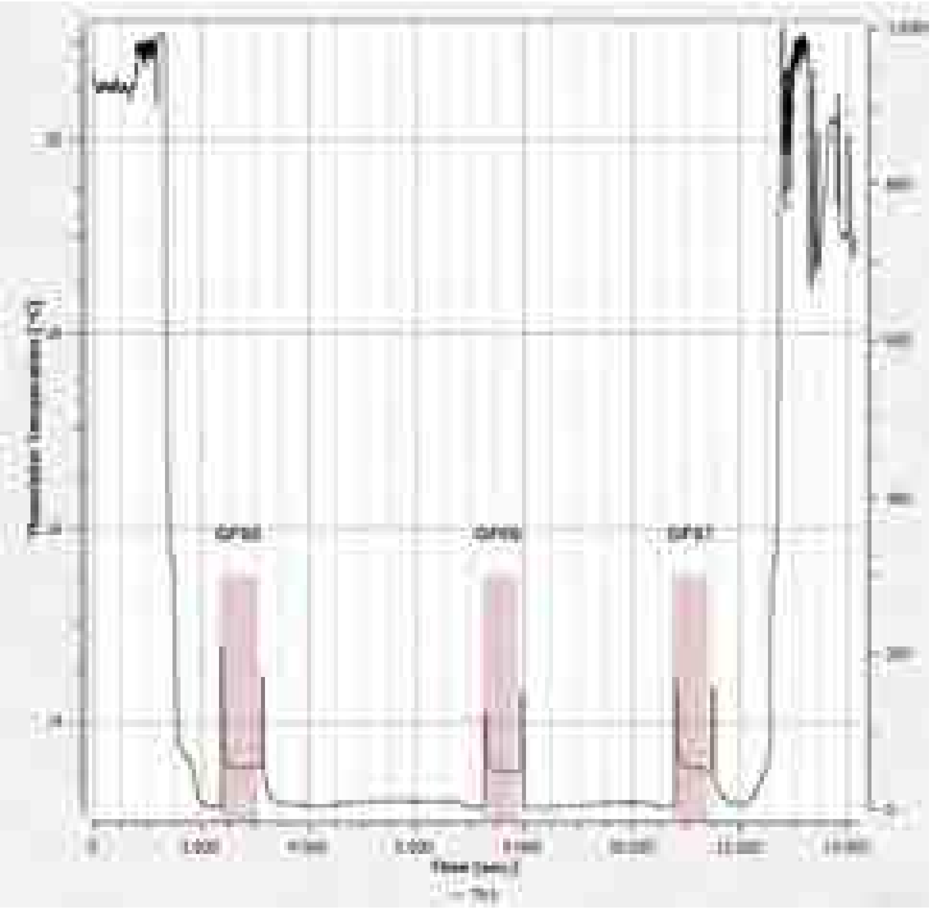


Fig. 24: *Example of a temperature acquisition sequence. Here, 3 acquisitions were made without putting the probe back on board (POGO type acquisition). The THP sensor records the temperature in the water during the descent and ascent of the corer, and that of the sediments during the penetration. The salmon area is the one used to determine the equilibrium temperature*

The acquisition procedure during the ALBACORE campaign was to remain planted for 10 minutes in the sediments.

The data are then analyzed with the THPread software (developed under Qt by Francis Lucazeau).

The measurement of thermal conductivity is carried out on board on the sections of sediment cores (Figure 25). During the ALBACORE cruise, the heat flux measurement sites were sampled by independent Calypso cores at the same sites.

This is done using a heated needle method. The Hukseflux TPSYS02 conductivity meter is controlled by a microcontroller that allows a constant power Q to be injected into a heating wire inside the needle for a duration of 150 seconds. The variation of the temperature over time is recorded by a thermistor and depends directly on the thermal conductivity k :

$$\Delta T = \frac{Q}{4\pi\, k} \ln(t0 - t1)$$

Figure 25: *Device for measuring thermal conductivity in a core section.*

The conductivity measurements are then analyzed with the Tchuk software (developed under Qt by Francis Lucazeau) to keep only the linear part of the curve (Figure 26).

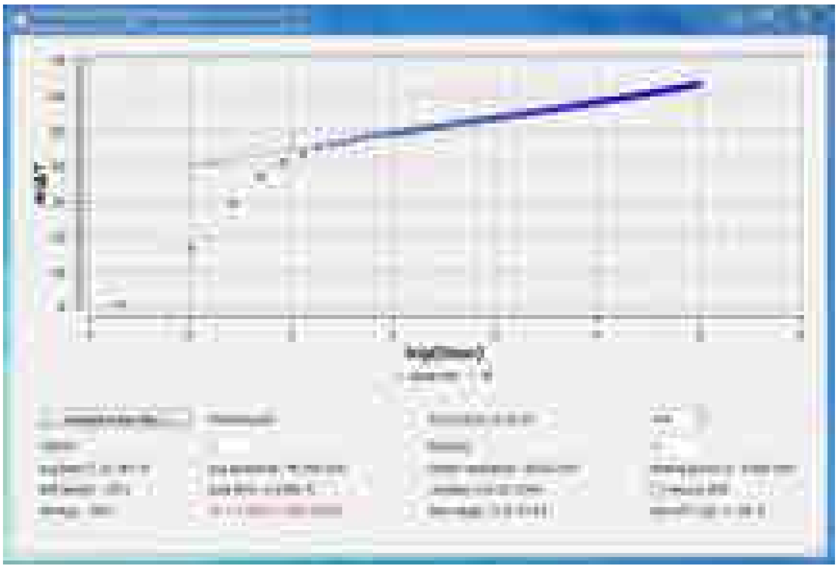


Figure 26: *Example of thermal conductivity determination (Tchuk software). The area between 2 and 5 log(time) is the one used to determine the thermal conductivity.*

Table 8. Heat measurements. nT, number of temperature determinations; nλ, number of thermal conductivity determinations.

Site name	Station name	Latitude	Longitude	Water depth (m)	nT	Thermal Gradient (mK/m)	Core name Thermal C.	nλ
SITE_24	ALB-HF01	N35°30.2409'	W4°12.6919'	592	4	48.7	ALBCL06	33
SITE_22	ALB-HF02	N35°30.3010'	W4°12.6717'	590	4	42.4	ALBCL07	26
SITE_29	ALB-HF03	N35°26.7014'	W4°07.9332'	418	0	-	-	-
SITE_96	ALB-HF04	N35°26.6093'	W4°08.0552'	397	4	35.7	ALBCL14	21
SITE_40	ALB-HF05	N35°42.2300'	W3°37.0548'	704	4	55.2	ALBCL19	20
SITE41-47	ALB-HF06	N35°42.9930'	W3°37.2603'	864	4	59.2	ALBCL18	24
SITE_42-50	ALBHF07	N35°43.6187'	W3°37.8810'	1039	4	64	ALBCL20	14
SITE_136	ALB-HF08	N35°27.3917'	W3°43.2216'	477	4	59.7	ALBCL51	67
SITE_137	ALB-HF09	N35°27.4454'	W3°43.5027'	483	4	69.6	ALBCL50	60
SITE_138	ALB-HF10	N35°27.4975'	W3°43.7708'	486	4	69.5	ALBCL49	51
SITE_93	ALB-HF11	N35°24.9966'	W3°47.0498'	411	4	137.3	ALBCL22+26	26+25
SITE_94	ALB-HF12	N35°24.9727'	W3°46.8866'	425	4	167.7	ALBCL25+54	43+28
SITE_94bis	ALB-HF13	N35°24.9599'	W3°46.8086'	427	3	251	ALBCL23+53	38+33
SITE_95	ALB-HF14	N35°24.9339'	W3°46.6440'	422	4	170.1	ALBCL24+52	42+23
SITE_85	ALB-HF15	N35°43.429'	W2°17.253'	624	4	54	ALBCL65	42

9. Laboratory analyses and preliminary results

9.1 MSCL

Sediment cores collected with the gravity and calypso corers were systematically logged using the GEOTEK core logging devices (MSCL, Figure 27) after a 24h storage at room temperature (room T was fixed at 21°). MSCL measurements allowed to identified lithological and mechanical variations within the whole round cores that allowed to select relevant samples for further laboratory geotechnical analyses (onshore consolidation, simple shear and triaxial tests). MSCL data were also exploited for correlating sediment variations with seismic data. The primary measurement sensors used are:

- Ultrasonic Transducers to measure the velocity of compressional waves in the core.

- A Gamma Ray Source and Detector for measuring the attenuation of gamma rays through the

core (providing density/porosity values; Figure 28).

- A Magnetic Susceptibility Sensor to determine the amount of magnetically susceptible material

present in the sediments

We used the MSCL bench lent by AWI, installed in the dry analysis laboratory. We used the Gamma source "Genavir" and a new calibration standard.

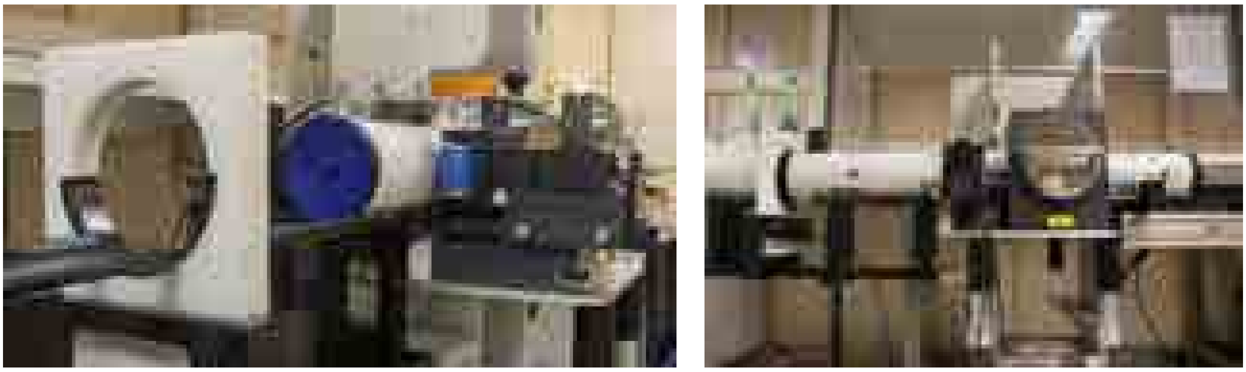


Figure 27*: GEOTEK core logging devices (MSCL)*

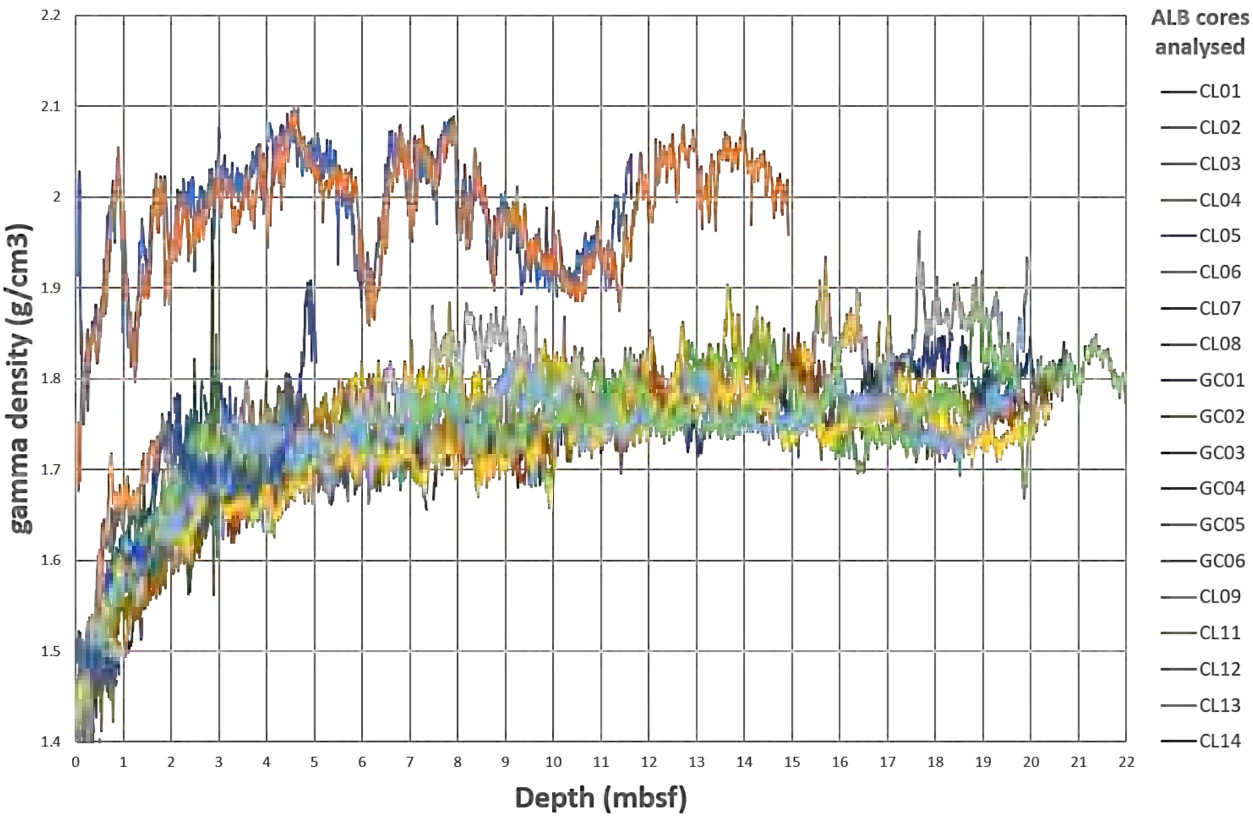


Figure 28: *onboard sulphate analyses. Sulphate and methane concentration were measured on pore fluids systematically at each core base.*

9.2 Geochemistry

A total of 34 cores was sampled for geochemical analysis. Up to 200 samples for gas analysis were collected and stored on isojars for onshore analyses (mass spectrometry, Figure 29). Up to 296 samples were collected and stored for total organic carbon (TOC) analyses and porewater chemistry (sulfate). On board sulphate measures indicate that no methane analysis is not present in investigated pockmarks (Site ALB-CL06, -CL07, -CL41, -CL42). However higher methane has been inferred from higher sulphate content on top of faults (CL11, CL25, CL55). Surprisingly most of the sediment cores analyzed (Table 9) present low sulphate signature (Ketzer et al., 2020). Authigenic carbonate samples were found at CL56 suggesting the presence of methane (high sulfate content) in the past.

Figure 29: *Onboard sulphate analyses. Sulphate and methane concentration were measured on pore fluids systematically at each core base.*

Table 9. Geochemistry analysis acquired on board on these cores and samples

Calypso cores		
	isojars	porewater
ALB_CL03	1	0
ALB_CL04	16	18
ALB_CL05	4	10
ALB_CL06	20	20
ALB_CL07	22	22
ALB_CL10	13	21
ALB_CL11	1	0
ALB_CL13	1	0
ALB_CL14	5	5
ALB_CL18	7	7
ALB_CL19	5	5
ALB_CL20	4	4
ALB_CL22	0	5

Cnexoville (rock sampler)		
	isojars	porewater
ALB_CN01	1	0
ALB_CN02	1	0
ALB_CN04	1	0
Total	3	0

Gravity core		
	isojars	porewater
ALB_GC05	0	5

ALB_CL23	9	10
ALB_CL24	10	11
ALB_CL25	11	12
ALB_CL26	10	11
ALB_CL30	1	0
ALB_CL31	1	0
ALB_CL41	11	24
ALB_CL42	7	21
ALB_CL45	4	7
ALB_CL46	4	5
ALB_CL47	4	7
ALB_CL48	0	6
ALB_CL49	5	13
ALB_CL50	5	15
ALB_CL51	5	18
ALB_CL55	4	8
ALB_CL56	3	6
Total	193	291

Multi-tube (multi-corer)		
	isojars	porewater

9.3 Geotechnical measurements

Undrained shear strength (Su) measurements were performed using a pocket penetrometer and a torvane systematically at the top and bottom of each section after core splitting on deck (Figure 30). The measurements were successfully run in cohesive sediments while in sandy cores undrained shearing was not possible and measurements abandoned. Figure 31 illustrates the good correlation between Penfeld estimated Su and Su measures at closed sites.

Figure 30 : *On board undrained shear strength (Su) measurements. Left, pocket penetrometer. Right : torvane.*

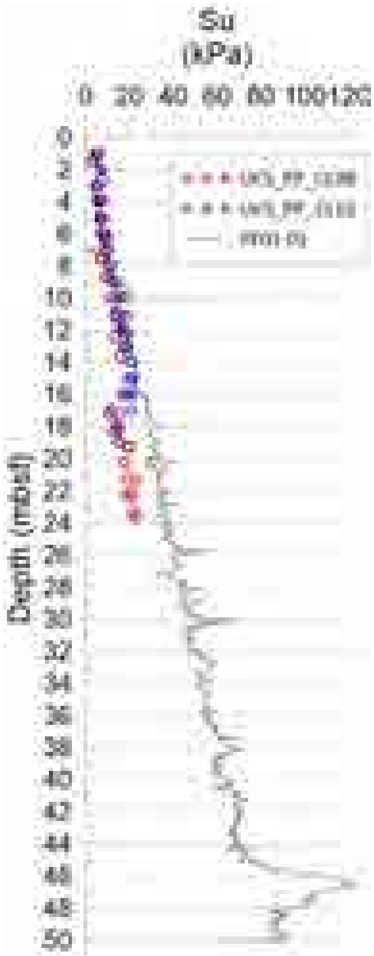
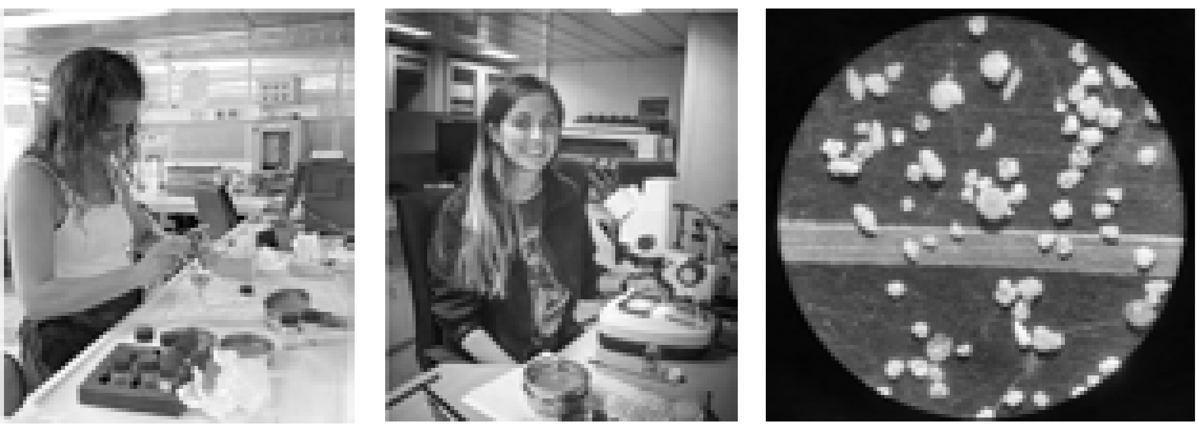


Figure 31 *: Correlation of pocket penetrometer and torvane undrained shear strength measures with in-situ Penfeld testing.*

9.4 Foraminifera

For some reference cores, foraminifera species were counted onboard (Appendix 7). This preliminary work (Figure 32) allowed to verify interglacial/glacial cycles recorded on the sedimentary successions cored.



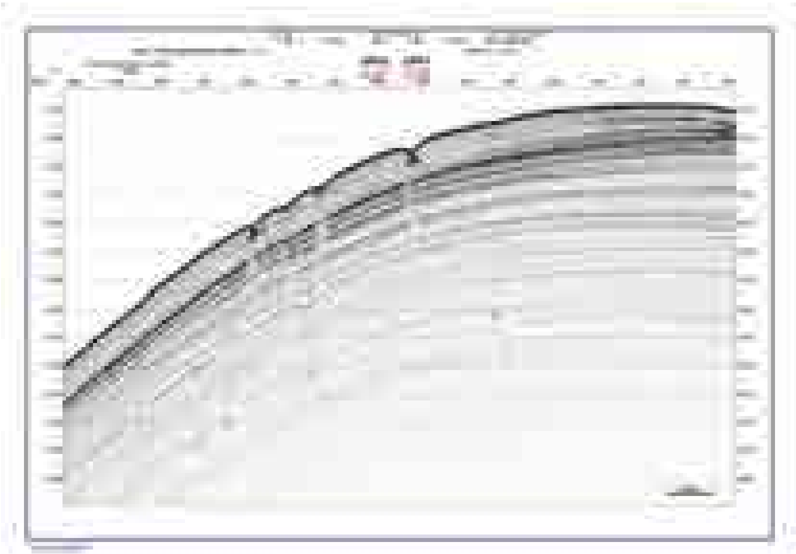
Sample preparation | Foraminifera picking | Foraminiferas found in the Alboran samples

Figure 32: *Onboard Foraminifera analyses*

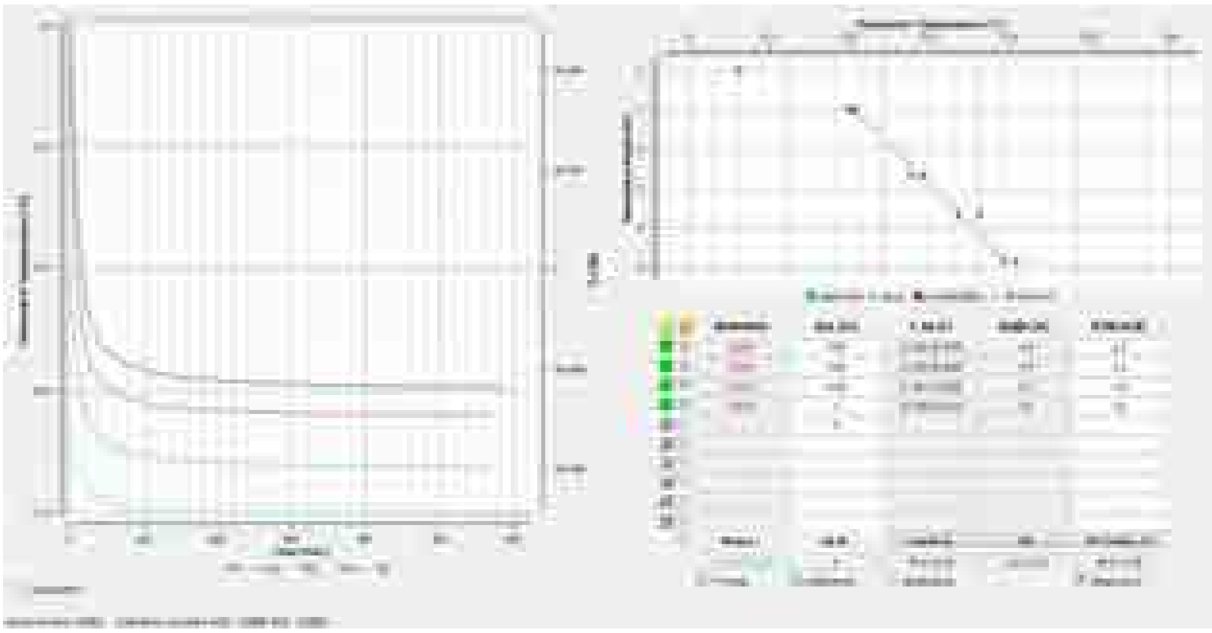
9.5 Heat flux measurements

Preliminary heat fluxes are presented site by site with an average thermal conductivity of 1 W/m/K.

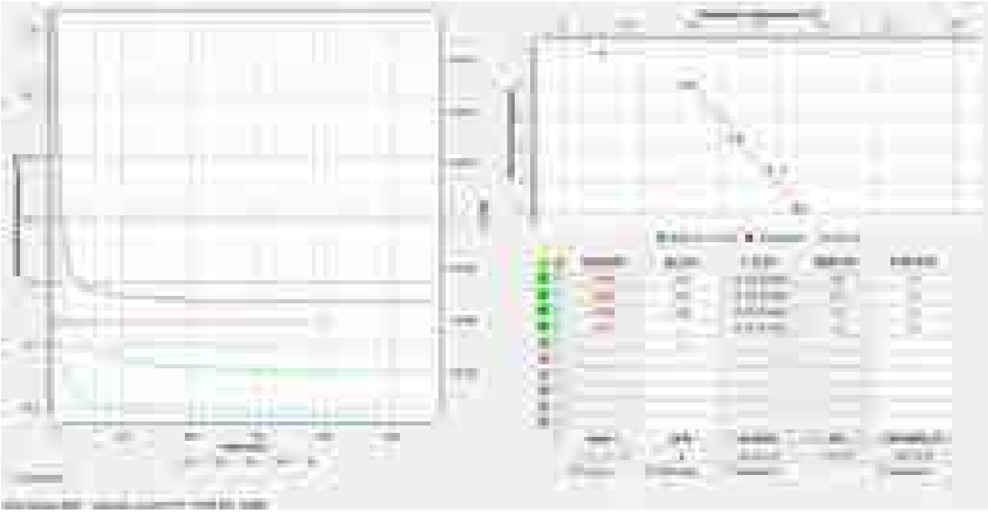
9.5.1 Pockmarks



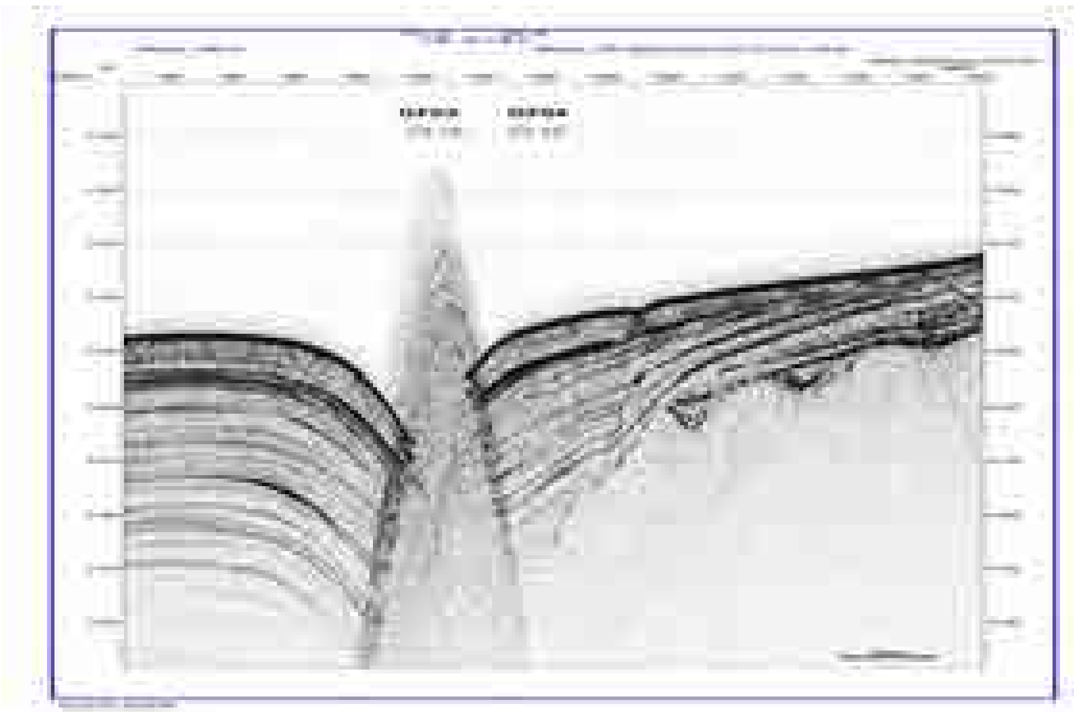
Site 22 – ALB-HF01 = 48.5 mW/m^2



Site 24 – ALB-HF02 = 38.7 mW/m^2



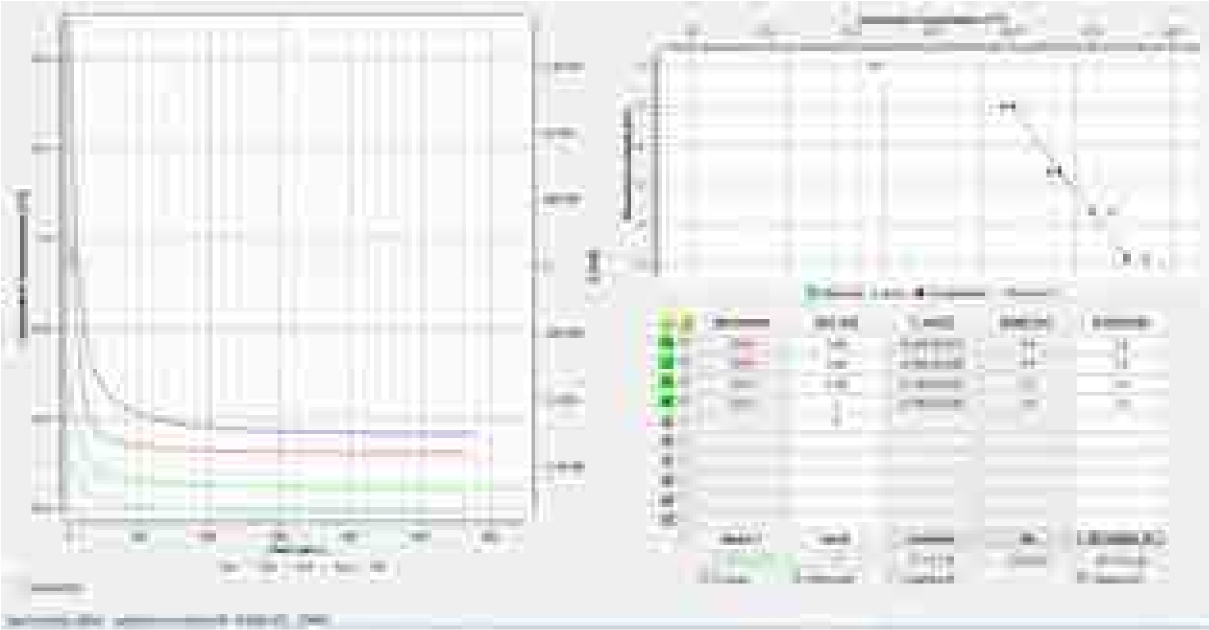
9.5.2 Mud volcanoe?



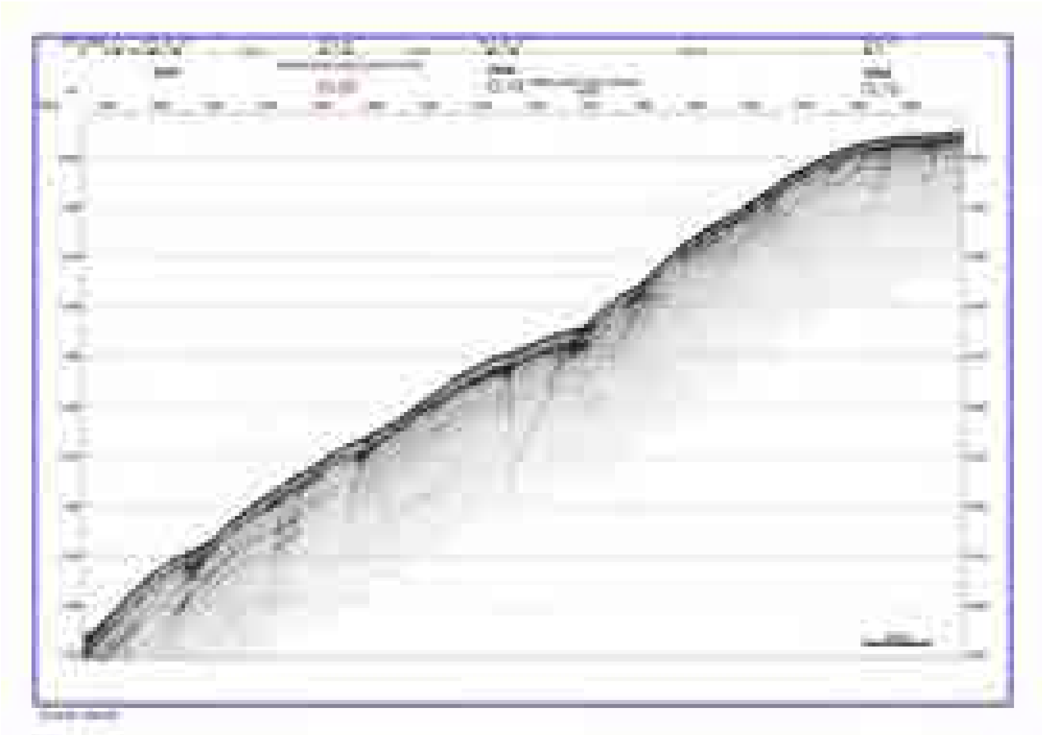
Site 29 – ALB_HF03

No data, no penetration

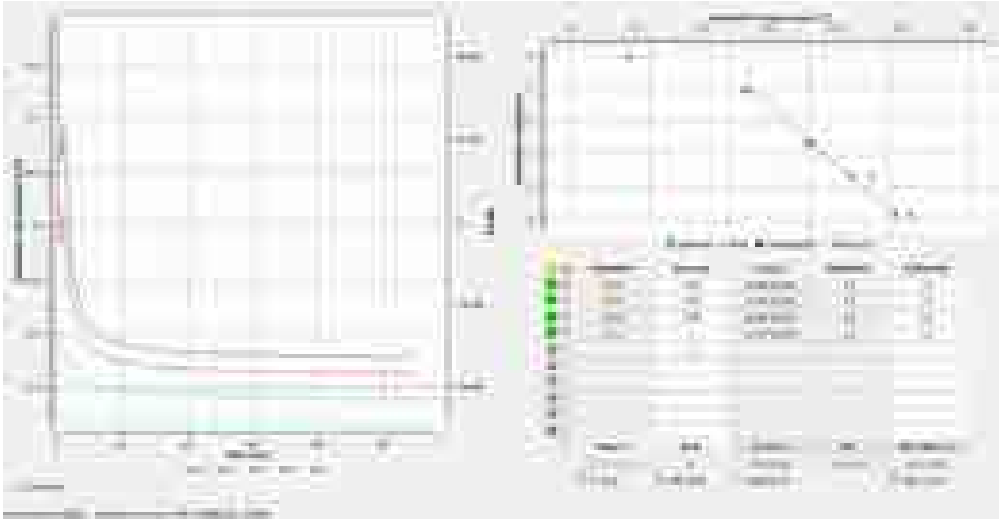
Site 96 – ALB_HF04 = 35.7 mW/m^2



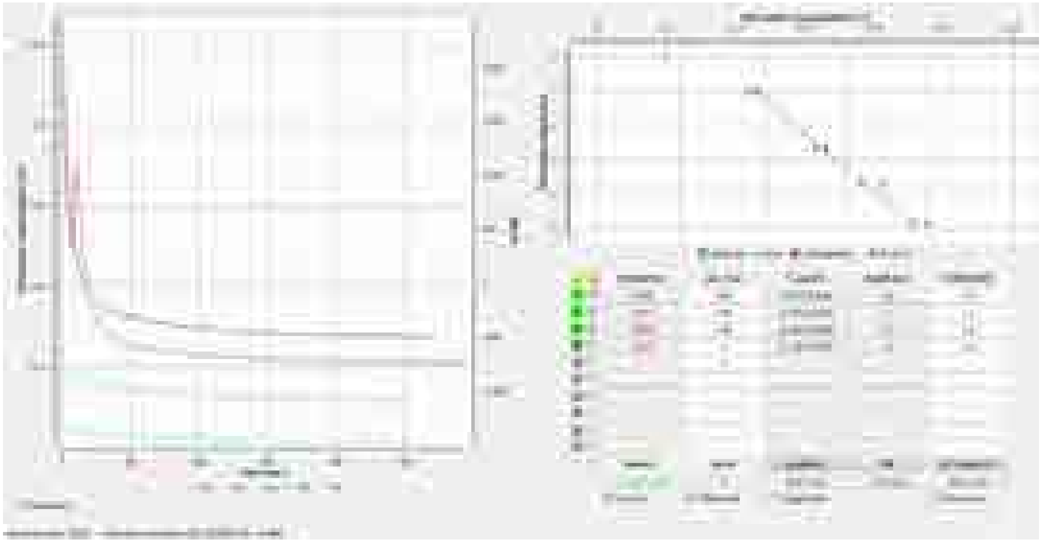
9.5.3 Al-Idrissi Fault (North)



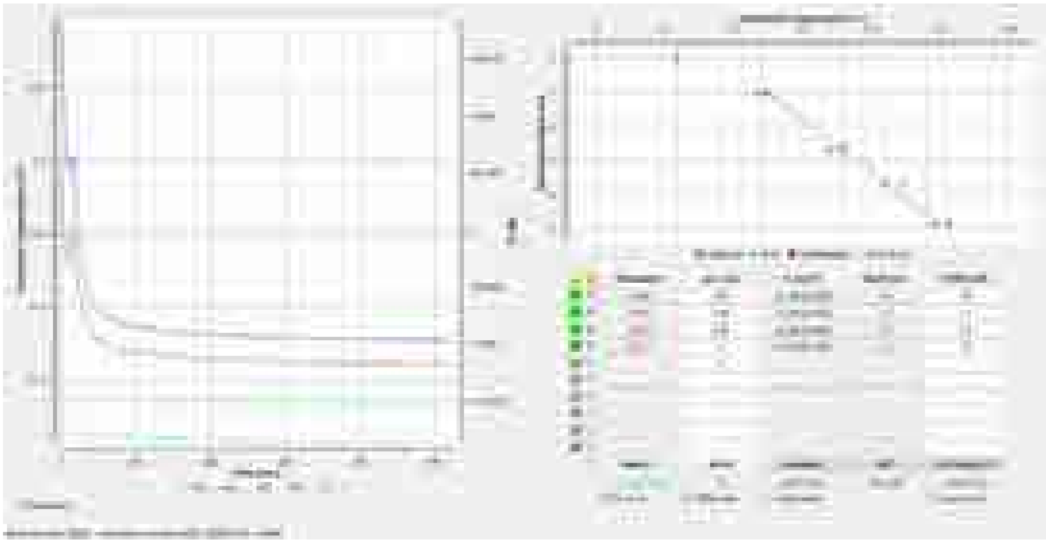
Site 40- ALB_HF05 = 55.2 mW/m^2



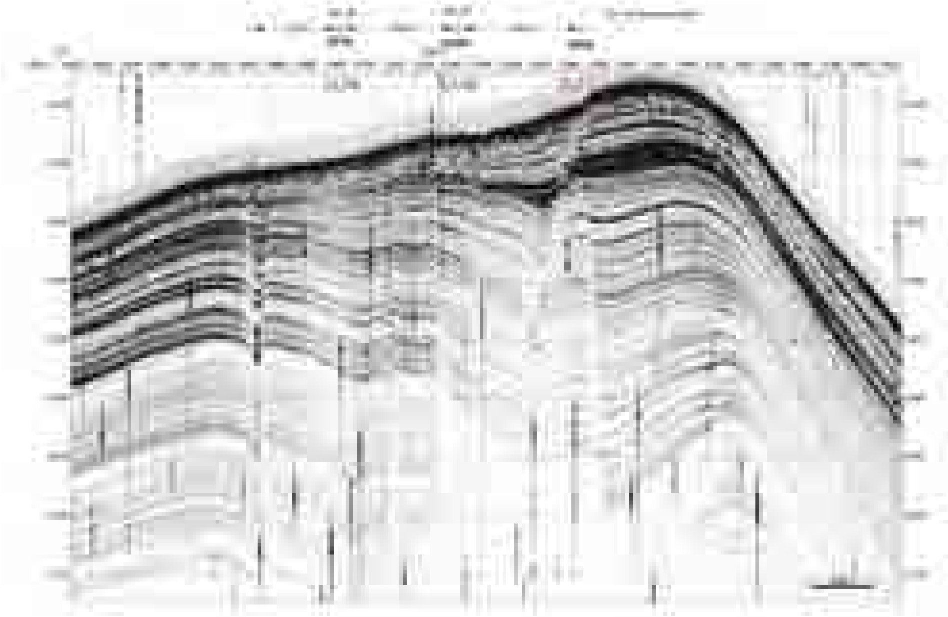
Site 41-47- ALB_HF06 = 59.2 mW/m^2



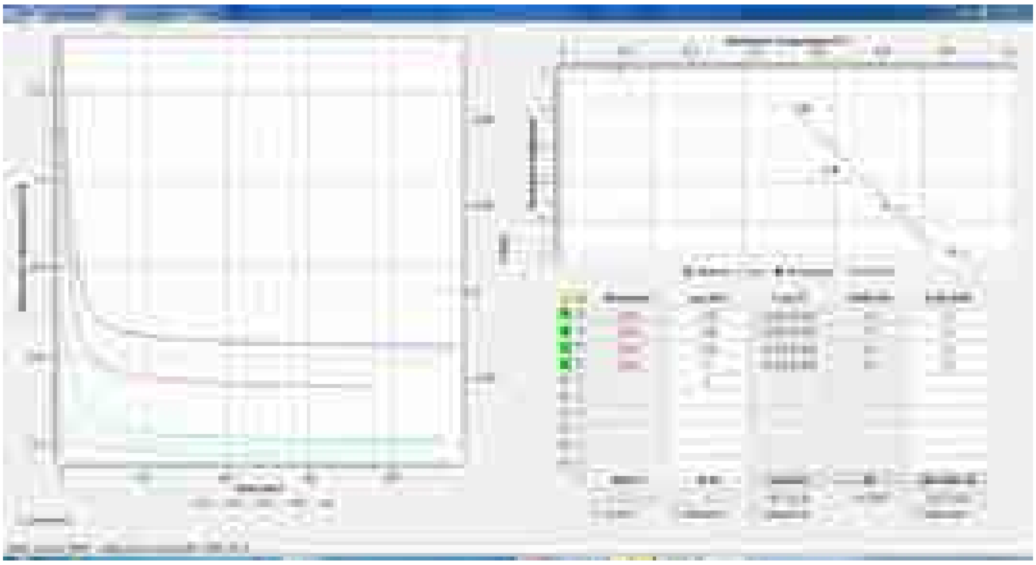
Site 42-50 - ALB_HF07 (core CL20 at site 49) = 64 mW/m^2



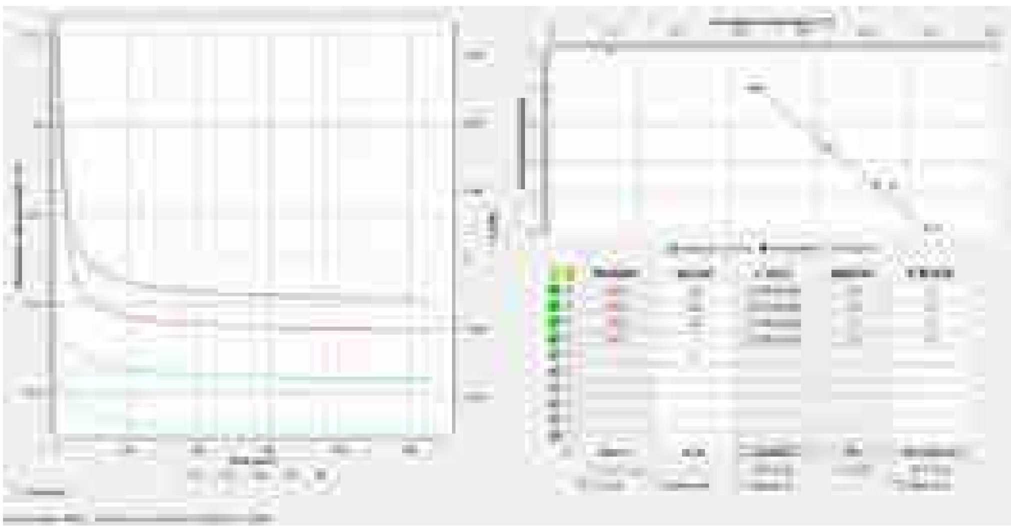
9.5.4 Southern Al-Idrissi Fault



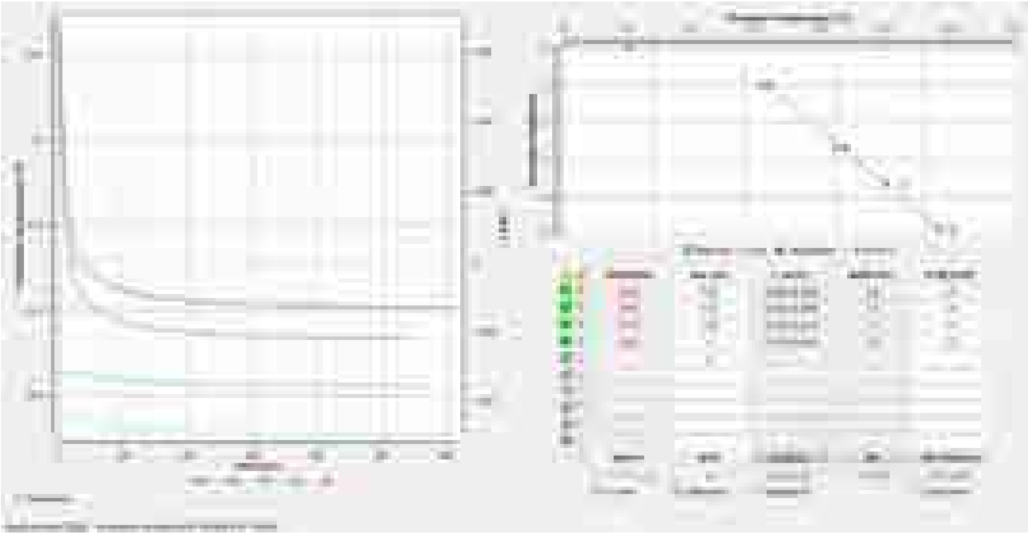
Site 136 - ALB_HF08 = 59.7 mW/m^2



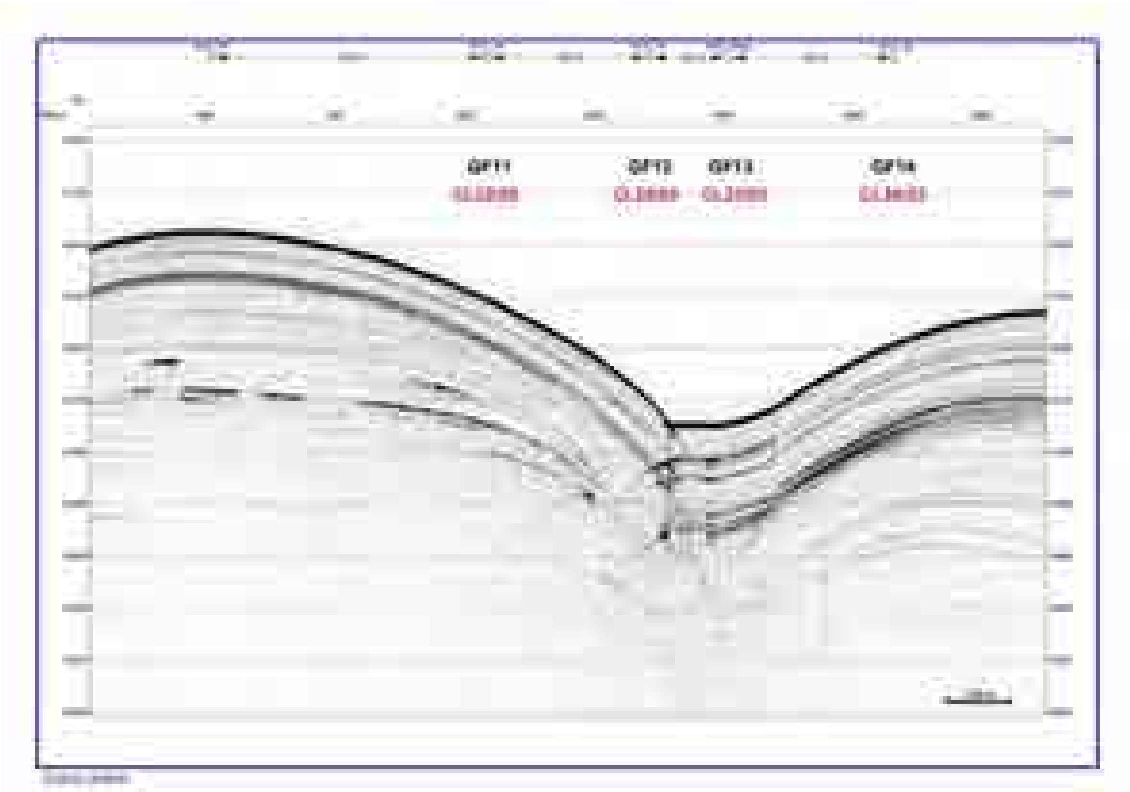
Site 137 – ALB_HF09 = 69.6 mW/m^2



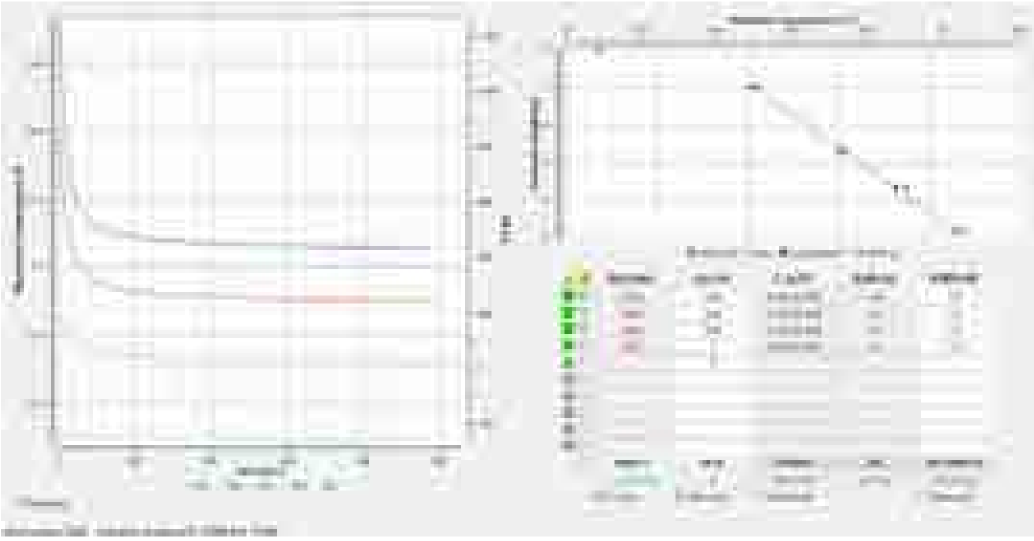
Site 138 – ALB HF10 = 69.5 mW/m^2



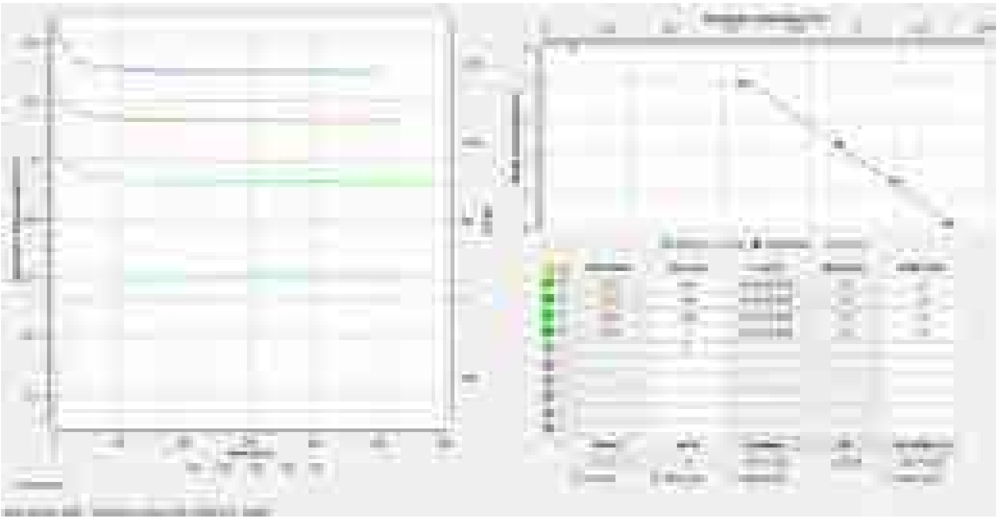
9.5.5 Bokkoya Fault



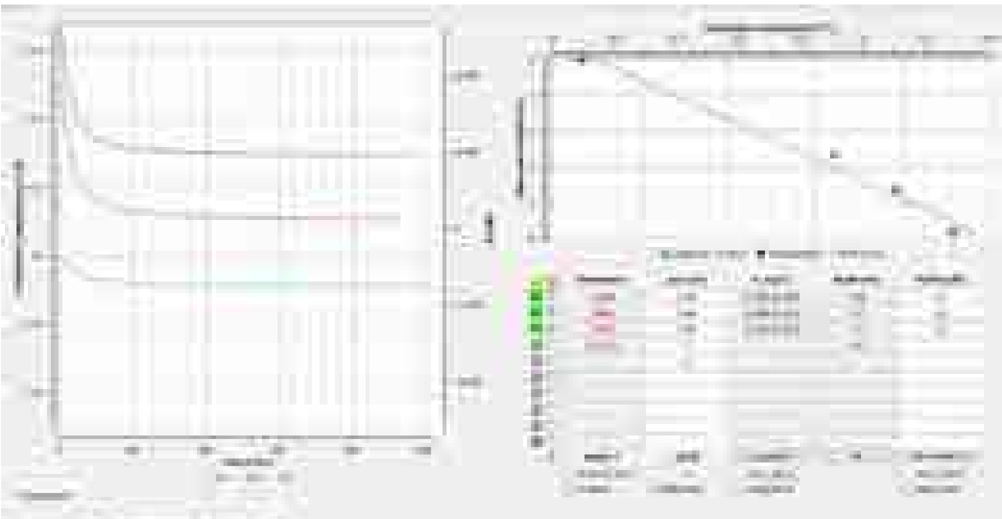
Site 93 – ALB-HF11 = 137.3 mW/m^2



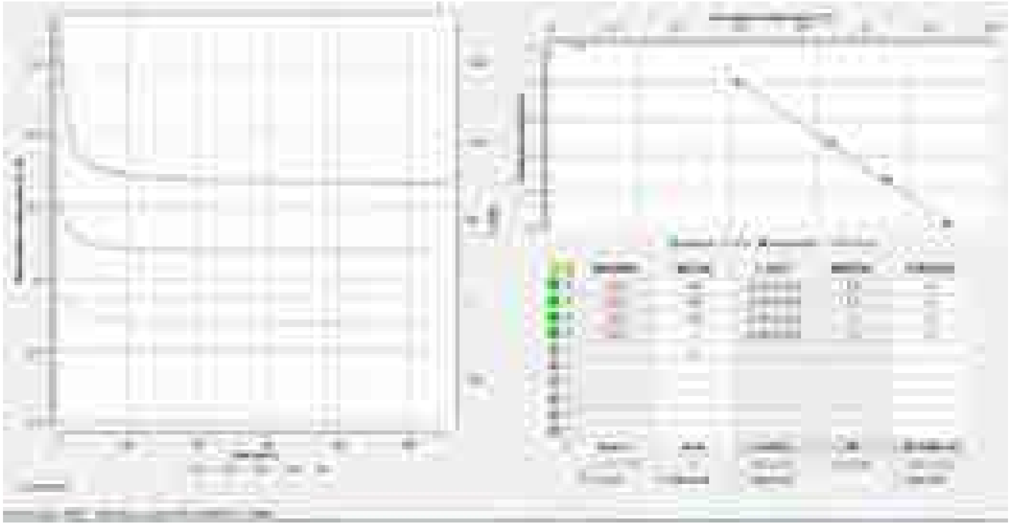
Site 94 – ALB-HF12 = 167.7 mW/m^2



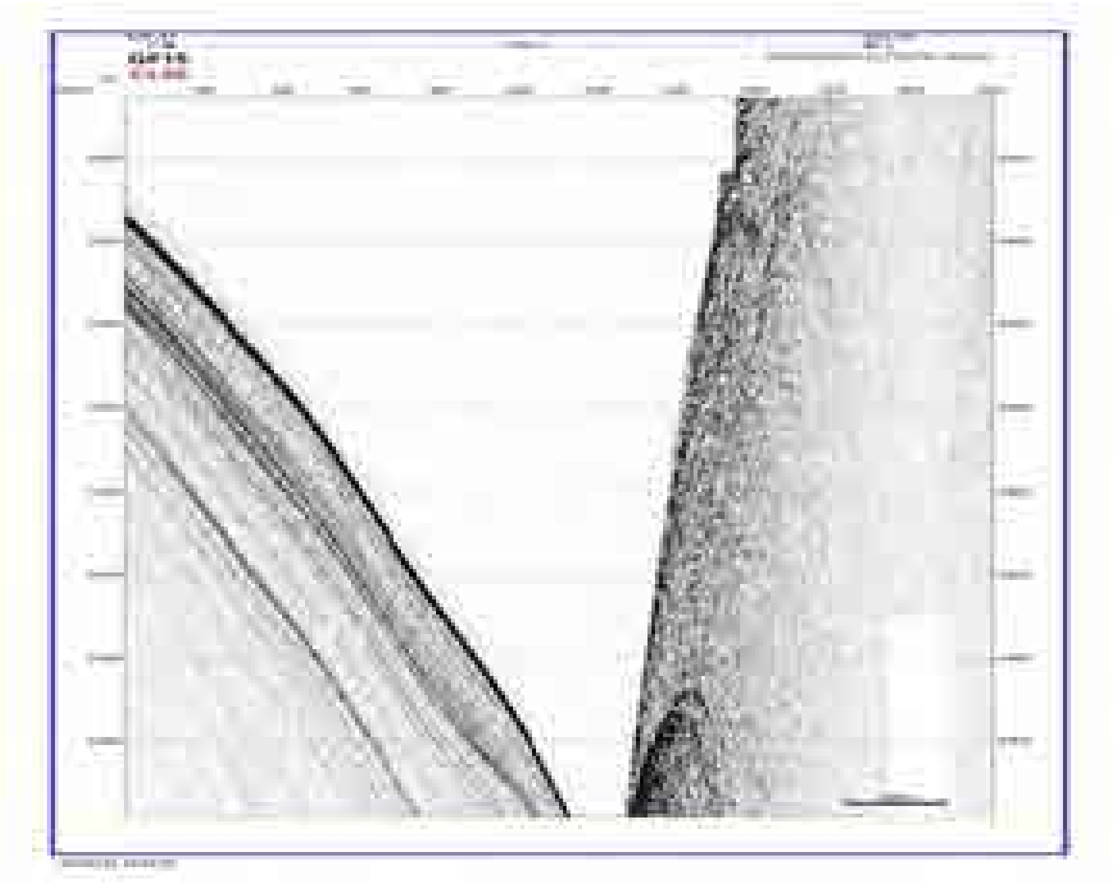
Site 94 bis – ALB-HF13 = 251 mW/m^2



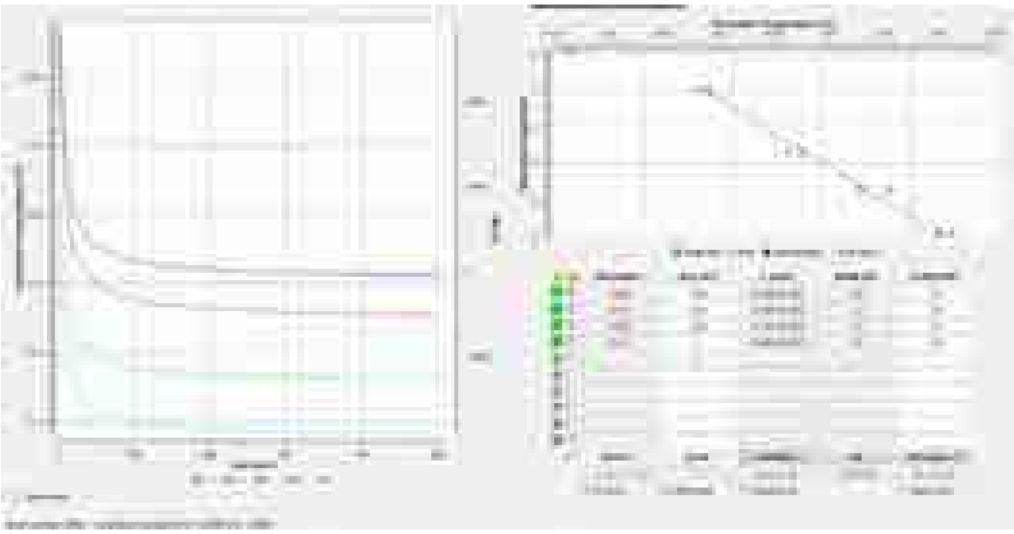
Site 95 – ALB-HF14 = 170.1 mW/m²



9.5.6 Contourite Cabliers



Site 85 – ALB-HF15 = 54 mW/m^2



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APPENDIX 1 : Maps

Calypso Sites

Cnexoville sites

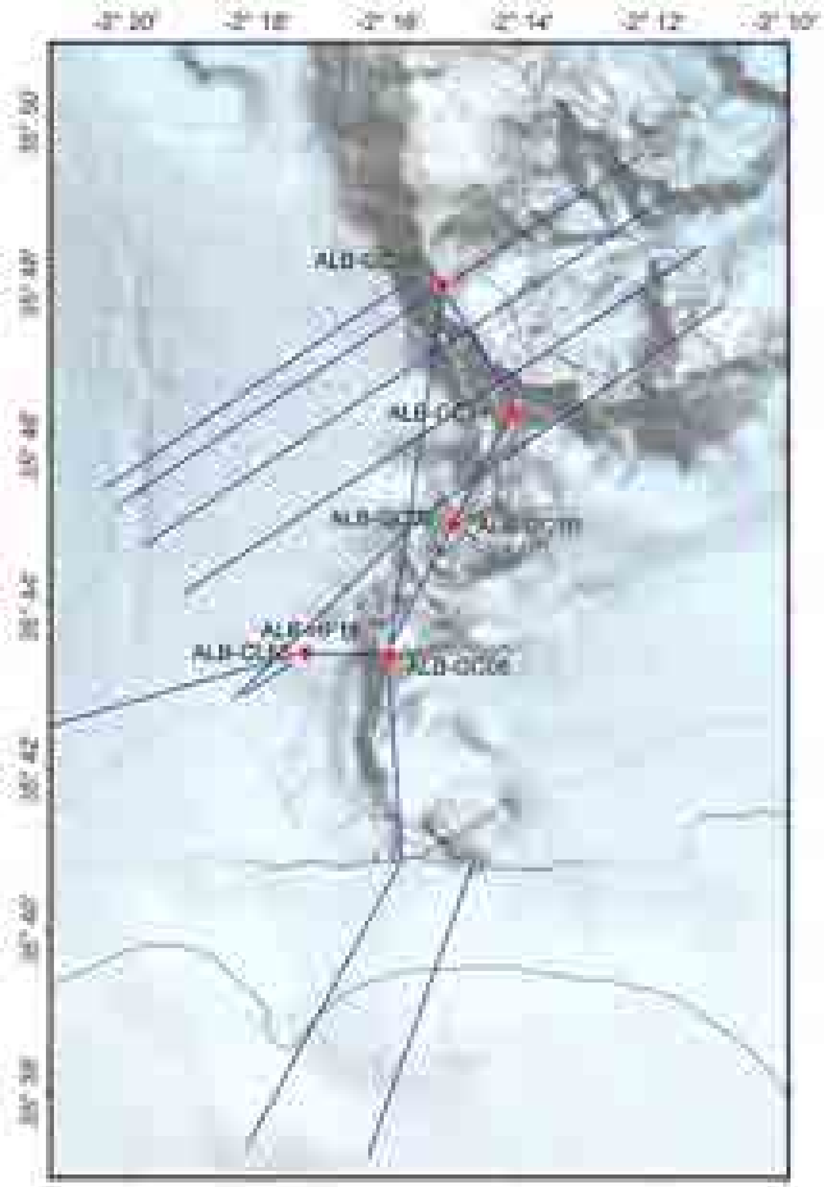
Gravity core sites

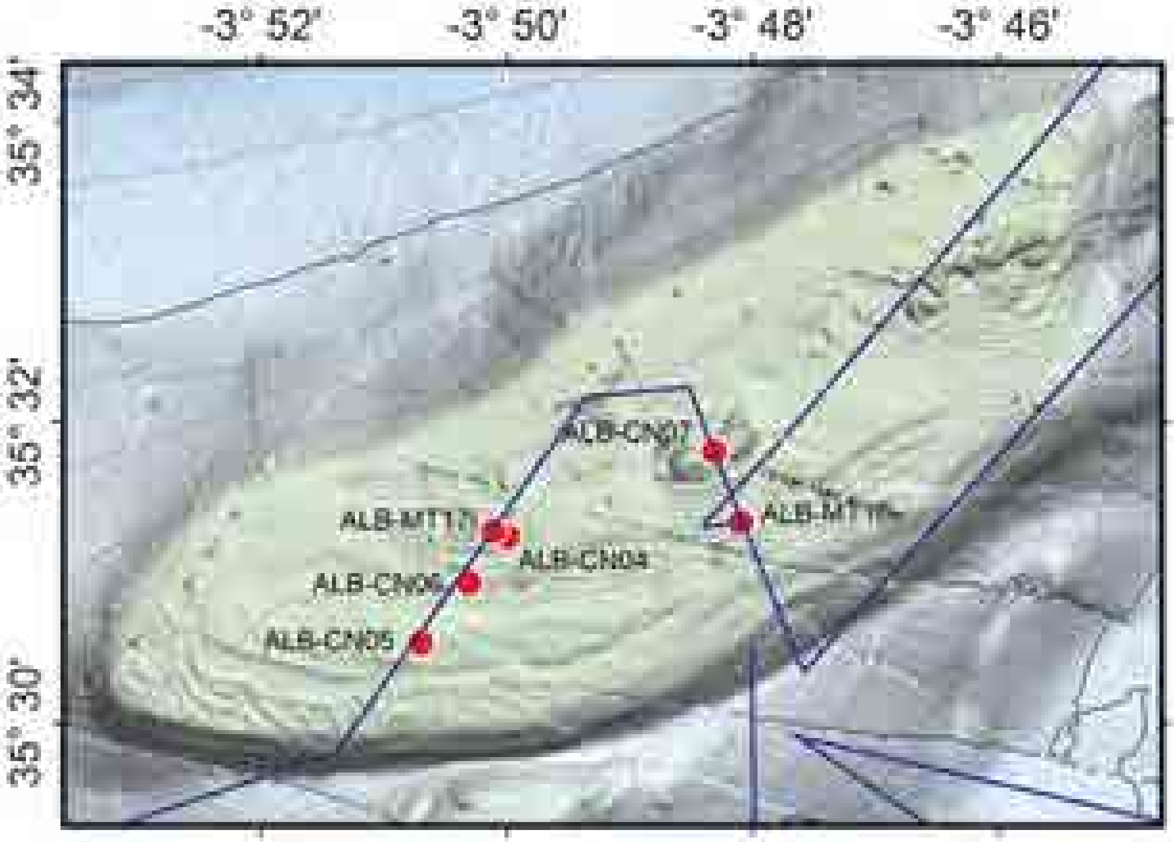
Heat flow measurement sites

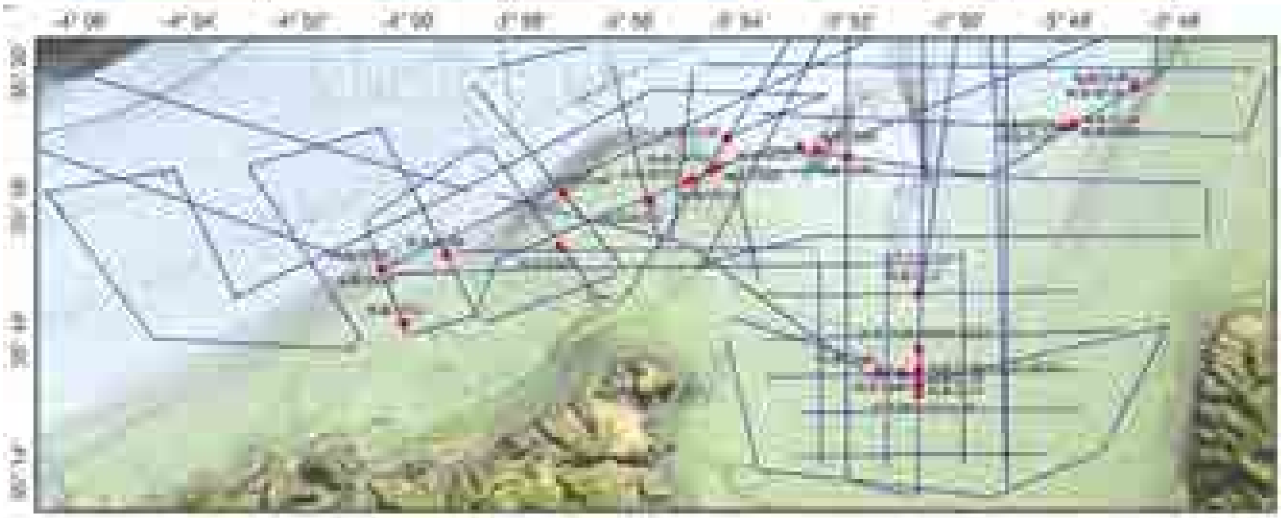
Multitube sites

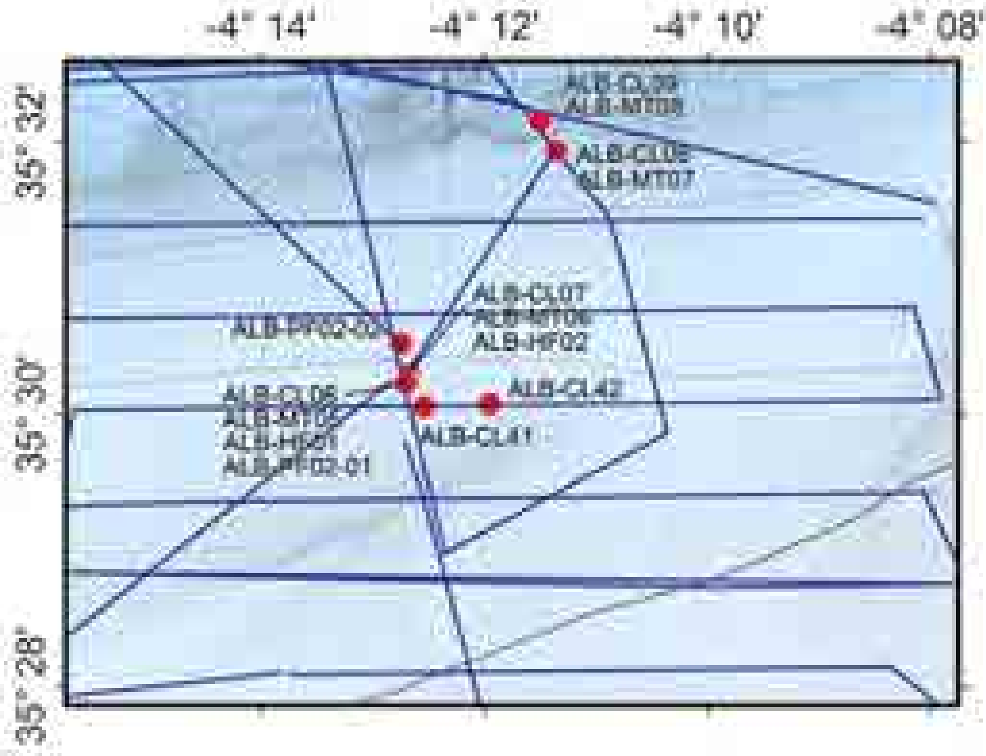
Penfeld Sites

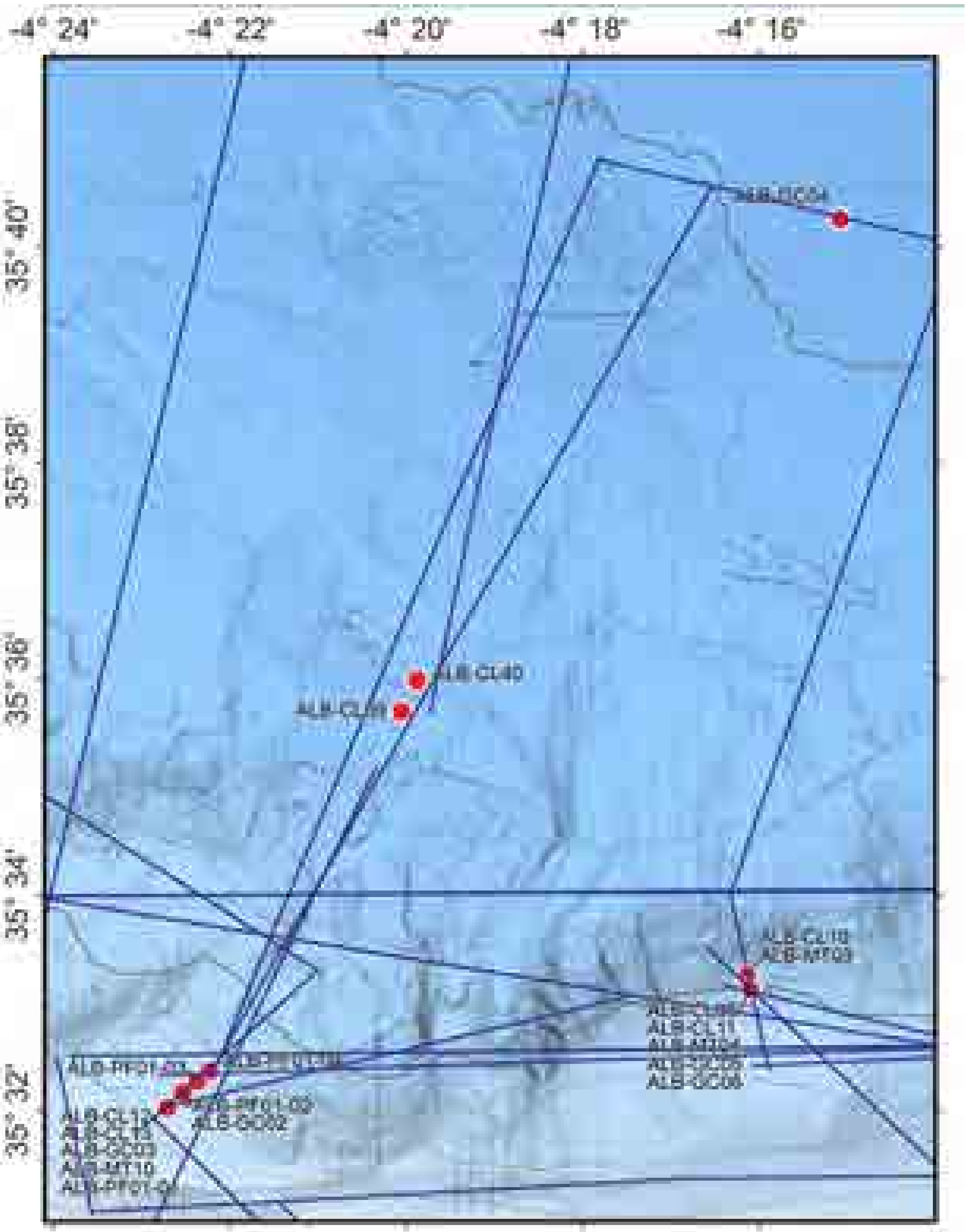
Maps with Cores, Penfled and Heat Flow sites and SBP track lines

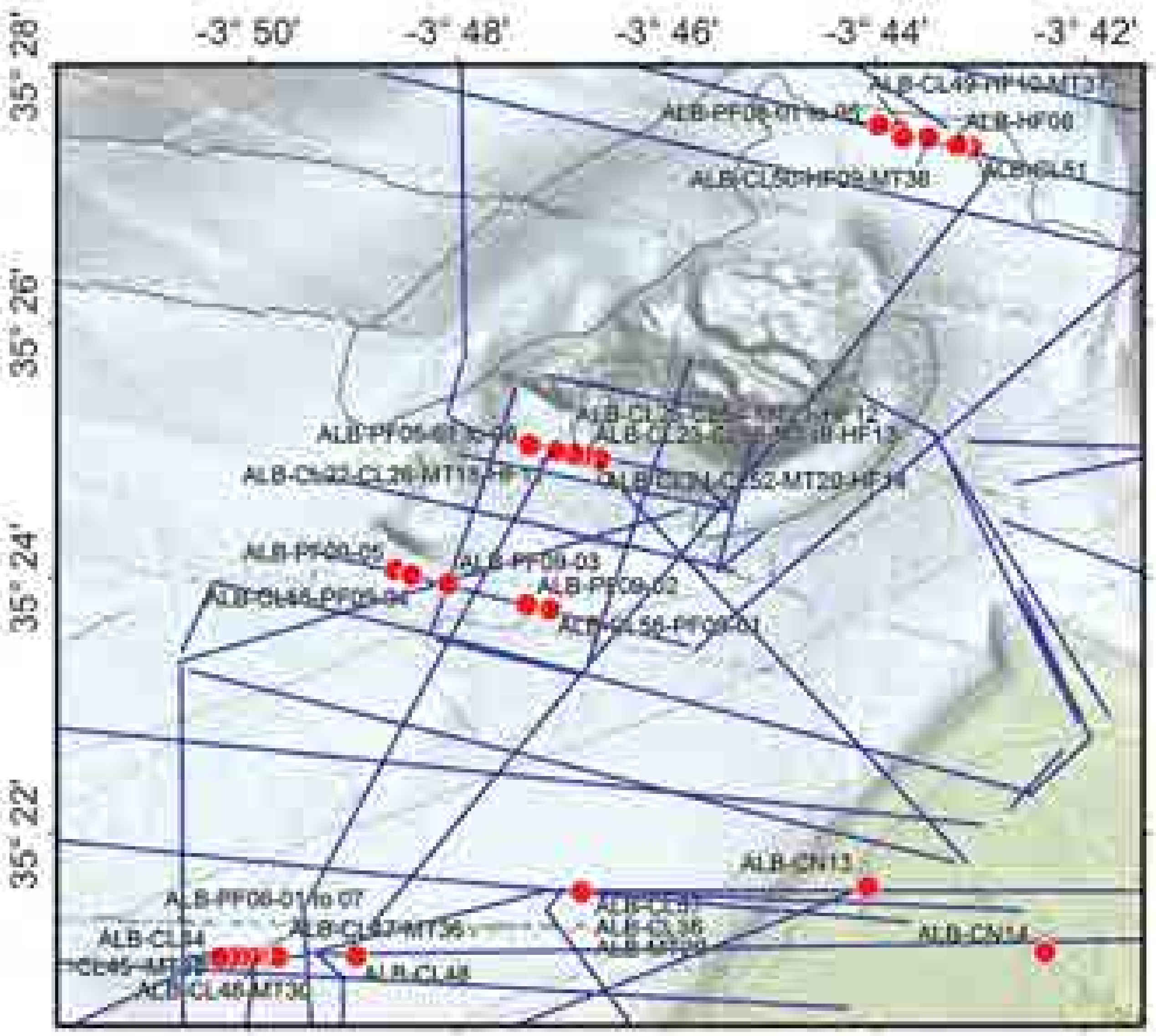



-3° 52'
-3° 50'
-3° 48'
-3° 46'
35° 34'
35° 32'
35° 30'
ALB-CN07
ALB-MT17
ALB-CN04
ALB-CN06
ALB-CN05

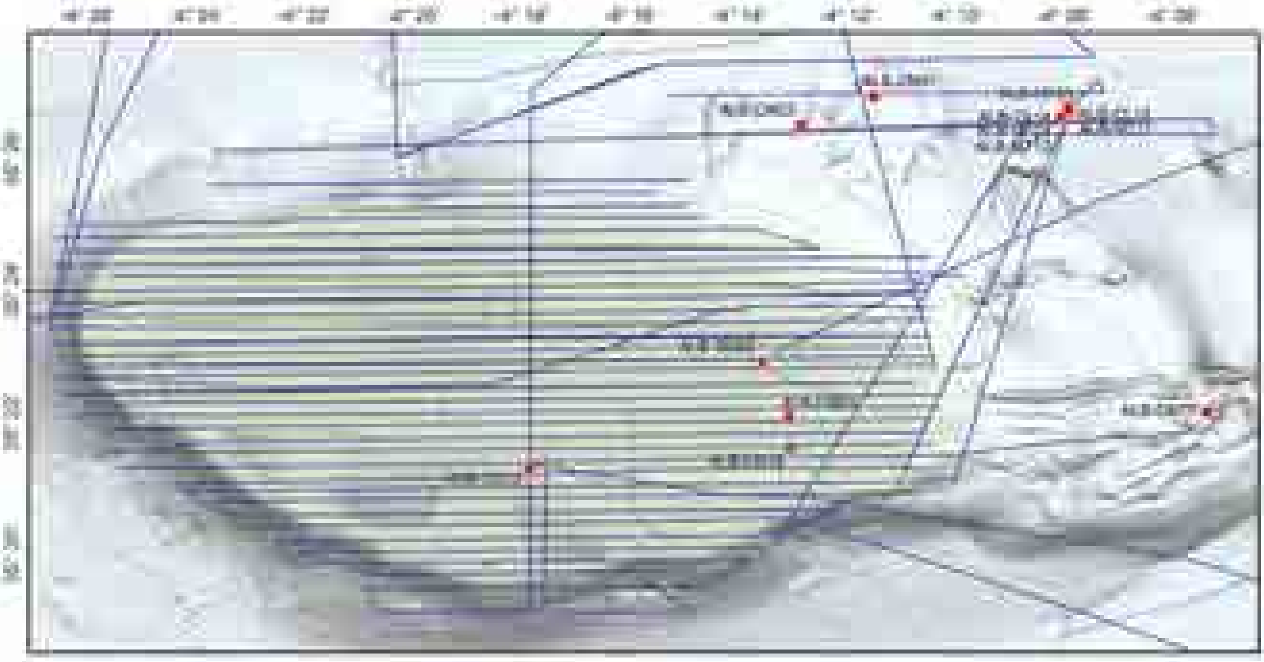


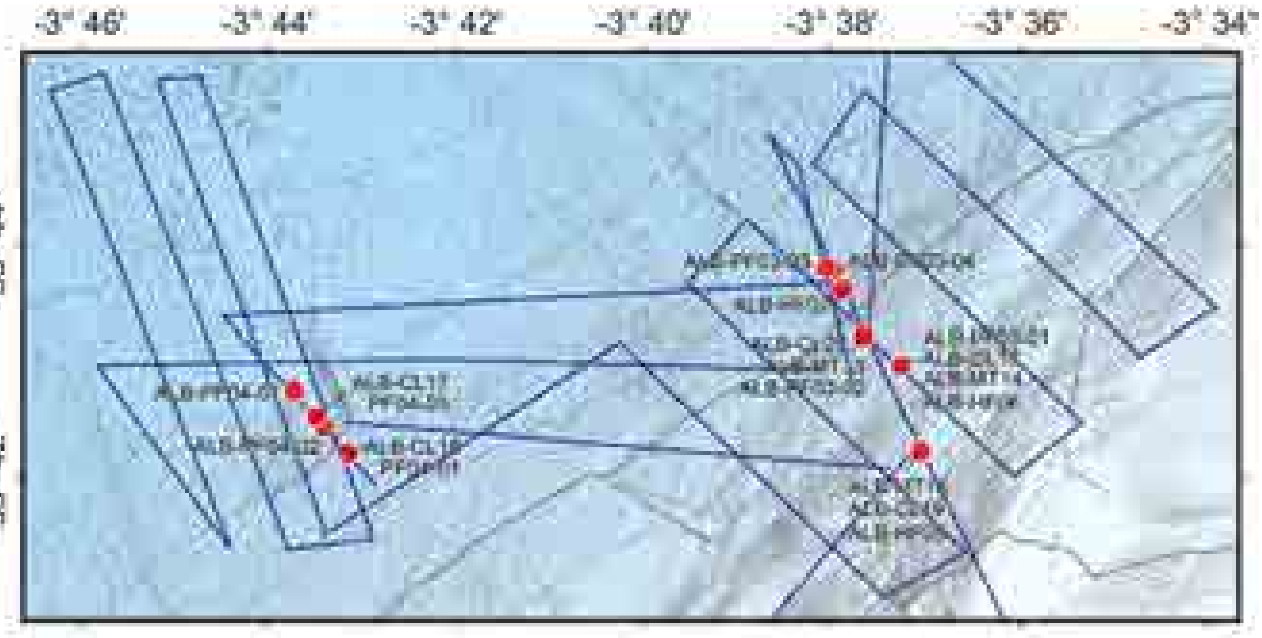

-4° 14'
-4° 12'
-4° 10'
-4° 08'
35° 32'
35° 30'
35° 28'
ALB-MT07
ALB-CL07
ALB-HF02
ALB-CL06
ALB-CL42
ALB-CL41
ALB-PF02-01


-4° 24'
-4° 22'
-4° 20'
-4° 18'
-4° 16'
35° 40'
35° 38'
35° 36'
35° 34'
35° 32'
ALB-CL40
ALB-CL10
ALB-MT03
ALB-CL11
ALB-GC08
ALB-GC02
ALB-GC03
ALB-MT10

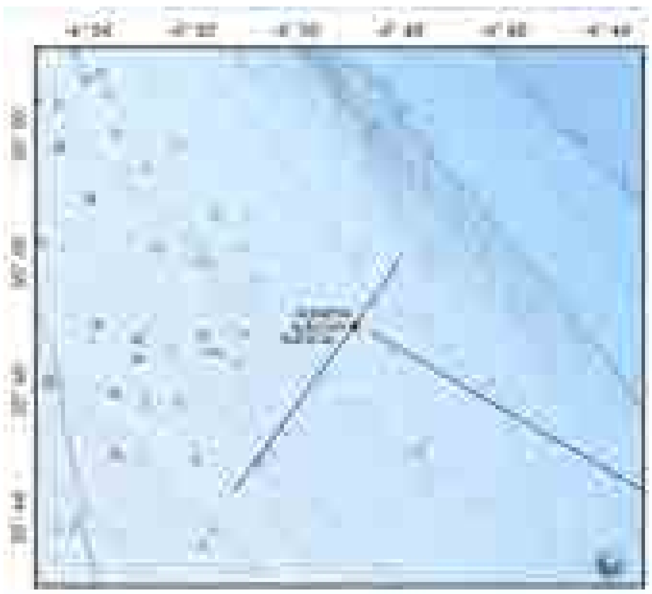


-3° 50'
-3° 48'
-3° 46'
-3° 44'
-3° 42'
35° 28'
35° 26'
35° 24'
35° 22'
ALB-HF08
ALB-CL51
ALB-PF09-05
ALB-PF09-03
ALB-PF09-02
ALB-CN13
ALB-CN14
ALB-CL47-MT36
ALB-CL48
ALB-CL44



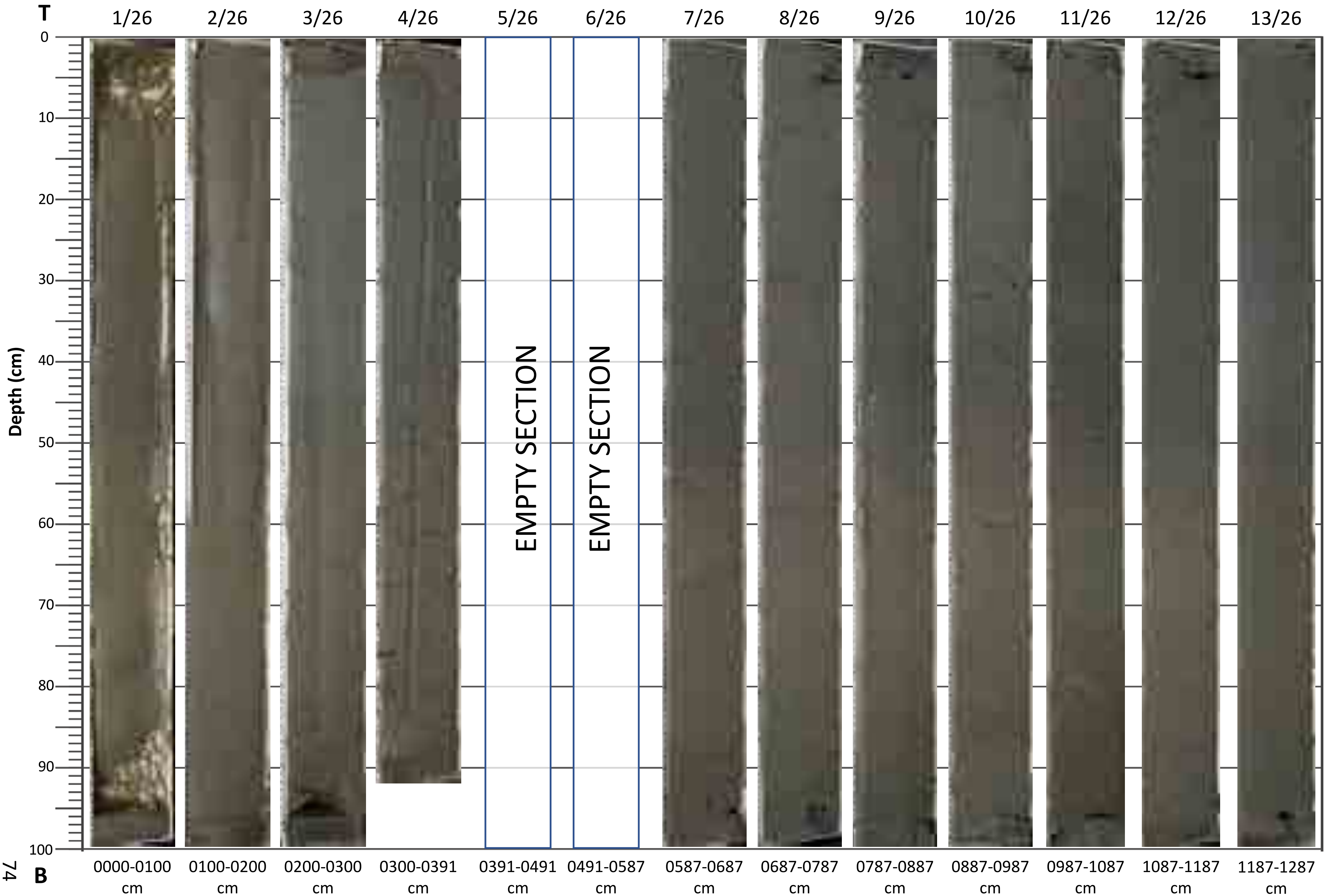

-3° 46'
-3° 44'
-3° 42'
-3° 40'
-3° 38'
-3° 36'
-3° 34'
35° 44'
35° 42'
ALB-PP04-01


-3° 24'
-3° 22'
-3° 20'
-3° 18'

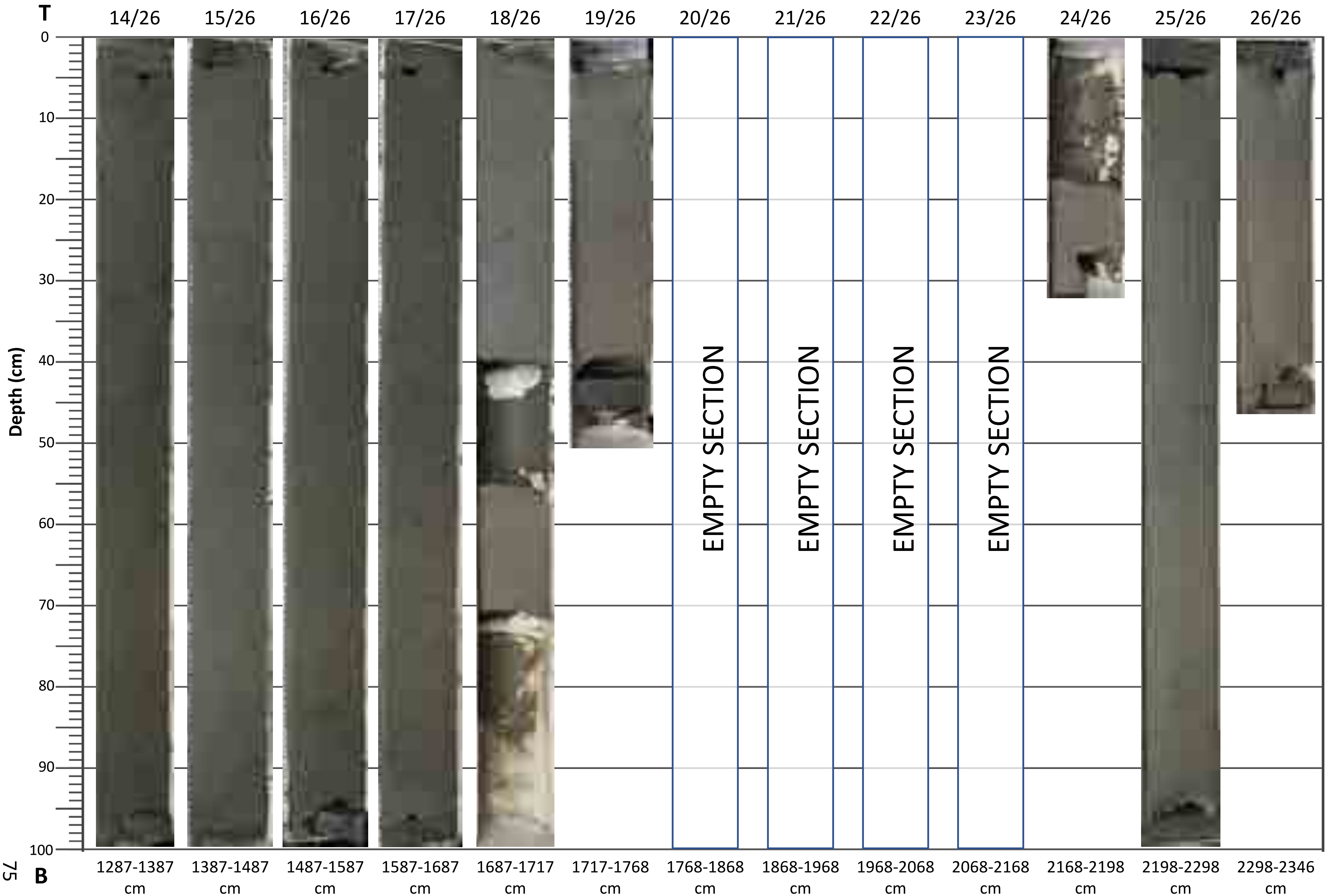


APPENDIX 2 : Core photography

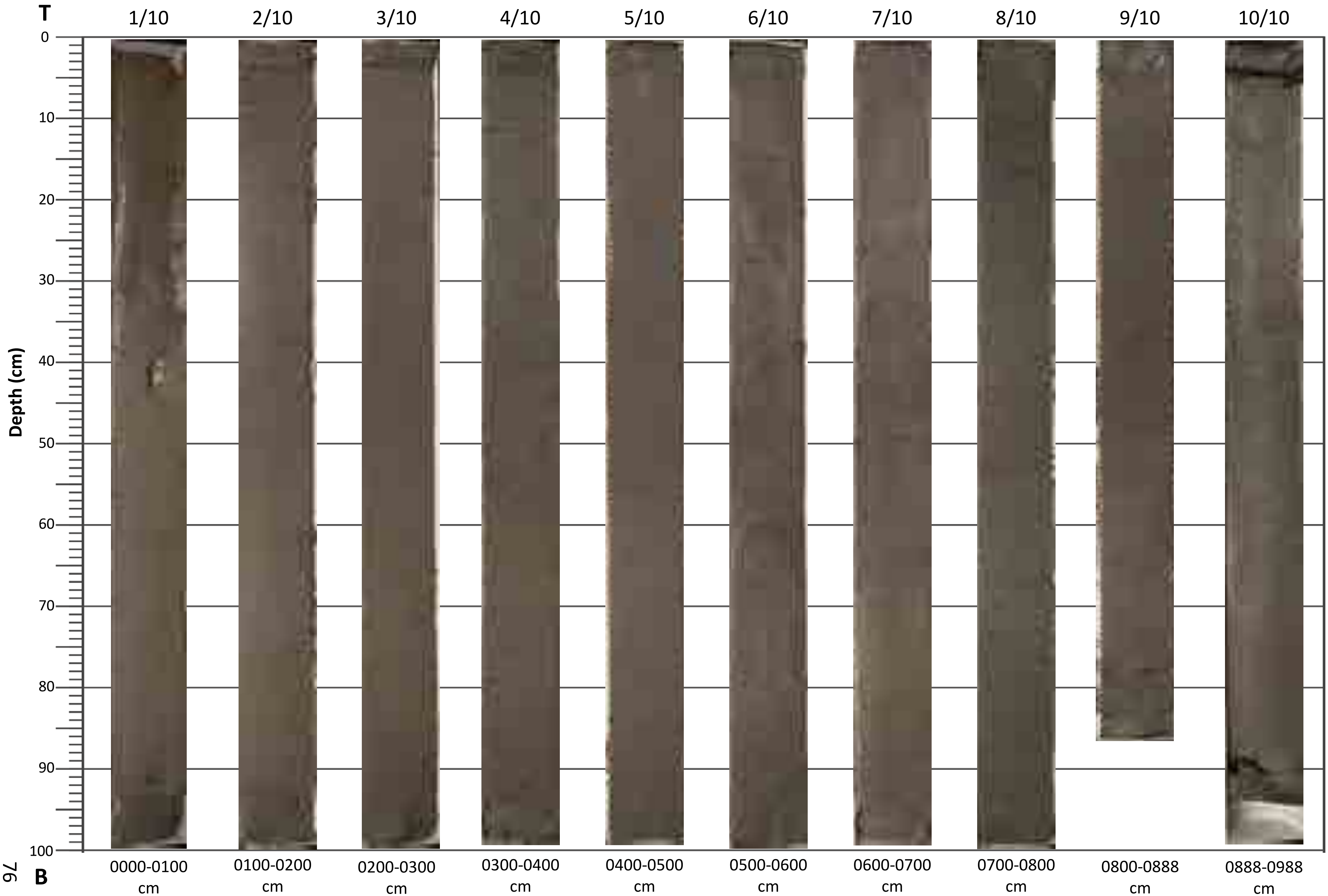
Core: **ALB-CL04** – Cruise: **ALBACORE** – Length: **2346 cm** –Sample location: **SITE 02** – Latitude: **35,78314978**– Longitude: **-4,814872667**–Water depth(Vessel depth): **662m**



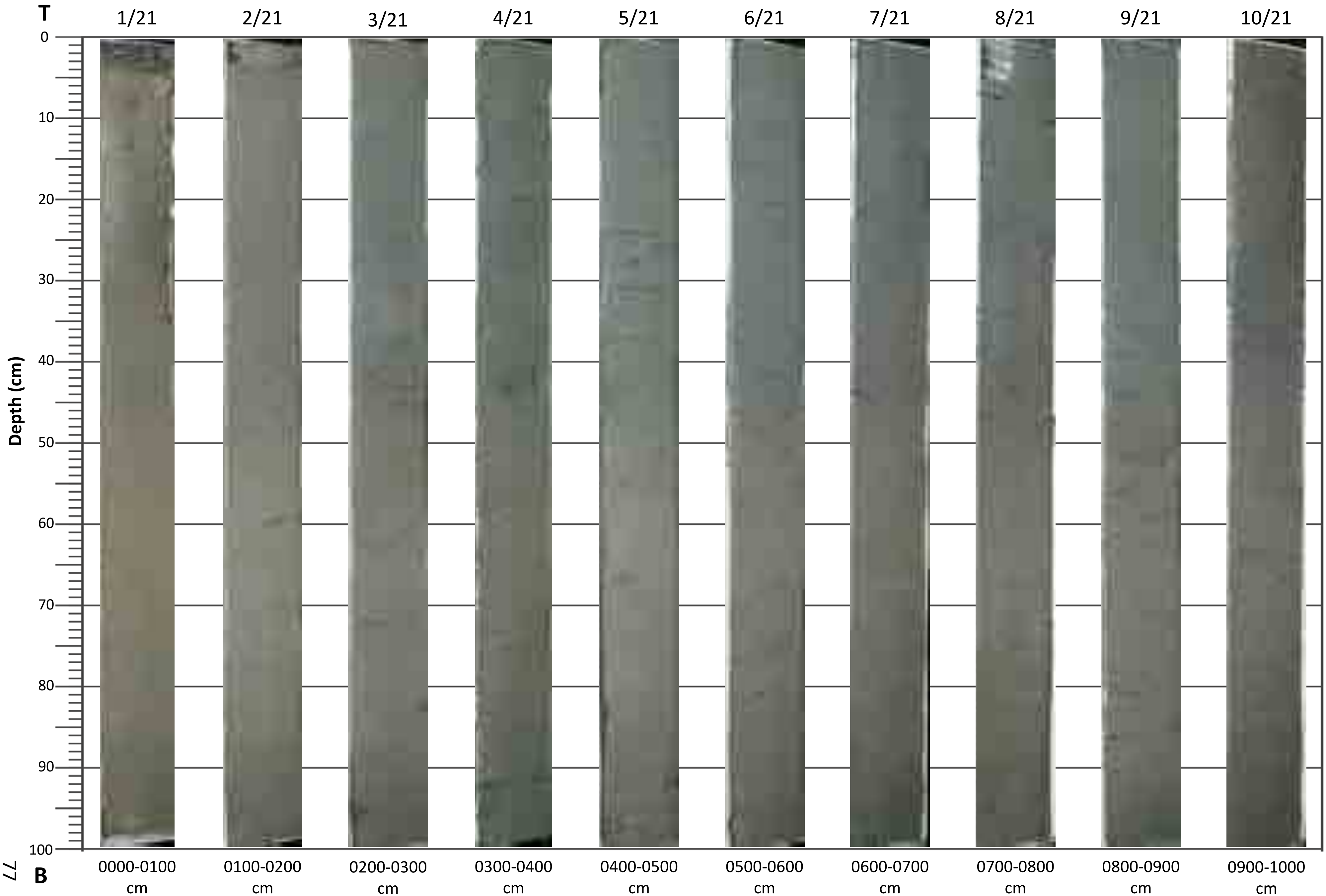
Core: **ALB-CL04** – Cruise: **ALBACORE** – Length: **2346 cm** –Sample location: **SITE 02** – Latitude: **35,78314978**– Longitude: **-4,814872667**–Water depth(Vessel depth): **662m**



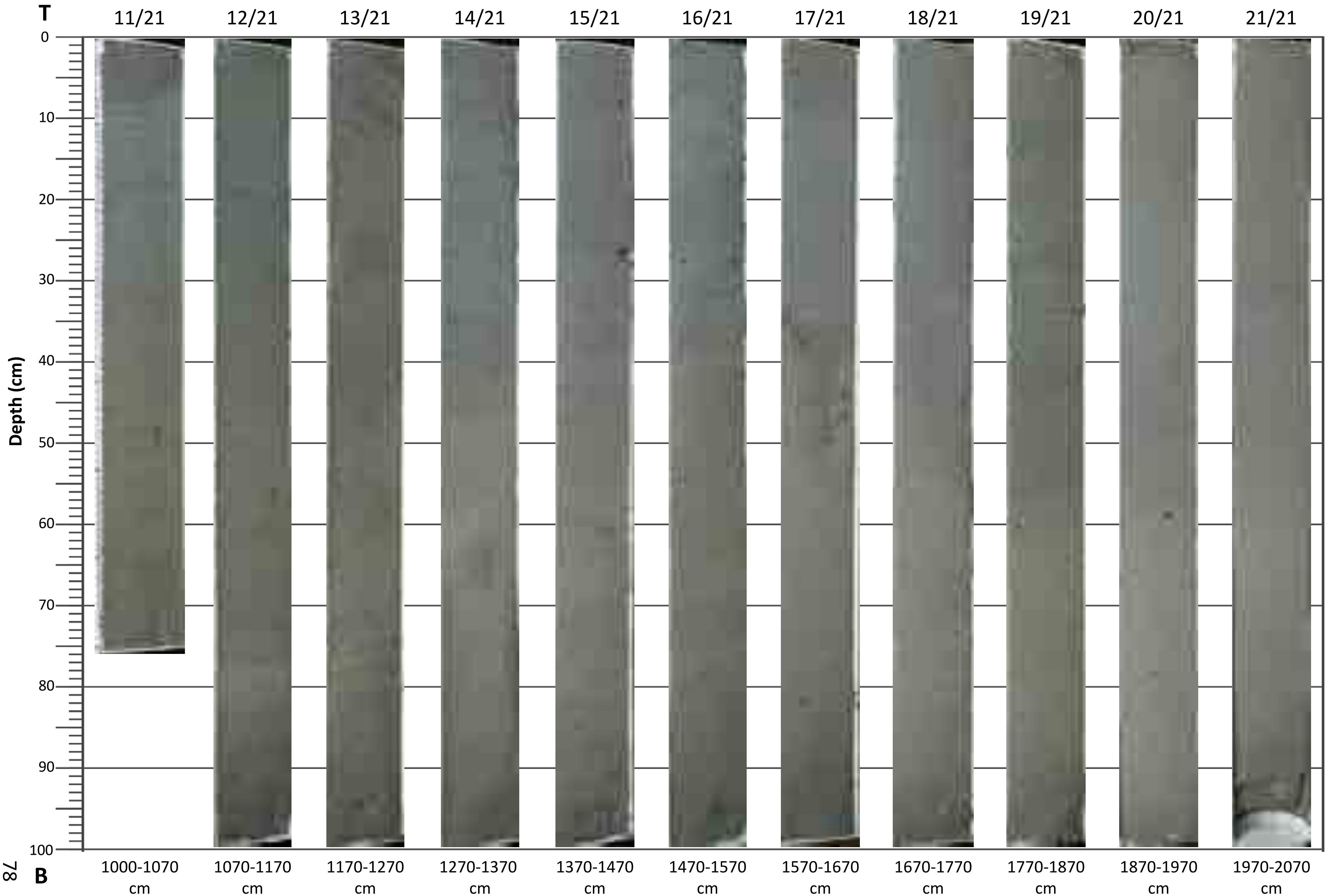
Core: **ALB-CL05** – Cruise: **ALBACORE** –Length: **988cm** –Sample location: **SITE 21** –Latitude: **35,55219069** – Longitude: **-4,268596833** – Water depth(Vessel depth): **1003m**



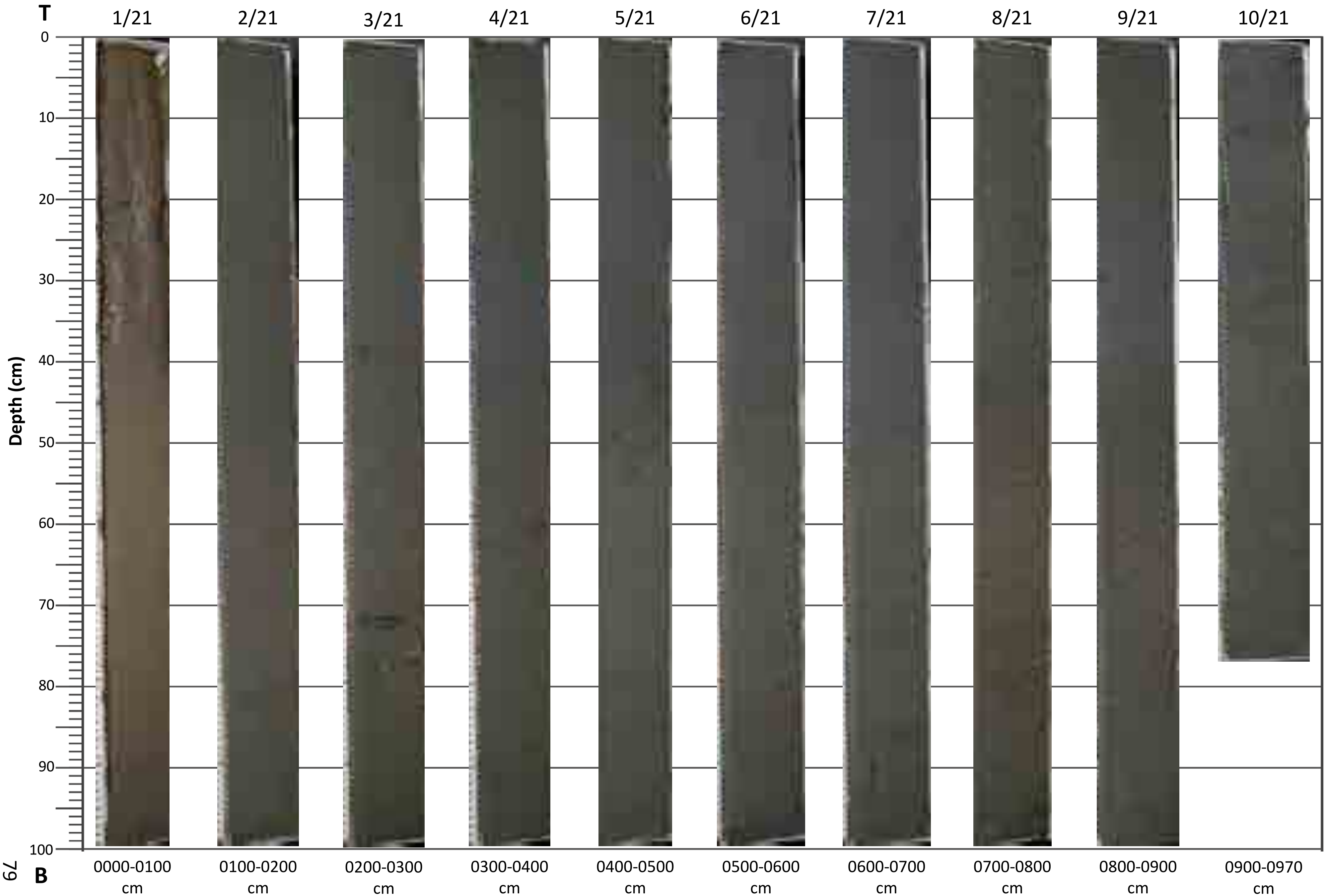
Core: **ALB-CL10** – Cruise: **ALBACORE** –Length: 2070**cm** – Sample location: **SITE 20** –Latitude: **35,55410233** –Longitude: -**4,26911825** – Water depth(Vessel depth): **1022m**



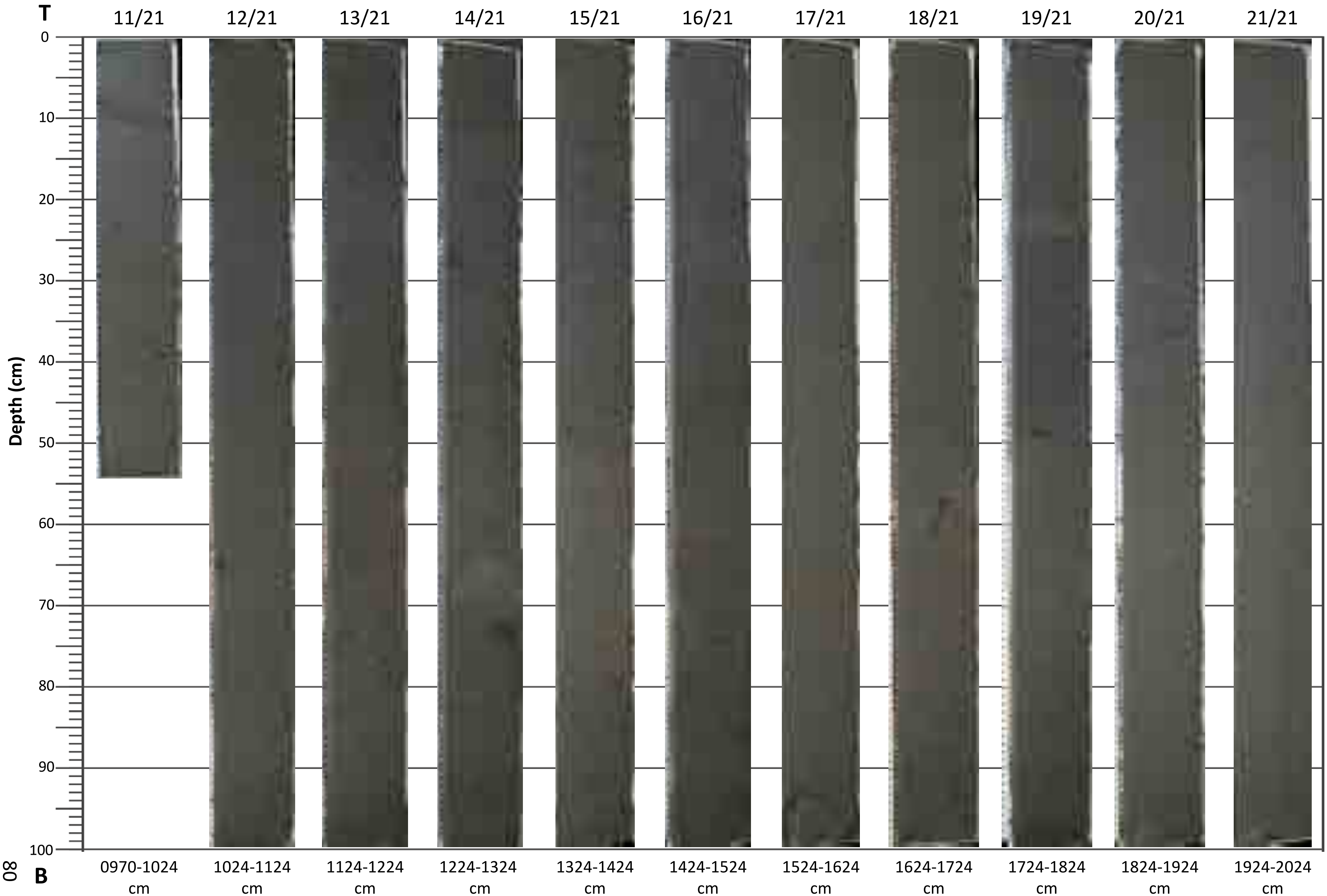
Core: **ALB-CL10** – Cruise: **ALBACORE** –Length: 2070**cm** – Sample location: **SITE 20** –Latitude: **35,55410233** –Longitude: -**4,26911825** – Water depth(Vessel depth): **1022m**



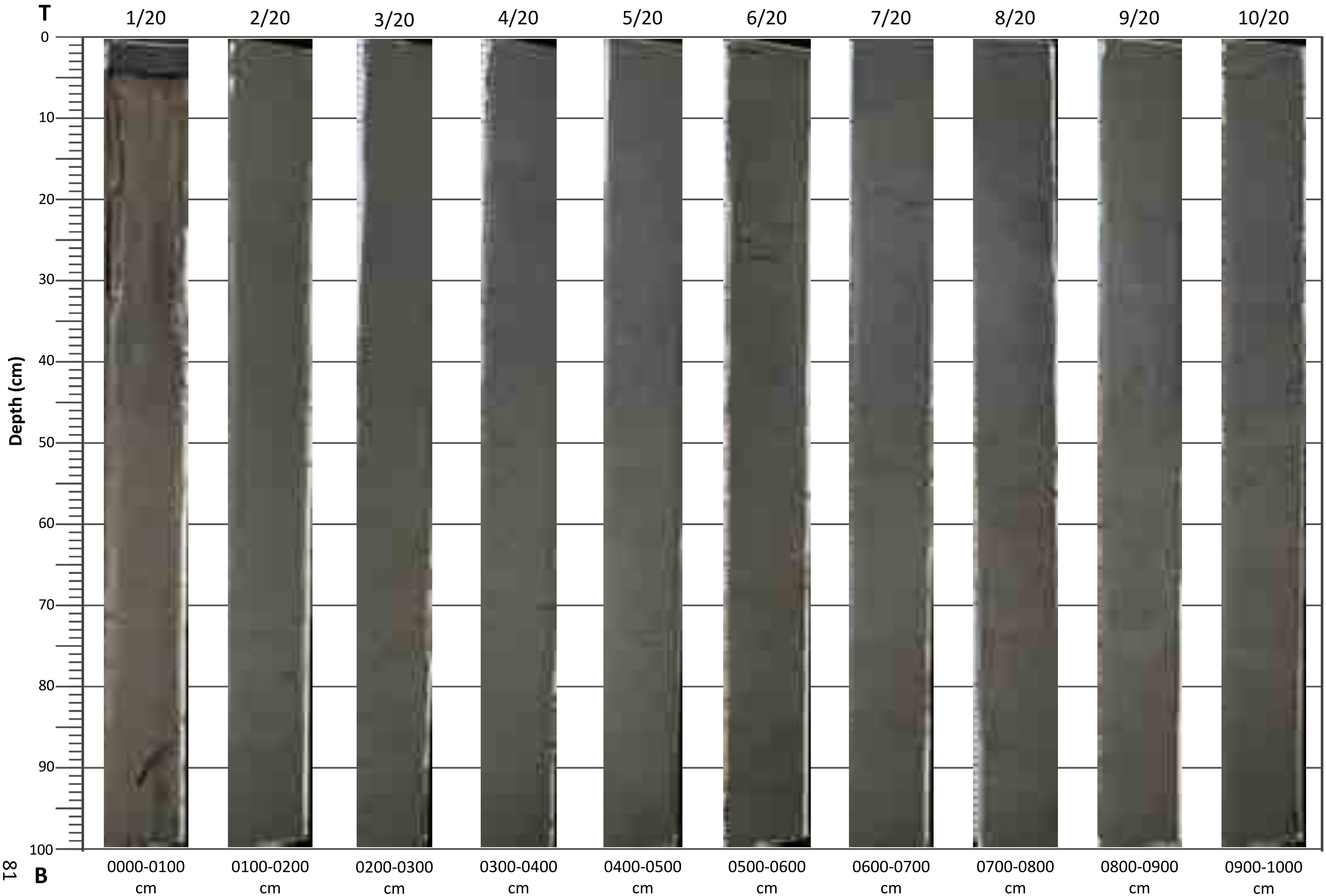
Core: **ALB-CL11** –Cruise: **ALBACORE** –Length: **2024cm** – Sample location: **SITE 21** –Latitude: **35,55219069** –Longitude: -**4,268596833** –Water depth(Vessel depth): **1003m**



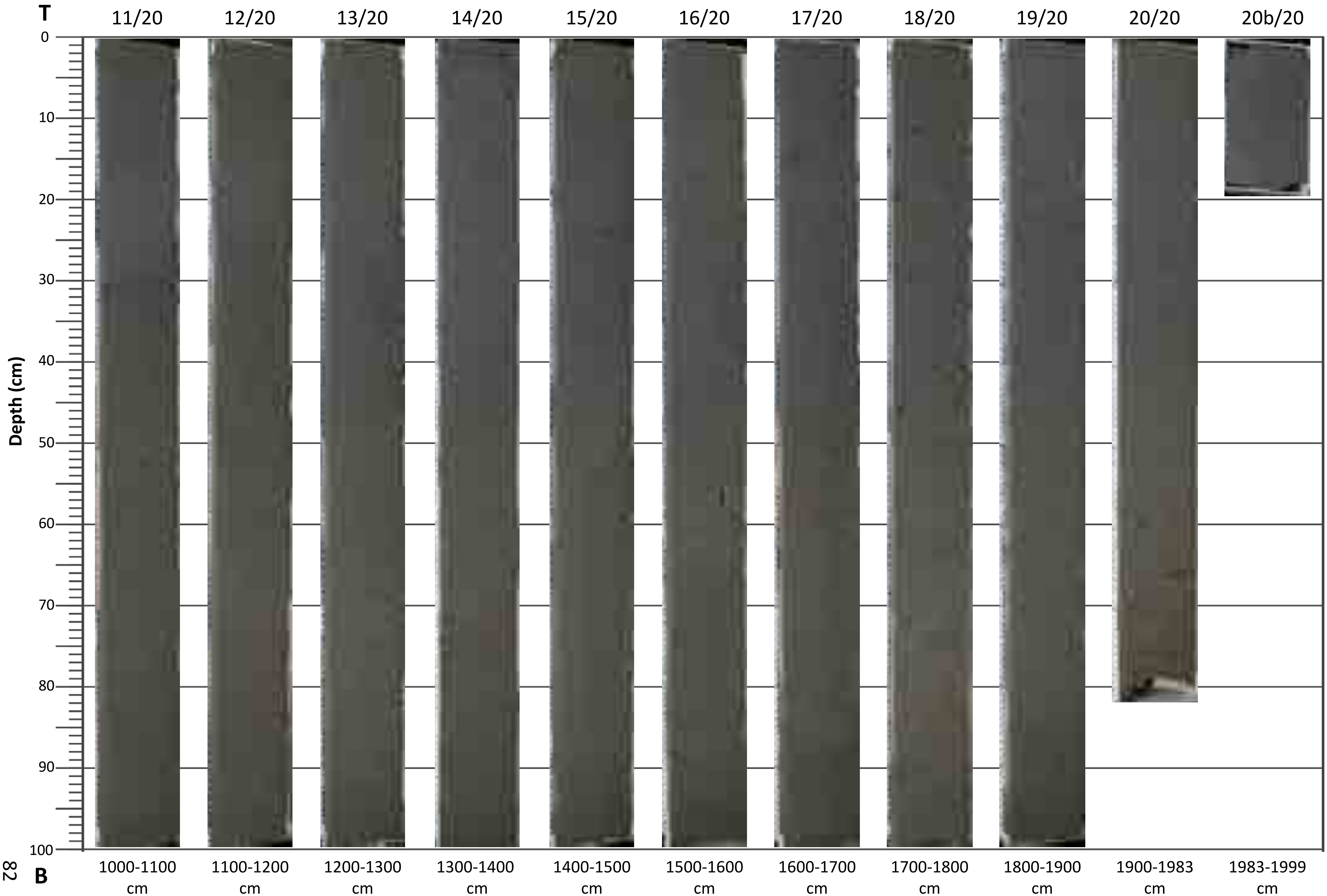
Core: **ALB-CL11** –Cruise: **ALBACORE** –Length: **2024cm** – Sample location: **SITE 21** –Latitude: **35,55219069** –Longitude: **-4,268596833** –Water depth(Vessel depth): **1003m**



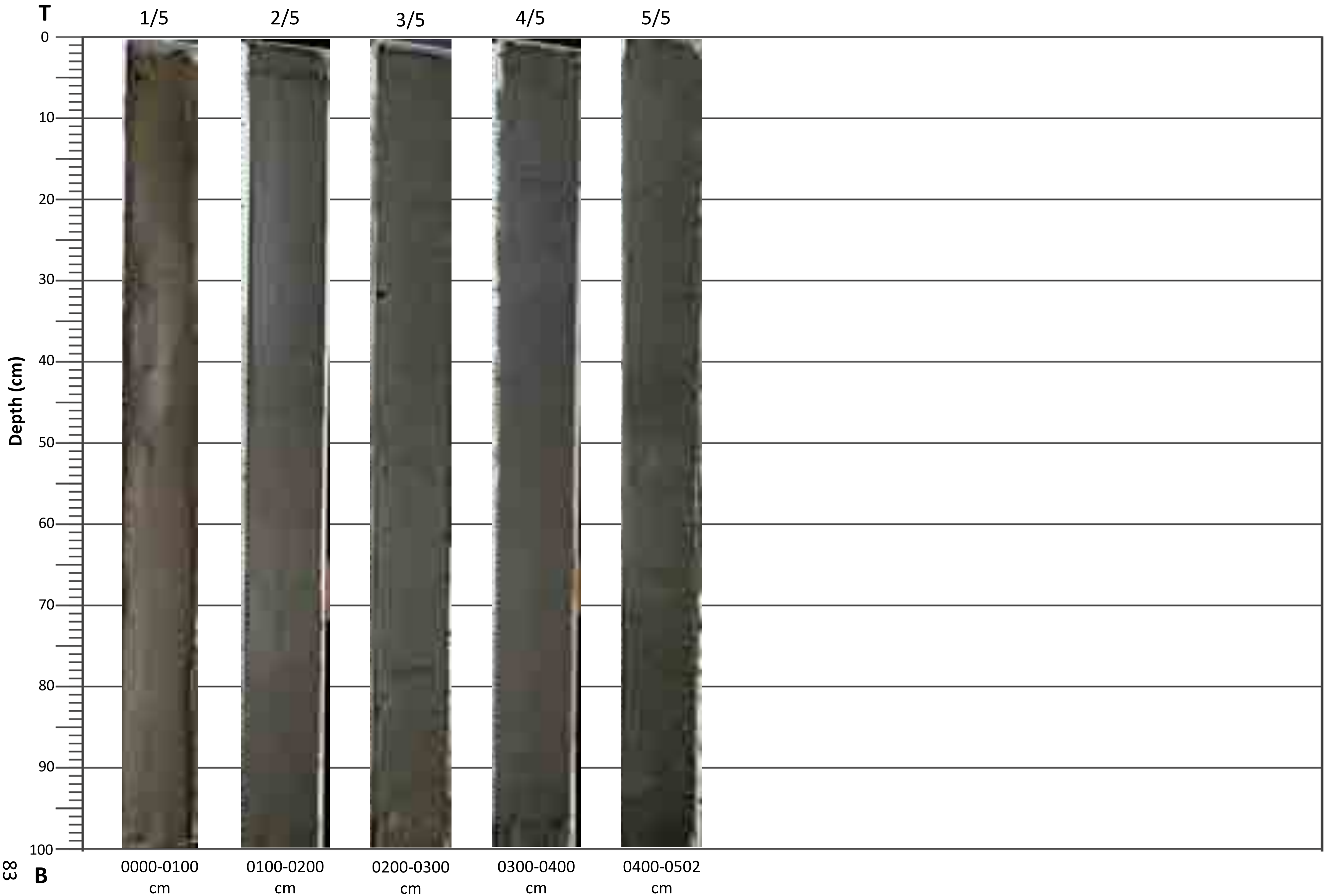
Core: **ALB-CL12** –Cruise:**ALBACORE**–Length: **1999cm** –Sample location: **SITE 12-18**–Latitude: **35,53384056** –Longitude: -**4,378538889** –Water depth(Vessel depth): **787m**



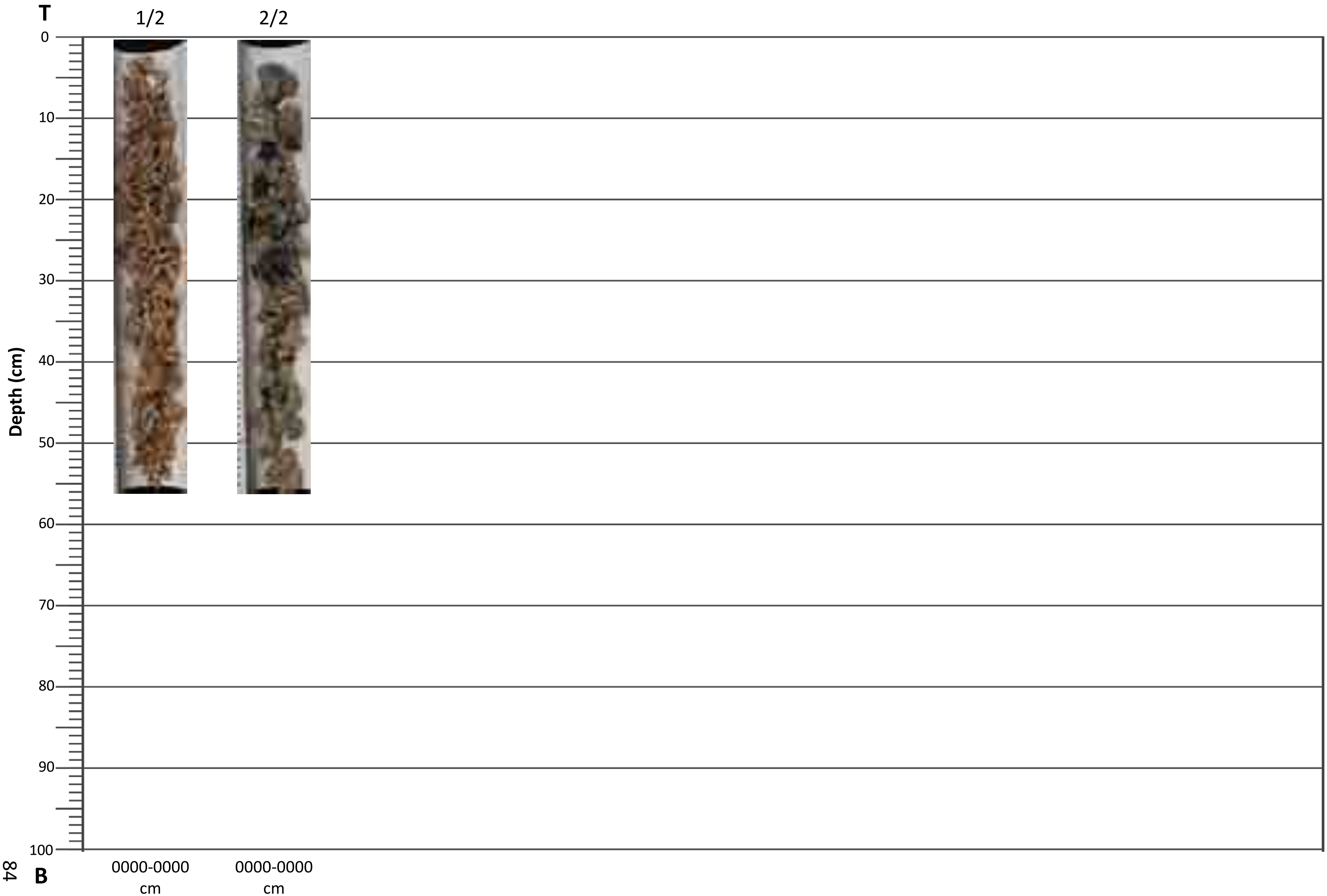
Core: **ALB-CL12** –Cruise:**ALBACORE**–Length: **1999cm** –Sample location: **SITE 12-18**–Latitude: **35,53384056** –Longitude: -**4,378538889** –Water depth(Vessel depth): **787m**



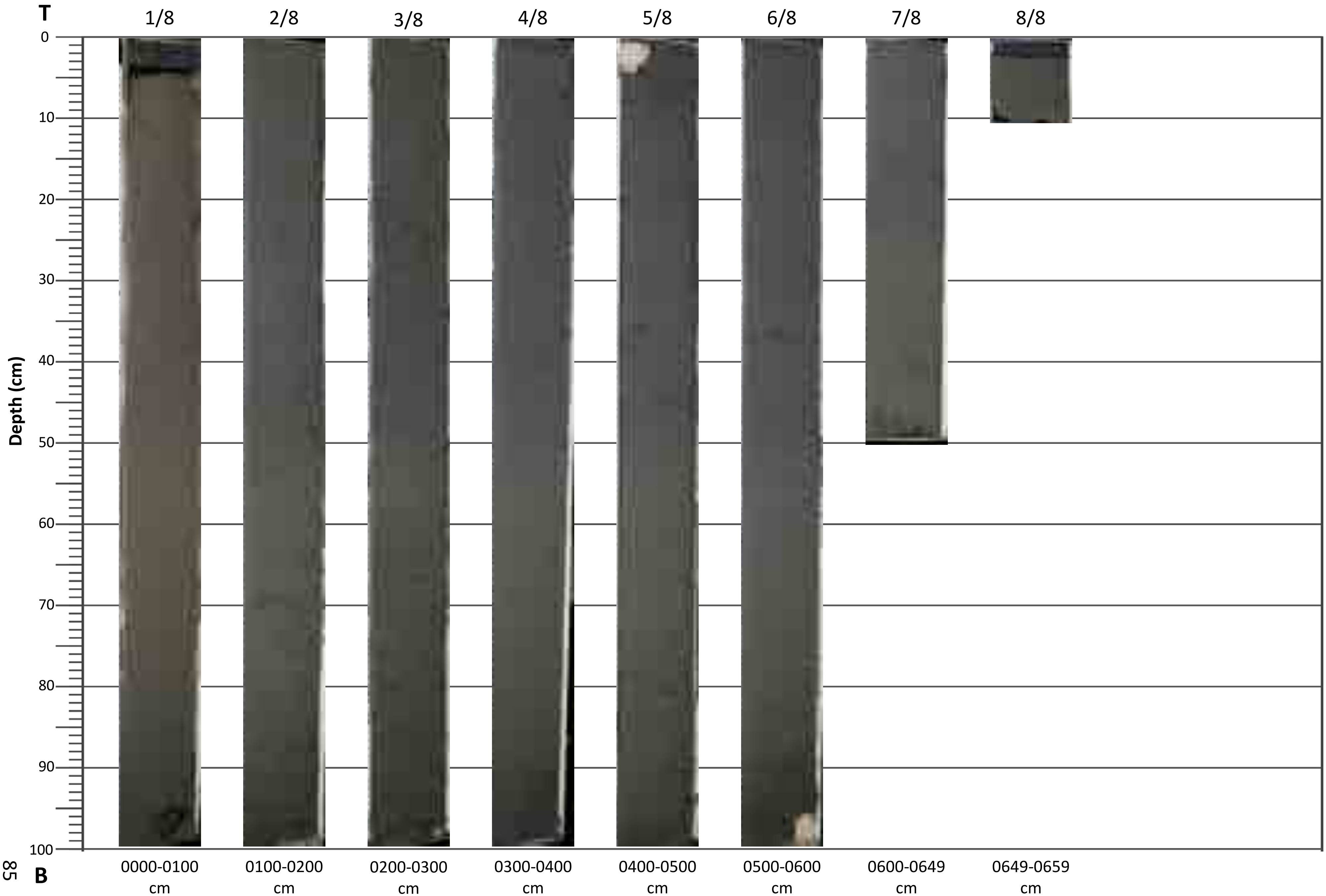
Core: **ALB-CL14** –Cruise: **ALBACORE** – Length: **502cm** – Sample location: **SITE 96** – Latitude: **35,44339181**–Longitude: -**4,13425423** – Water depth(Vessel depth): **397m**



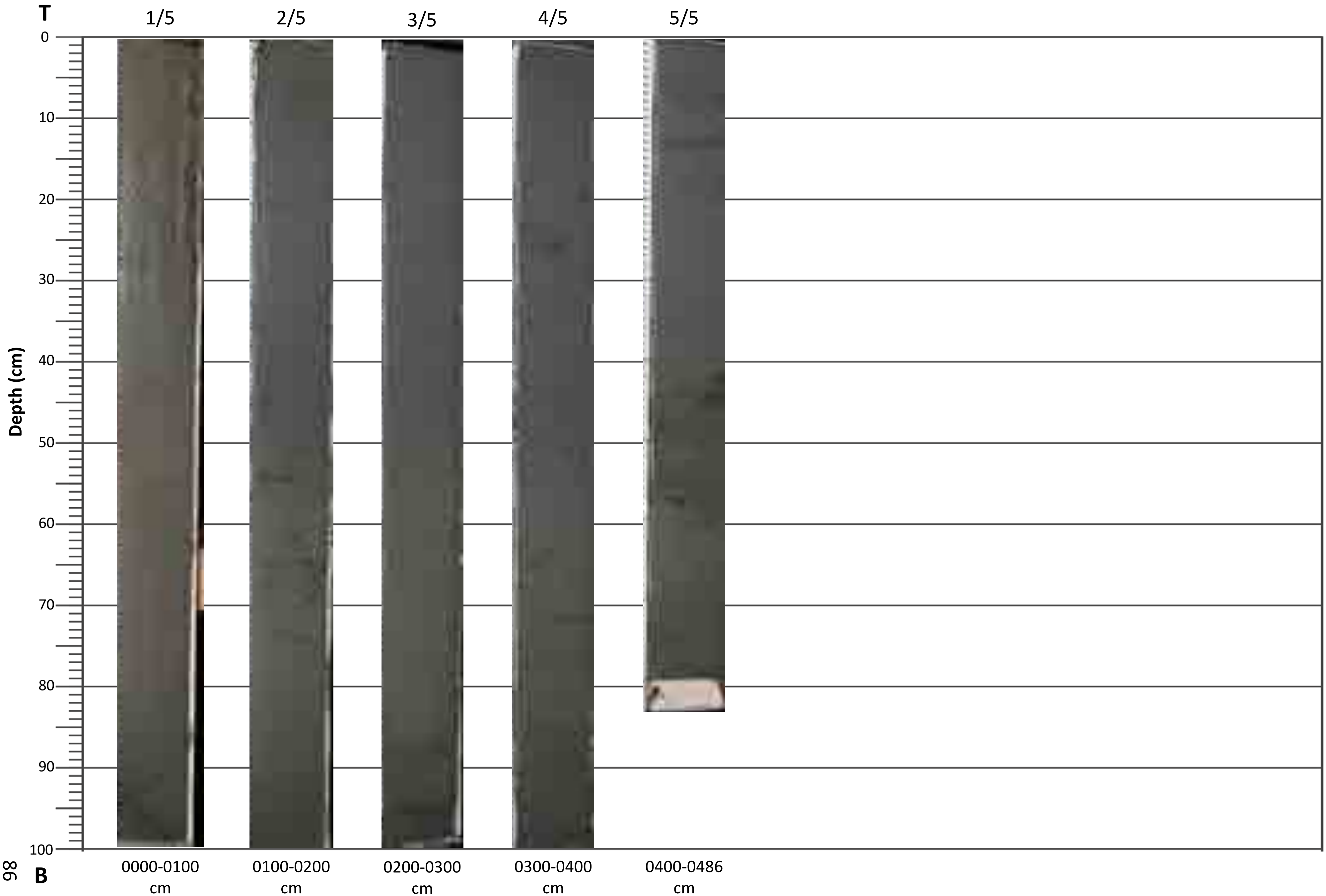
Core: **ALB-CL15**-Cruise: **ALBACORE** – Length: **0 cm** – Sample location: **SITE 29** – Latitude: **35,44474** –Longitude: -**4,13137** –Water depth (Vessel depth): **387 m**



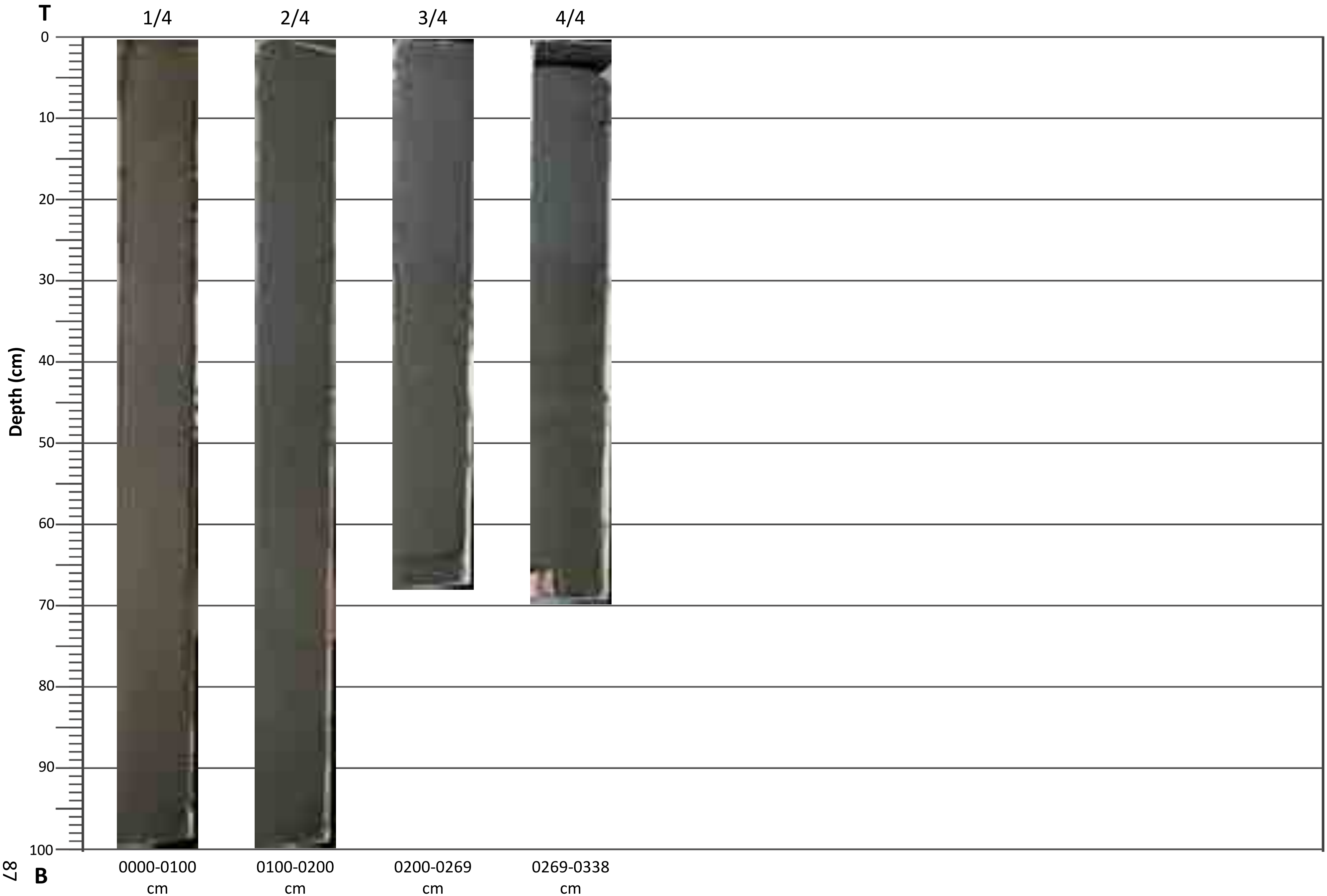
Core: **ALB-CL18** – Cruise: **ALBACORE**– Length: **659cm** –Sample location: **SITE 41-47** –Latitude: **35,71642666** –Longitude: **-3,62089328** –Water depth(Vessel depth): **868m**



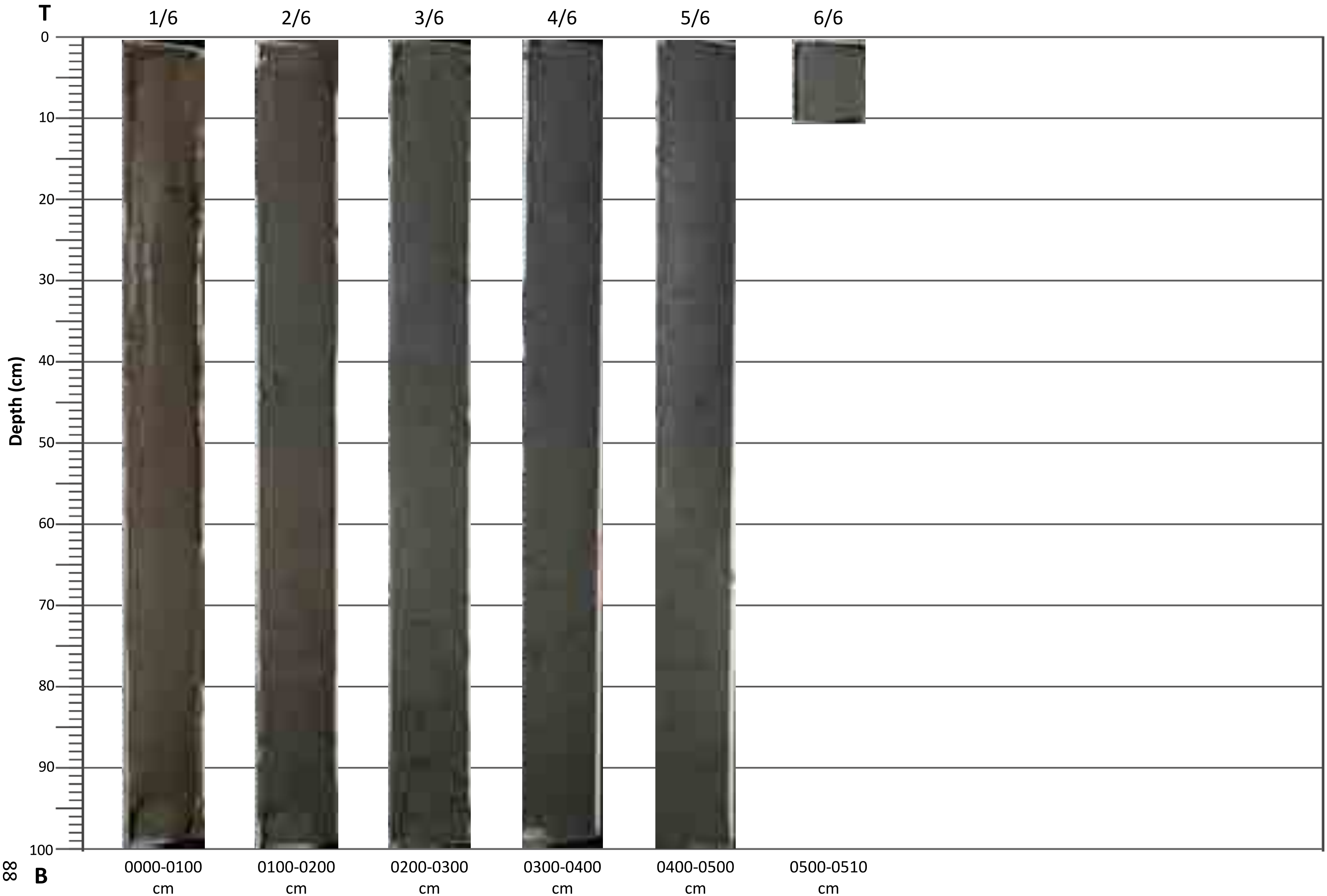
Core: **ALB-CL19 -** Cruise: **ALBACORE** – Length: **486 cm** – Sample location: **SITE 40** –Latitude: **35,70368325** –Longitude: **-3,617629139** –Water depth(Vessel depth): **705 m**



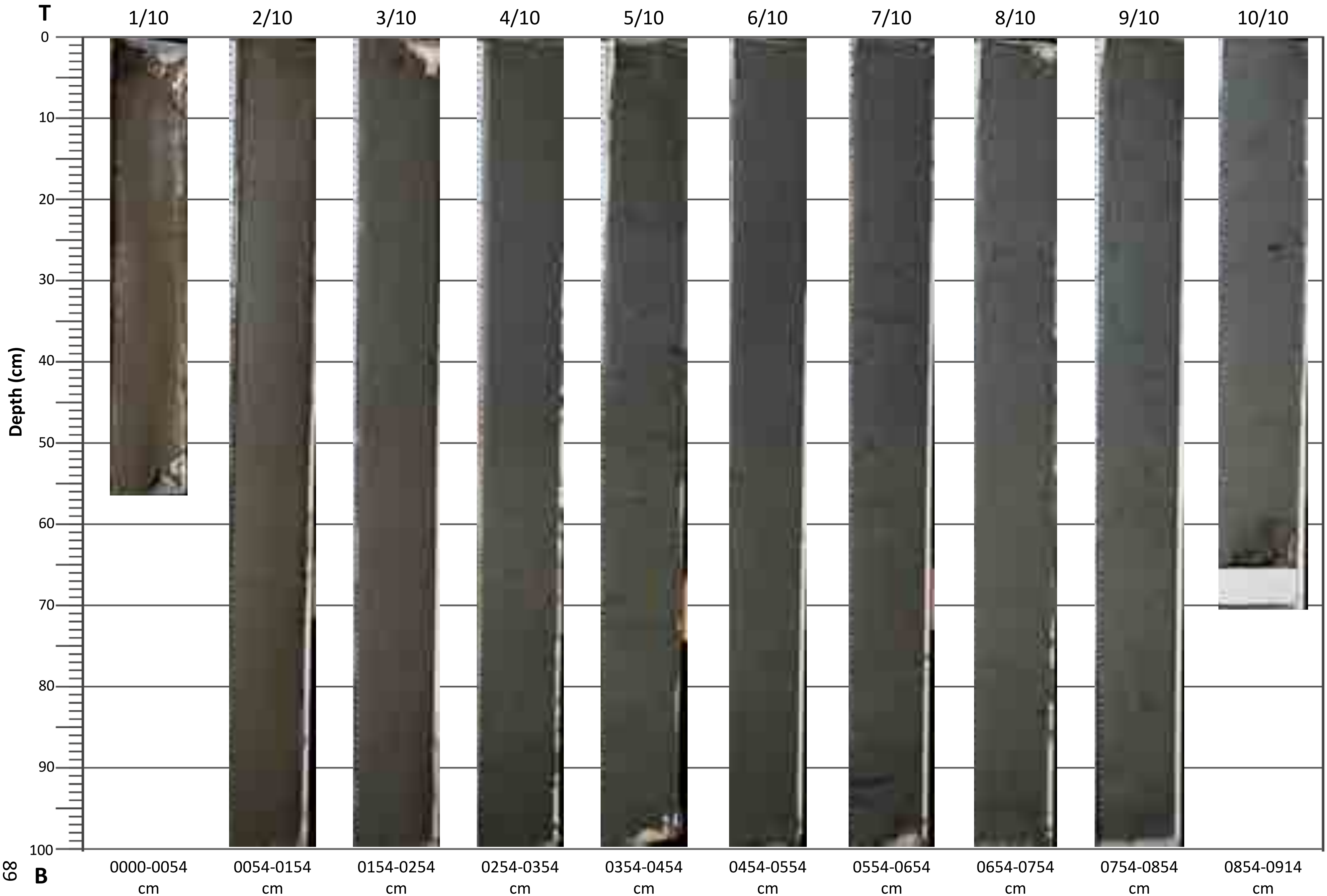
Core: **ALB-CL20-**Cruise: **ALBACORE** – Length: **338 cm** – Sample location: **SITE 49** – Latitude: **35,72044636** –Longitude: **-3,62775625** –Water depth (Vessel depth): **950 m**



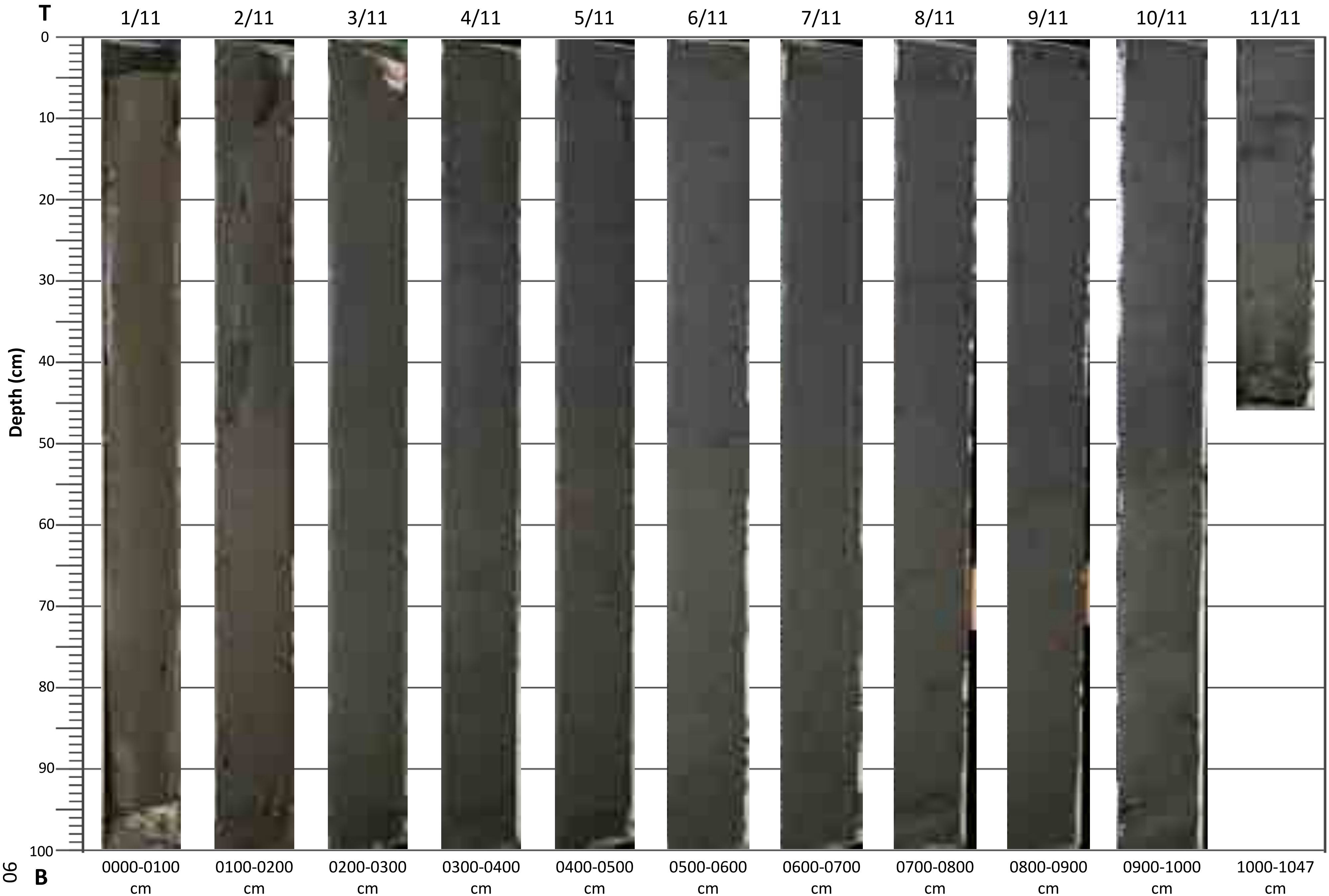
Core: **ALB-CL22** –Cruise: **ALBACORE** – Length: **510 cm** – Sample location: **SITE 93** – Latitude: **35,41661**–Longitude: **-3,78411** – Water depth(Vessel depth): **416m**



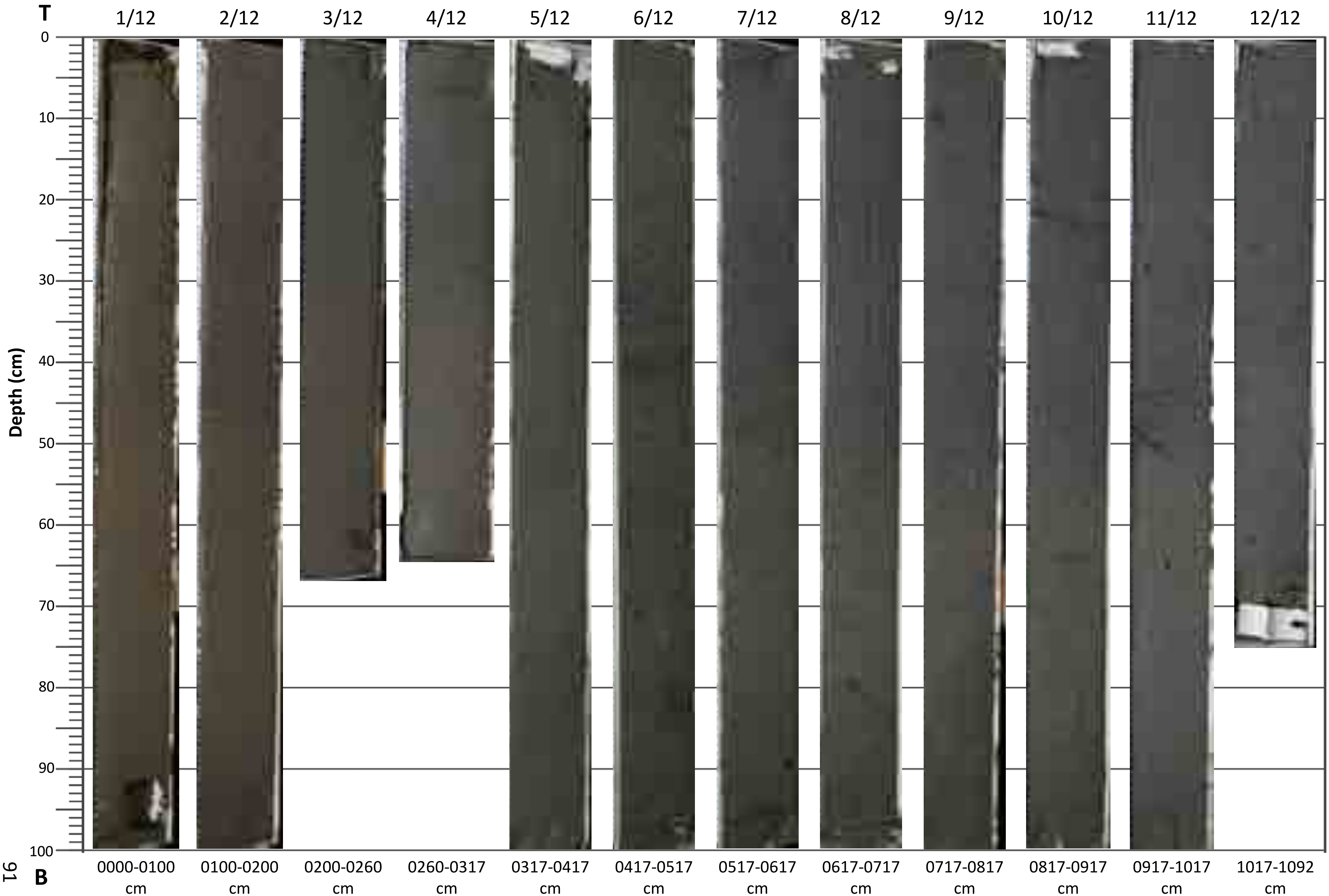
Core: **ALB-CL23** – Cruise: **ALBACORE** – Length: **914 cm** – Sample location: **SITE 94BIS** – Latitude: **35,416** – Longitude: **-3,7801** – Water depth(Vessel depth): **433 m**



Core: **ALB-CL24** – Cruise: **ALBACORE** – Length: **1047 cm** – Sample location: **SITE 95** – Latitude: **35,41556** – Longitude: **-3,77735** – Water depth(Vessel depth): **422 m**

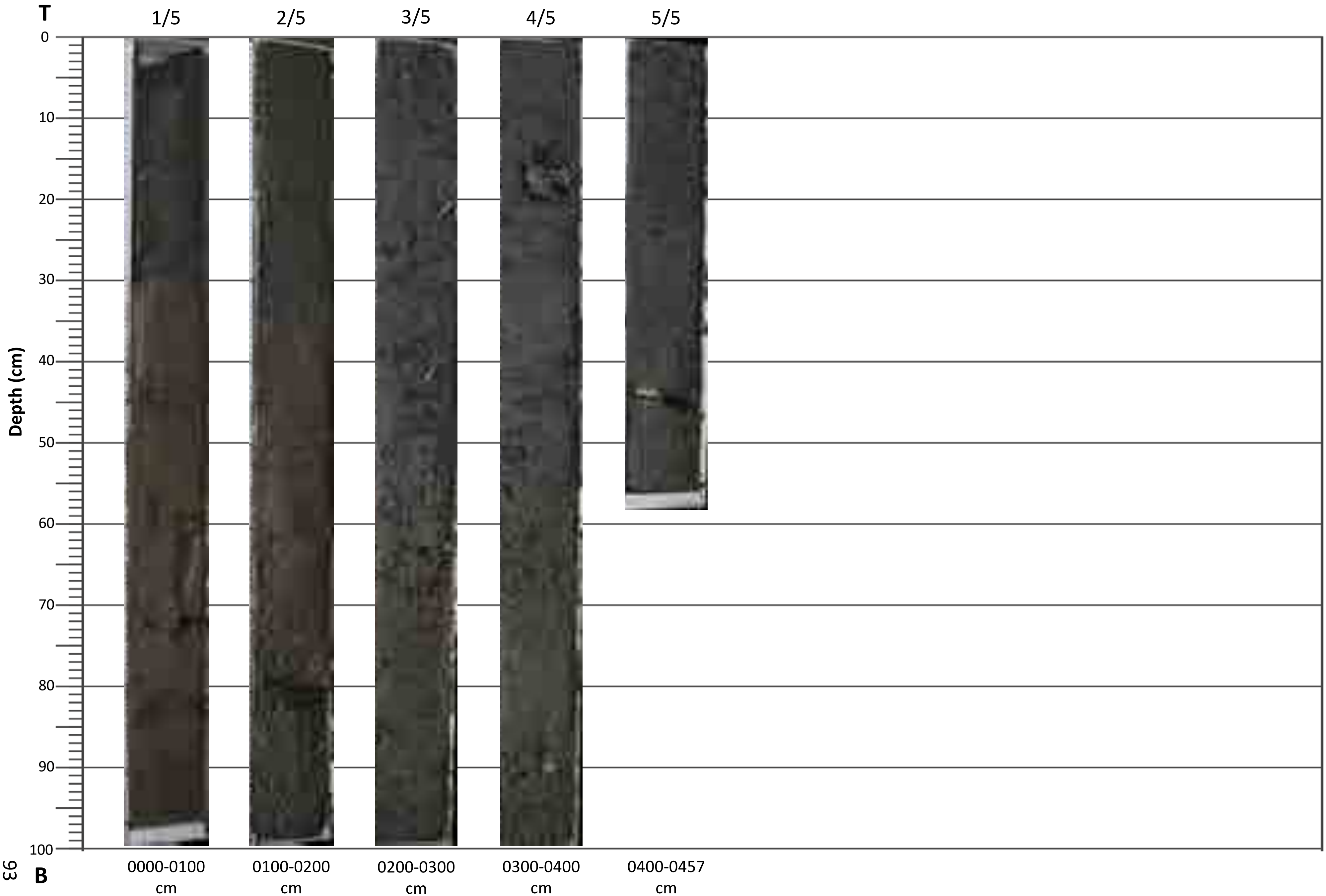


Core: **ALB-CL25** – Cruise: **ALBACORE** – Length: **1092 cm** – Sample location: **SITE 94** – Latitude: **35,41621** – Longitude: **-3,7814** – Water depth(Vessel depth): **432 m**

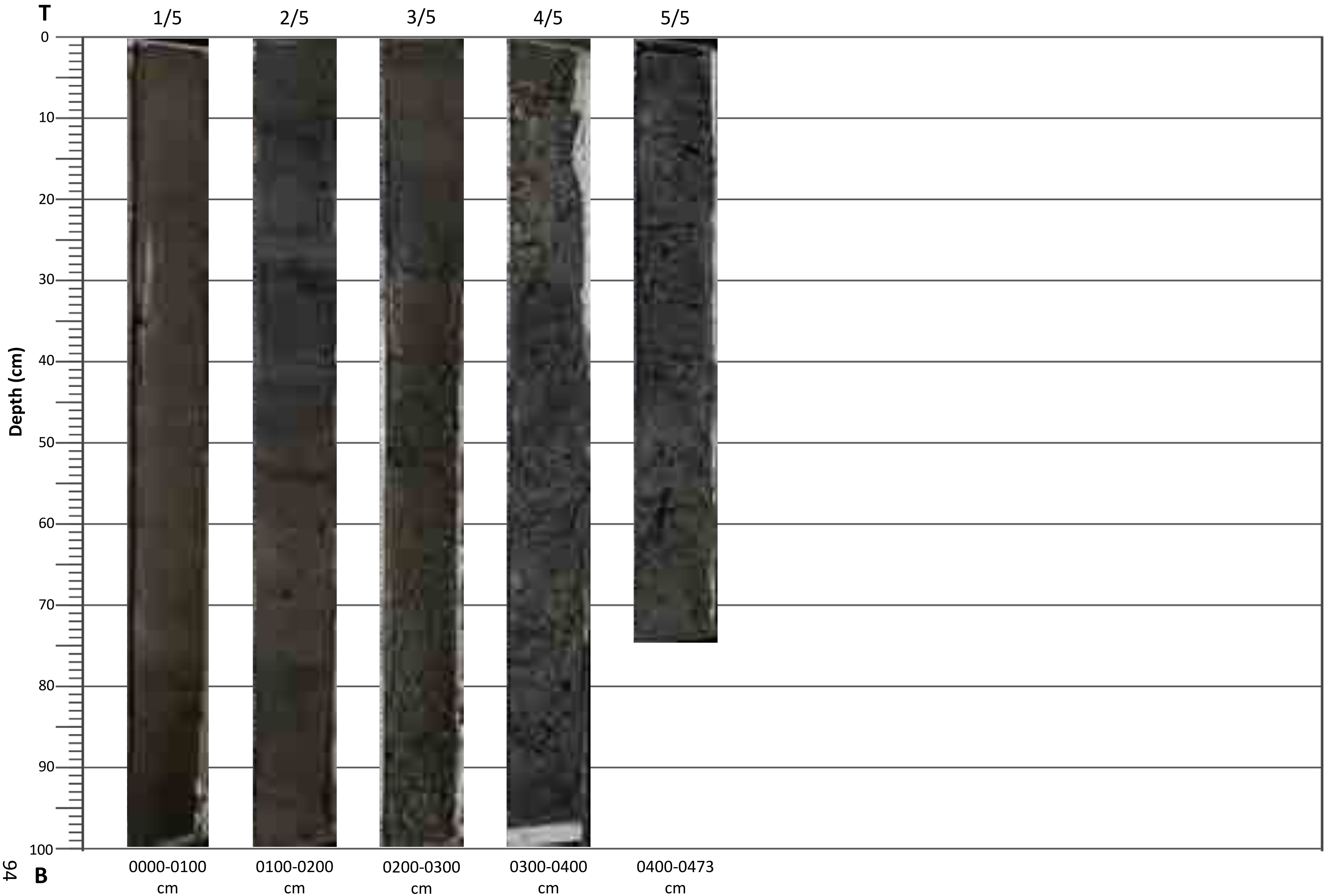


Core: **ALB-CL26** – Cruise: **ALBACORE** – Length: **1072 cm** – Sample location: **SITE 93** – Latitude: **35,41661** – Longitude: **-3,78411** – Water depth(Vessel depth): **416 m**

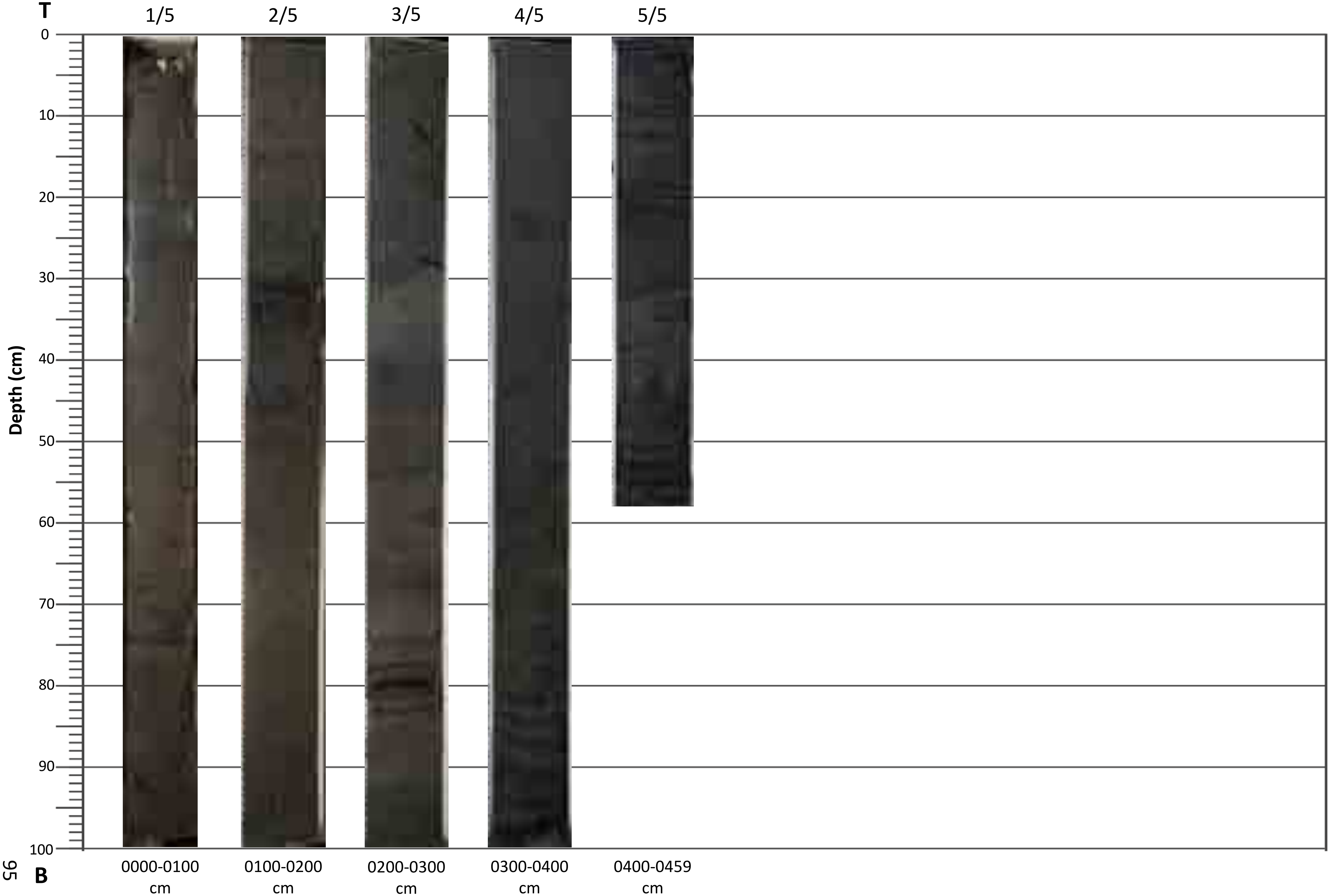
Core: **ALB-CL27**-Cruise: **ALBACORE** – Length: **457 cm** – Sample location: **SITE 73** – Latitude: **35,2783058** –Longitude: **-3,84491237** –Water depth (Vessel depth): **122 m**



Core: **ALB-CL28 -** Cruise: **ALBACORE** – Length: **473 cm** – Sample location: **SITE 74** – Latitude: **35,264007** –Longitude: **-3,845051** –Water depth (Vessel depth): **95 m**

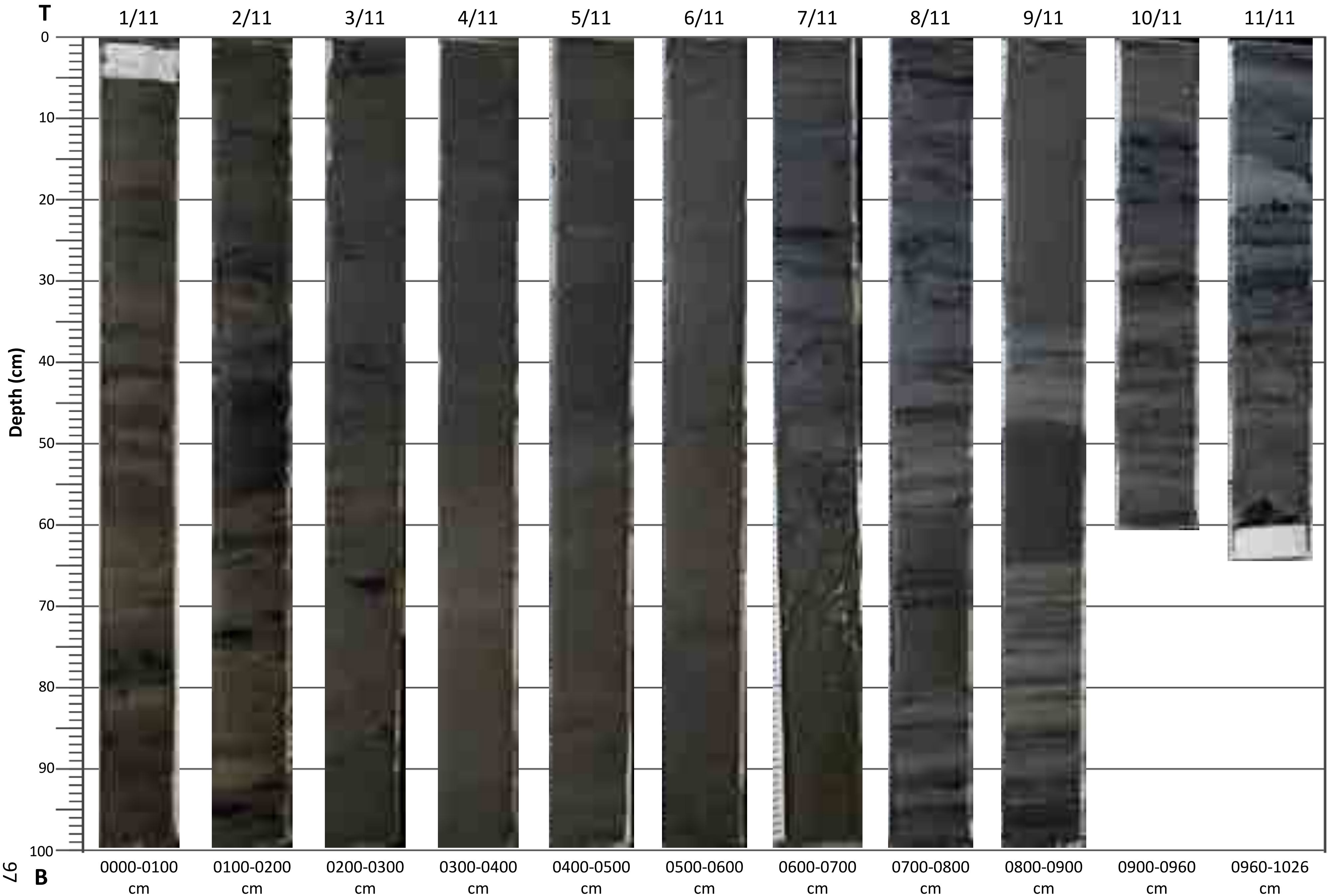


Core: **ALB-CL29 -** Cruise: **ALBACORE** – Length: **459 cm** – Sample location: **SITE 75-77** – Latitude: **35,2588772** –Longitude: **-3,84507778** –Water depth(Vessel depth): **89 m**

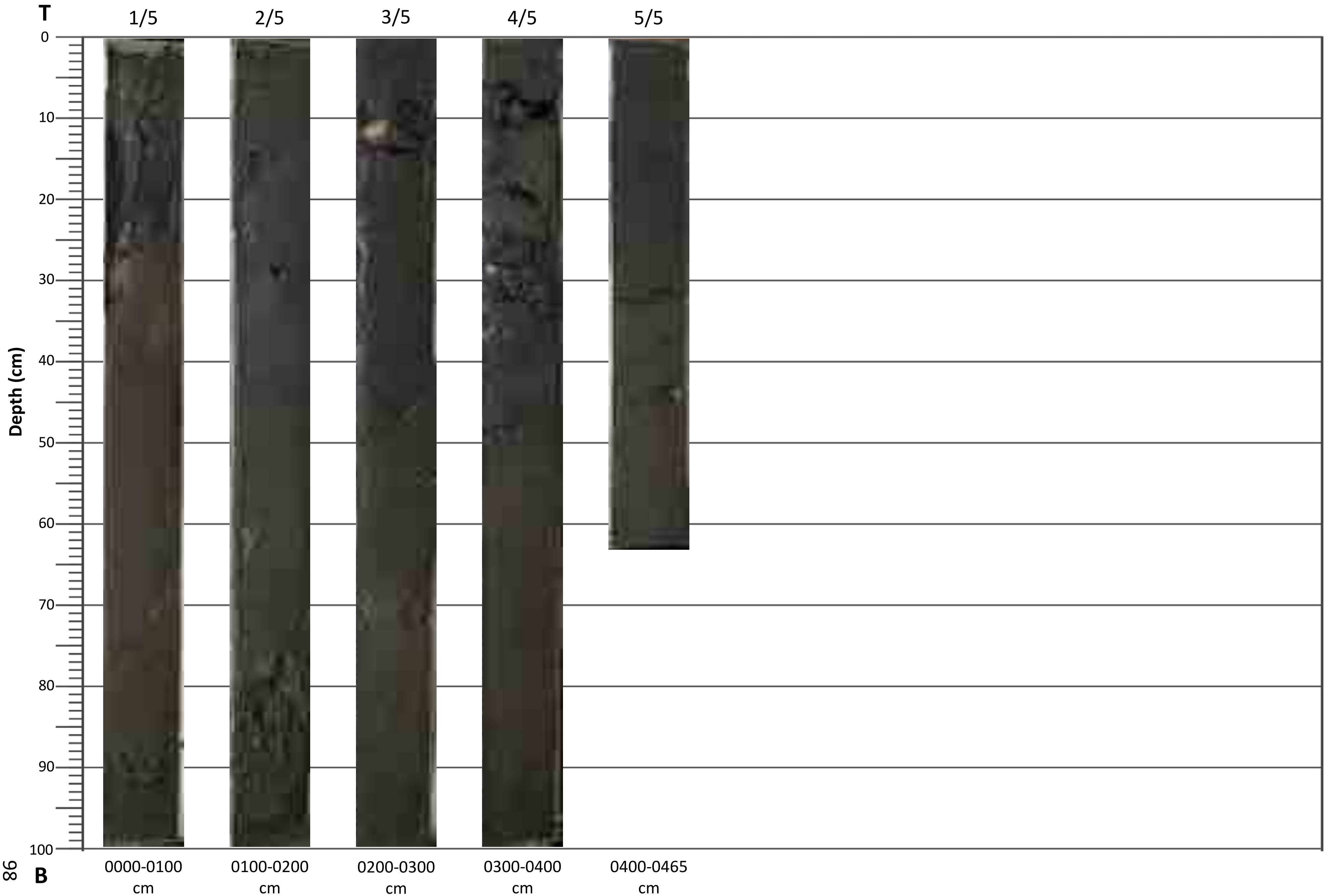


Core: **ALB-CL30** –Cruise: **ALBACORE** –Length: **1066 cm** –Sample location: **SITE 75-77** –Latitude: **35,2588772** –Longitude: **-3,84507778** –Water depth(Vessel depth): **89 m**

Core: **ALB-CL31** – Cruise: **ALBACORE** – Length: **1026 cm** – Sample location: **SITE A8** – Latitude: **35,2547574** – Longitude: **-3,8451578** – Water depth(Vessel depth): **82 m**

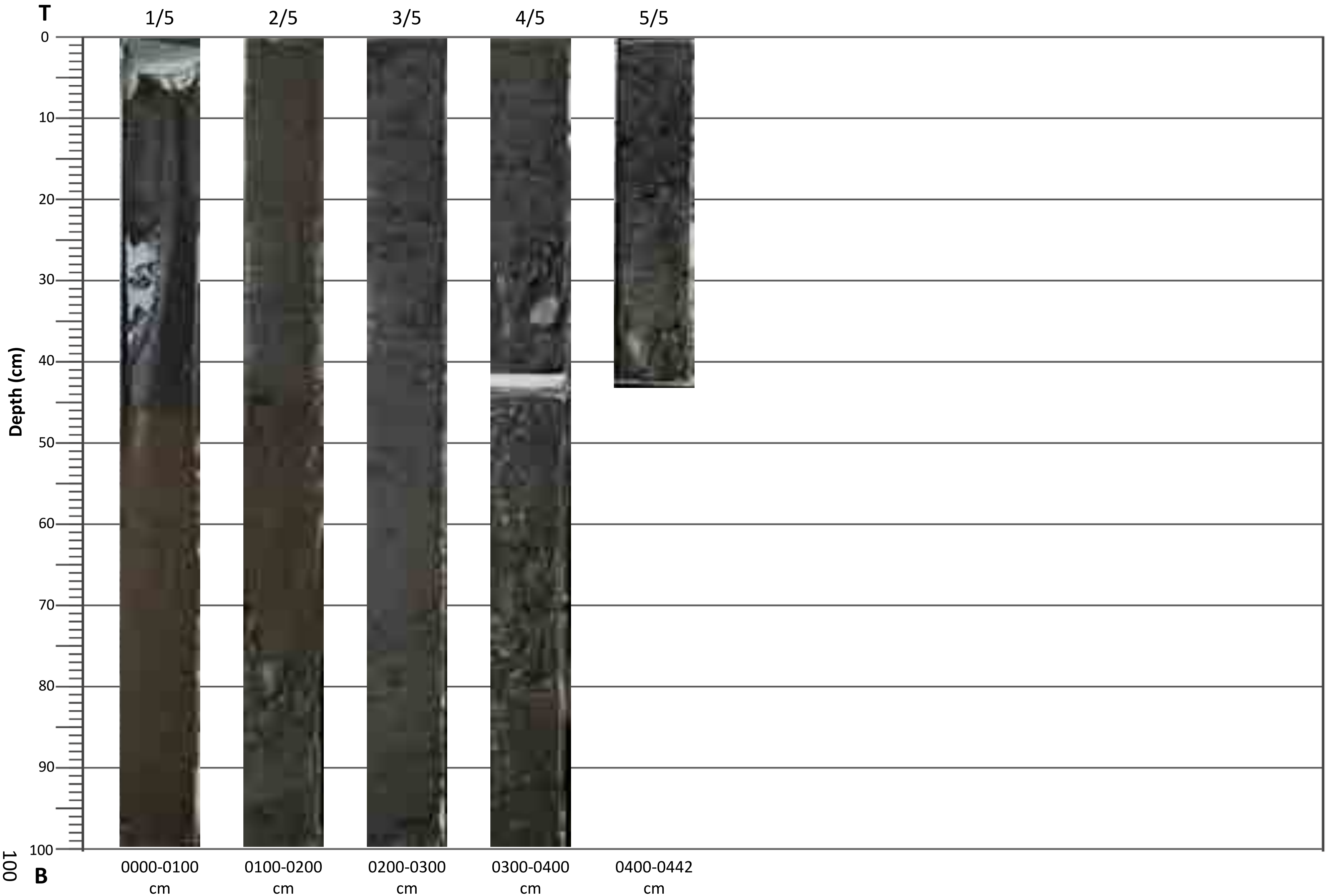


Core: **ALB-CL32-**Cruise: **ALBACORE** – Length: **465 cm** – Sample location: **SITE A7** – Latitude: **35,31681217** – Longitude: **-3,90350804** –Water depth (Vessel depth): **201 m**



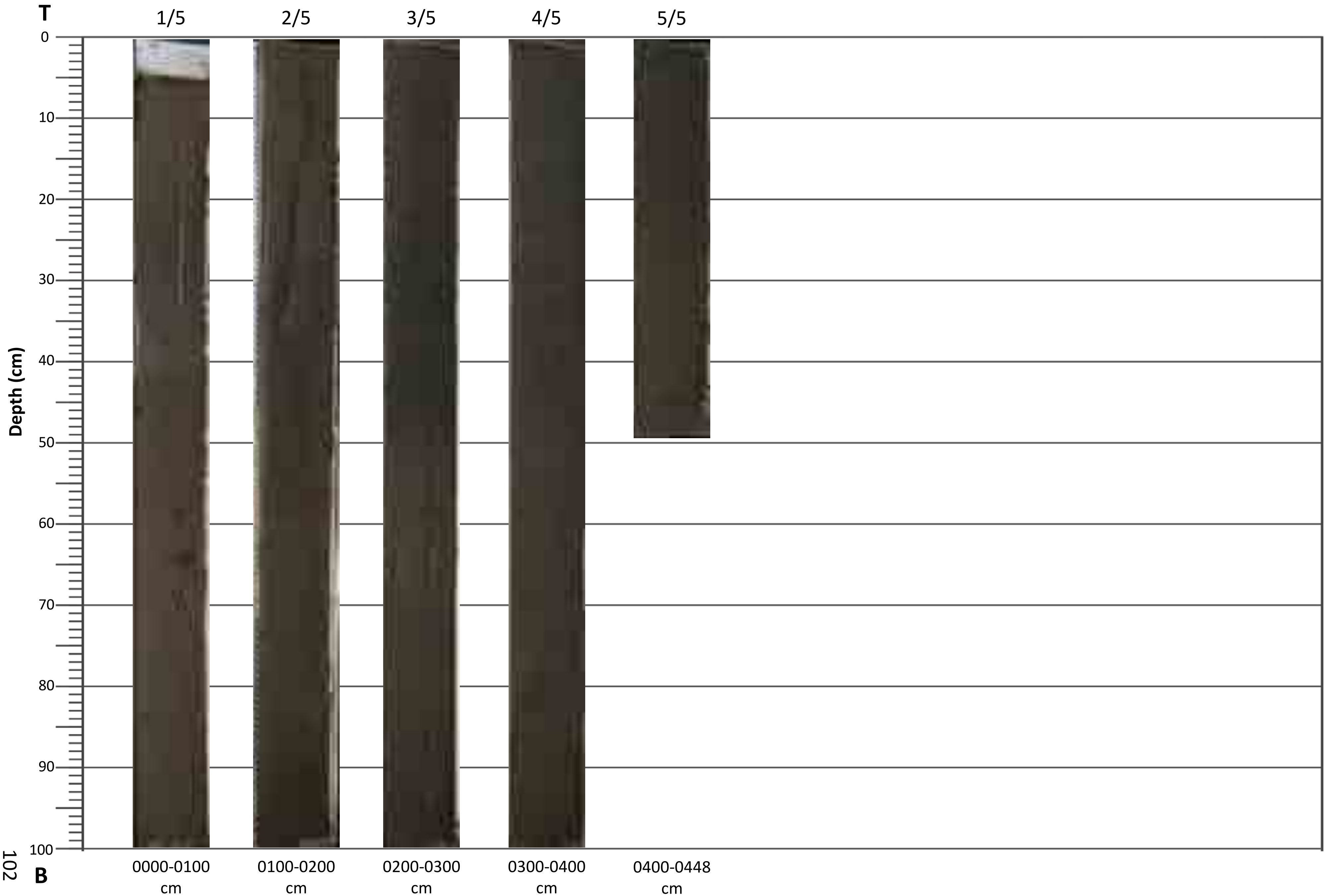
Core: **ALB-CL33-**Cruise: **ALBACORE** – Length: **336 cm** – Sample location: **SITE 66** – Latitude: **35,32961669** –Longitude: **-3,779024056** –Water depth (Vessel depth): **150 m**

Core: **ALB-CL34-**Cruise: **ALBACORE** – Length: **442 cm** – Sample location: **SITE 67** – Latitude: **35,32021886** –Longitude: **-3,797955306** –Water depth (Vessel depth): **158 m**

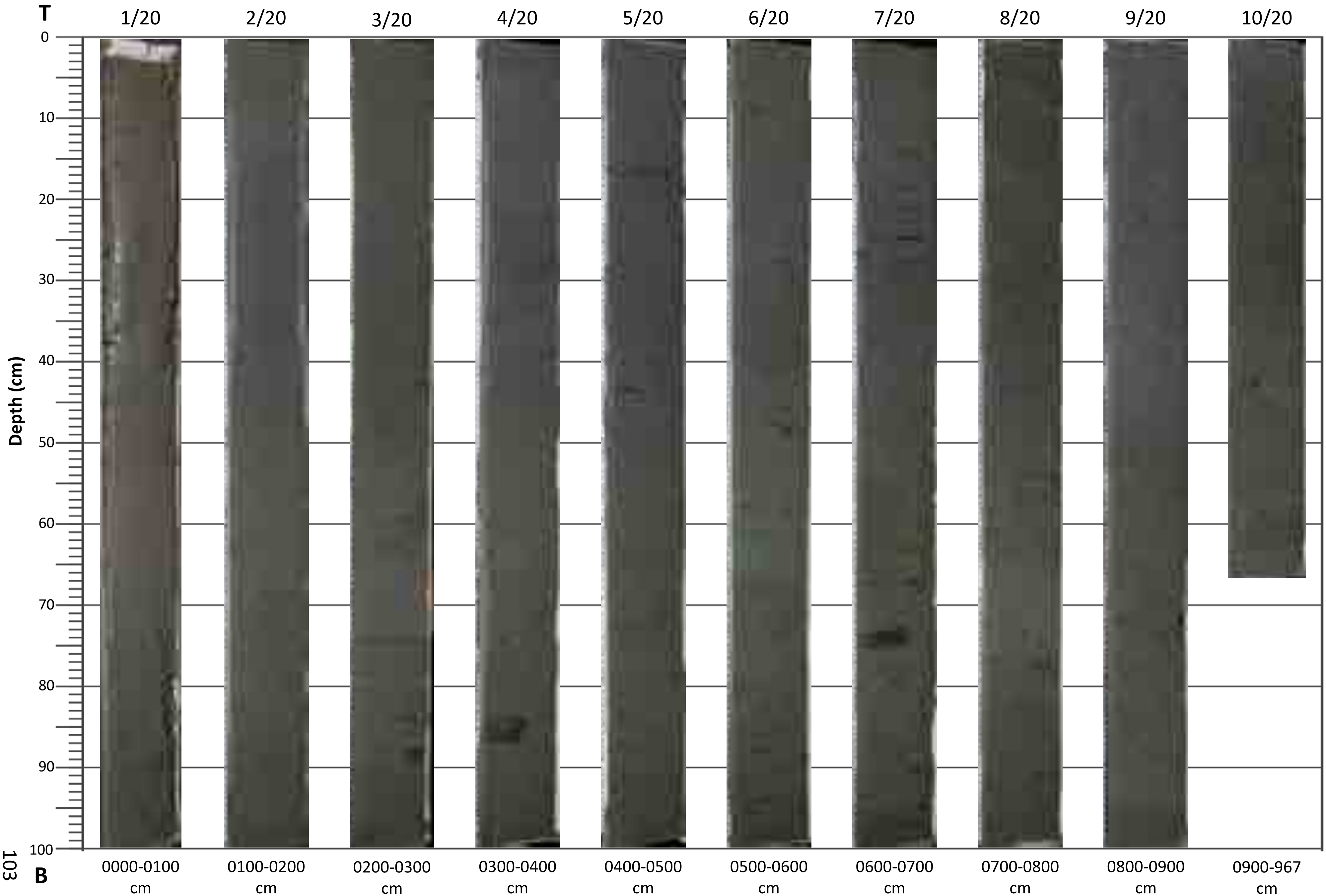


Core: **ALB-CL35-**Cruise: **ALBACORE** – Length: **395 cm** – Sample location: **SITE 68** – Latitude: **35,31944302** – Longitude: **-3,80103269** – Water depth (Vessel depth): **161 m**

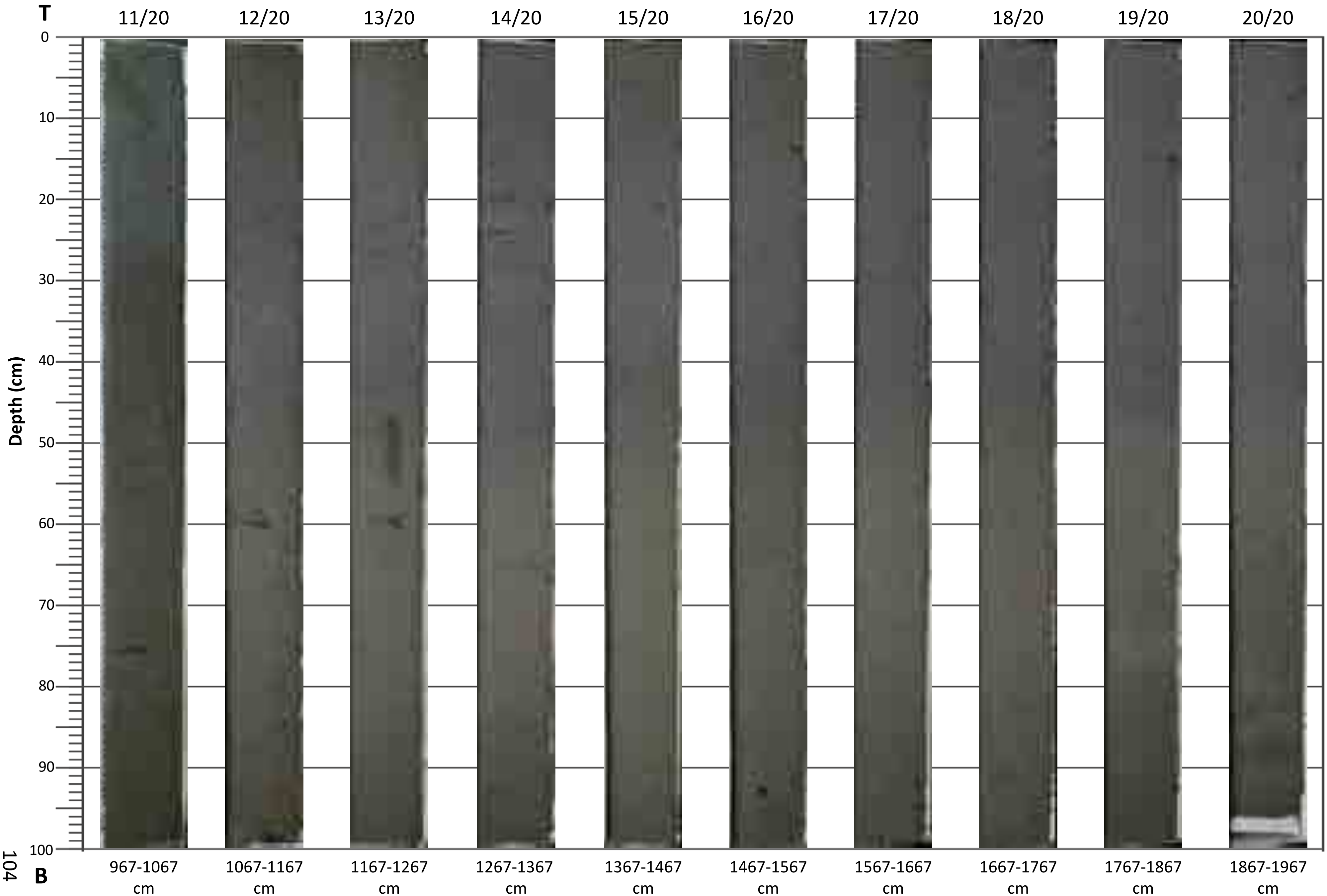
Core: **ALB-CL36-**Cruise: **ALBACORE** – Length: **448 cm** – Sample location: **SITE 57** – Latitude: **35,35911917** –Longitude: **-3,78029722** –Water depth (Vessel depth): **255 m**



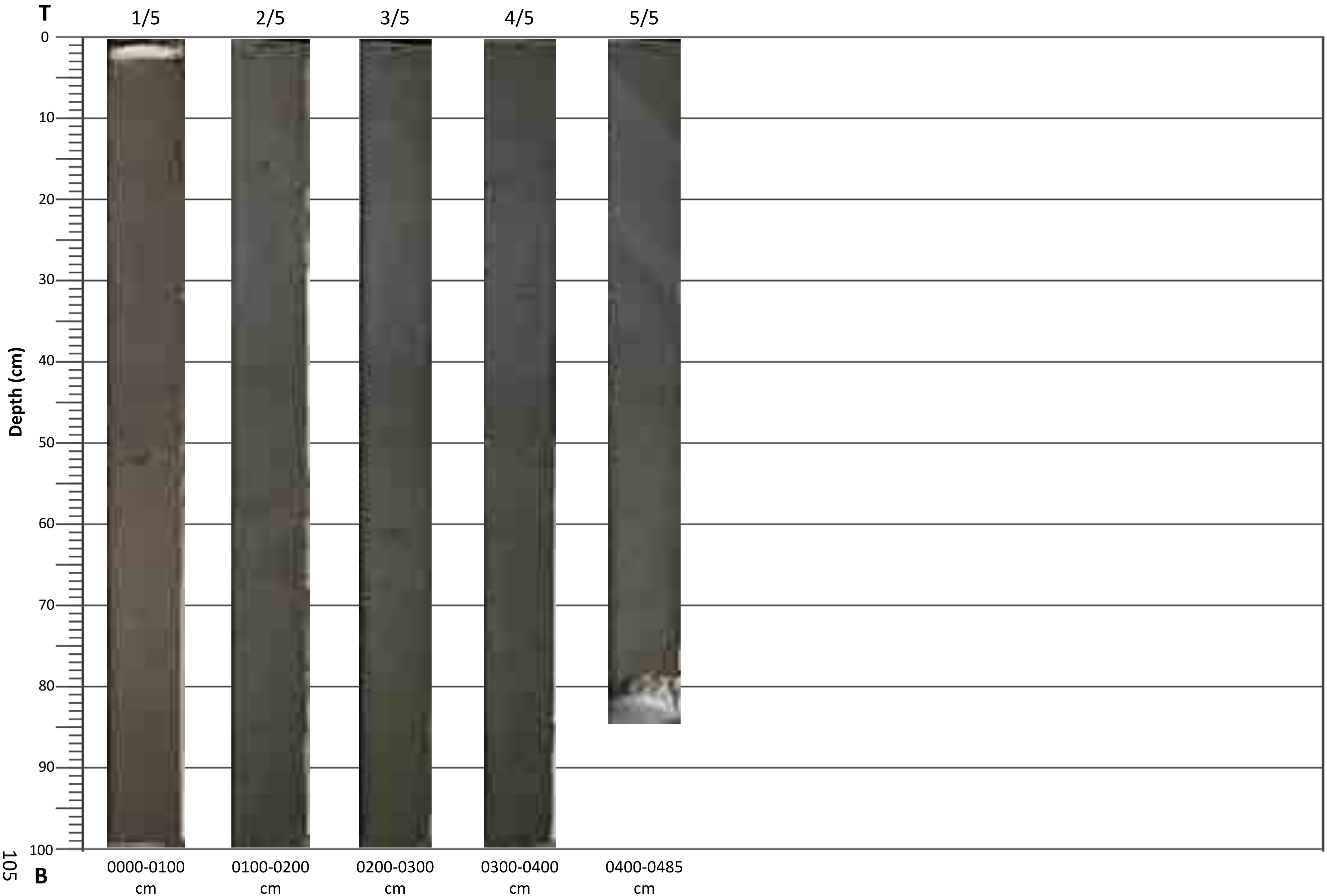
Core: **ALB-CL37 -** Cruise: **ALBACORE** –Length: **1967cm** –Sample location: **SITE 128** –Latitude: **36,32840194** –Longitude: **-4,184080278** –Water depth(Vessel depth): **738m**



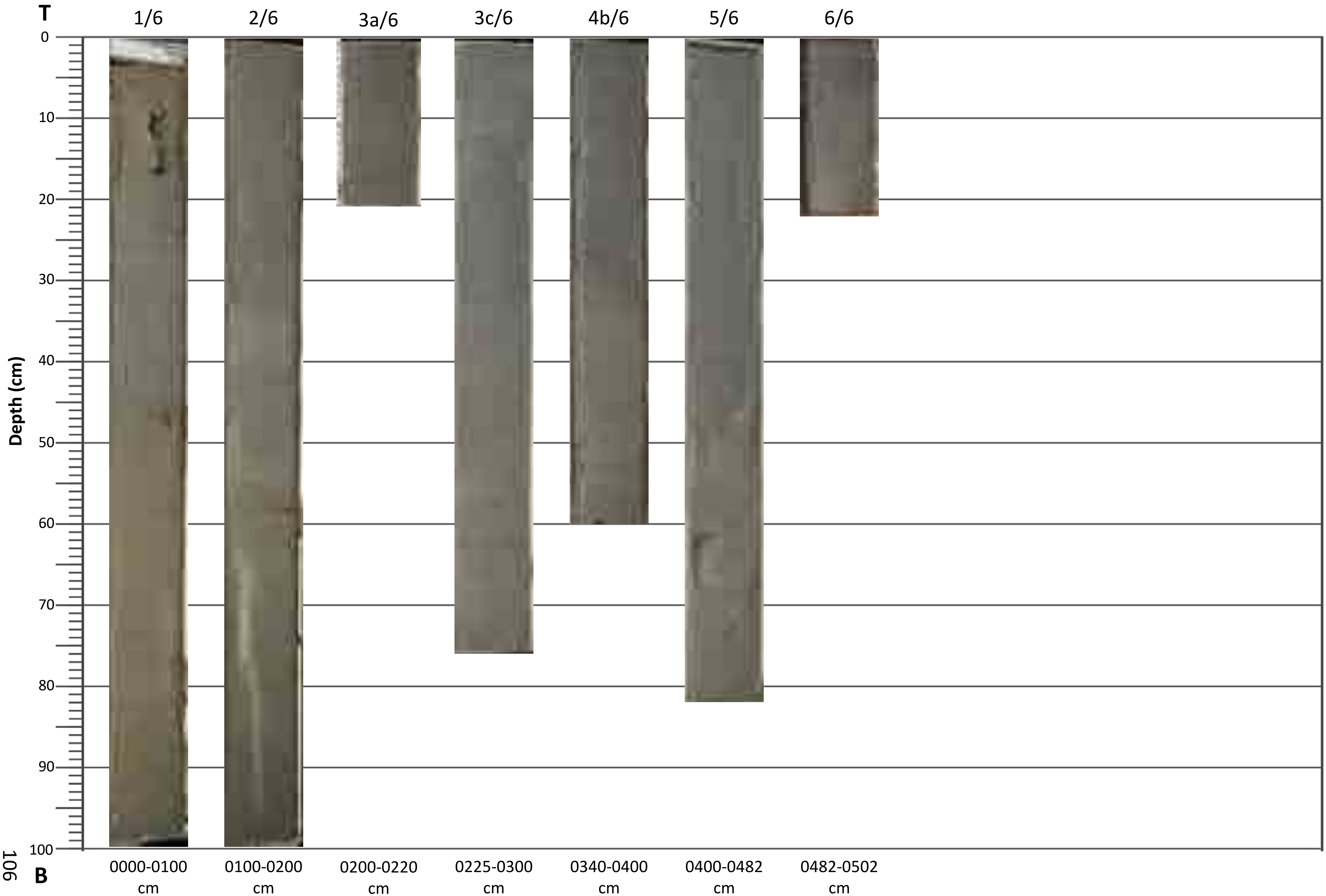
Core: **ALB-CL37 -** Cruise: **ALBACORE** –Length: **1967cm** –Sample location: **SITE 128** –Latitude: **36,32840194** –Longitude: **-4,184080278** –Water depth(Vessel depth): **738m**



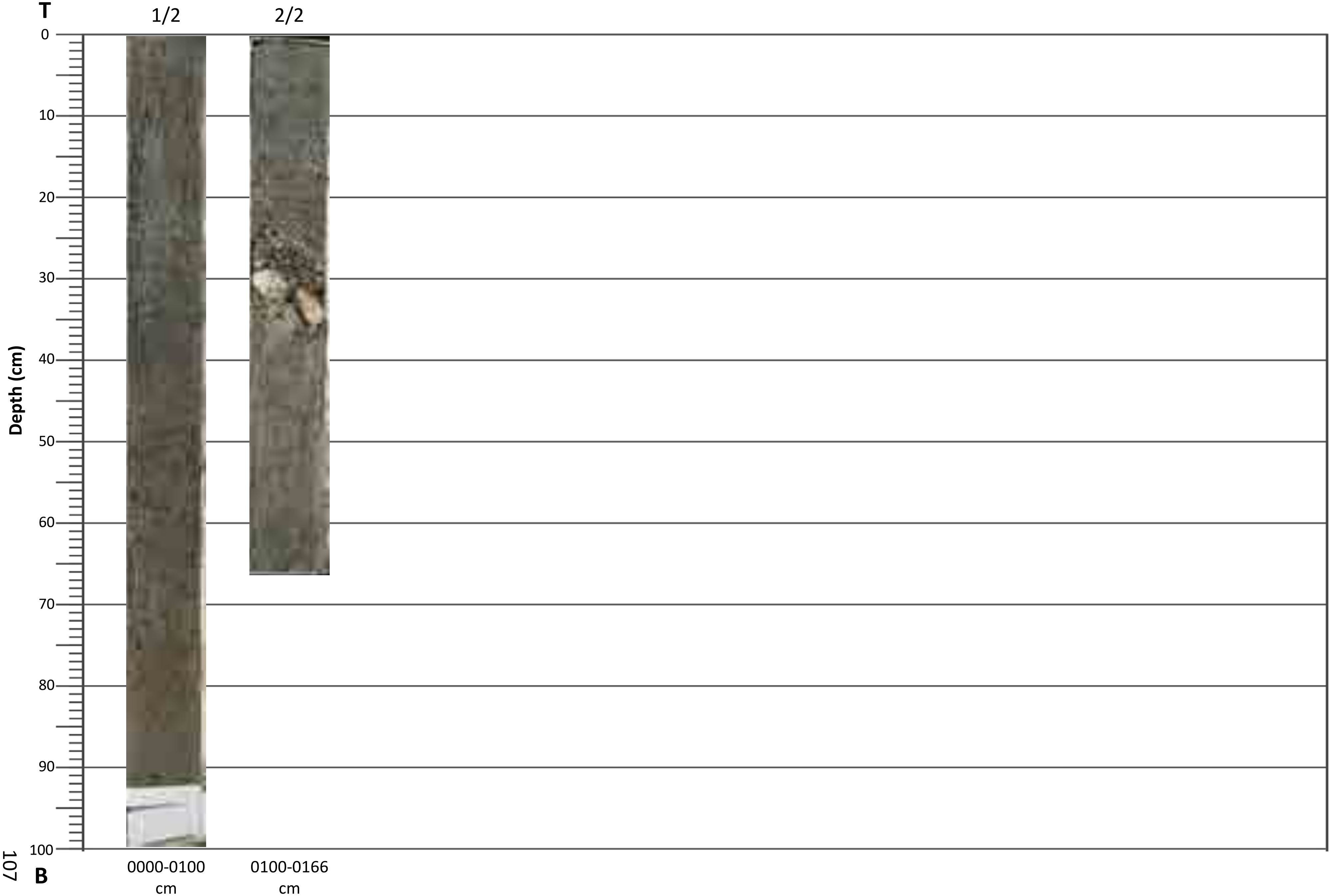
Core: **ALB-CL39 -** Cruise: **ALBACORE** – Length: **485 cm** – Sample location: **SITE 133** – Latitude: **35,594995** – Longitude: **-4,334292** – Water depth (Vessel depth): **1365 m**



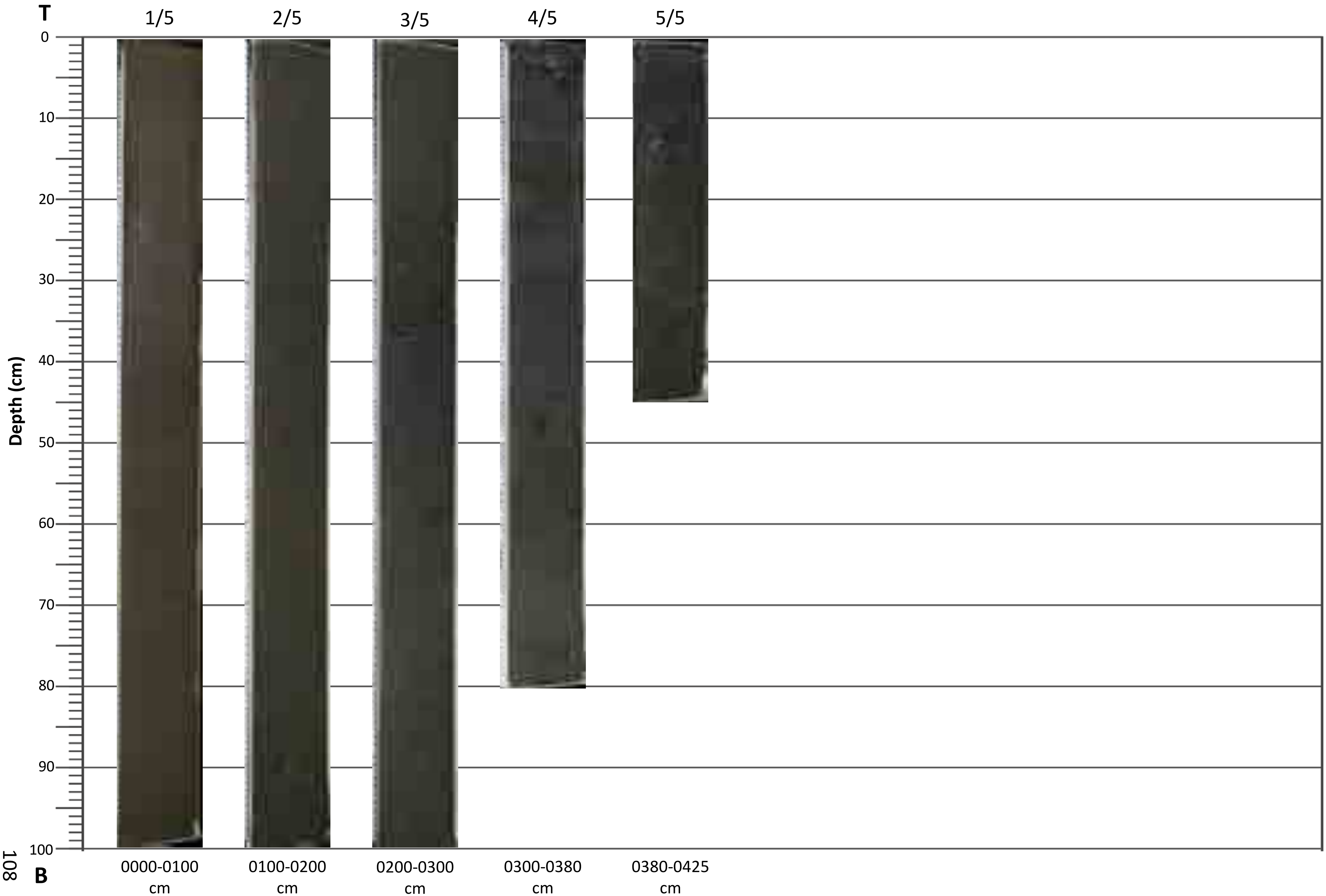
Core: **ALB-CL40** – Cruise: **ALBACORE** – Length: **502 cm** – Sample location: **SITE 134** – Latitude: **35,599789** – Longitude: **-4,331379** – Water depth(Vessel depth): **1384 m**



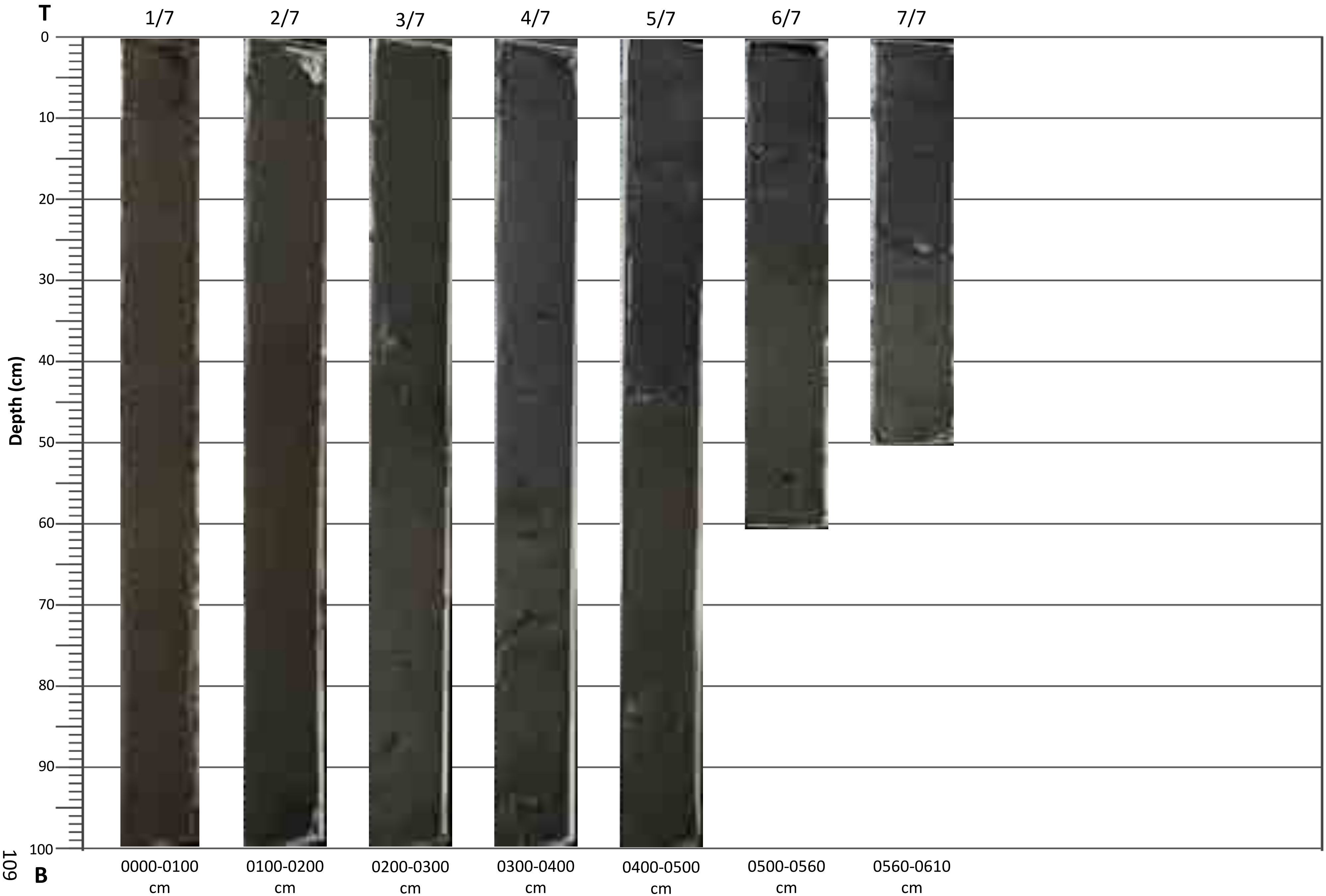
Core: **ALB-CL43 -** Cruise: **ALBACORE** – Length: **166 cm** – Sample location: **SITE 79** – Latitude: **35,284226** –Longitude: **-4,00845341** –Water depth (Vessel depth): **153 m**



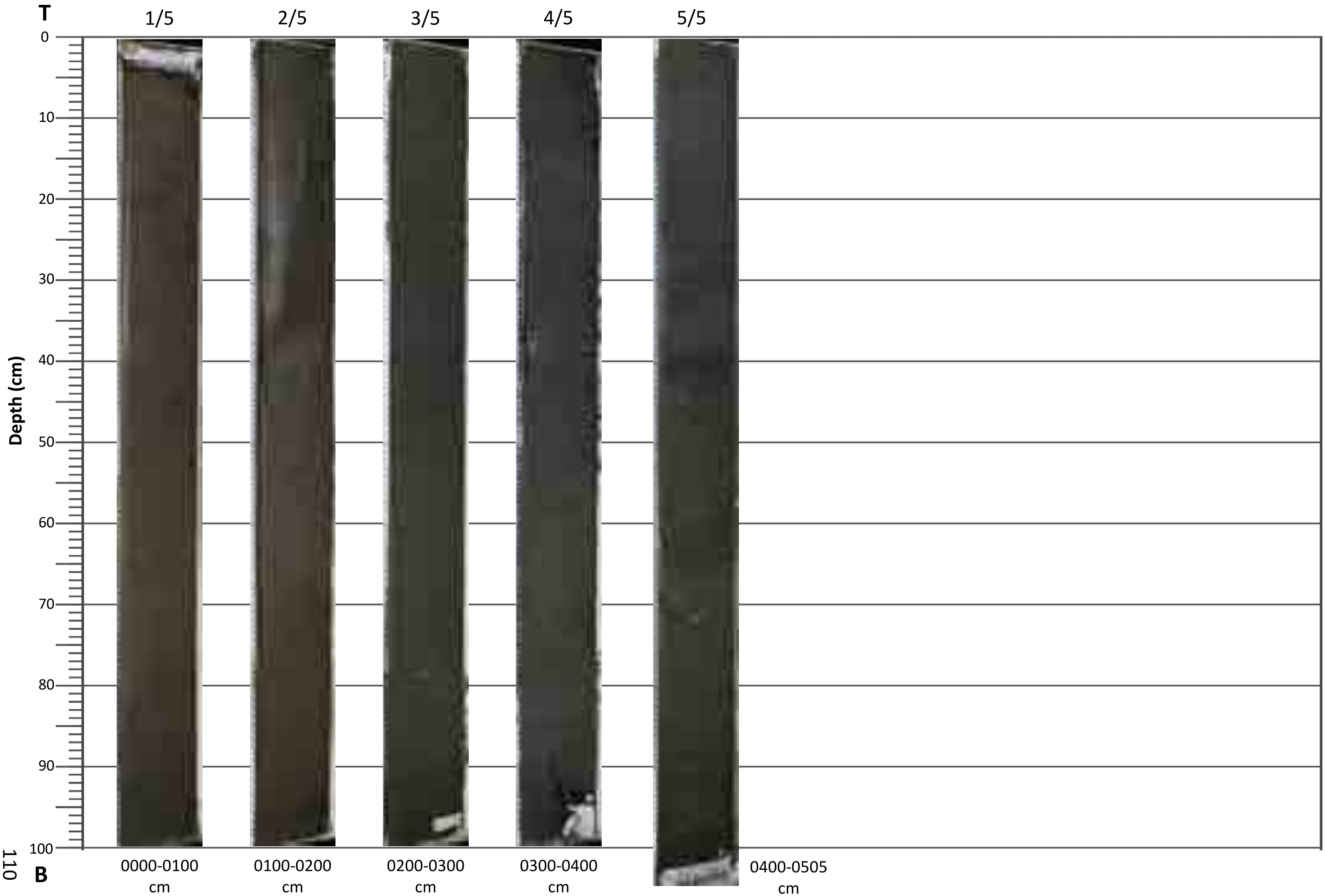
Core: **ALB-CL44** –Cruise: **ALBACORE** – Length: **425cm** – Sample location: **SITE 65** – Latitude: **35,35068575** –Longitude: **-3,83778275**– Water depth(Vessel depth): **262m**



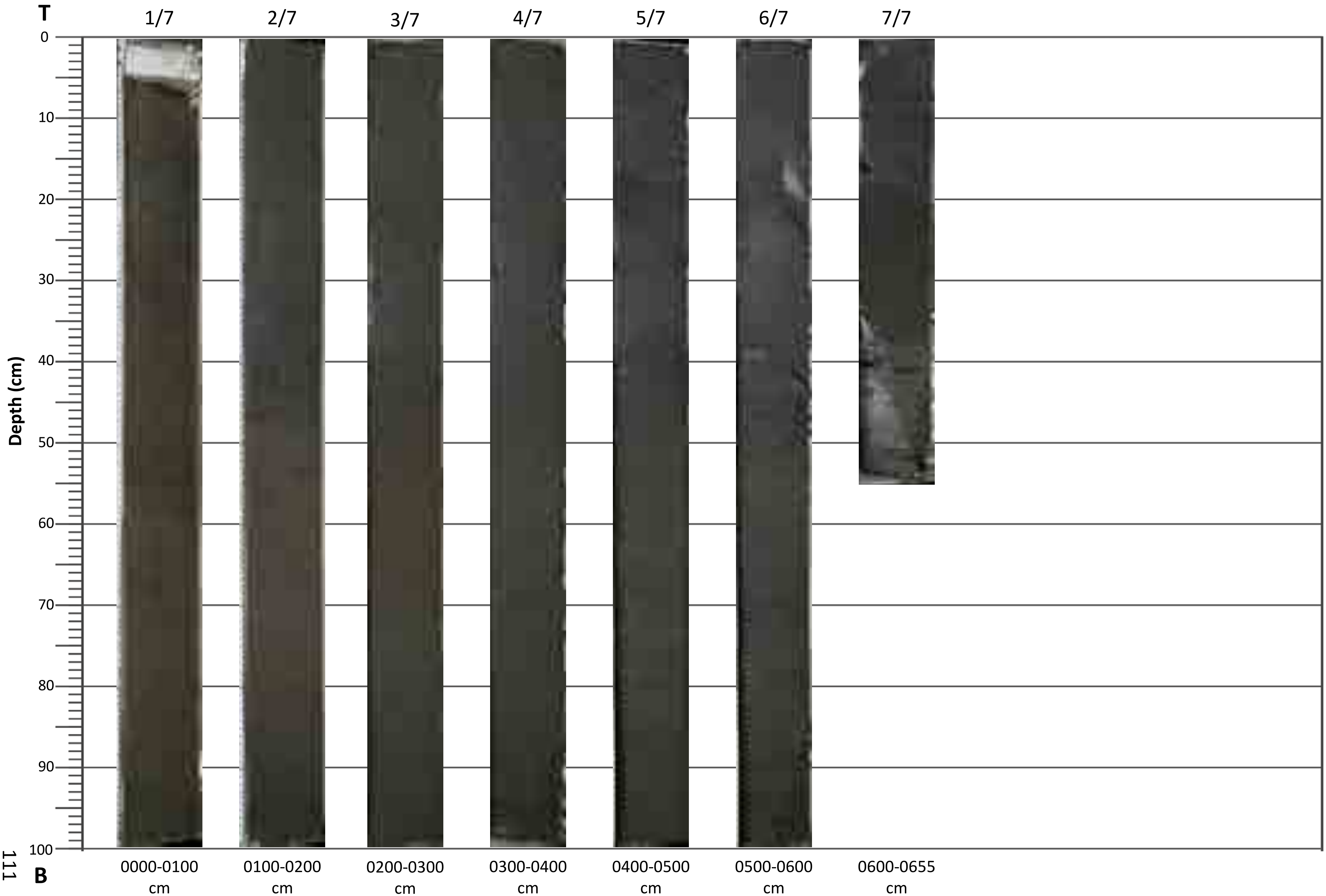
Core: **ALB-CL45** – Cruise: **ALBACORE** – Length: **610 cm** – Sample location: **SITE 65** –Latitude: **35,35068575** –Longitude: **-3,83778275** – Water depth(Vessel depth): **262 m**



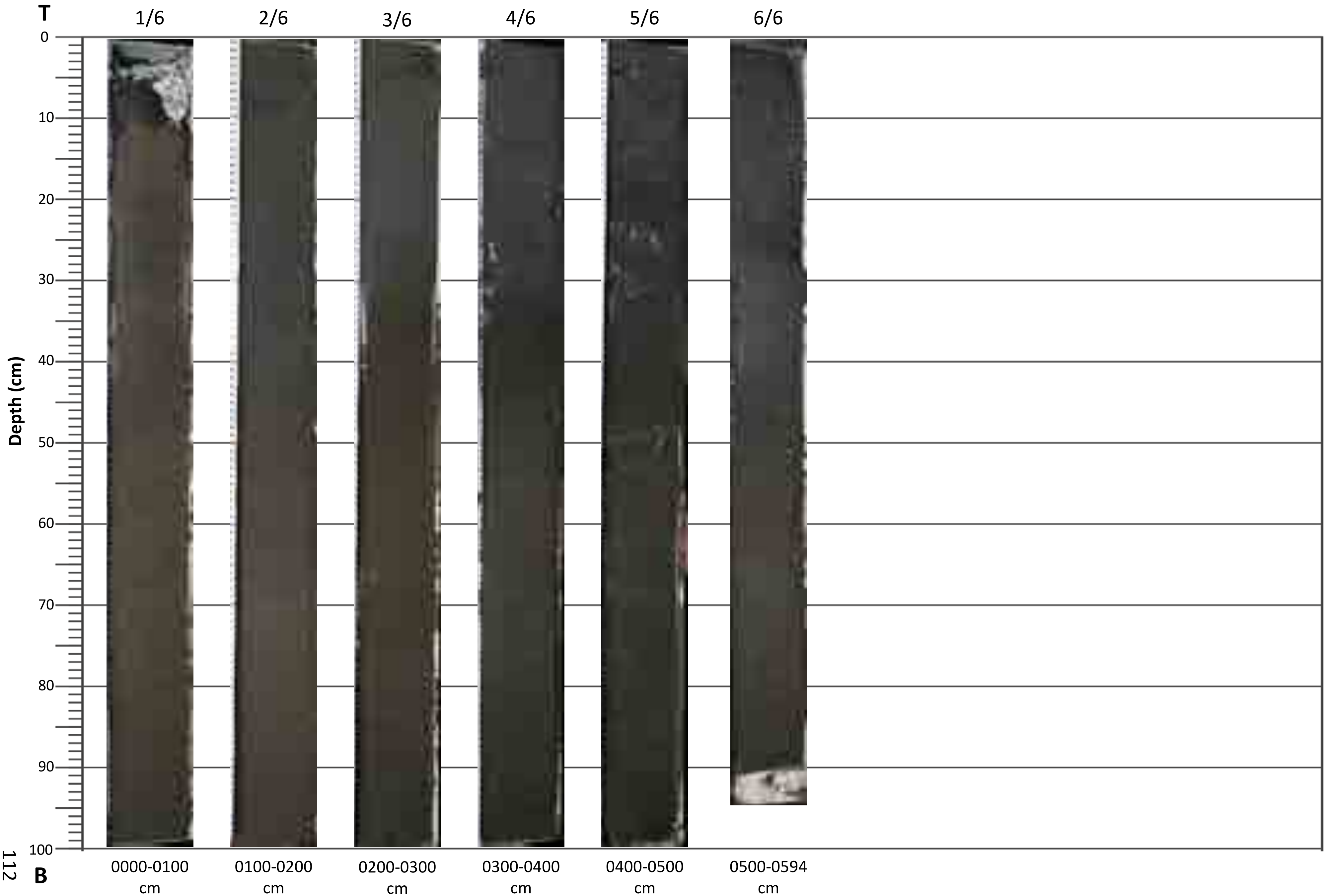
Core: **ALB-CL46** – Cruise: **ALBACORE** – Length: **505 cm** – Sample location: **SITE 63-1** – Latitude: **35,35063** – Longitude: **-3,83286** – Water depth(Vessel depth): **257 m**



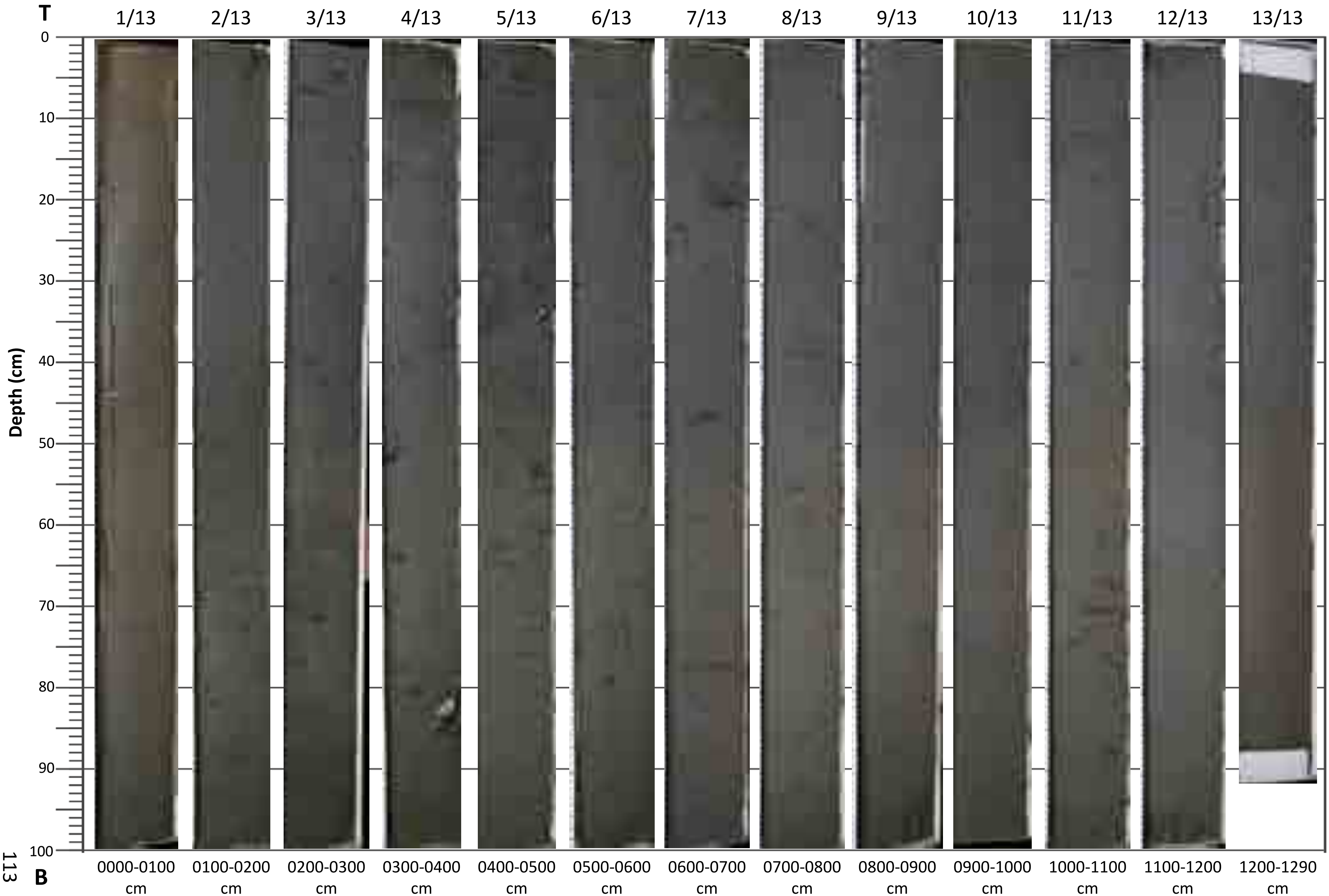
Core: **ALB-CL47** – Cruise: **ALBACORE** – Length: **655 cm** – Sample location: **SITE 63** – Latitude: **35,350819** – Longitude: **-3,8302322** – Water depth(Vessel depth): **256m**



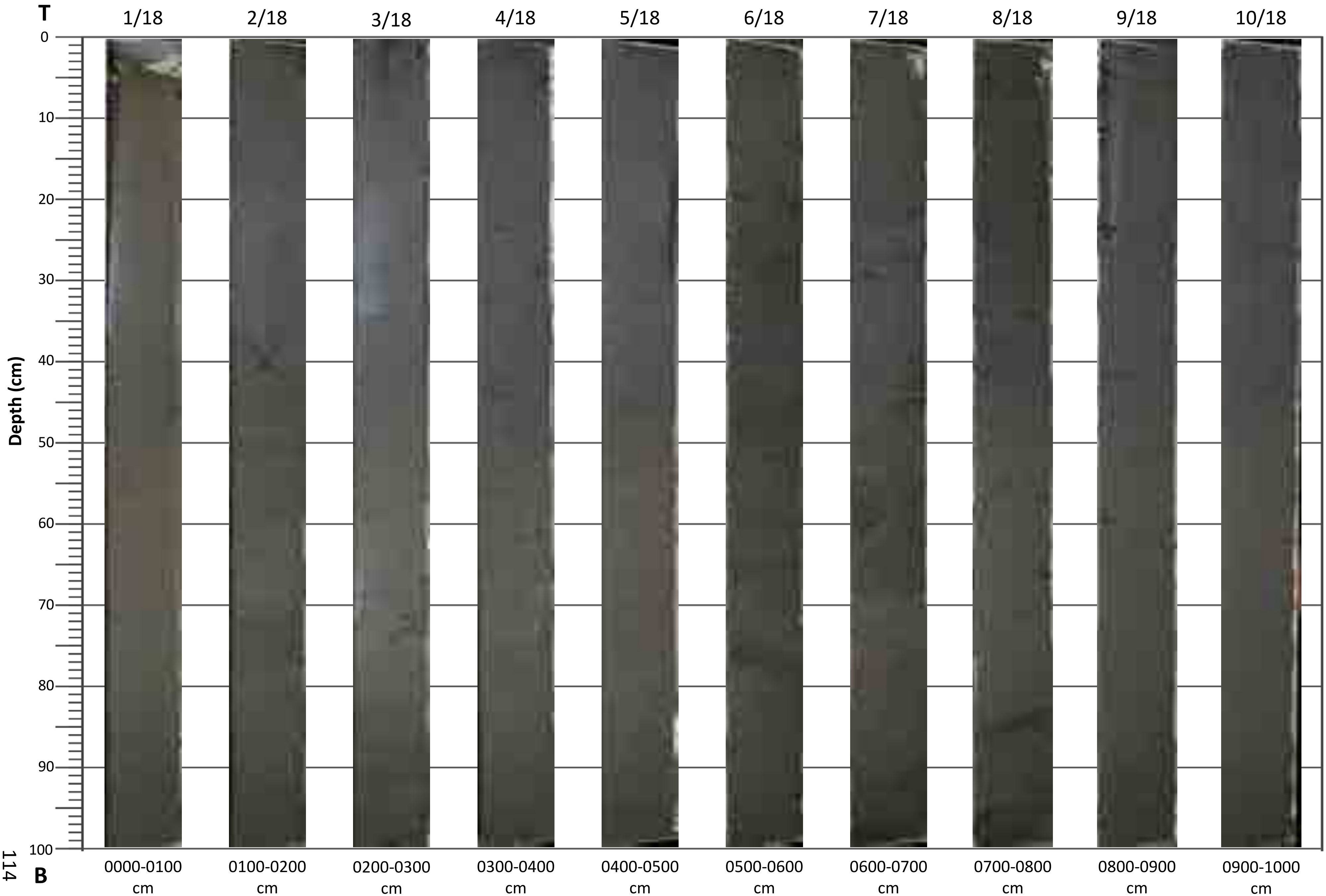
Core: **ALB-CL48** –Cruise: **ALBACORE** – Length: **594 cm** –Sample location: **SITE 61** –Latitude: **35,35076606** –Longitude: **-3,816121444** –Water depth(Vessel depth): **237 m**



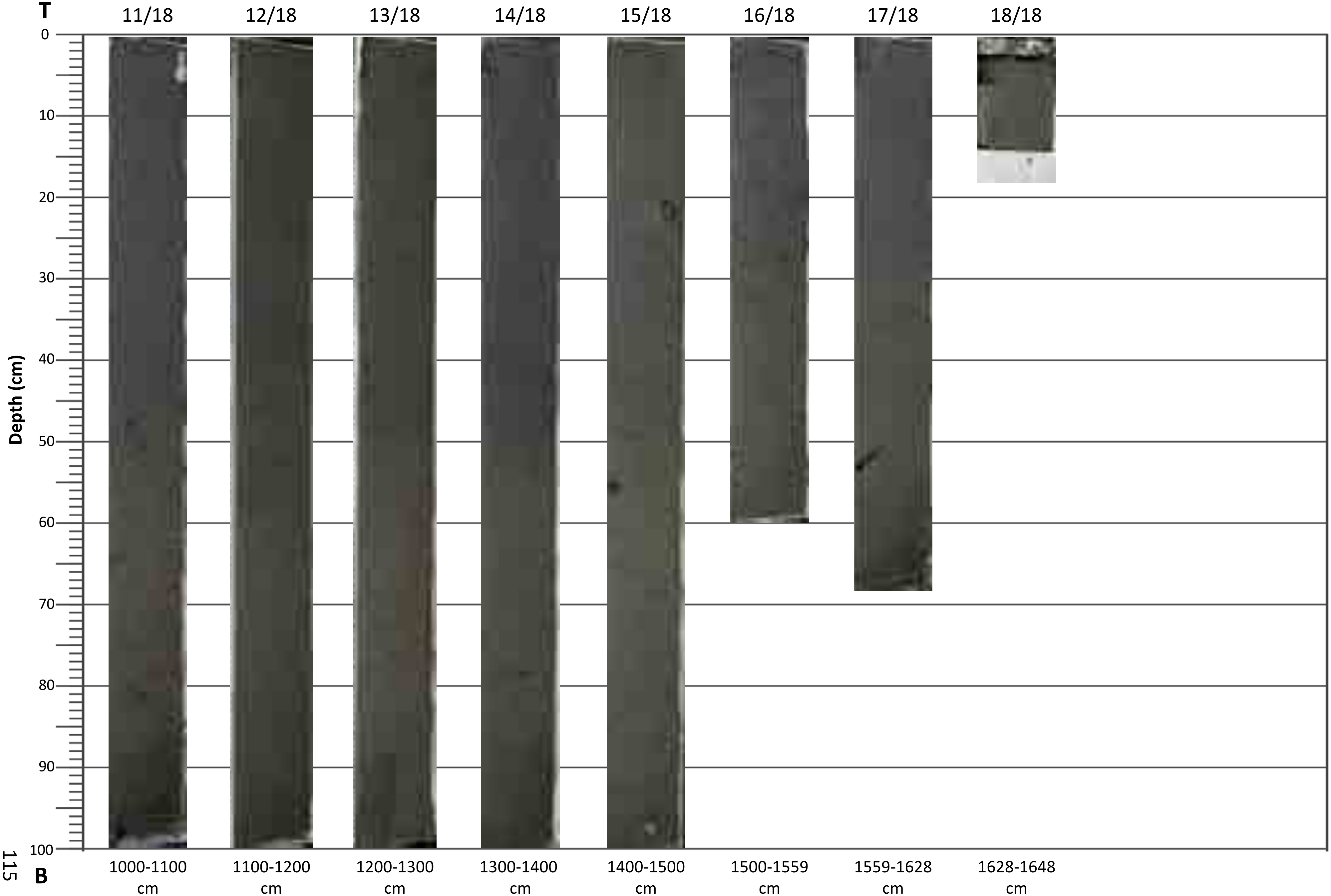
Core: **ALB-CL49** –Cruise: **ALBACORE** –Length: **1290 cm** –Sample location: **SITE 138** –Latitude: **35,45830811** –Longitude: **-3,72947482** –Water depth(Vessel depth): **489 m**



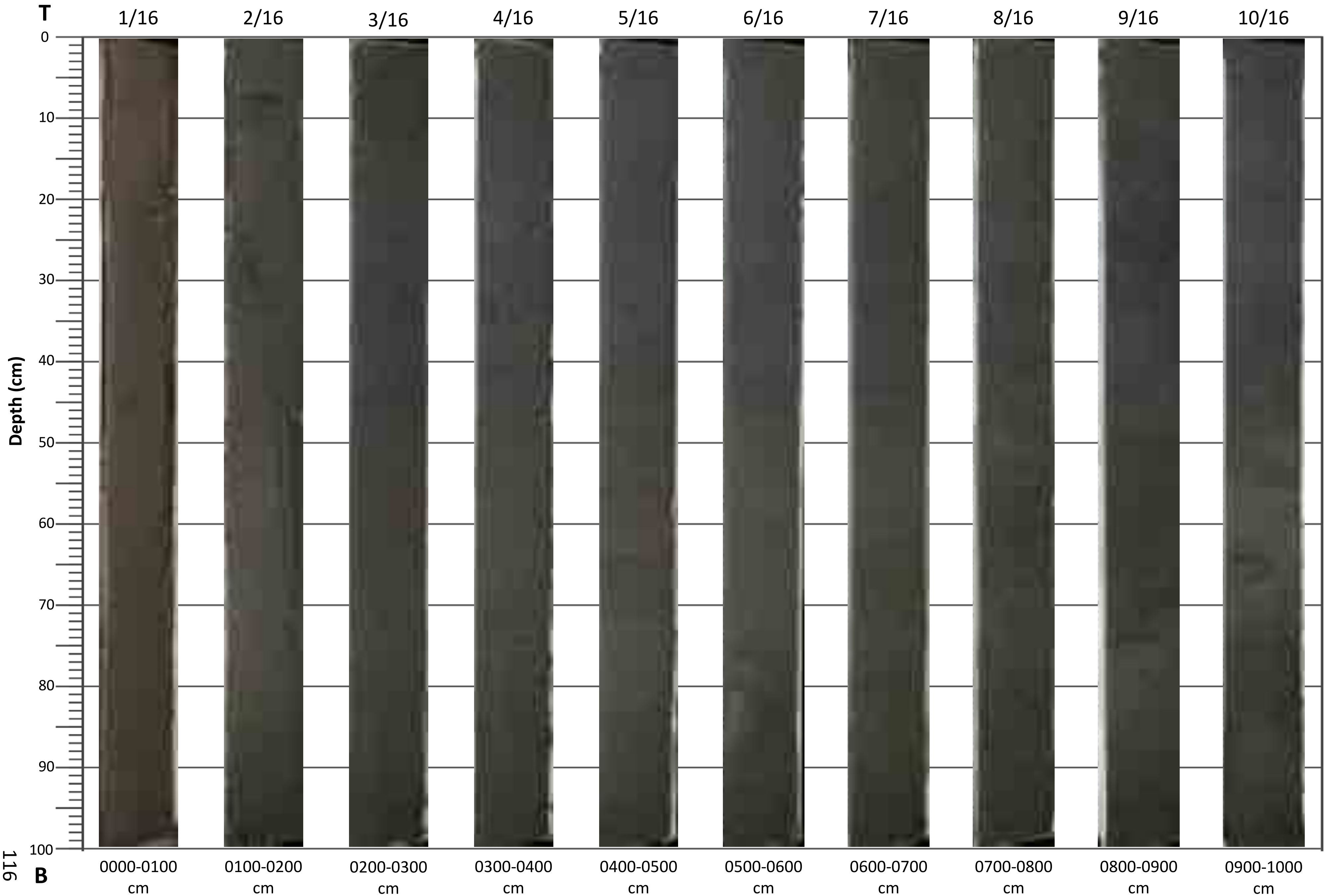
Core: **ALB-CL51** –Cruise:**ALBACORE** –Length: **1625 cm** –Sample location: **SITE136B** –Latitude: **35,45614233** –Longitude: **-3,71820402** –Water depth(Vessel depth): **482 m**



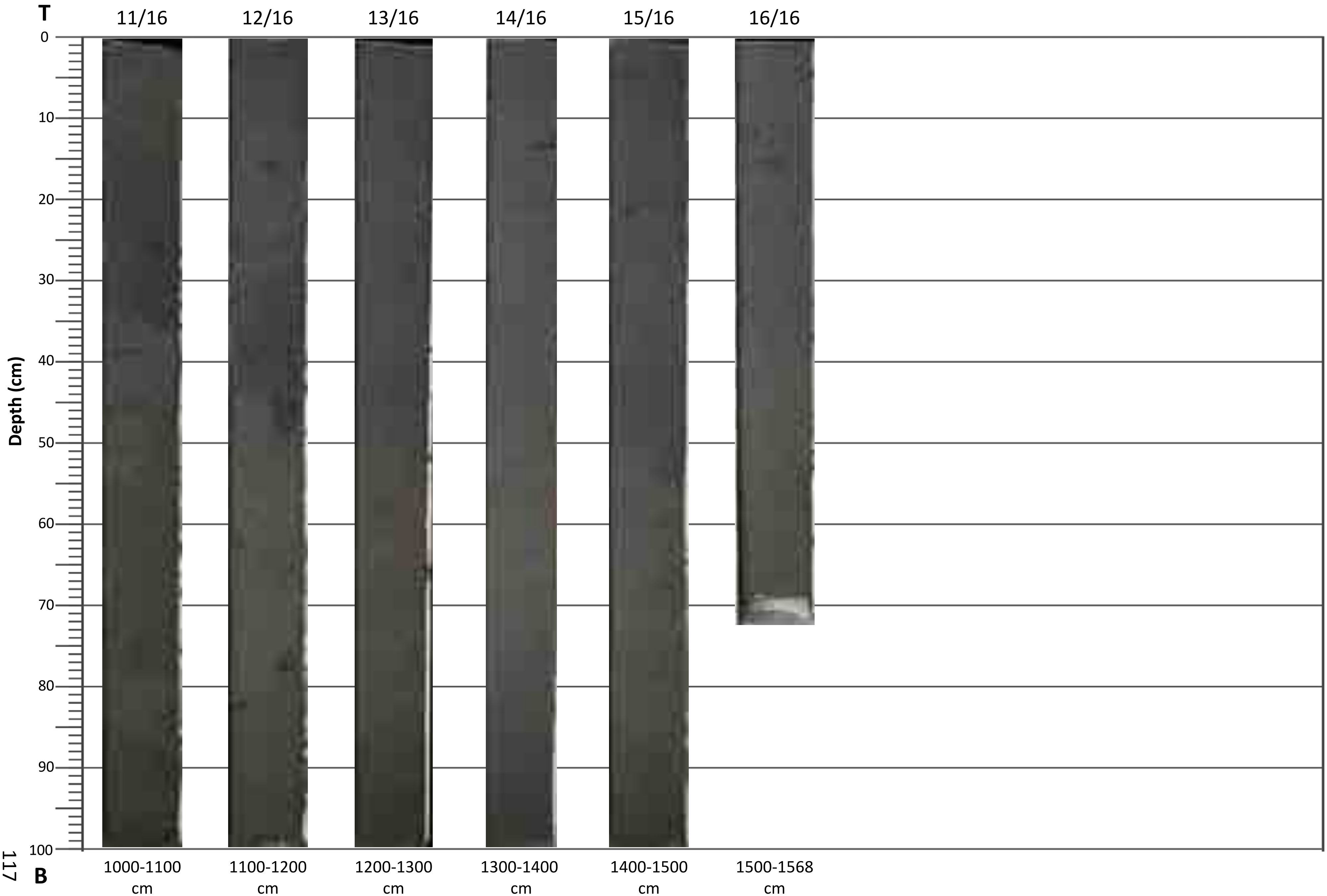
Core: **ALB-CL51** –Cruise:**ALBACORE** –Length: **1625 cm** –Sample location: **SITE136B** –Latitude: **35,45614233** –Longitude: **-3,71820402** –Water depth(Vessel depth): **482 m**



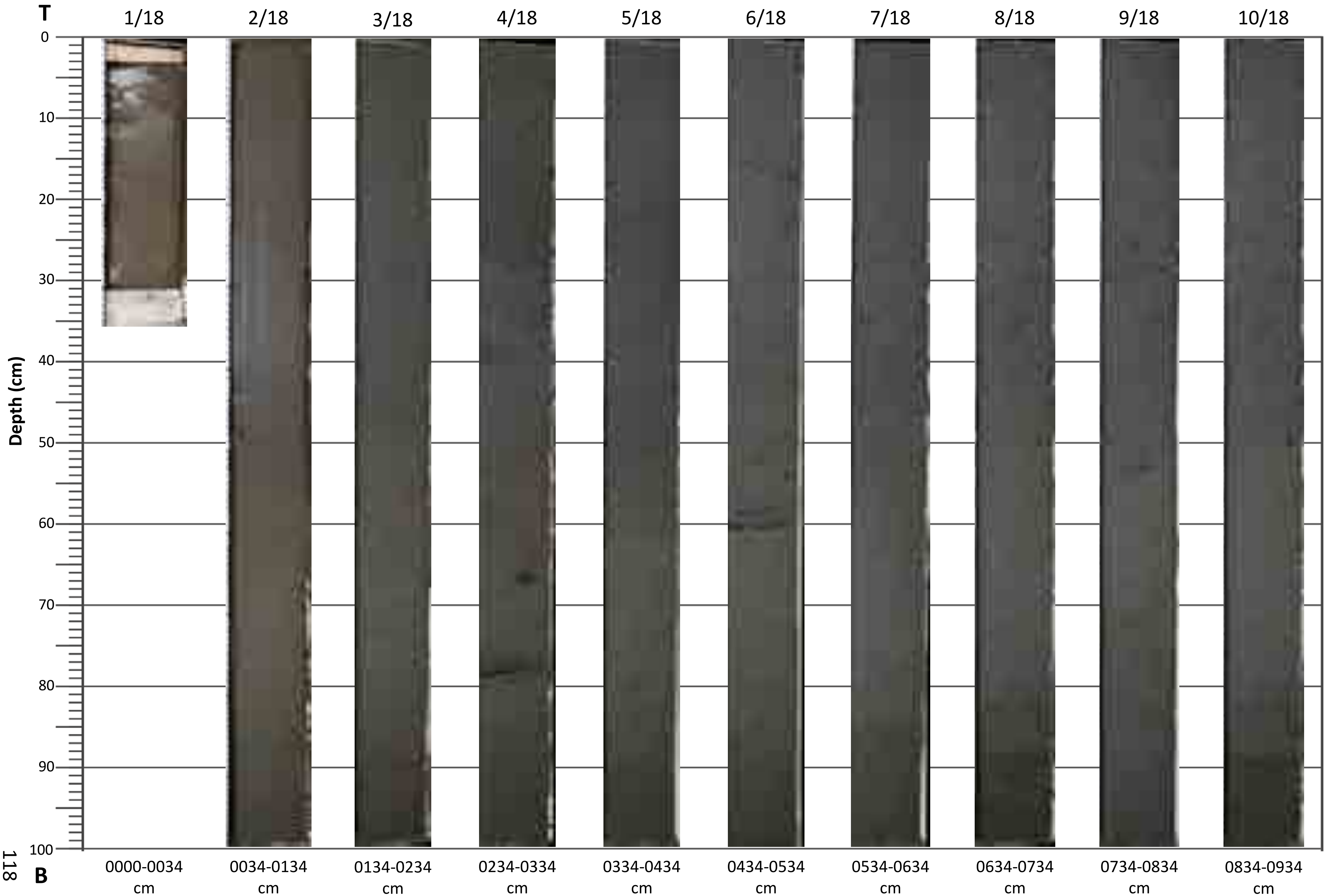
Core: **ALB-CL52** – Cruise: **ALBACORE** – Length: **1568 cm** – Sample location: **SITE 95** – Latitude: **35,41556** – Longitude: **-3,77735** – Water depth(Vessel depth): **422 m**



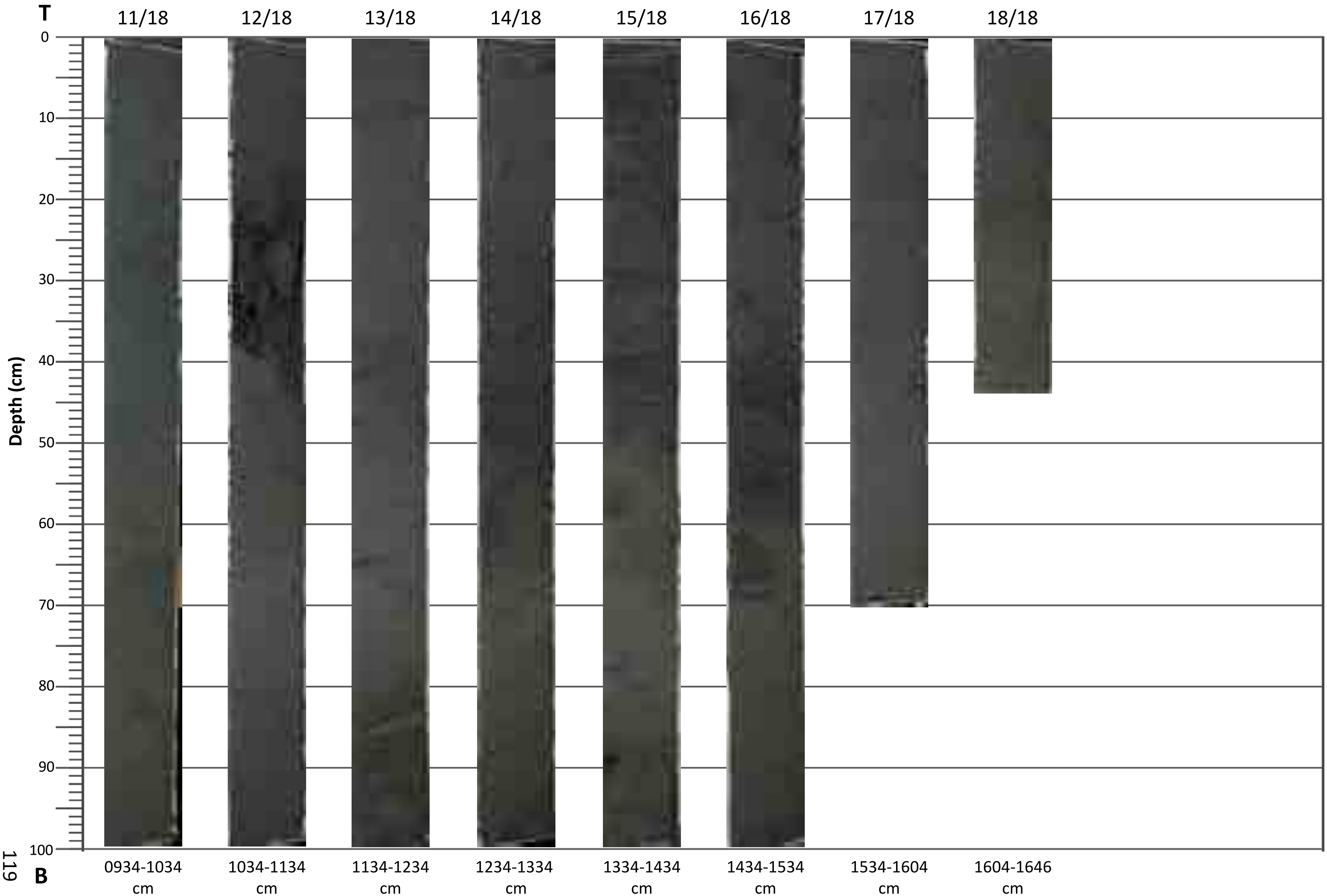
Core: **ALB-CL52** – Cruise: **ALBACORE** – Length: **1568 cm** – Sample location: **SITE 95** – Latitude: **35,41556** – Longitude: **-3,77735** – Water depth(Vessel depth): **422 m**



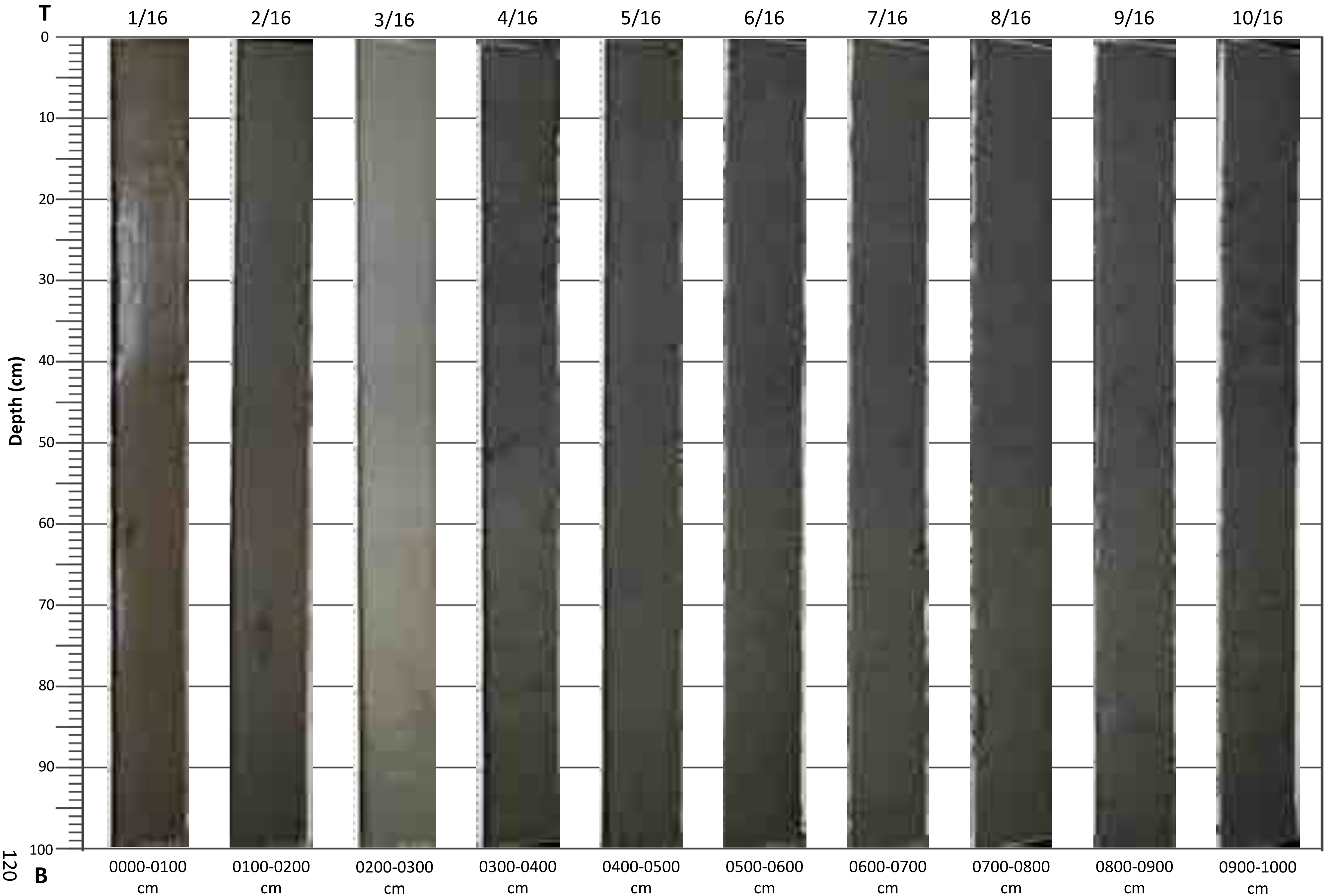
Core: **ALB-CL53** – Cruise: **ALBACORE** – Length: **1646 cm** – Sample location: **SITE 94bis** – Latitude: **35,416** – Longitude: **-3,7801** – Water depth(Vessel depth): **433 m**



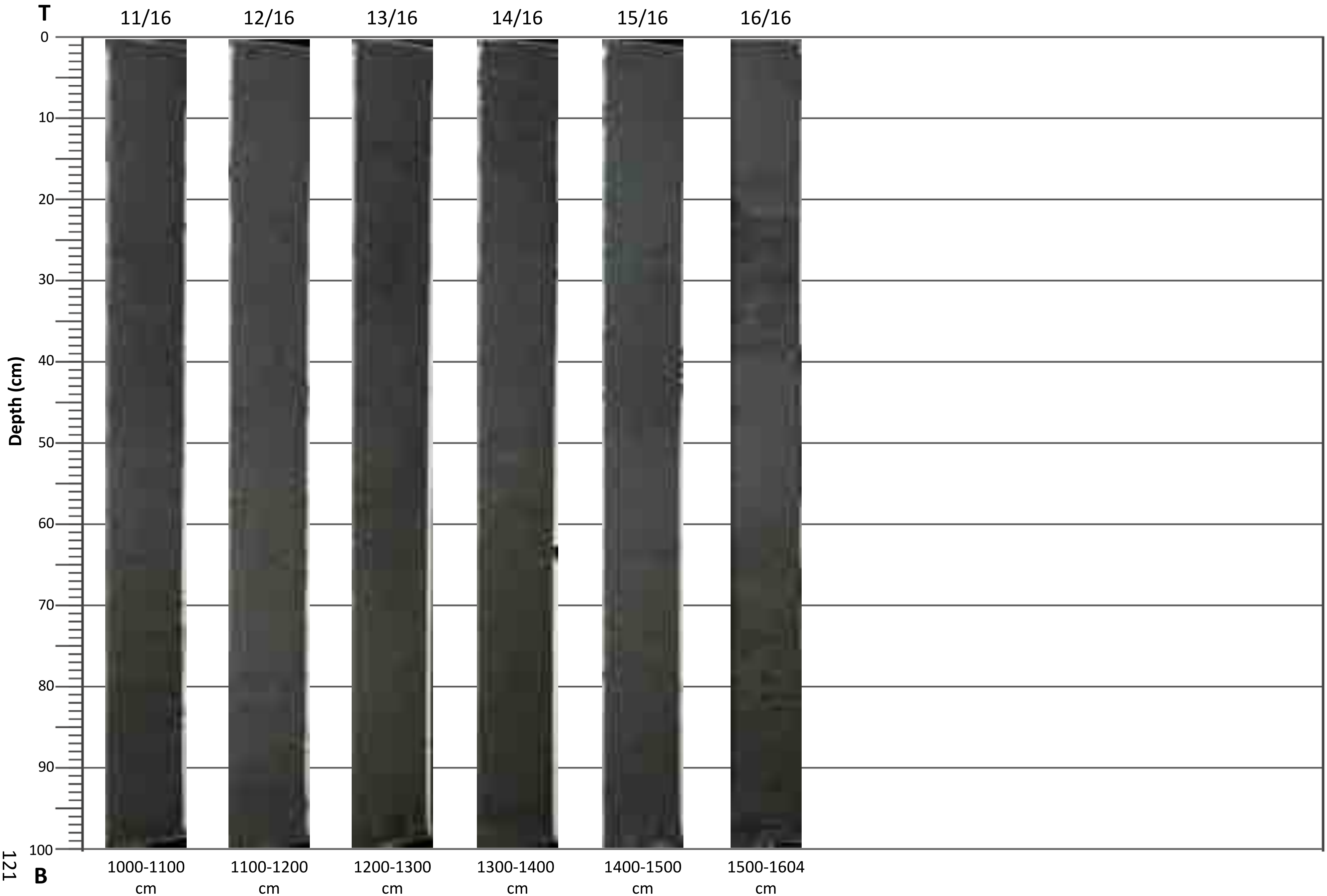
Core: **ALB-CL53** – Cruise: **ALBACORE** – Length: **1646 cm** – Sample location: **SITE 94bis** – Latitude: **35,416** – Longitude: **-3,7801** – Water depth(Vessel depth): **433 m**



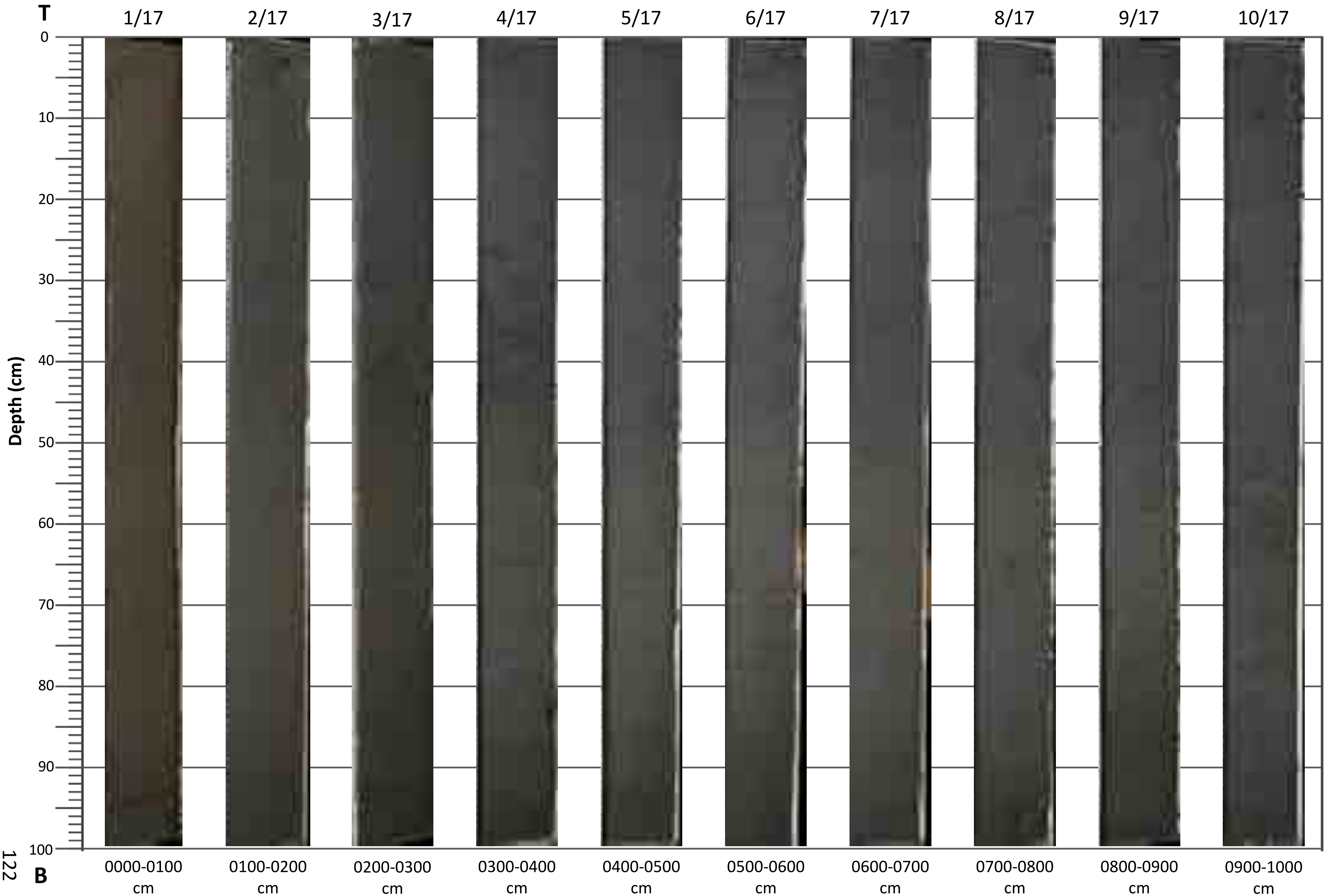
Core: **ALB-CL54** – Cruise: **ALBACORE** – Length: **1604 cm** – Sample location: **SITE 94** – Latitude: **35,41621** – Longitude: **-3,7814** – Water depth(Vessel depth): **432 m**



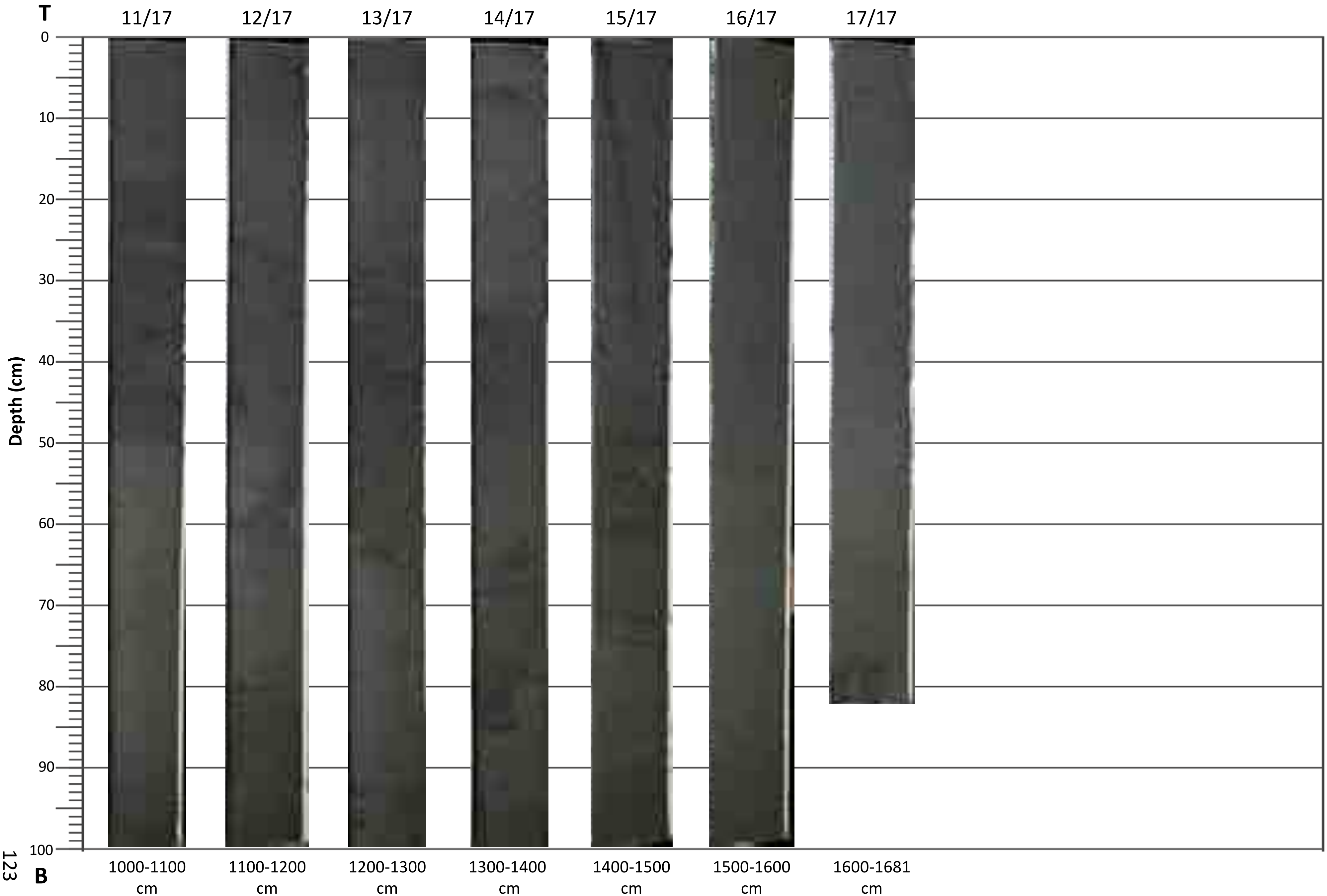
Core: **ALB-CL54** – Cruise: **ALBACORE** – Length: **1604 cm** – Sample location: **SITE 94** – Latitude: **35,41621** – Longitude: **-3,7814** – Water depth(Vessel depth): **432 m**



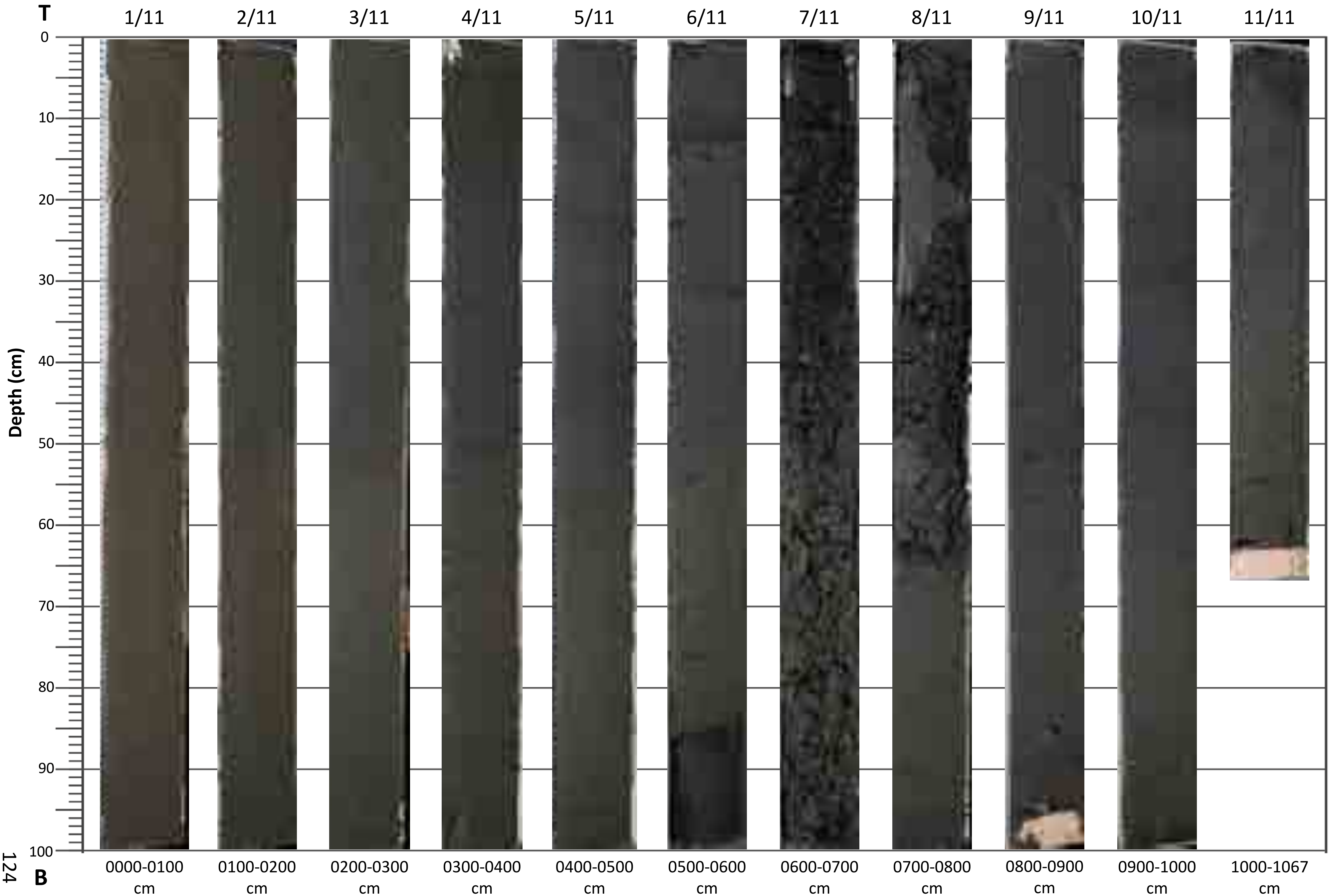
Core: **ALB-CL55** –Cruise: **ALBACORE** – Length: **1681 cm** – Sample location: **SITE 190** – Latitude: **35,40043542** –Longitude: **-3,807327** – Water depth(Vessel depth): **421 m**



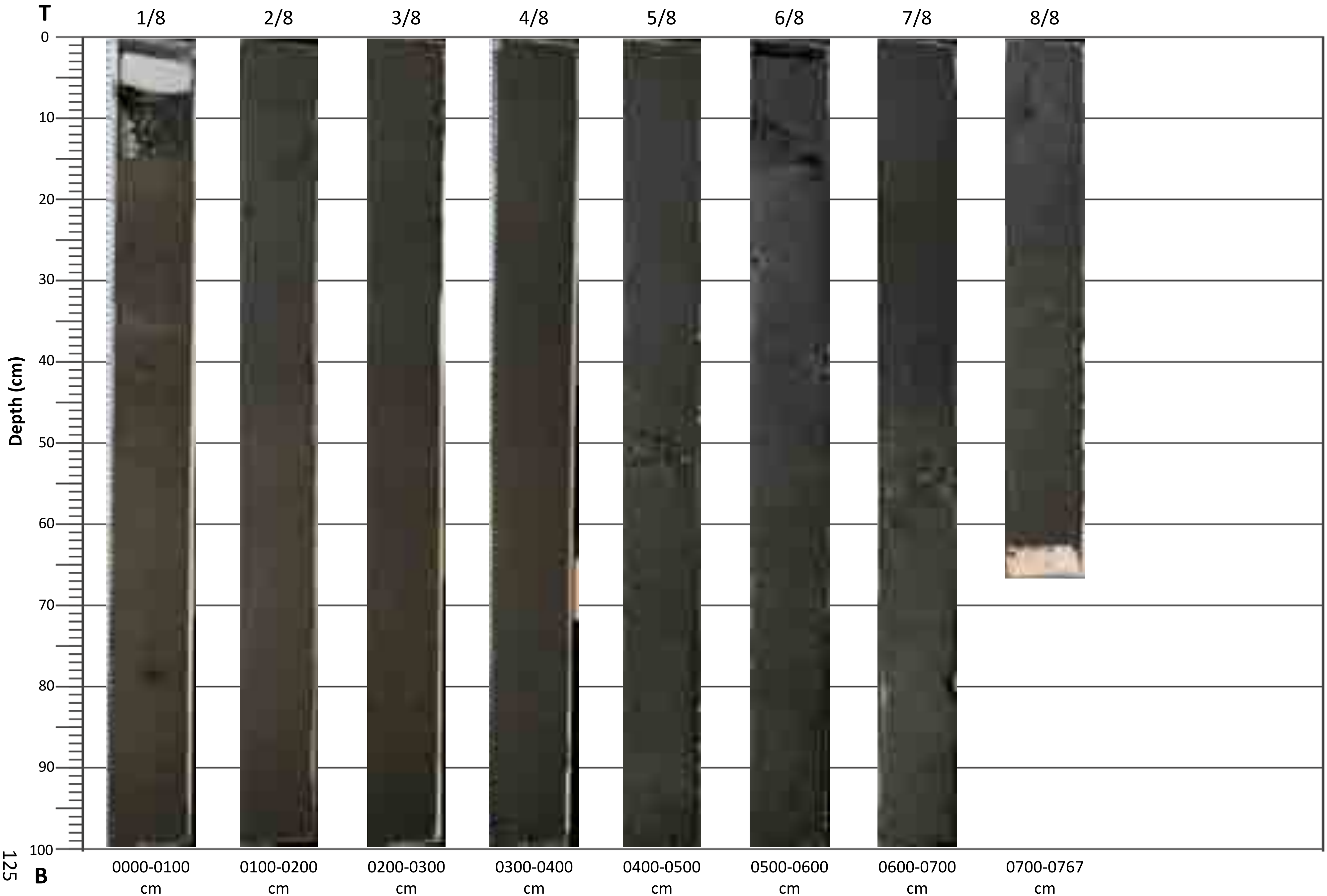
Core: **ALB-CL55** –Cruise: **ALBACORE** – Length: **1681 cm** – Sample location: **SITE 190** – Latitude: **35,40043542** –Longitude: **-3,807327** – Water depth(Vessel depth): **421 m**



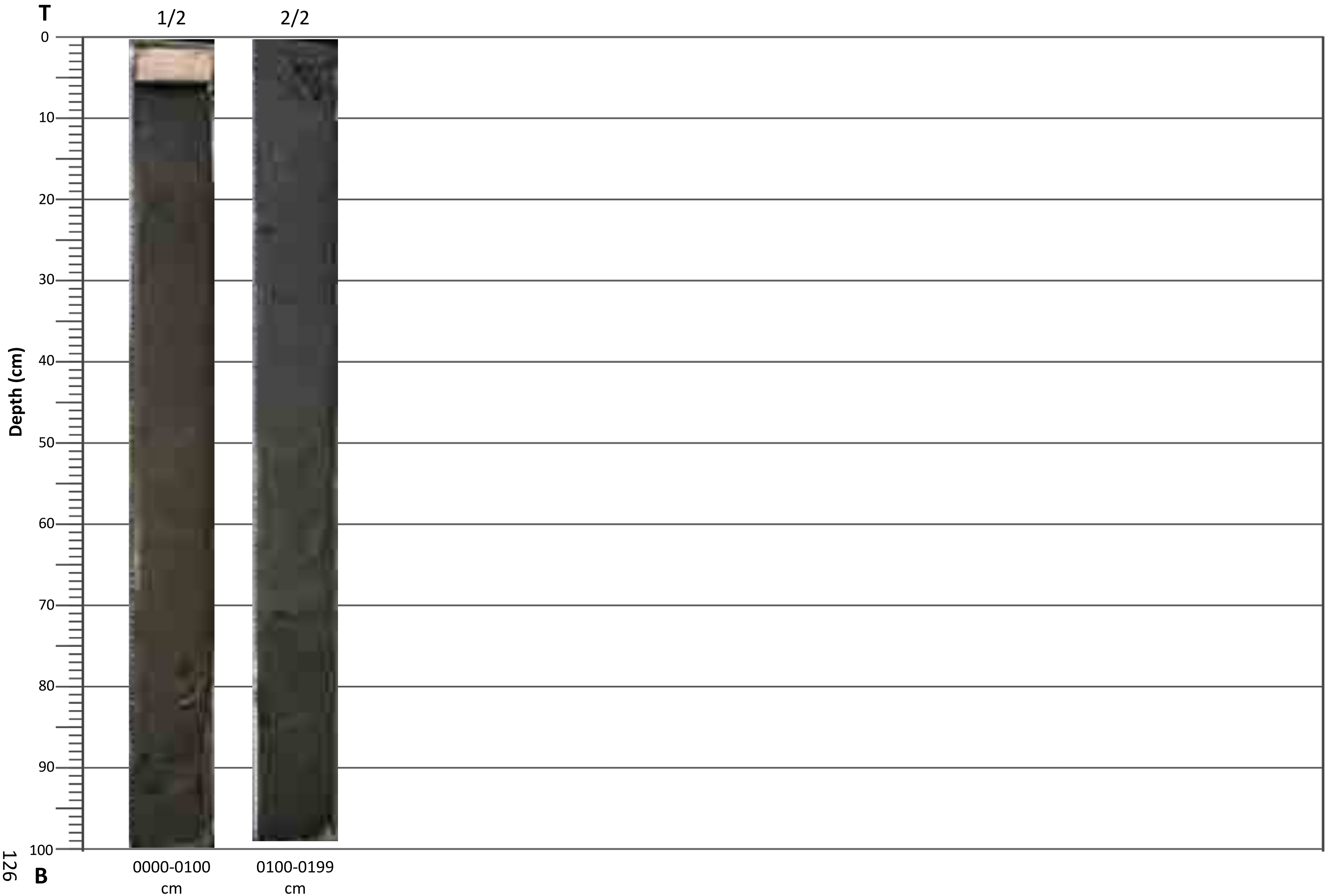
Core: **ALB-CL56** – Cruise: **ALBACORE** – Length: **1067 cm** – Sample location: **SITE 193** – Latitude: **35,395981**– Longitude: **-3,7852566** – Water depth(Vessel depth): **402 m**



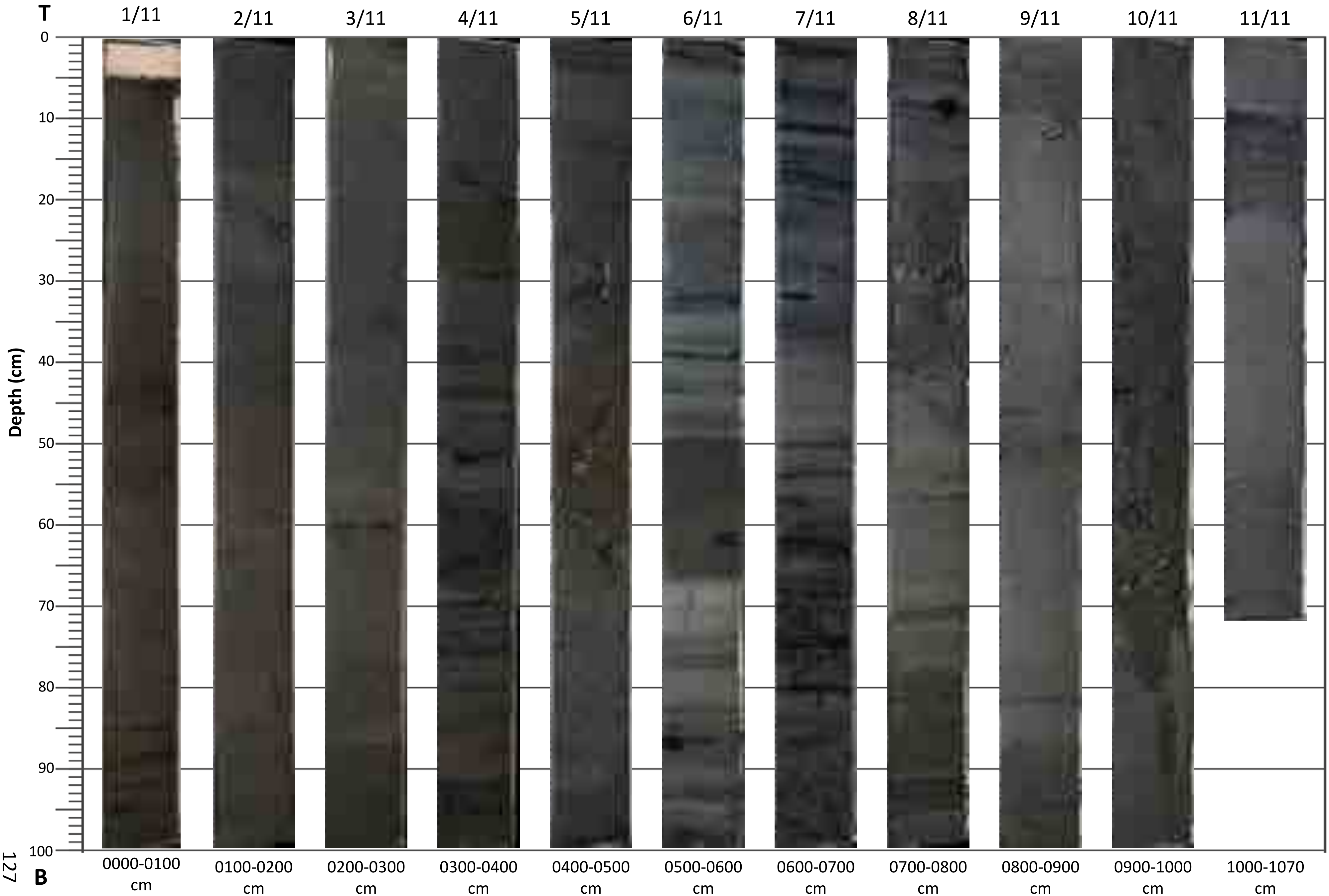
Core: **ALB-CL57** – Cruise: **ALBACORE** – Length: **767 cm** – Sample location: **SITE 57** –Latitude: **35,35911917** –Longitude: **-3,78029722** –Water depth(Vessel depth): **225 m**



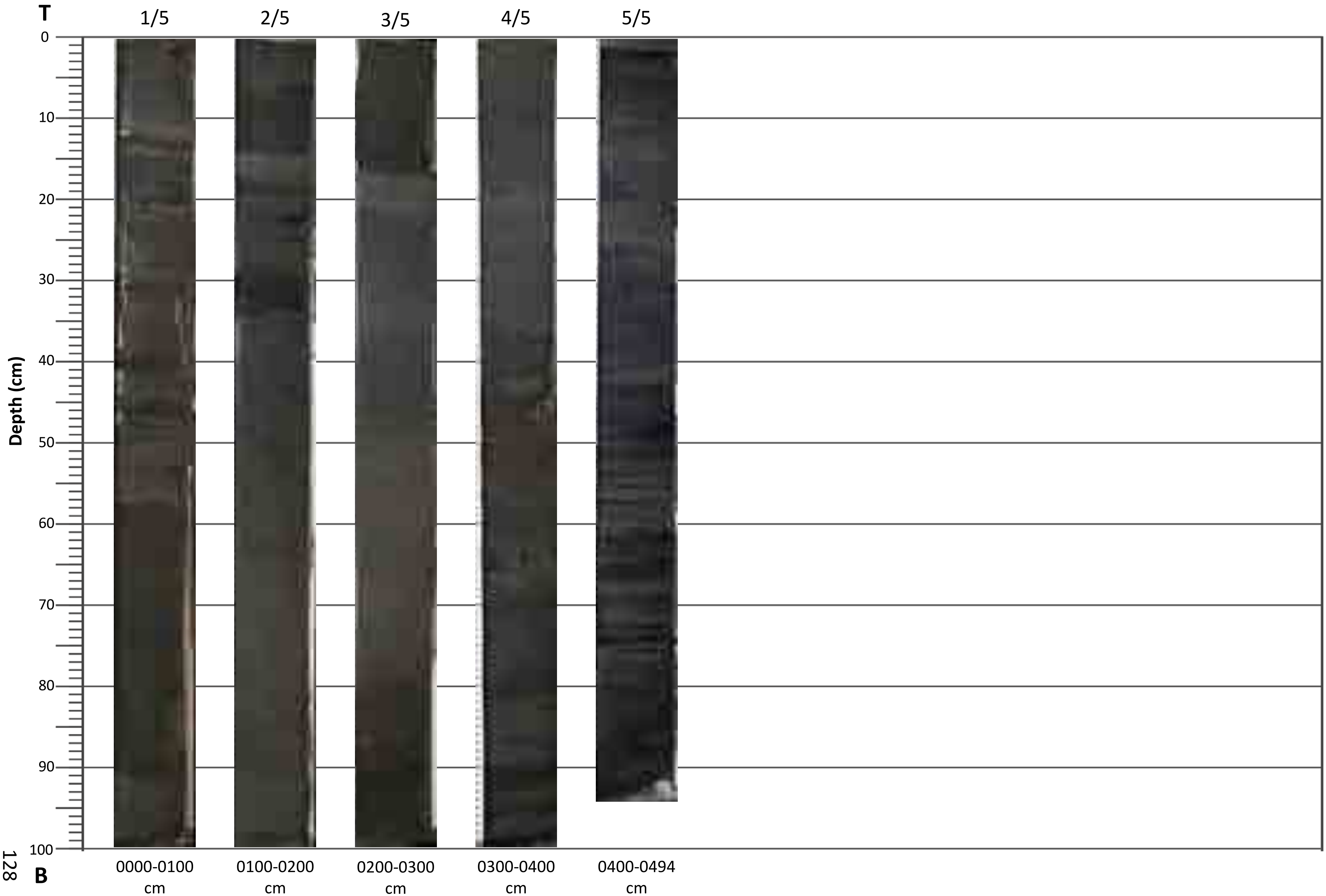
Core: **ALB-CL58 -** Cruise: **ALBACORE** – Length: **199 cm** –Sample location: **SITE 161** –Latitude: **35,31206695** –Longitude: **-3,86679722** –Water depth (Vessel depth): **191 m**



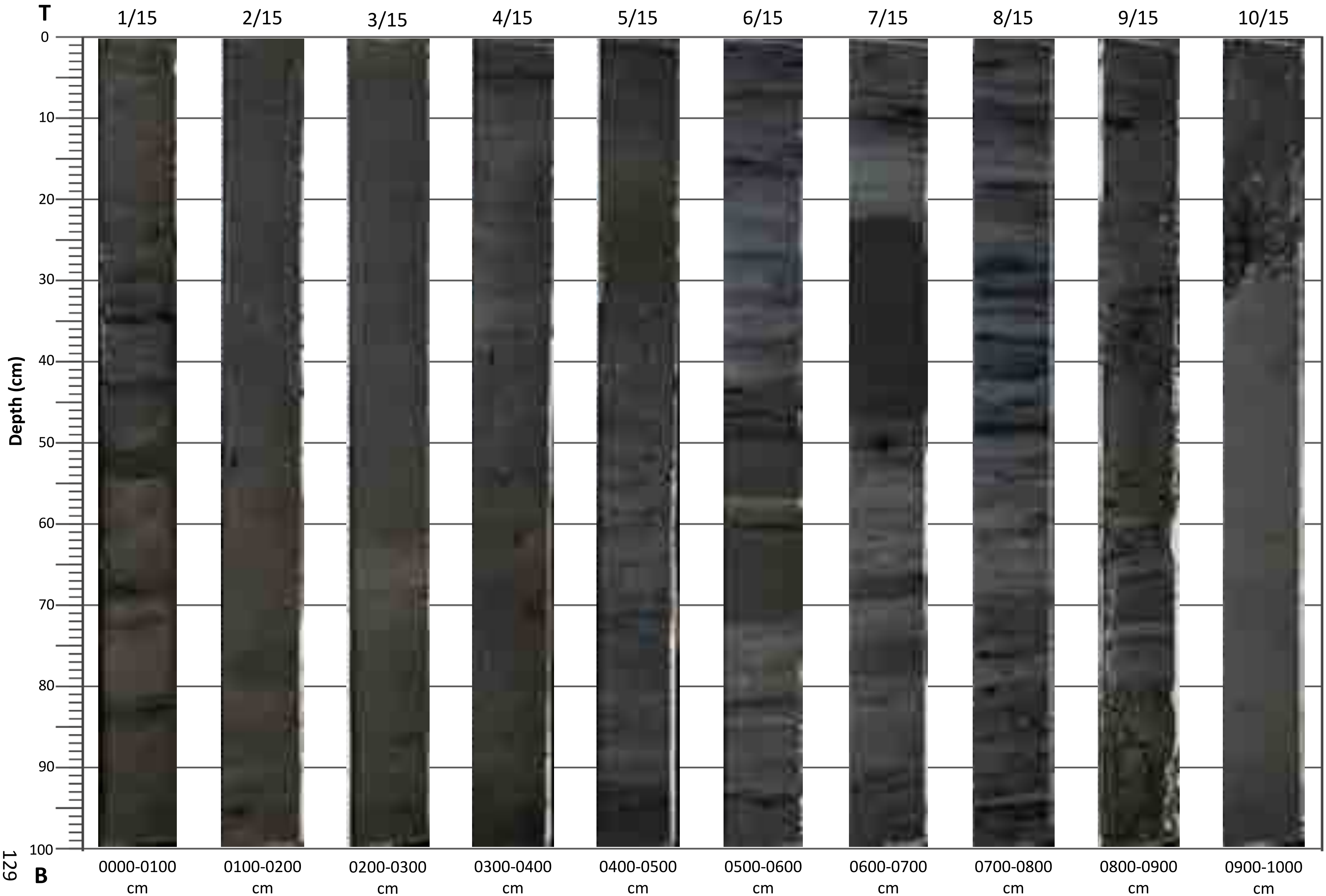
Core: **ALB-CL59** – Cruise: **ALBACORE** – Length: **1070 cm** –Sample location: **SITE 160** –Latitude: **35,25751169** –Longitude: **-3,84506667** –Water depth(Vessel depth): **87 m**



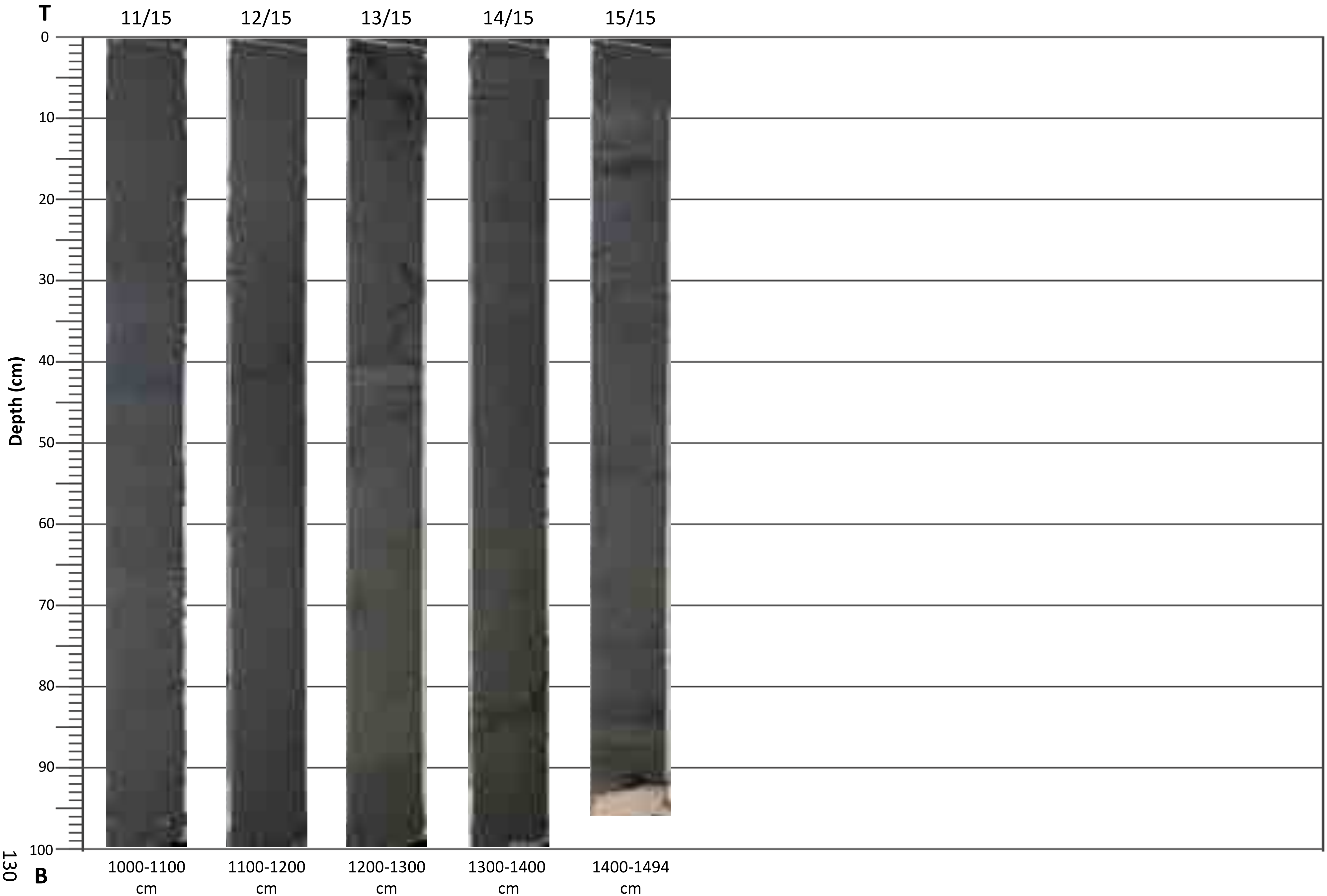
Core: **ALB-CL60** –Cruise: **ALBACORE** – Length: **494 cm** – Sample location: **SITE 170** – Latitude: **35,25810091** –Longitude: **-3,85729117** – Water depth(Vessel depth): **88 m**



Core: **ALB-CL61** –Cruise: **ALBACORE** – Length: **1494 cm** – Sample location: **SITE 175** –Latitude: **35,25513574** –Longitude: **-3,84511324** –Water depth(Vessel depth): **85 m**

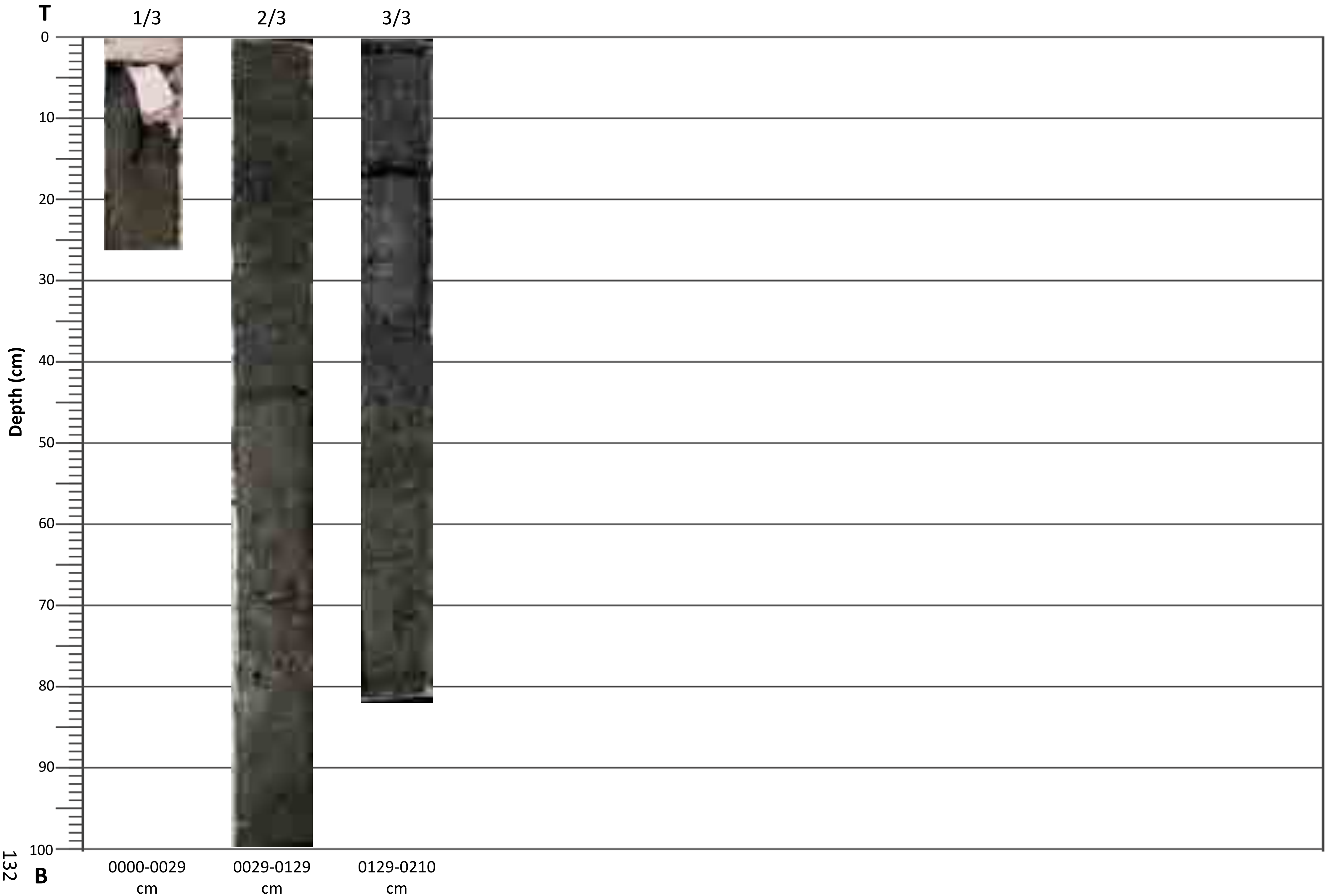


Core: **ALB-CL61** –Cruise: **ALBACORE** – Length: **1494 cm** – Sample location: **SITE 175** –Latitude: **35,25513574** –Longitude: **-3,84511324** –Water depth(Vessel depth): **85 m**

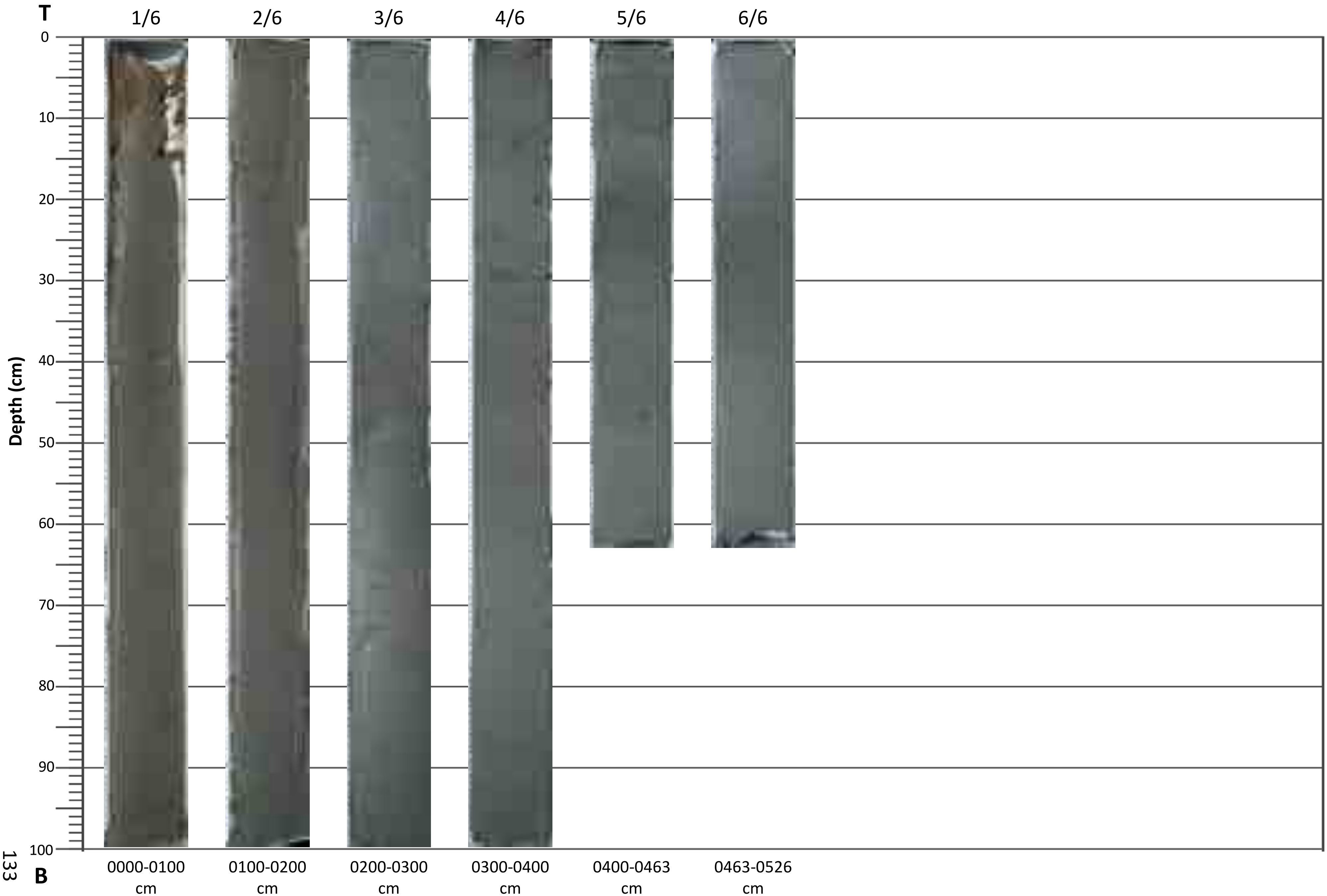


Core: **ALB-CL62 -** Cruise: **ALBACORE** – Length: **53 cm** – Sample location: **SITE 173** – Latitude: **35,30330769** – Longitude: **-3,95321** – Water depth (Vessel depth): **135 m**

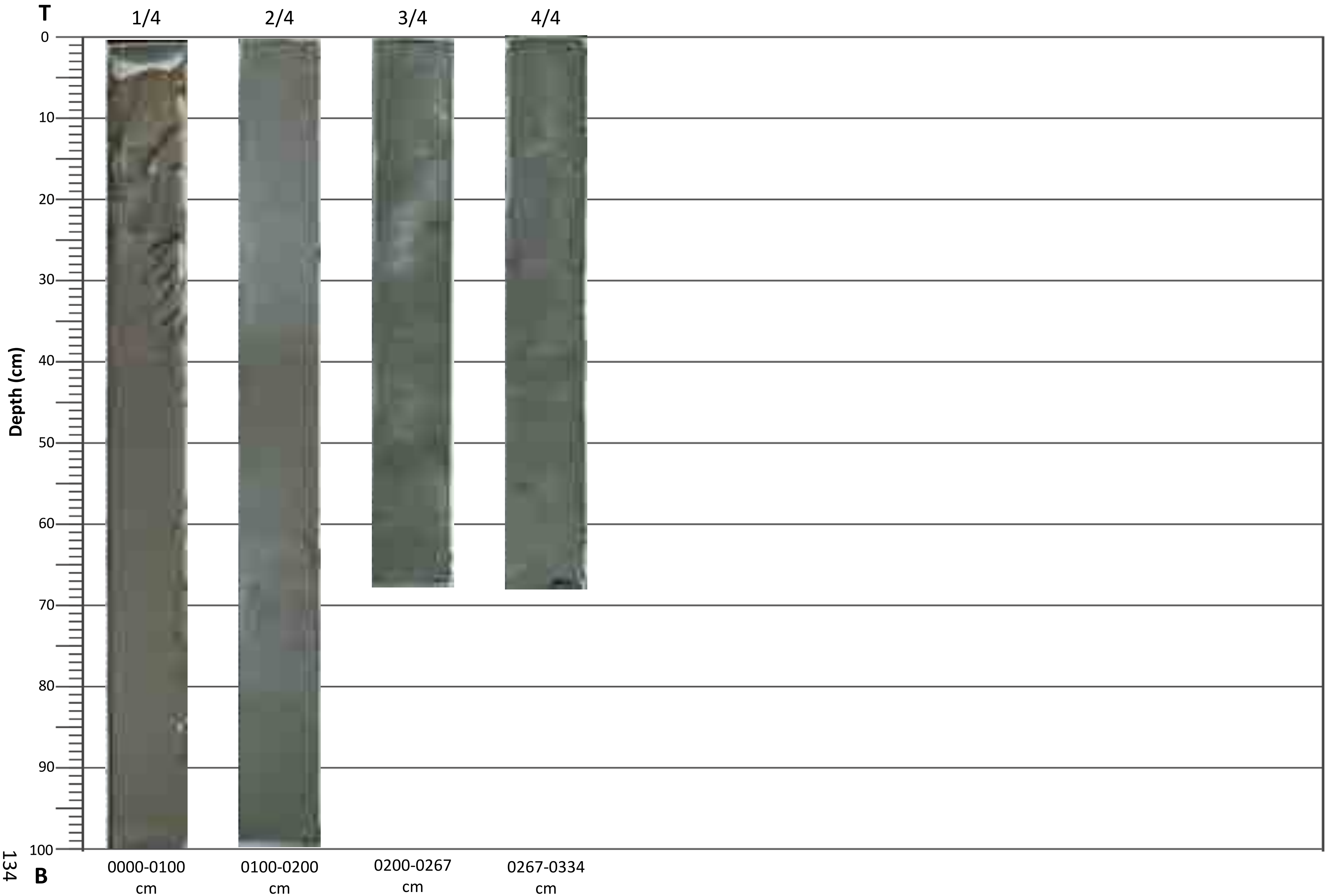
Core: **ALB-CL63 -** Cruise: **ALBACORE** – Length: **210 cm** – Sample location: **SITE 172** –Latitude: **35,28756626** –Longitude: **-3,98866487** –Water depth(Vessel depth): **146 m**



Core: **ALB-GC02**–Cruise:**ALBACORE** –Length: **526cm** –Sample location: **SITE 13-17** –Latitude: **35,53614389** –Longitude: **-4,375572778** –Water depth(Vessel depth): **813m**

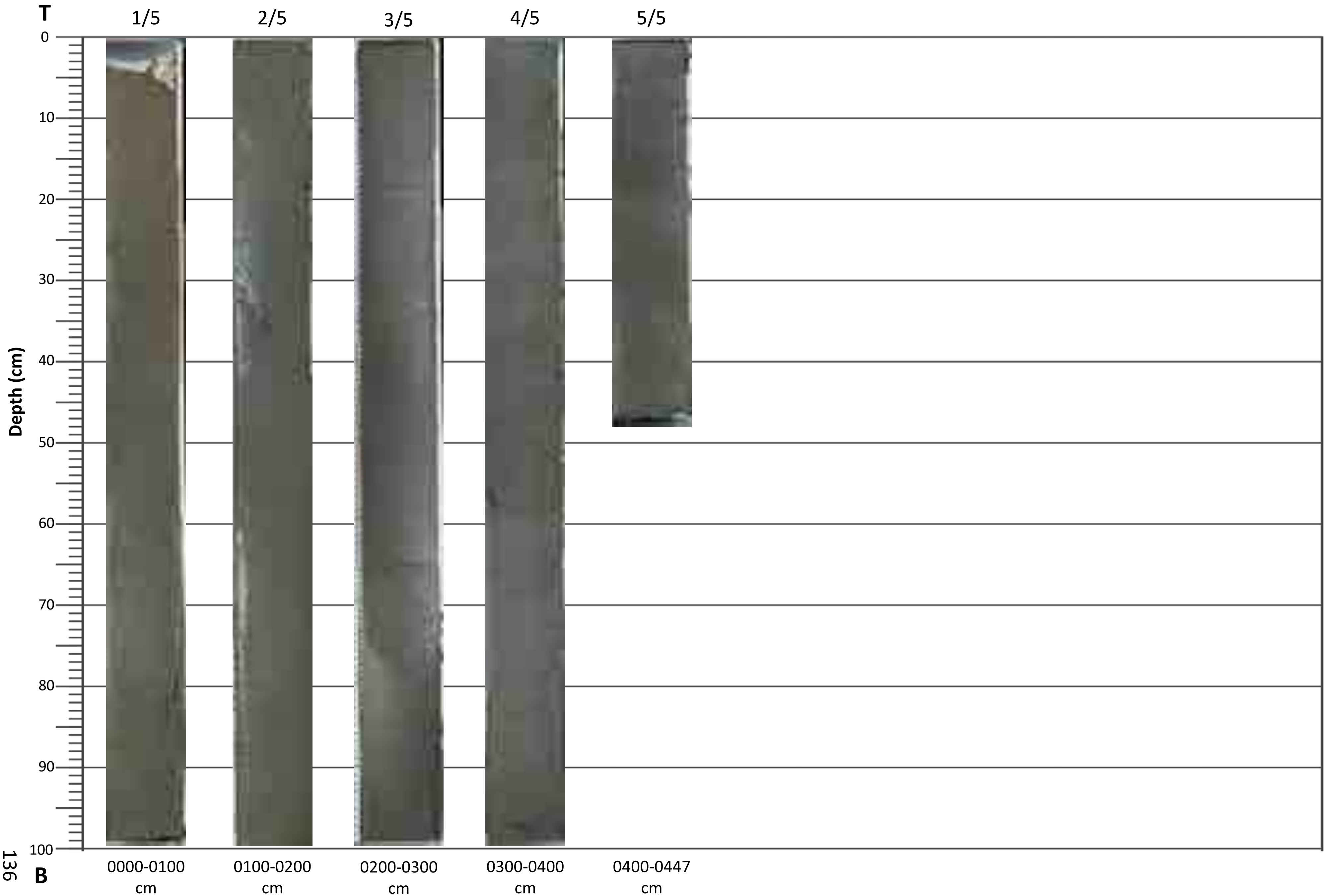


Core: **ALB-GC03-**Cruise:**ALBACORE** –Length: **334cm** –Sample location: **SITE 12-18** –Latitude: **35,53384056** –Longitude: **-4,378538889** –Water depth(Vessel depth): **787m**

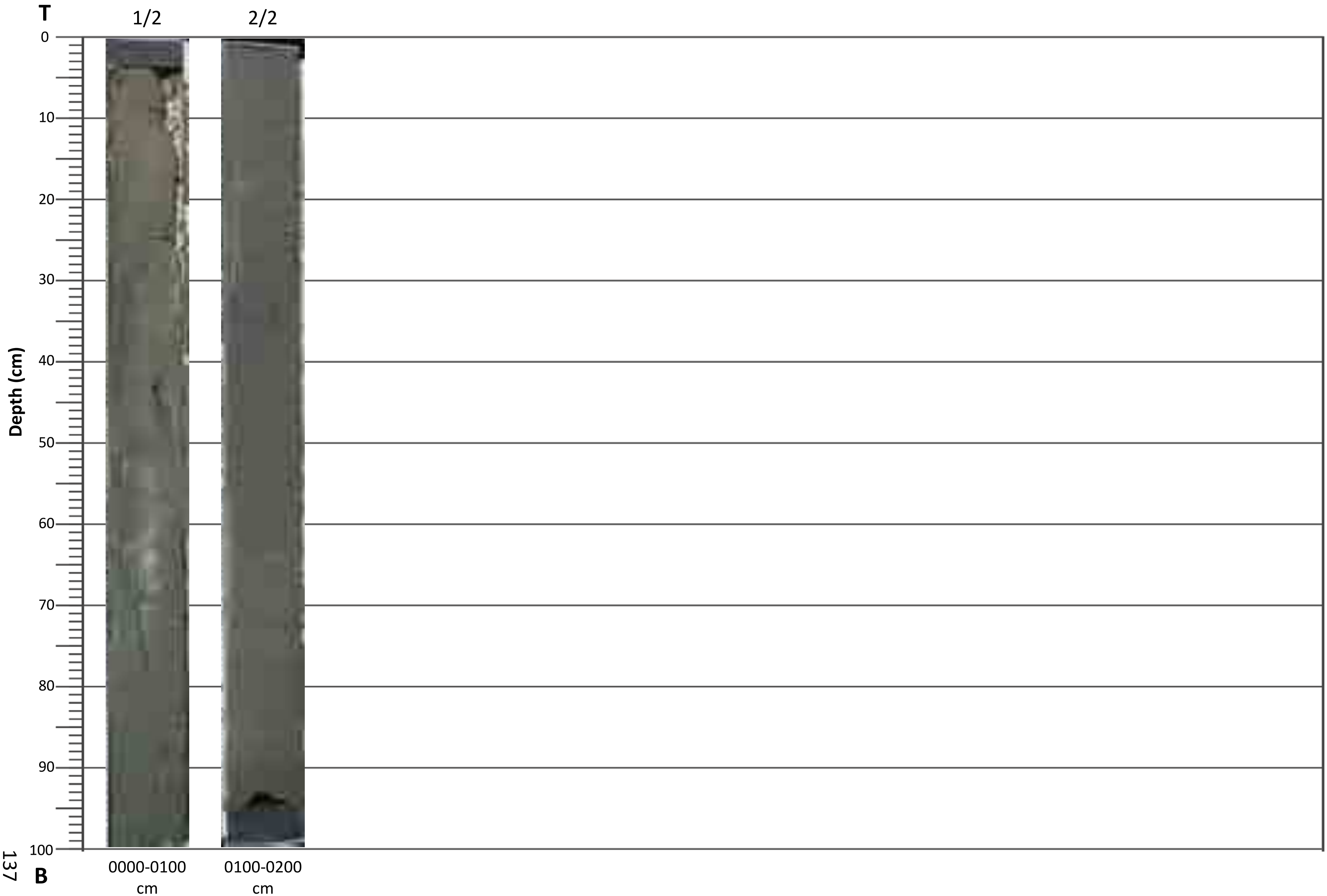


Core: **ALB-GC04** -Cruise: **ALBACORE** –Length: **300 cm** –Sample location: **SITE 10** –Latitude: **35,67081378** –Longitude: **-4,251584694** –Water depth(Vessel depth): **1508 m**

Core: **ALB-GC05 -**Cruise: **ALBACORE** –Length: **447 cm** –Sample location: **SITE 21** –Latitude: **35,55219069** –Longitude: **-4,268596833** –Water depth(Vessel depth): **1003 m**



Core: **ALB-GC06 -**Cruise: **ALBACORE** –Length: **200 cm** –Sample location: **SITE 21** –Latitude: **35,55219069** –Longitude: **-4,268596833** –Water depth(Vessel depth): **1003 m**



APPENDIX 3 : Cnexoville sample photography


ALB CN01

ALB

ALB CN04

ALB CN05

ALB CN06

ALB CN07

ALB CN - 08

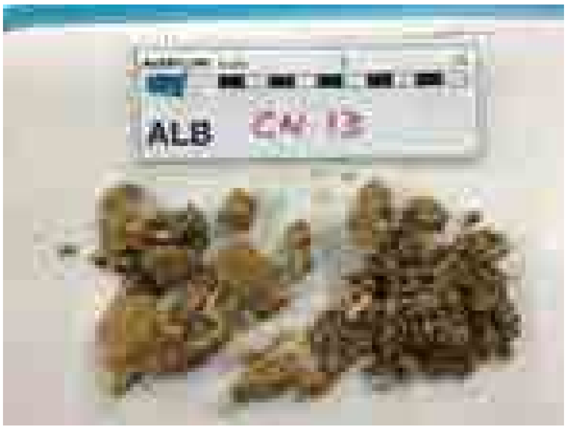
ALB CN - 09


ALB CN 10
>50 µm


ALB CN 10

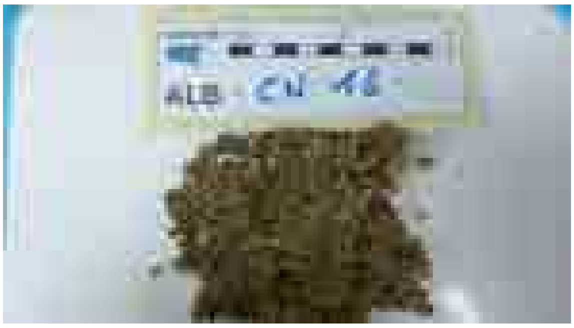

ALB CN 11

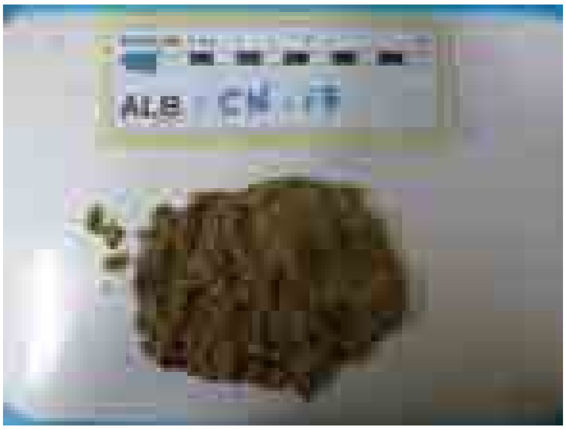

ALB CN 12


ALB CN 13


ALB CN 14


ALB - CN 15


ALB CN 16

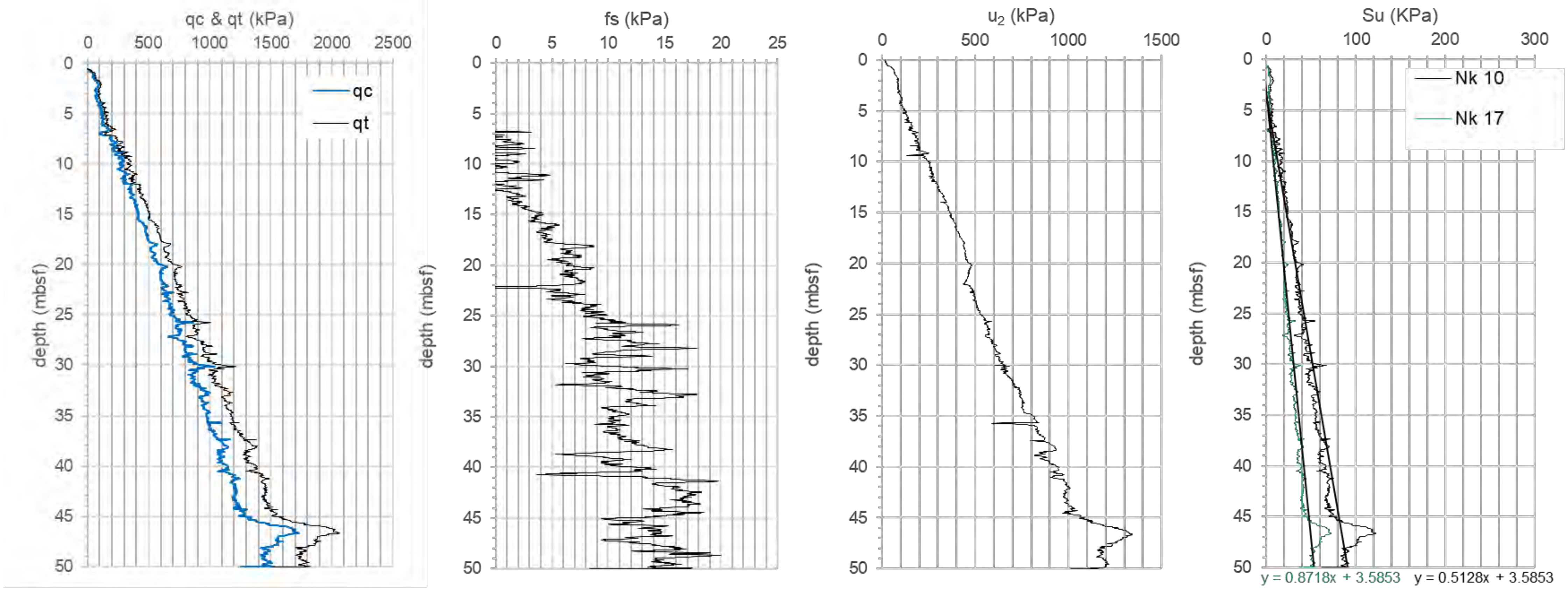

ALB


ALB
CM-18

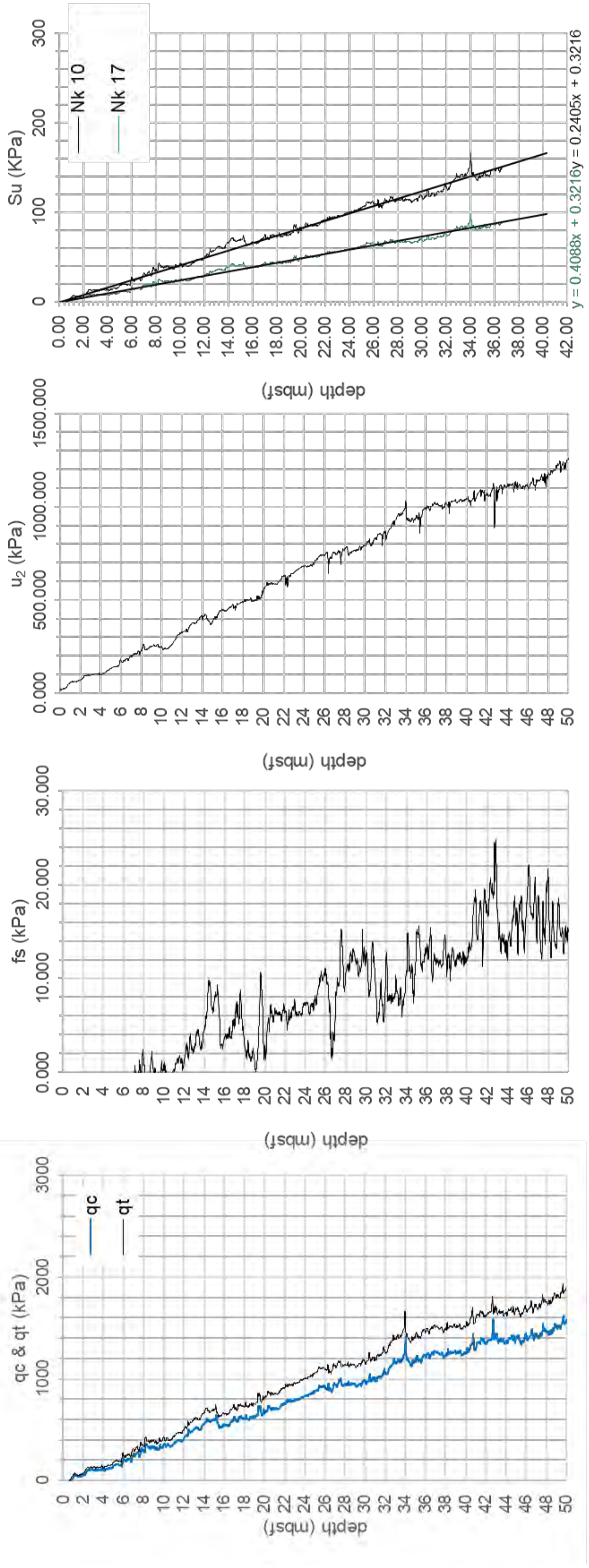

ALB

APPENDIX 4 : Penfeld CPTU data plots

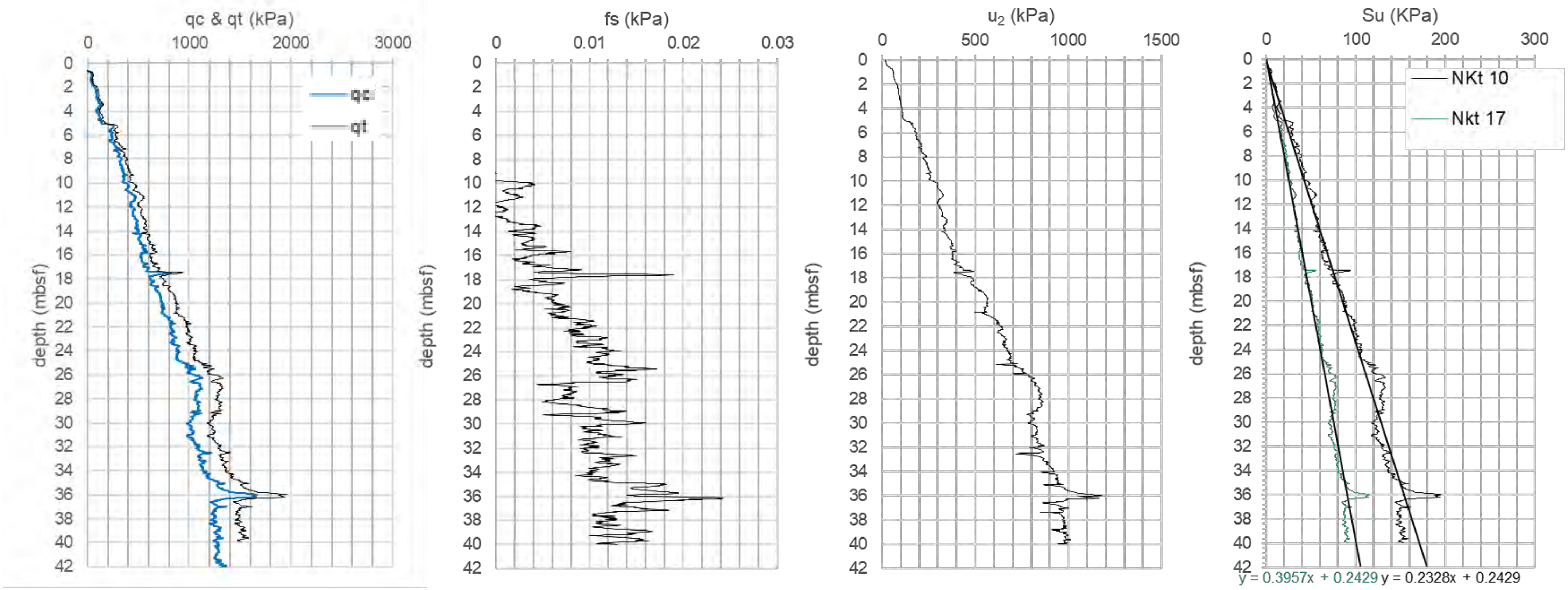
PF01-01


qc & qt (kPa)
qc
qt
depth (mbsf)
fs (kPa)
depth (mbsf)
u2 (kPa)
depth (mbsf)
Su (KPa)
Nk 10
Nk 17
depth (mbsf)
y = 0.8718x + 3.5853
y = 0.5128x + 3.5853

PF01-02

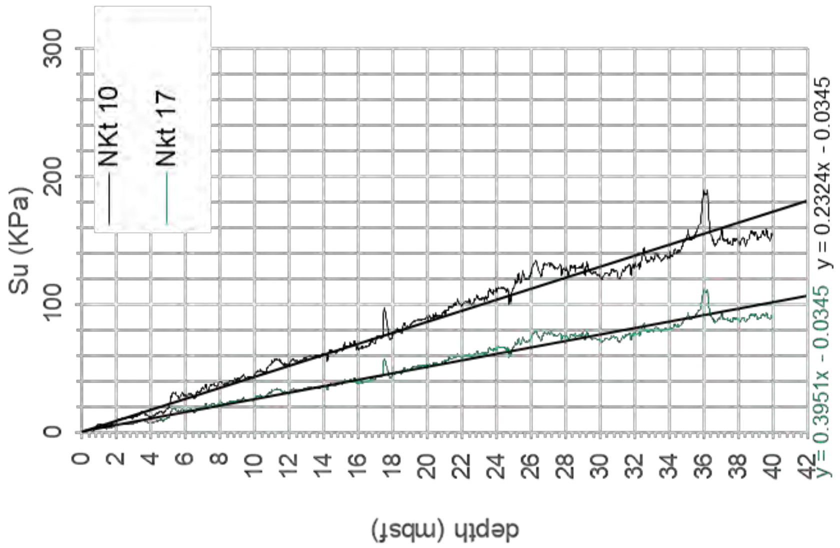

Su (KPa)
Nk 10
Nk 17
y = 0.4088x + 0.3216
y = 0.2405x + 0.3216
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

PF01-03

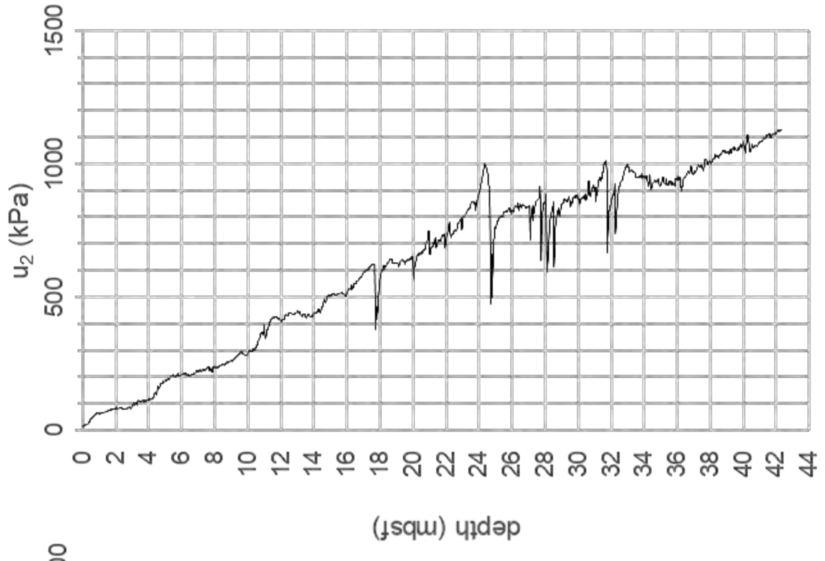


qc & qt (kPa)
qc
qt
depth (mbsf)
fs (kPa)
depth (mbsf)
u_2 (kPa)
depth (mbsf)
Su (KPa)
NKt 10
Nkt 17
depth (mbsf)
y = 0.3957x + 0.2429
y = 0.2328x + 0.2429

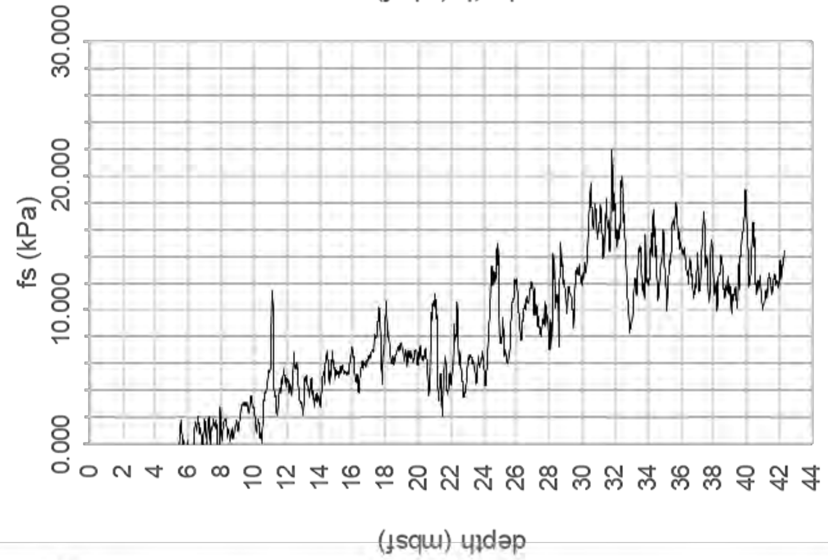
PF01-04



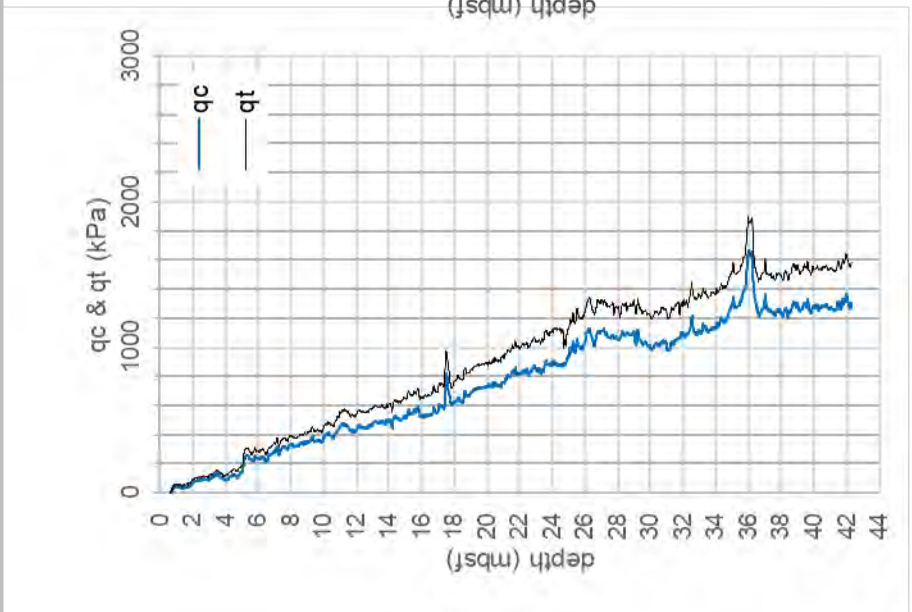
Su (KPa)
depth (mbsf)
Nkt 10
Nkt 17
y = 0.2324x - 0.0345
y= 0.3951x - 0.0345



u_2 (kPa)
depth (mbsf)

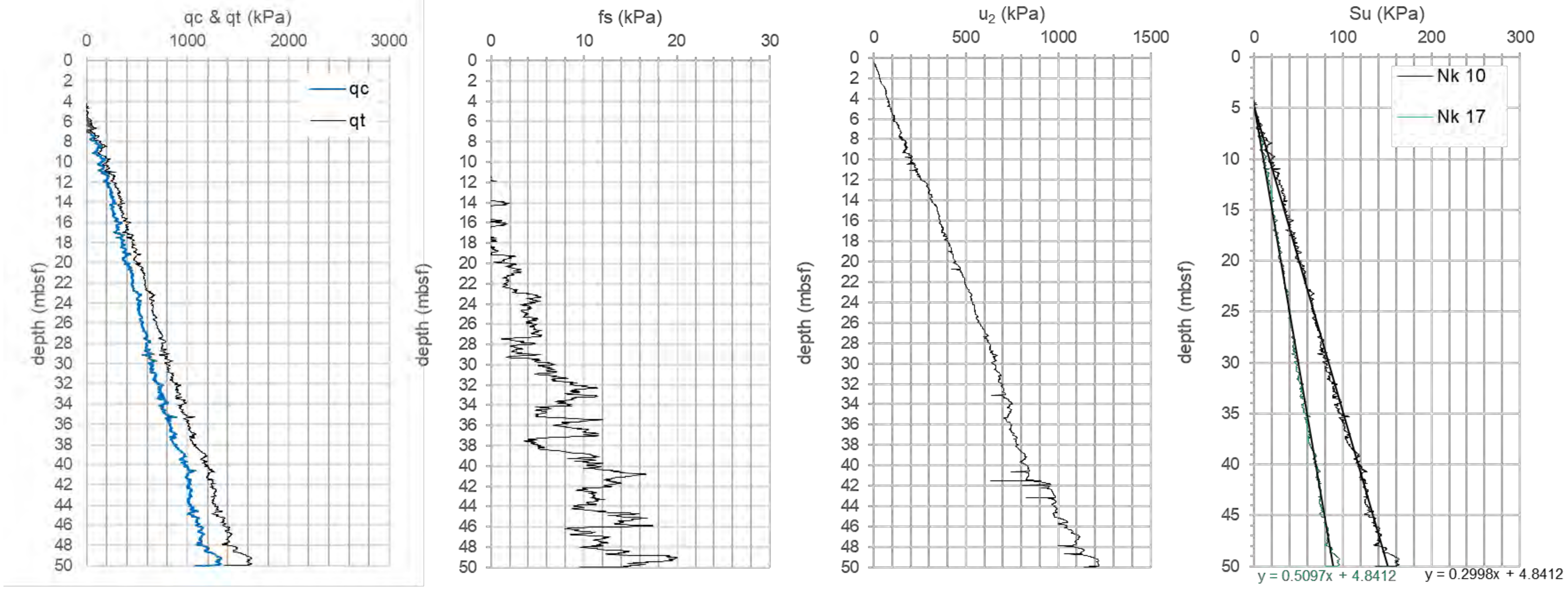


fs (kPa)
depth (mbsf)

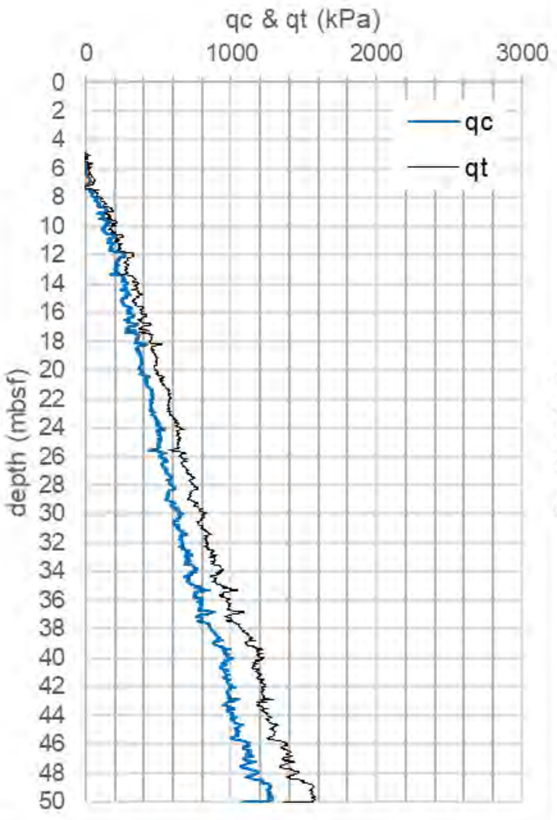


qc & qt (kPa)
depth (mbsf)
qc
qt

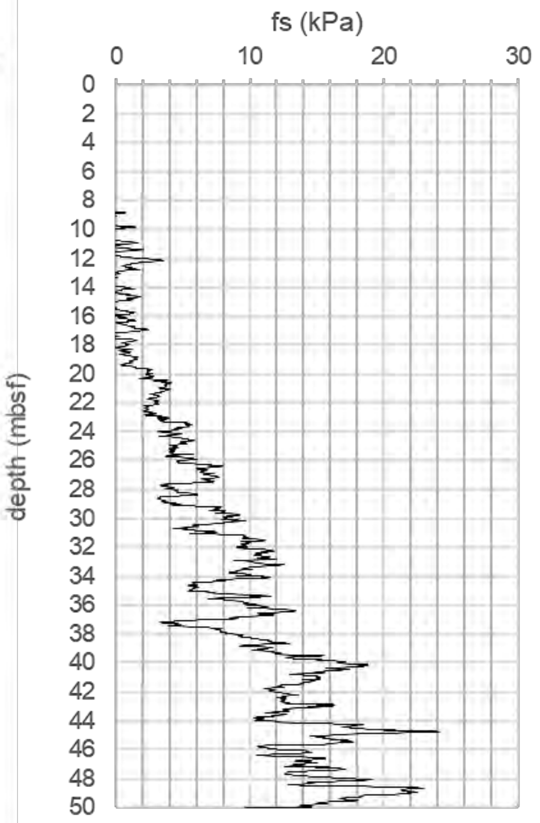
PF02-02


qc & qt (kPa)
qc
qt
depth (mbsf)
fs (kPa)
depth (mbsf)
u_2 (kPa)
depth (mbsf)
Su (KPa)
Nk 10
Nk 17
depth (mbsf)
y = 0.5097x + 4.8412
y = 0.2998x + 4.8412

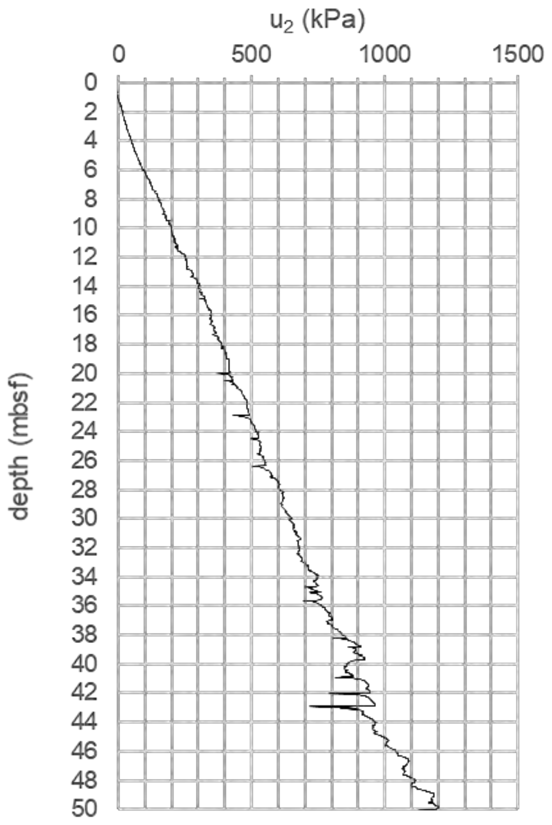
PF02-03



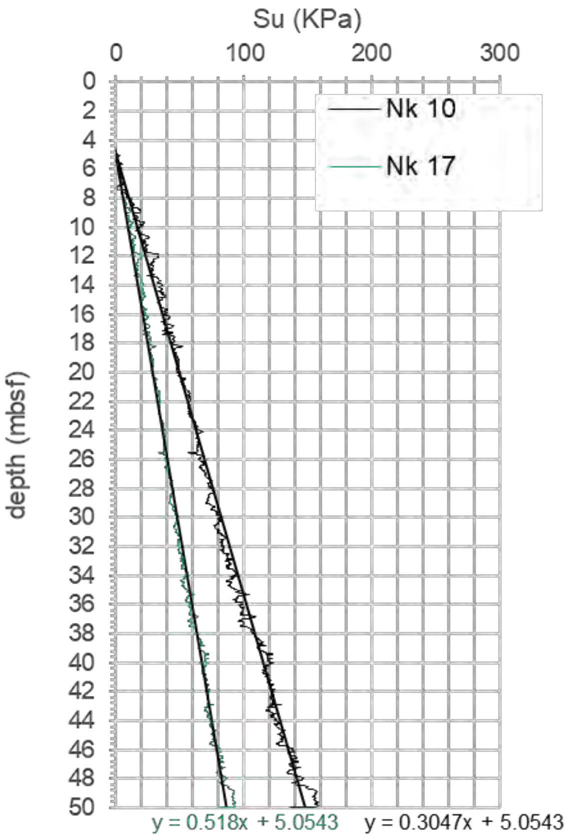
qc & qt (kPa)
depth (mbsf)
qc
qt



fs (kPa)
depth (mbsf)

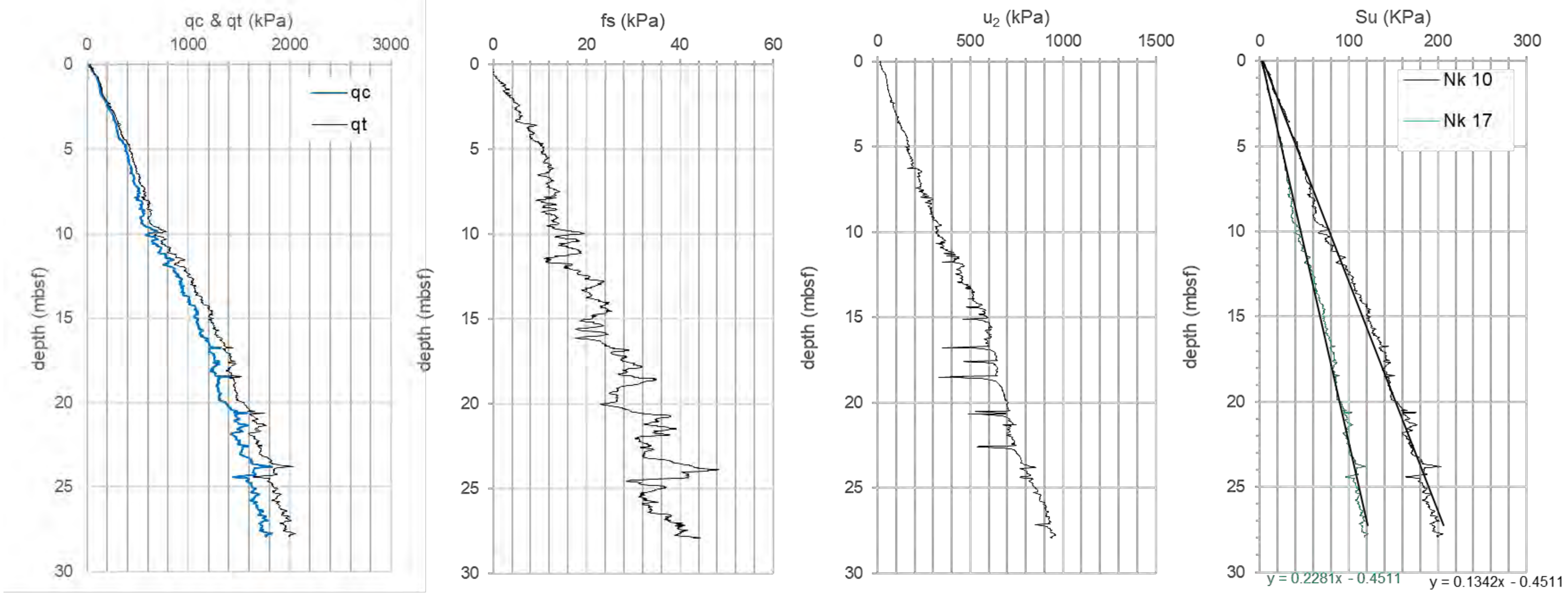


u2 (kPa)
depth (mbsf)



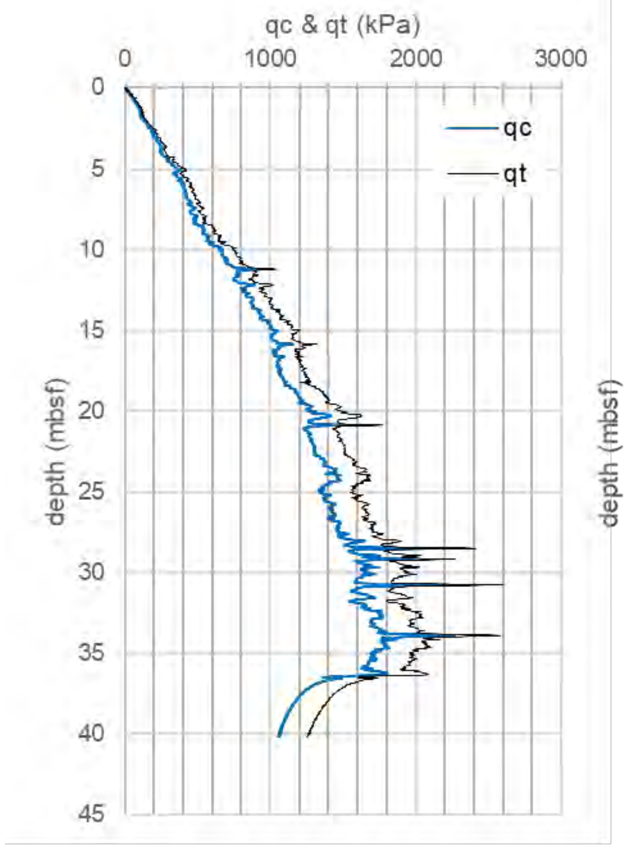
Su (KPa)
depth (mbsf)
Nk 10
Nk 17
y = 0.518x + 5.0543
y = 0.3047x + 5.0543

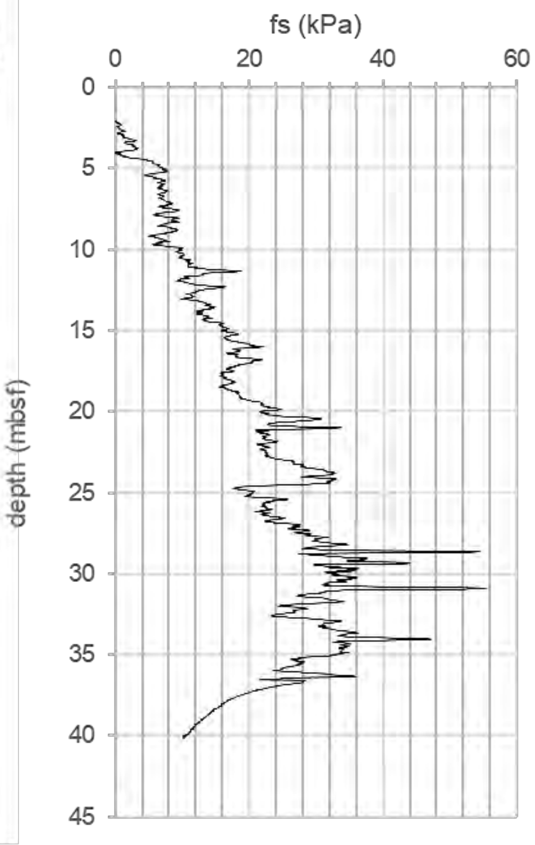
PF03-01

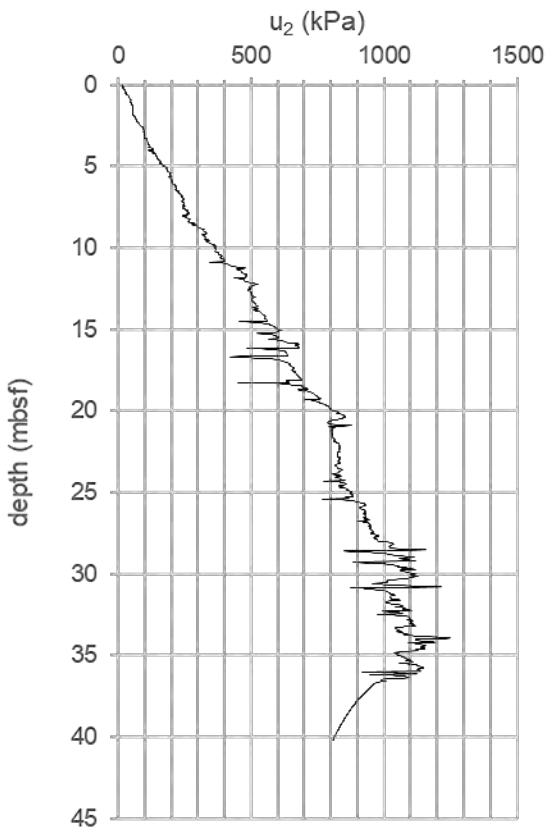


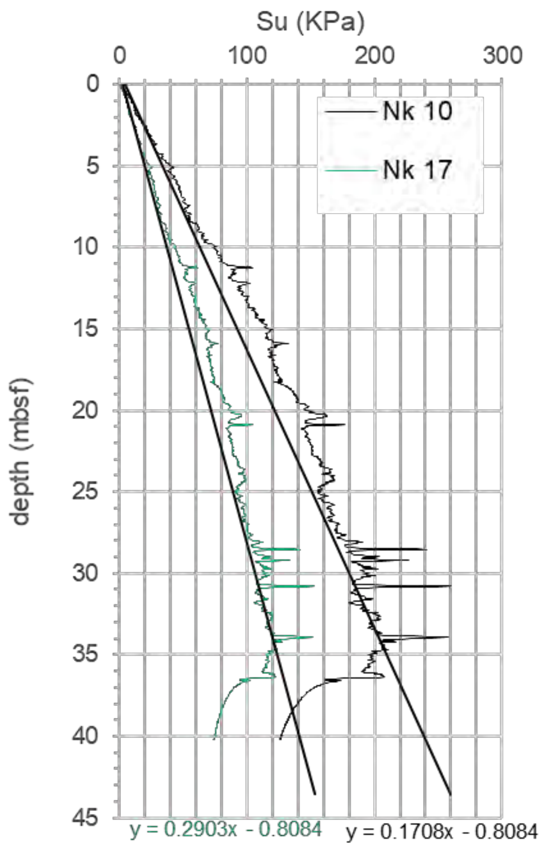
qc & qt (kPa)
qc
qt
depth (mbsf)
fs (kPa)
depth (mbsf)
u_2 (kPa)
depth (mbsf)
Su (KPa)
Nk 10
Nk 17
depth (mbsf)
y = 0.2281x - 0.4511
y = 0.1342x - 0.4511

PF03-02

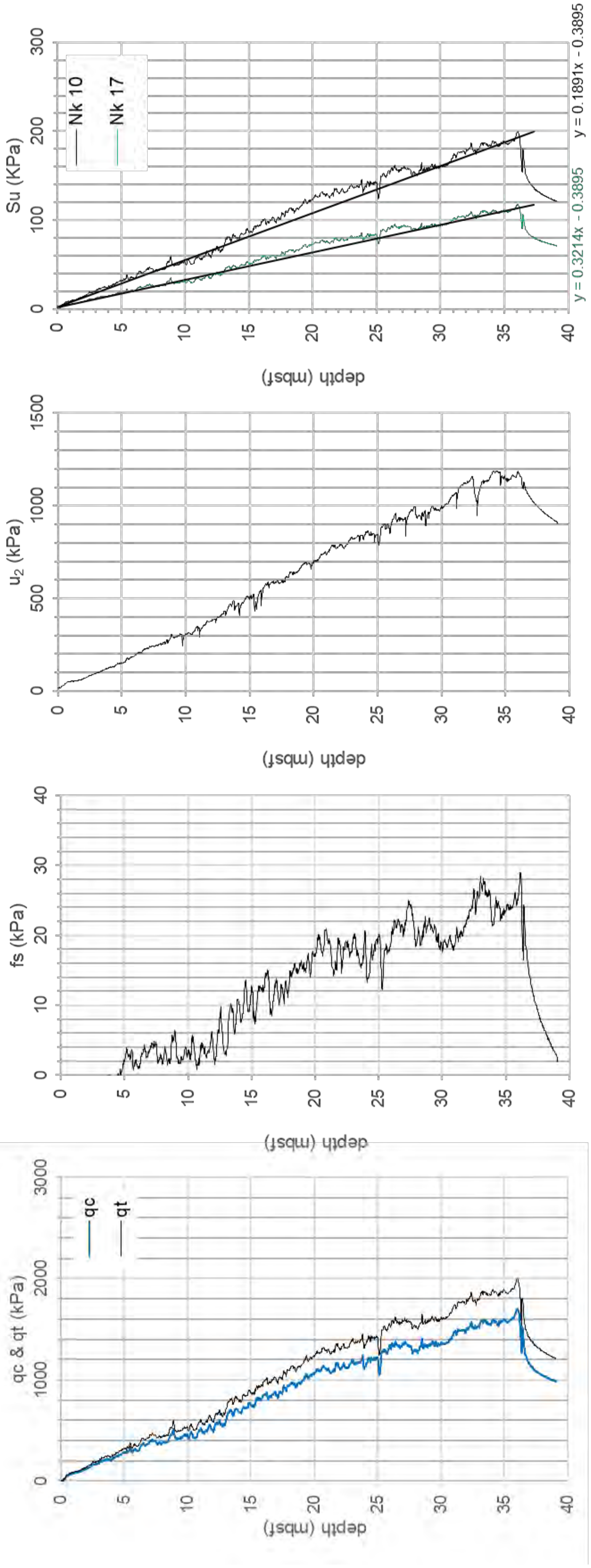

qc & qt (kPa)
depth (mbsf)
qc
qt


fs (kPa)
depth (mbsf)

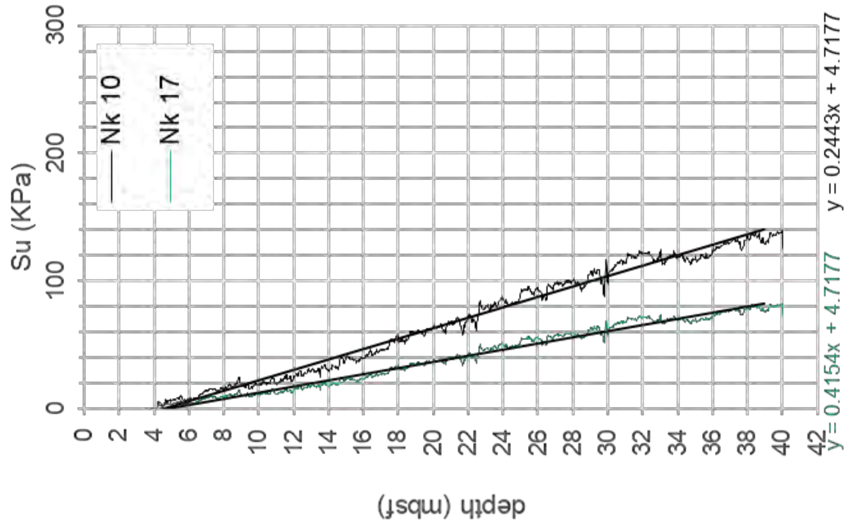

u2 (kPa)
depth (mbsf)

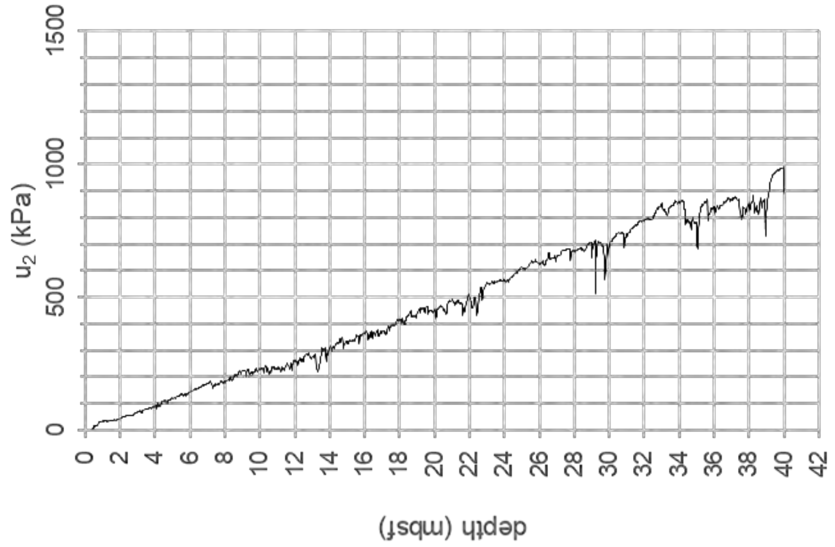

Su (KPa)
depth (mbsf)
Nk 10
Nk 17
y = 0.2903x - 0.8084
y = 0.1708x - 0.8084

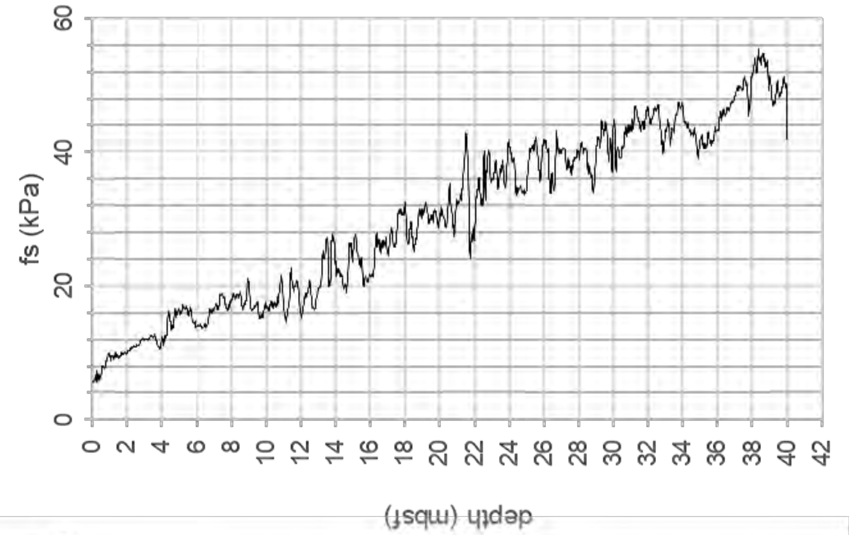
PF03-03

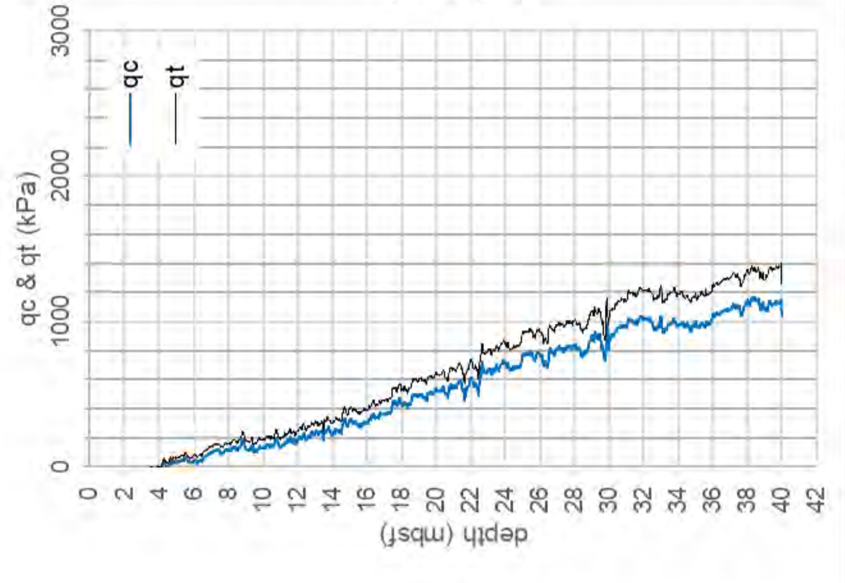

Su (KPa)
Nk 10
Nk 17
y = 0.1891x - 0.3895
y = 0.3214x - 0.3895
depth (mbsf)
u_2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

PF04-01

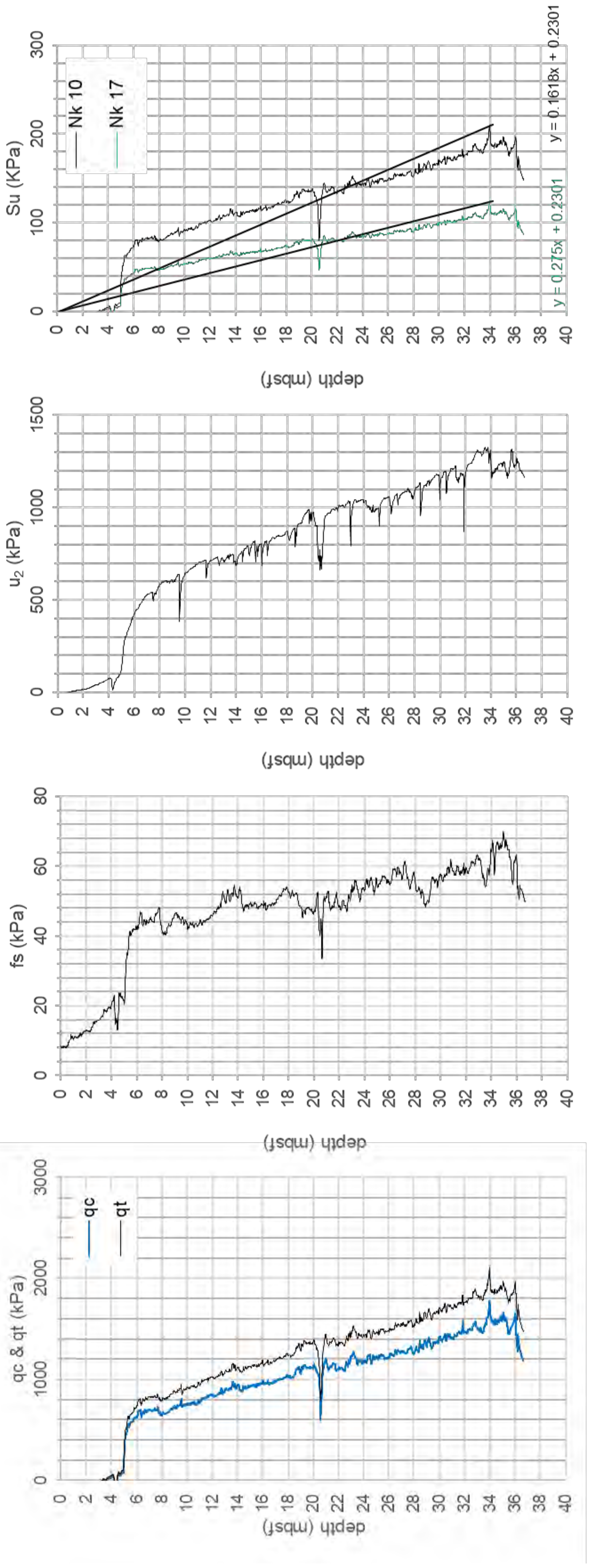

Su (KPa)
depth (mbsf)
Nk 10
Nk 17
y = 0.2443x + 4.7177
y = 0.4154x + 4.7177


u_2 (kPa)
depth (mbsf)


fs (kPa)
depth (mbsf)

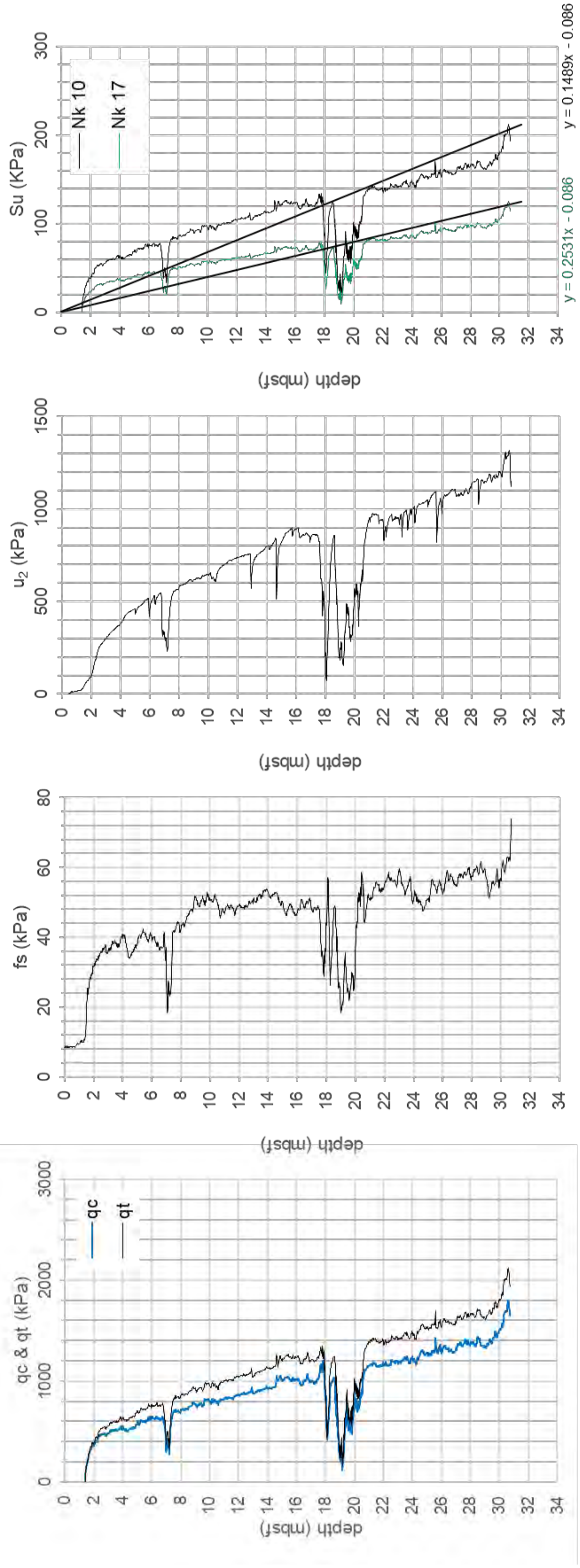

qc & qt (kPa)
depth (mbsf)
qc
qt

PF04-02

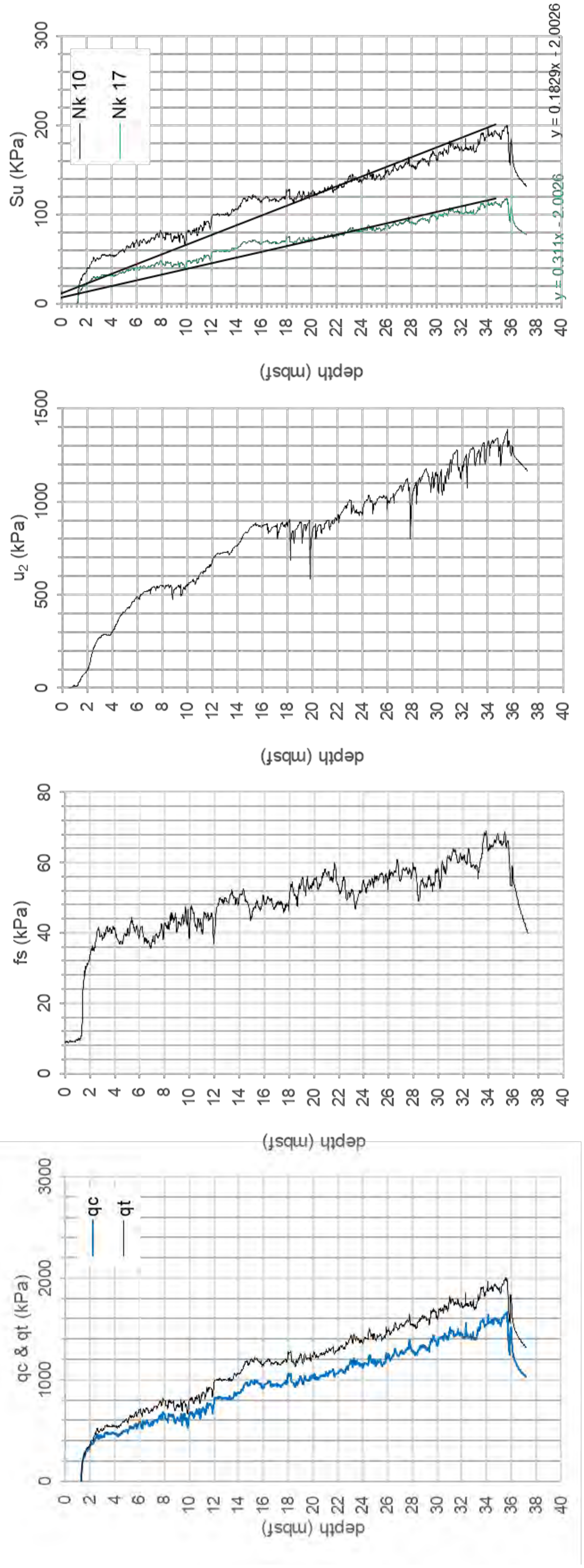


Su (KPa)
Nk 10
Nk 17
y = 0.1618x + 0.2301
y = 0.275x + 0.2301
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

PF04-03

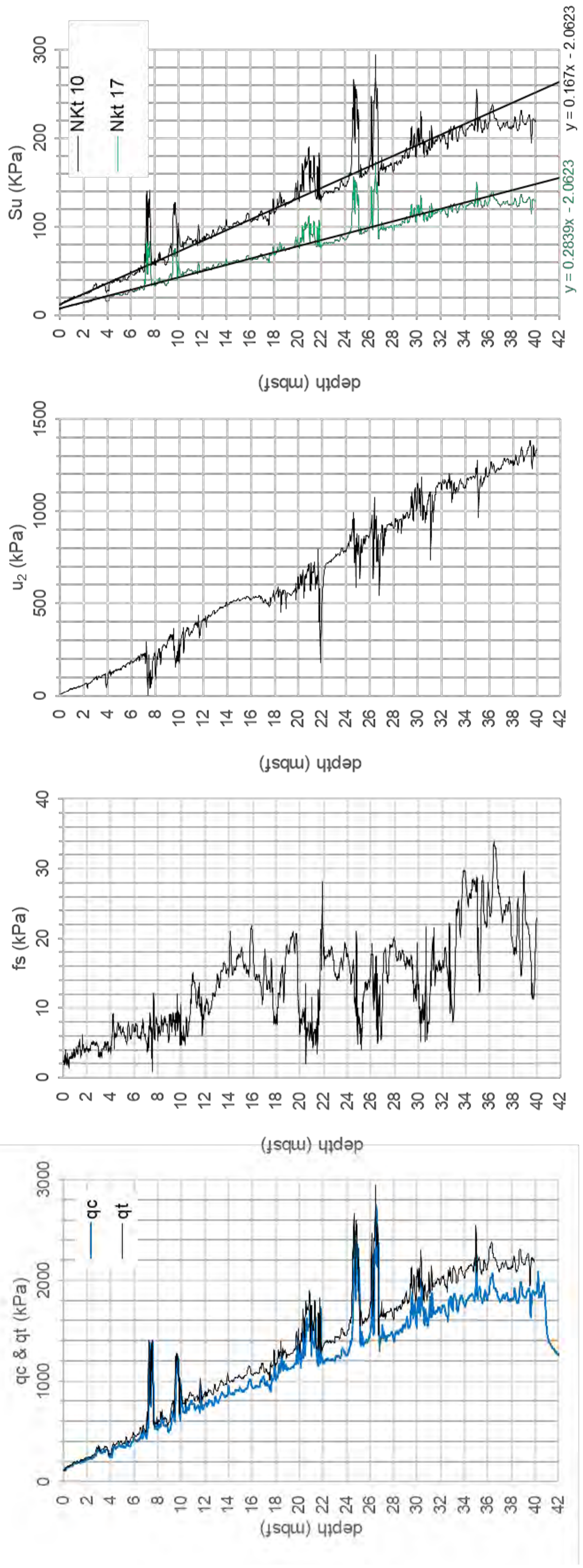

Su (KPa)
Nk 10
Nk 17
y = 0.1489x - 0.086
y = 0.2531x - 0.086
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

PF04-04

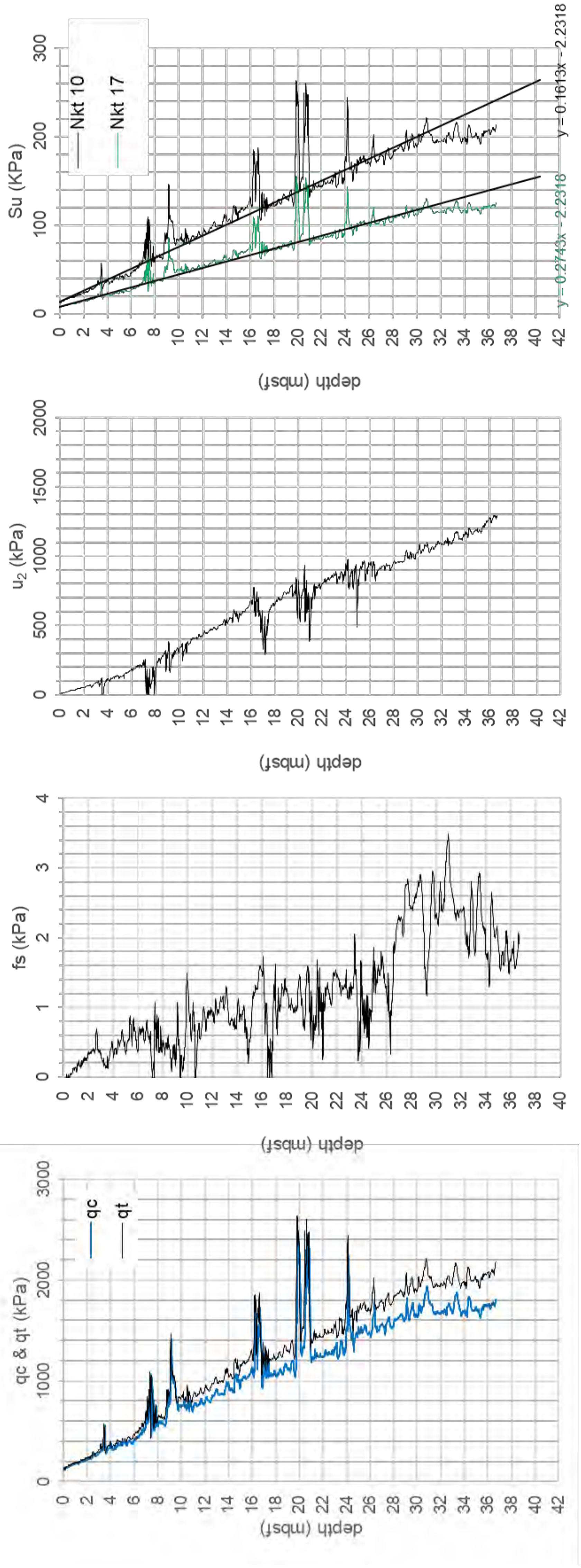


Su (KPa)
Nk 10
Nk 17
y = 0.1829x - 2.0026
y = 0.311x - 2.0026
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

PF05-01


Su (KPa)
Nkt 10
Nkt 17
y = 0.167x - 2.0623
y = 0.2839x - 2.0623
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

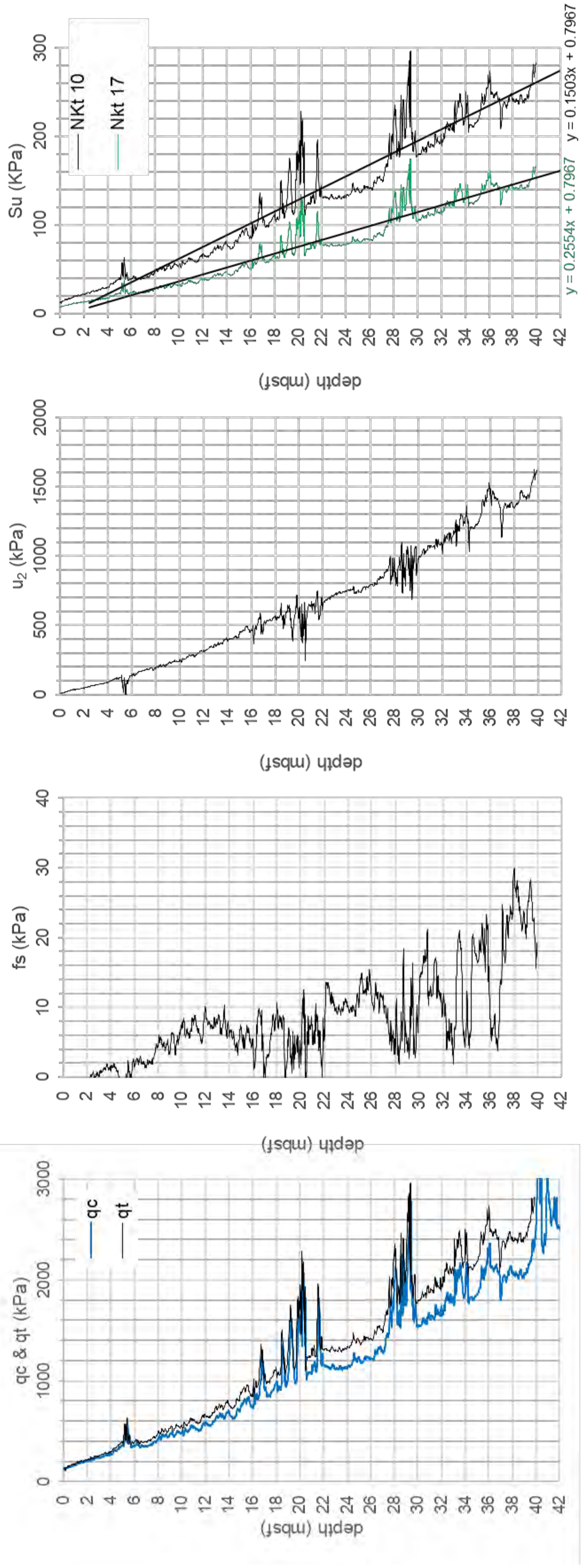
PF05-03



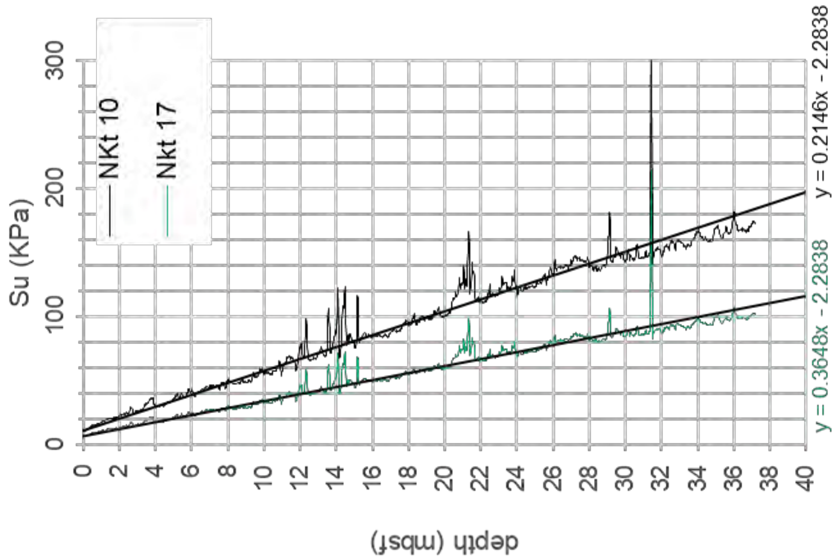
Su (KPa)
Nkt 10
Nkt 17
y = 0.1613x - 2.2318
y = 0.2743x - 2.2318
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

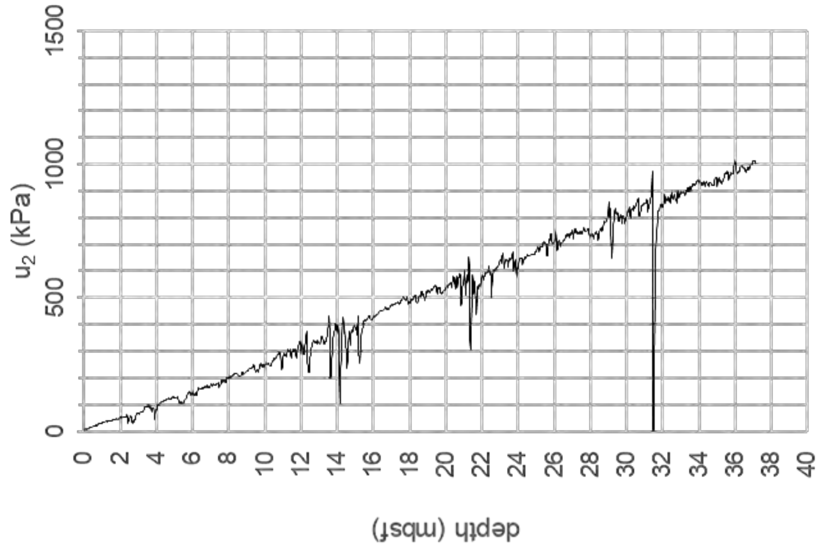
ALBACORE

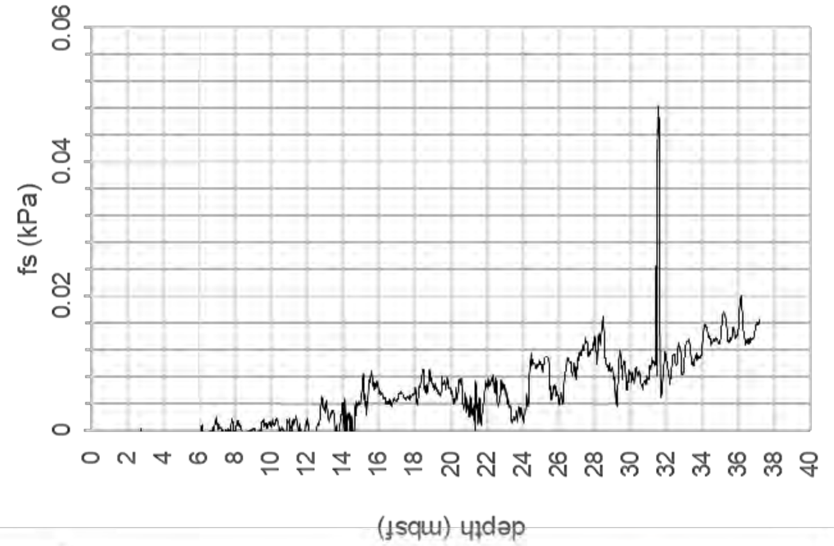
PF05-04

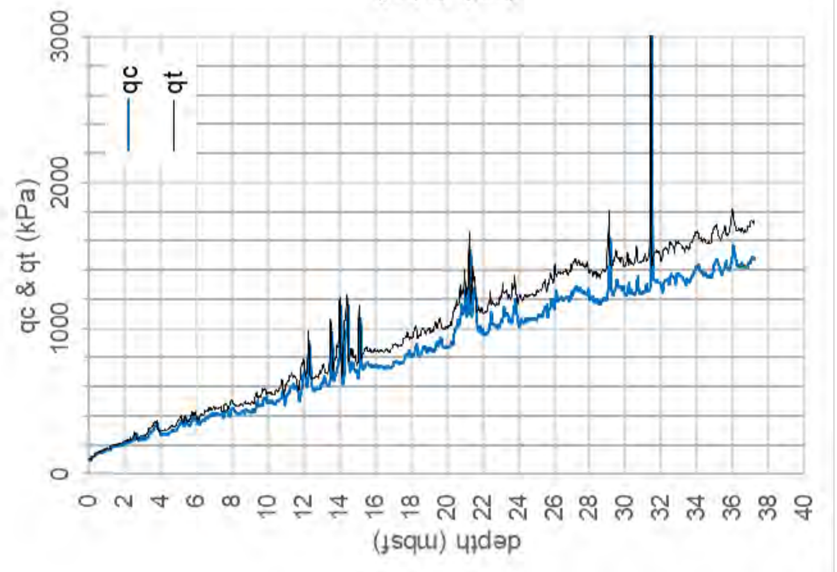


PF05-06

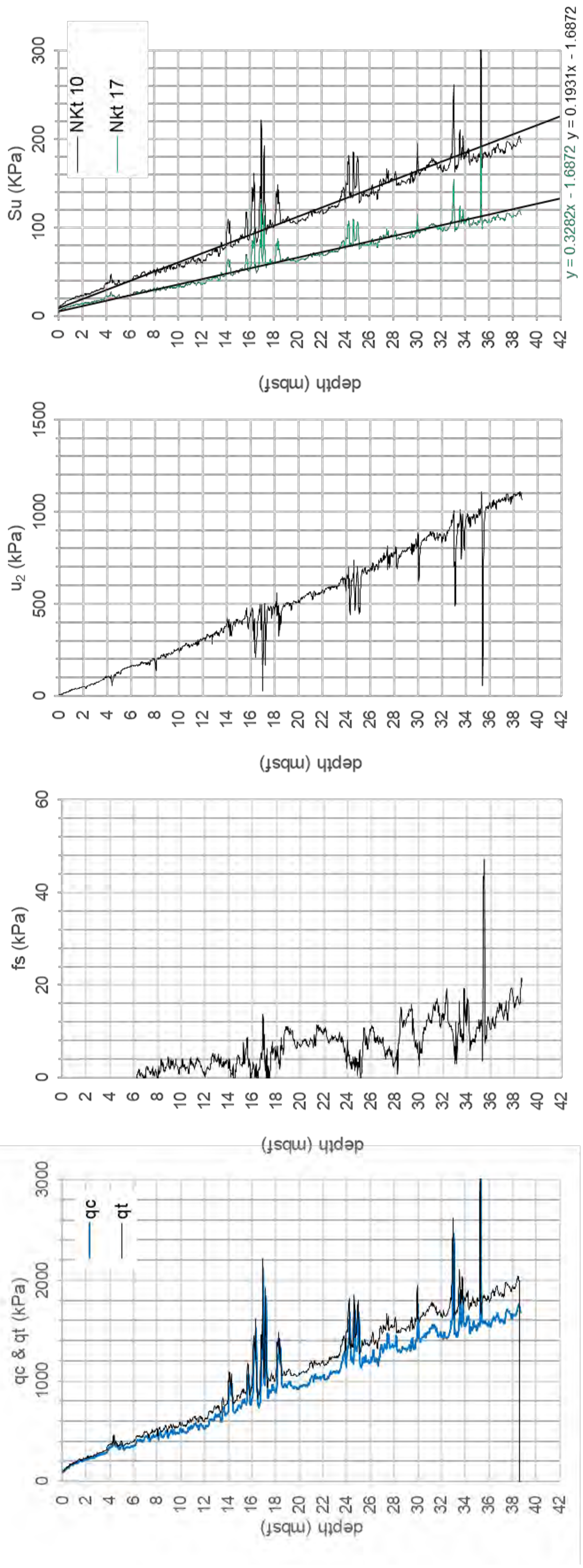

Su (KPa)
depth (mbsf)
Nkt 10
Nkt 17
y = 0.2146x - 2.2838
y = 0.3648x - 2.2838


u_2 (kPa)
depth (mbsf)


fs (kPa)
depth (mbsf)

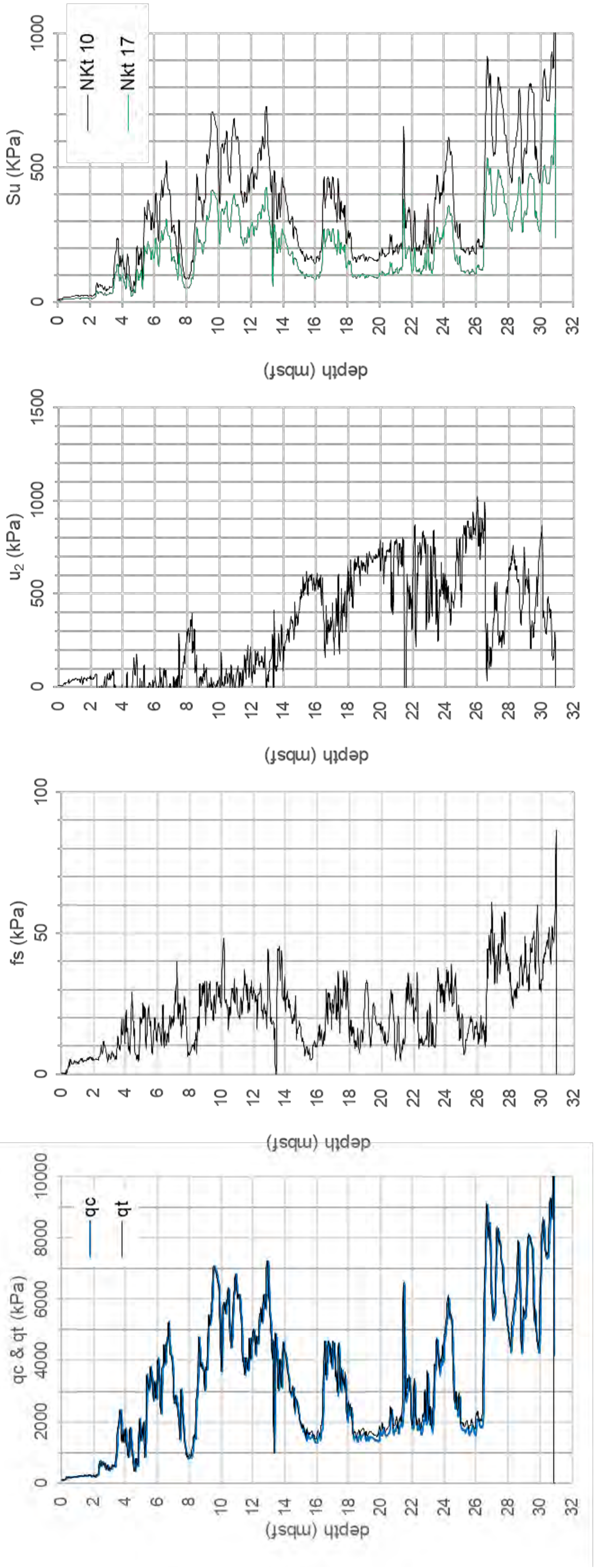

qc & qt (kPa)
depth (mbsf)
qc
qt

PF05-05

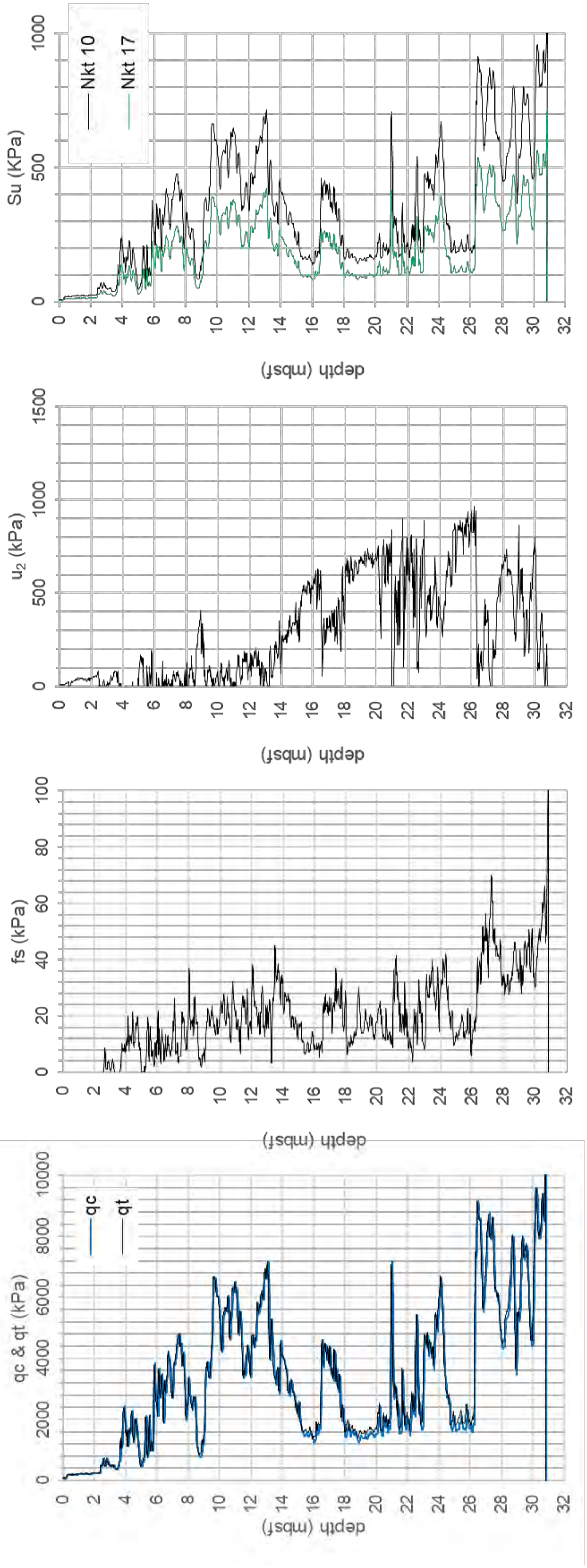


Su (KPa)
NKt 10
Nkt 17
y = 0.3282x - 1.6872
y = 0.1931x - 1.6872
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

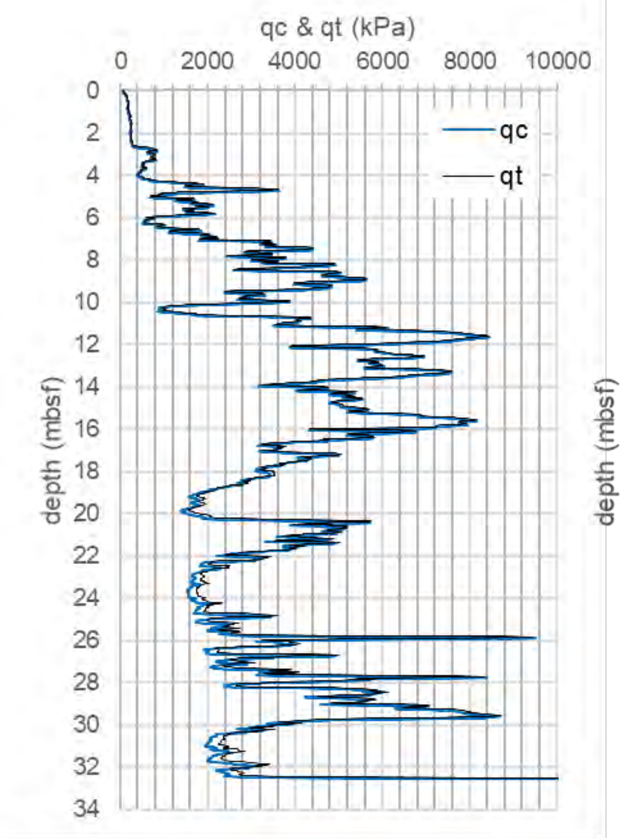
PF06-01


Su (KPa)
NKt 10
NKt 17
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

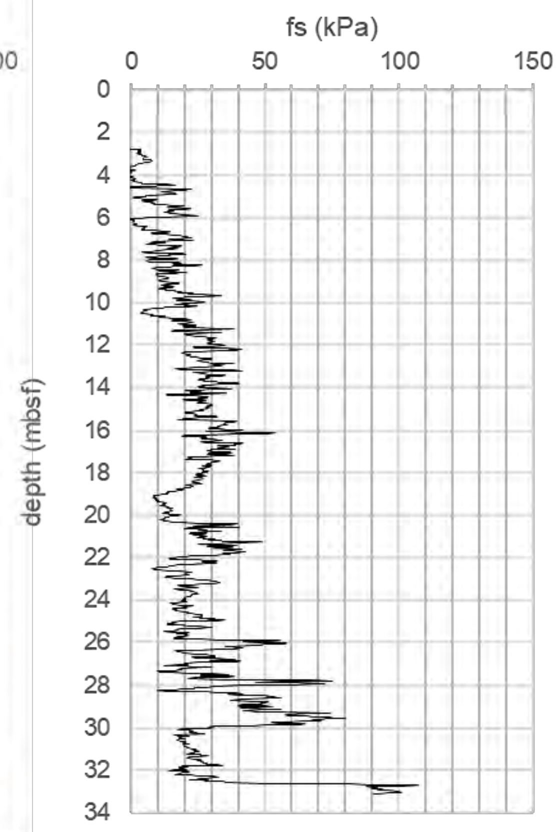
PF06-02


Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

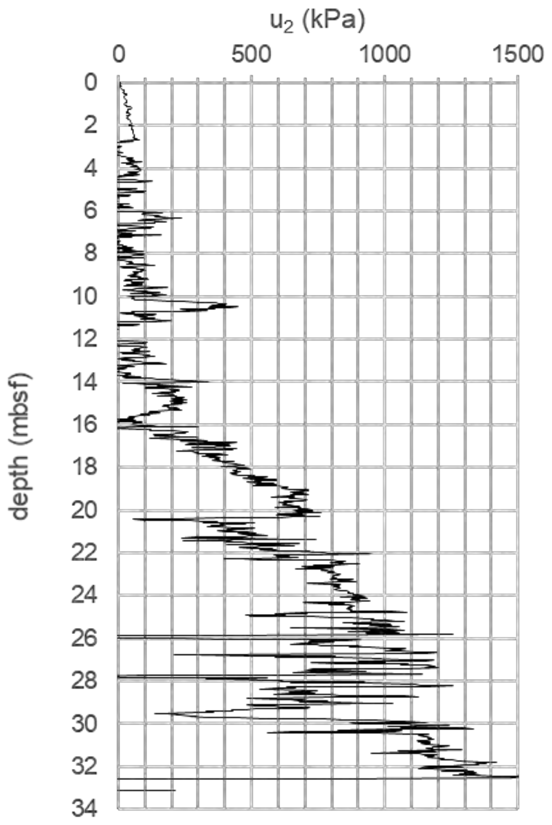
PF06-03



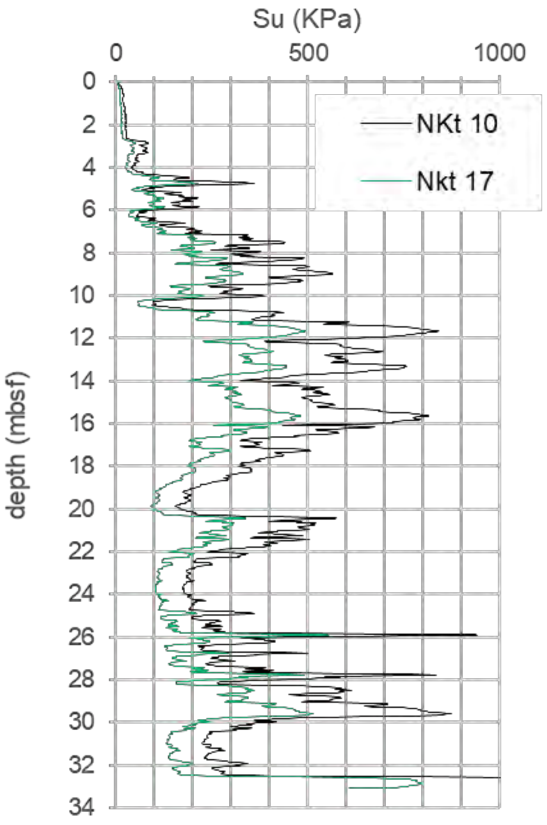
qc & qt (kPa)
0
2000
4000
6000
8000
10000
qc
qt
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34



fs (kPa)
0
50
100
150
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34

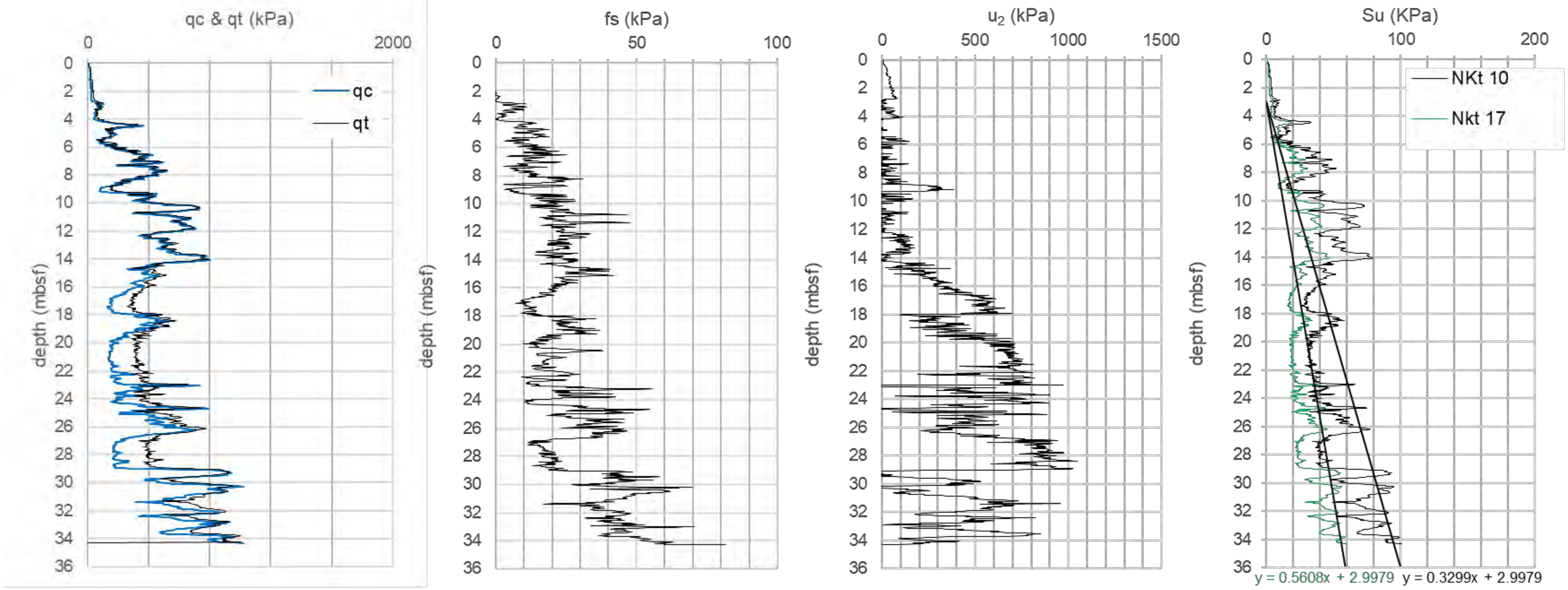


u2 (kPa)
0
500
1000
1500
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34



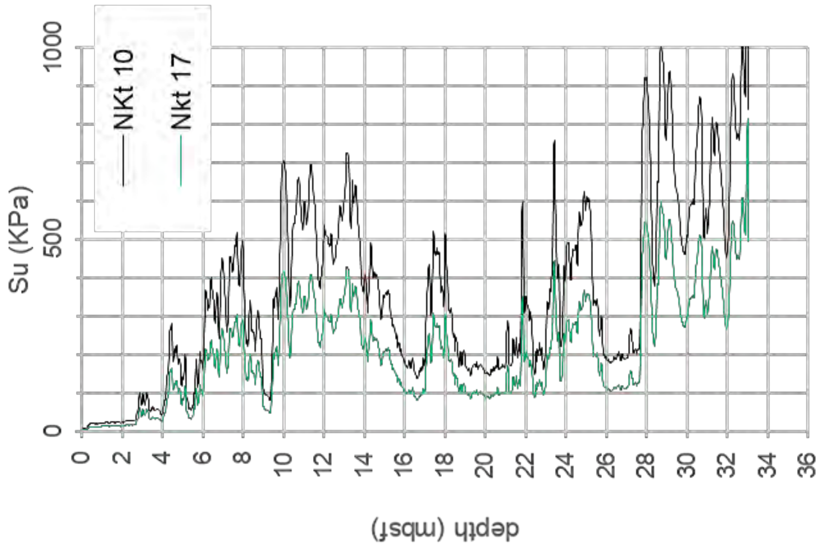
Su (KPa)
0
500
1000
NKt 10
Nkt 17
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34

PF06-04

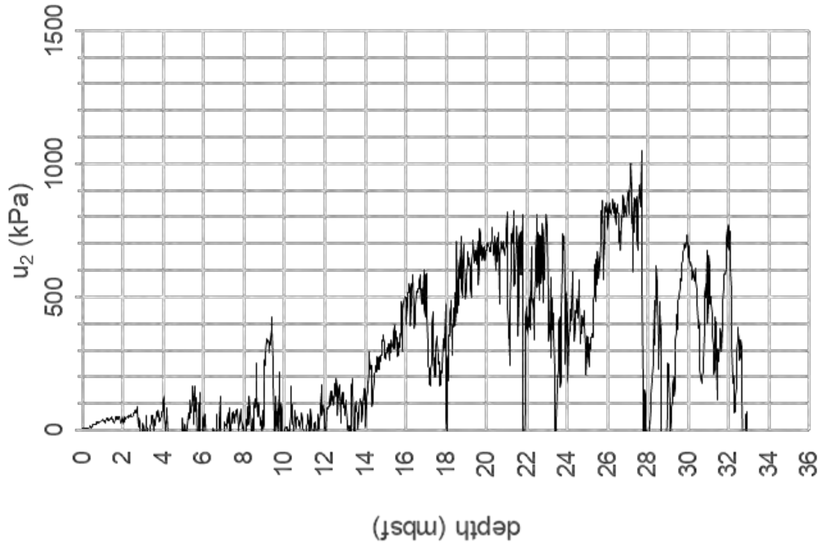


qc & qt (kPa)
qc
qt
depth (mbsf)
fs (kPa)
depth (mbsf)
u2 (kPa)
depth (mbsf)
Su (KPa)
NKt 10
Nkt 17
depth (mbsf)
y = 0.5608x + 2.9979
y = 0.3299x + 2.9979

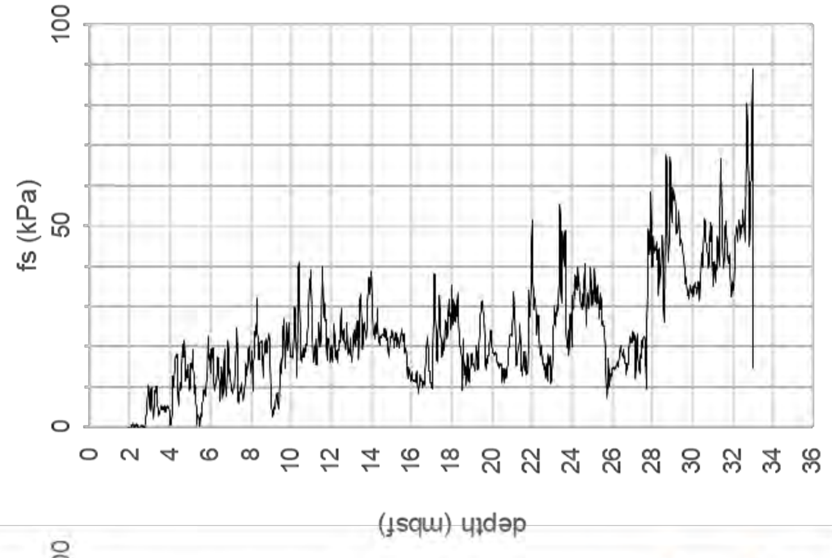
PF06-05



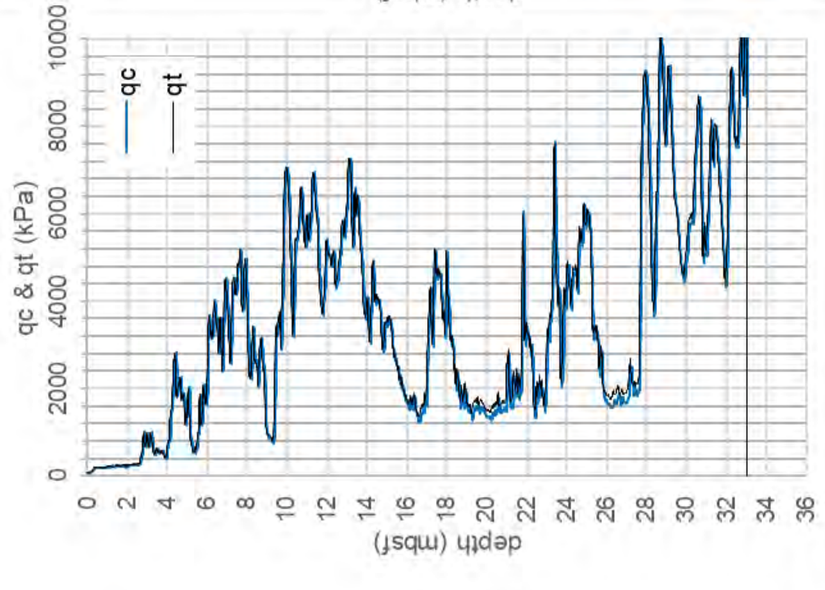
Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)



u_2 (kPa)
depth (mbsf)

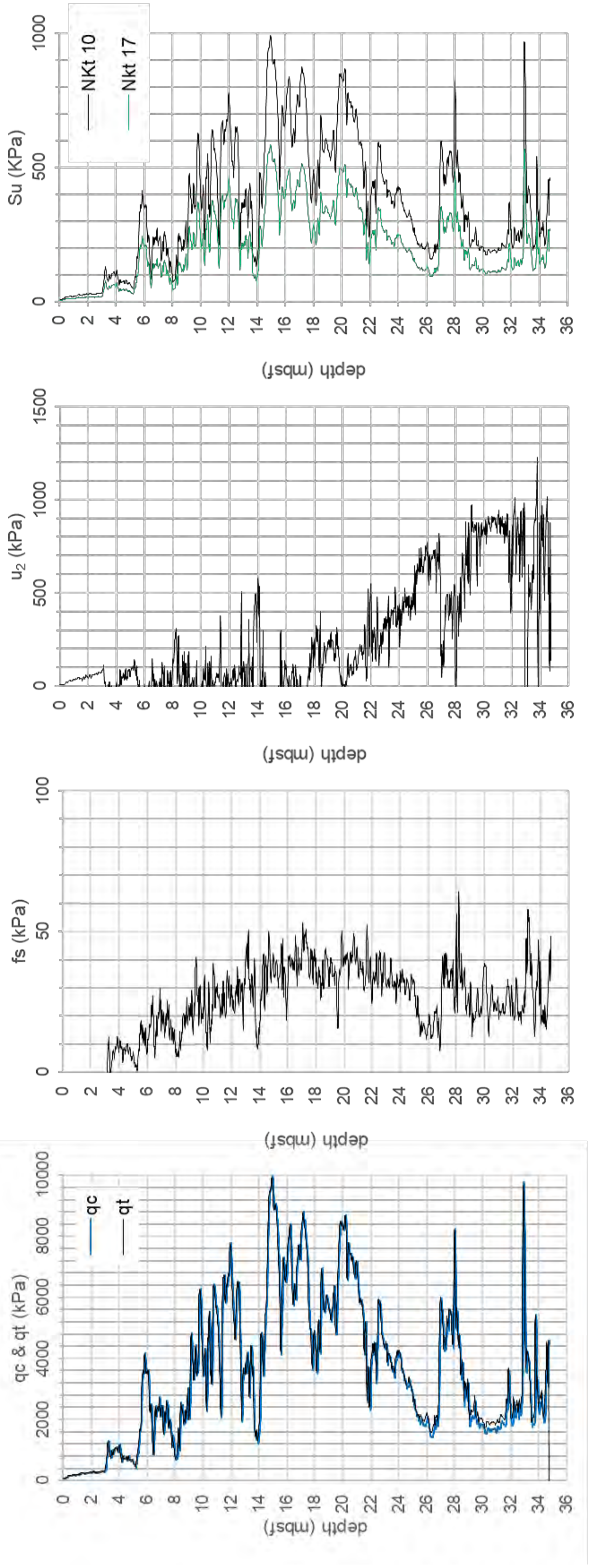


fs (kPa)
depth (mbsf)



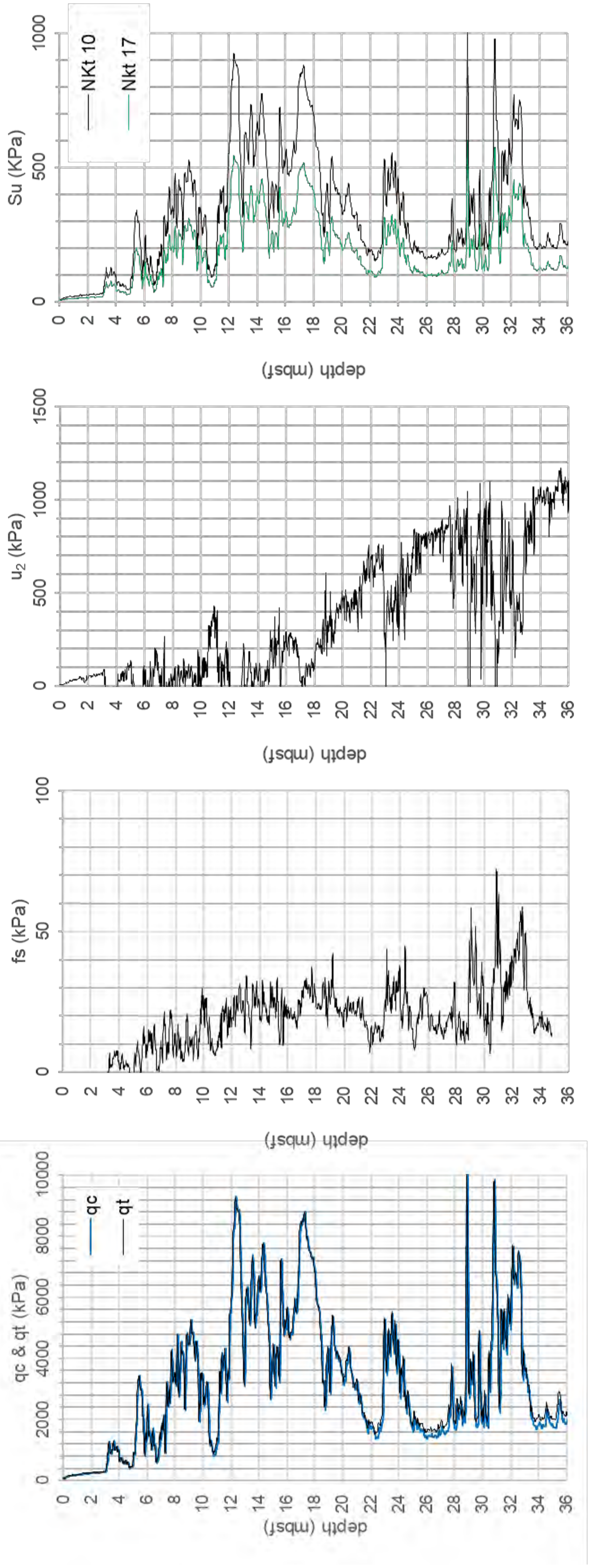
qc & qt (kPa)
qc
qt
depth (mbsf)

PF06-06

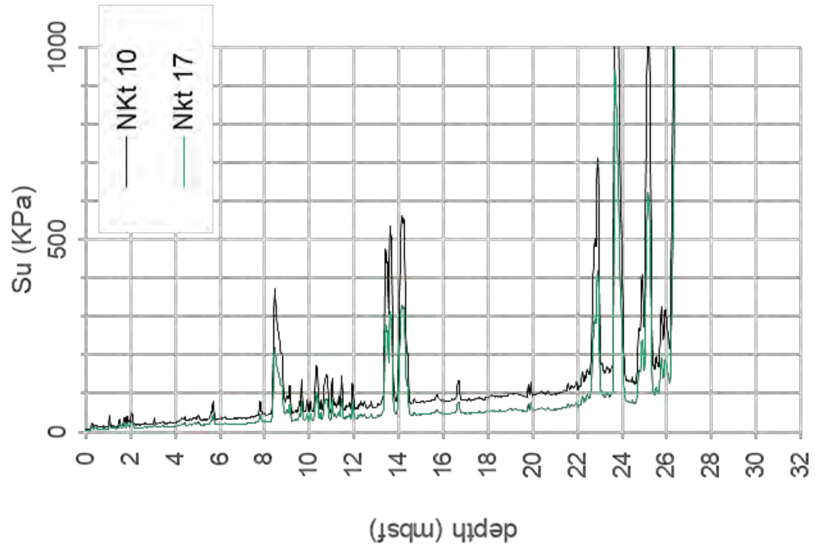


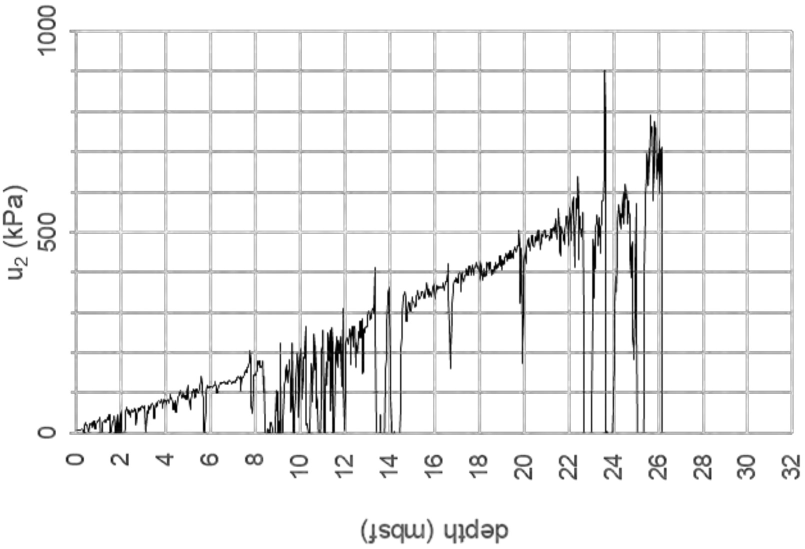
Su (KPa)
NKt 10
NKt 17
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

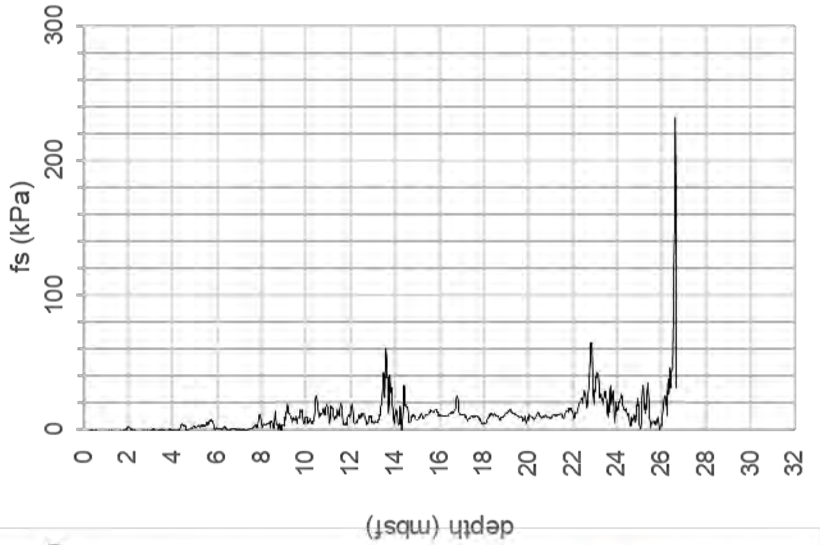
PF06-07

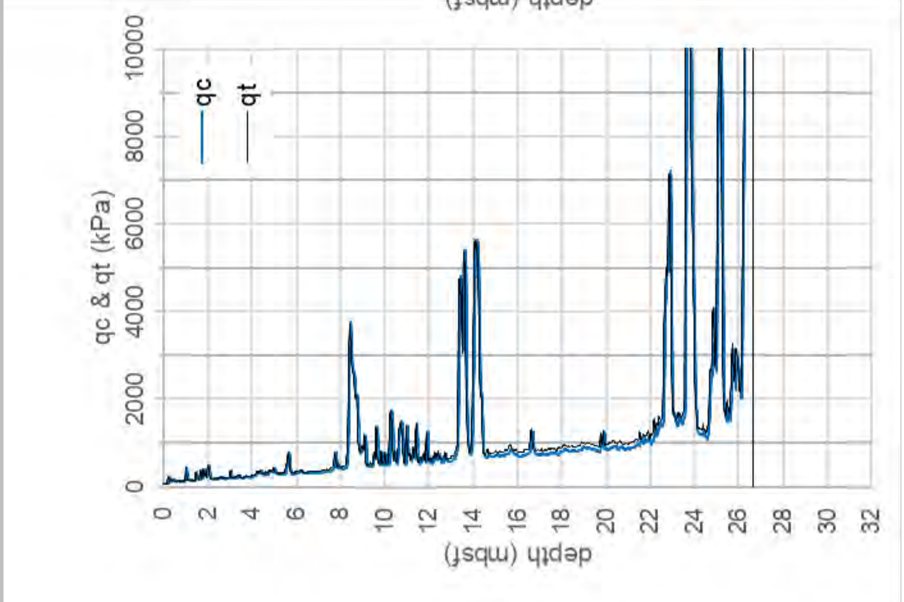

Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)
u_2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

PF07-01

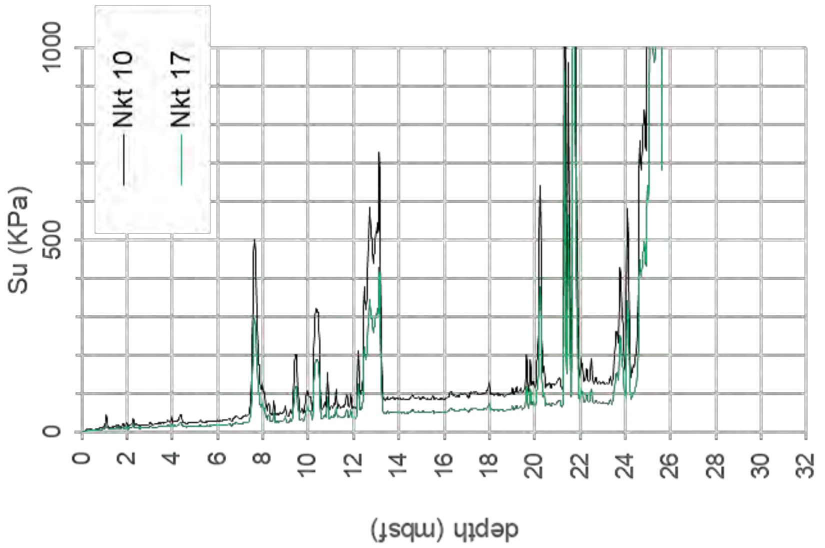

Su (KPa)
depth (mbsf)
NKt 10
Nkt 17


u2 (kPa)
depth (mbsf)

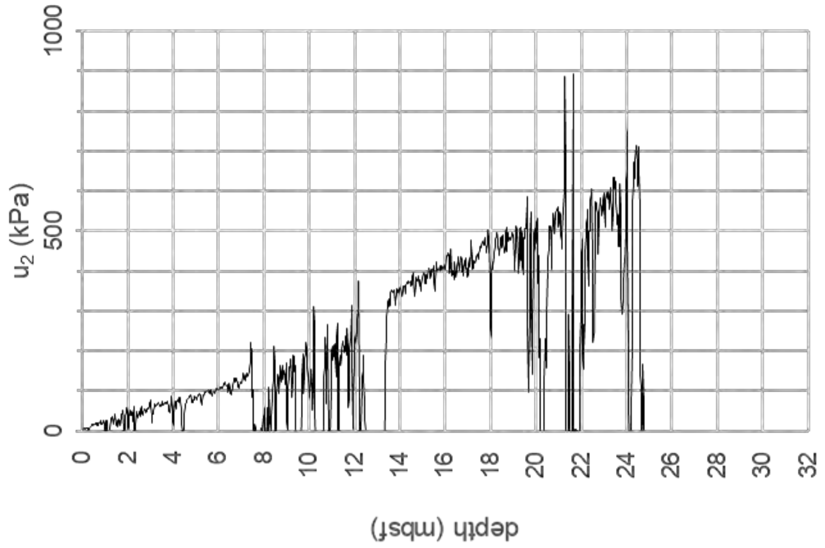

fs (kPa)
depth (mbsf)


qc & qt (kPa)
depth (mbsf)
qc
qt

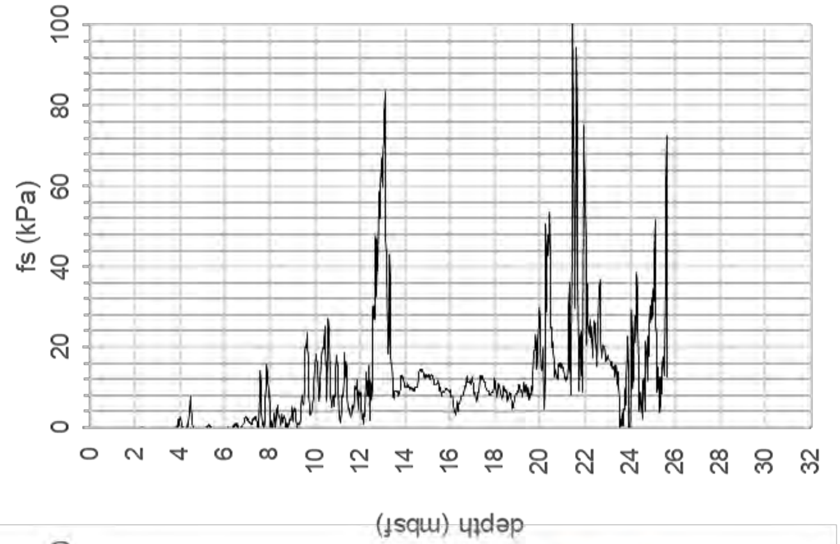
PF07-02



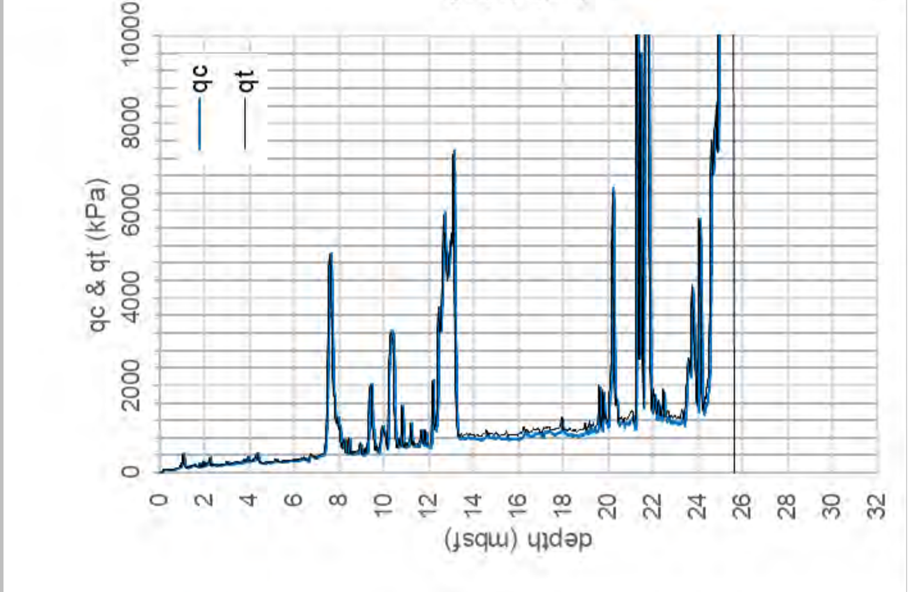
Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)



u_2 (kPa)
depth (mbsf)

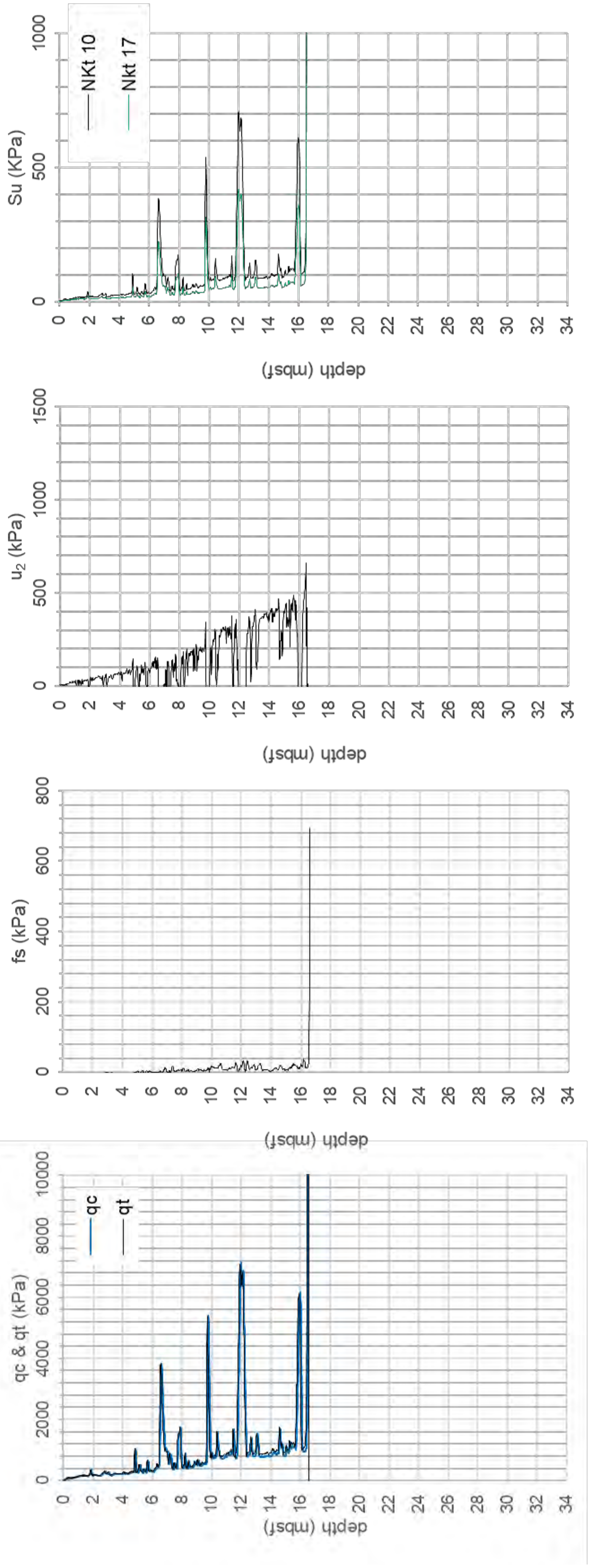


fs (kPa)
depth (mbsf)



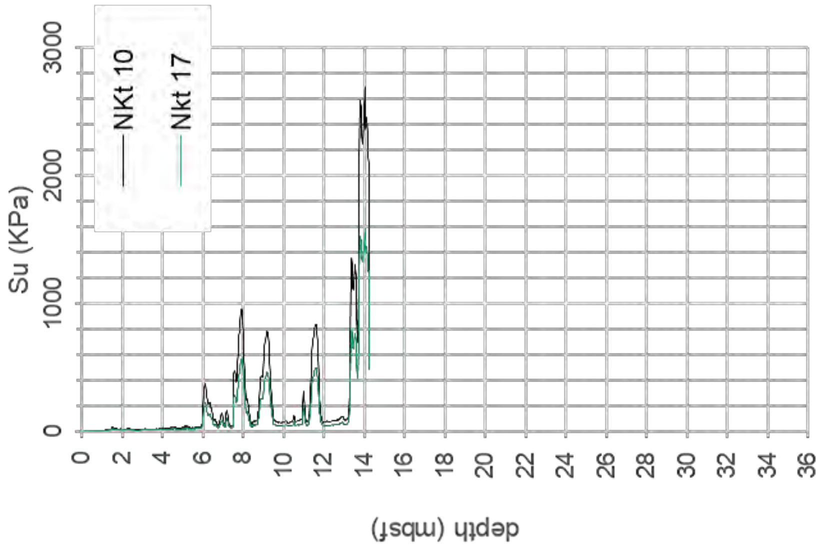
qc & qt (kPa)
qc
qt
depth (mbsf)

PF07-03

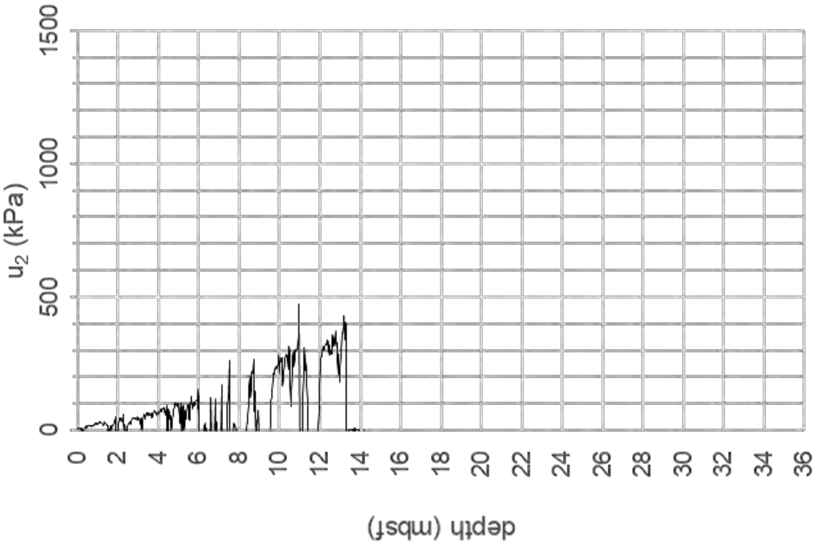


Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

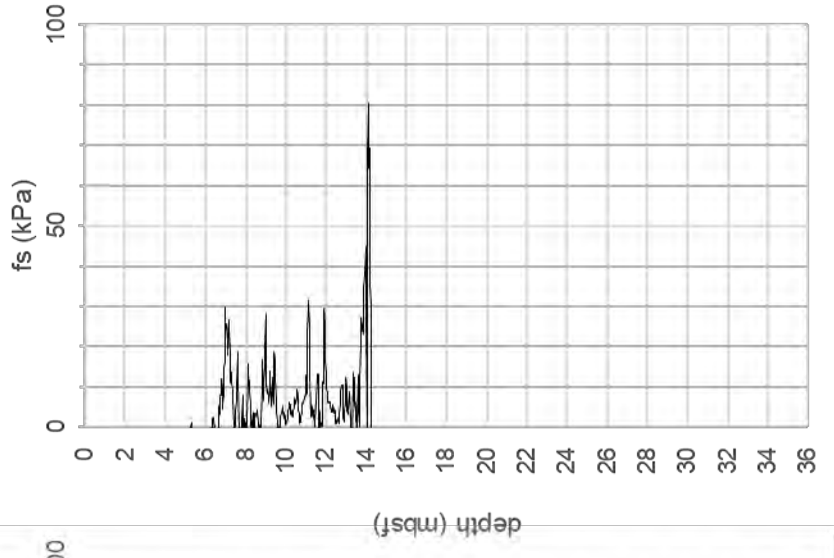
PF07-04



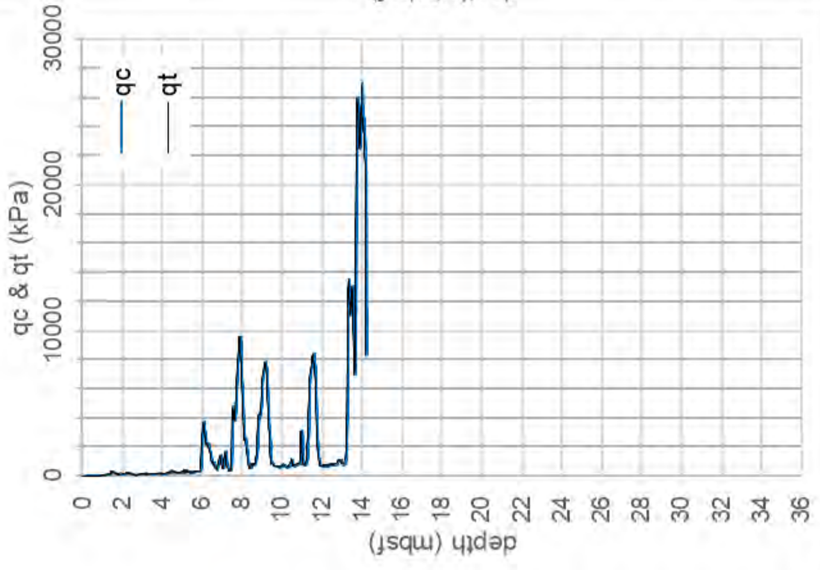
Su (KPa)
depth (mbsf)
Nkt 10
Nkt 17



u_2 (kPa)
depth (mbsf)

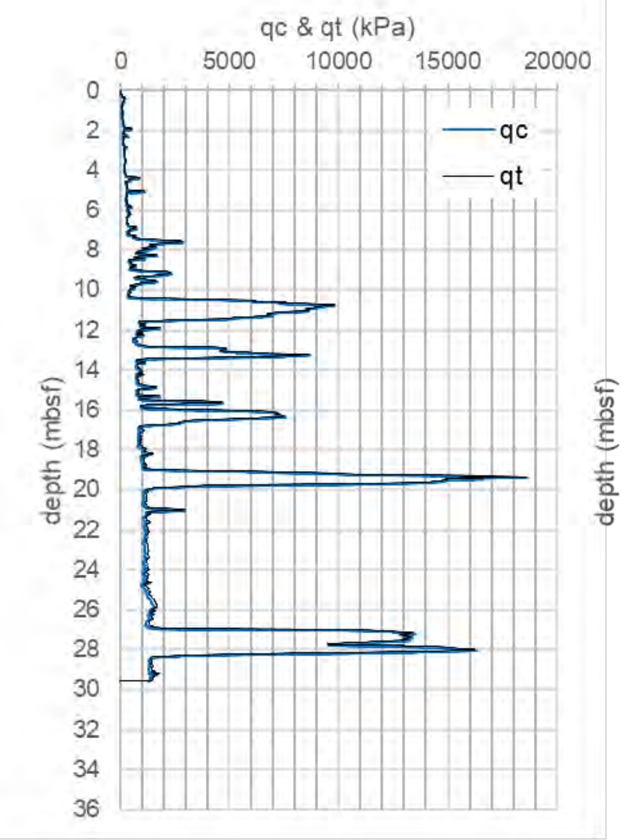


fs (kPa)
depth (mbsf)

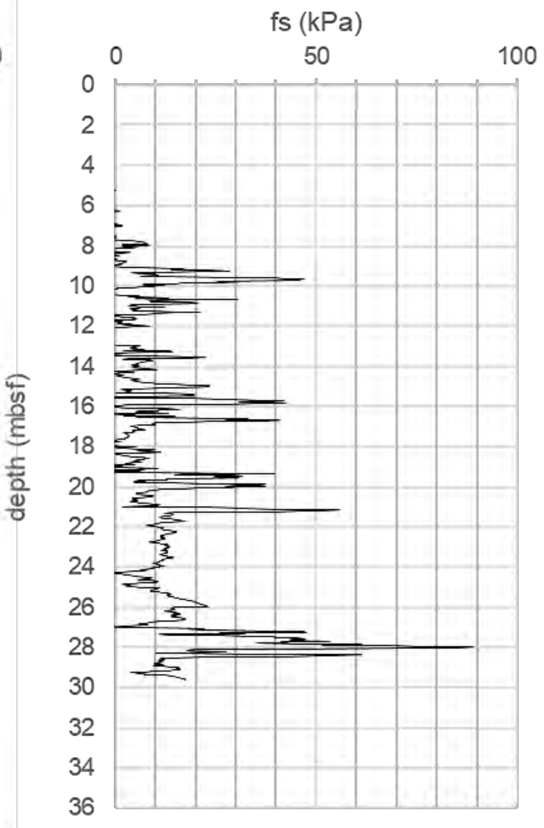


qc & qt (kPa)
depth (mbsf)
qc
qt

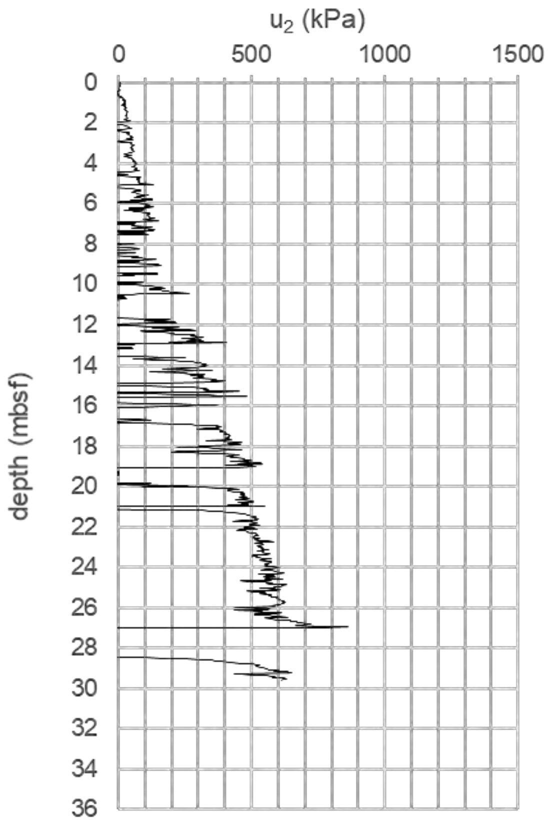
PF07-05



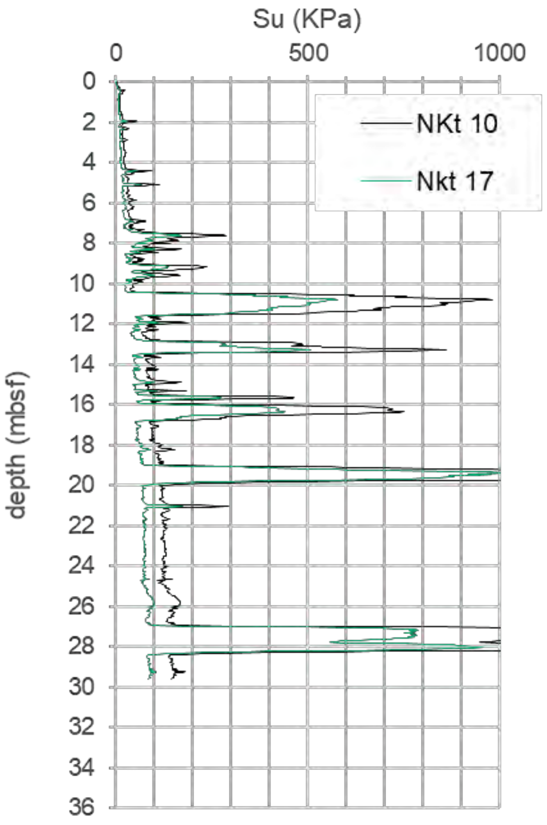
qc & qt (kPa)
0
5000
10000
15000
20000
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
qc
qt



fs (kPa)
0
50
100
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36

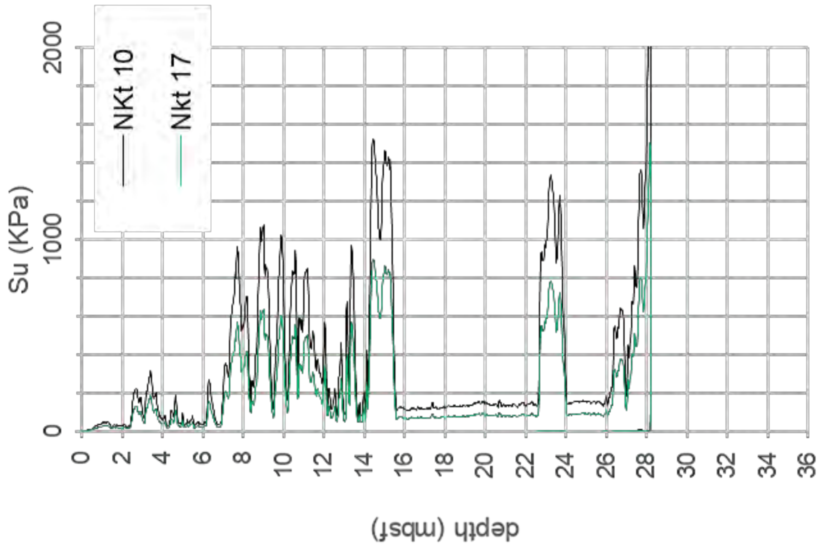


u_2 (kPa)
0
500
1000
1500
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36

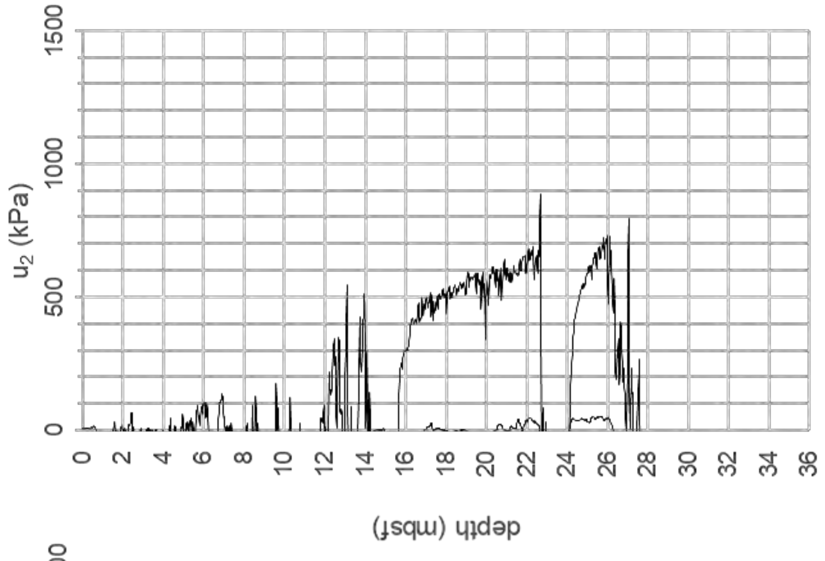


Su (KPa)
0
500
1000
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
NKt 10
Nkt 17

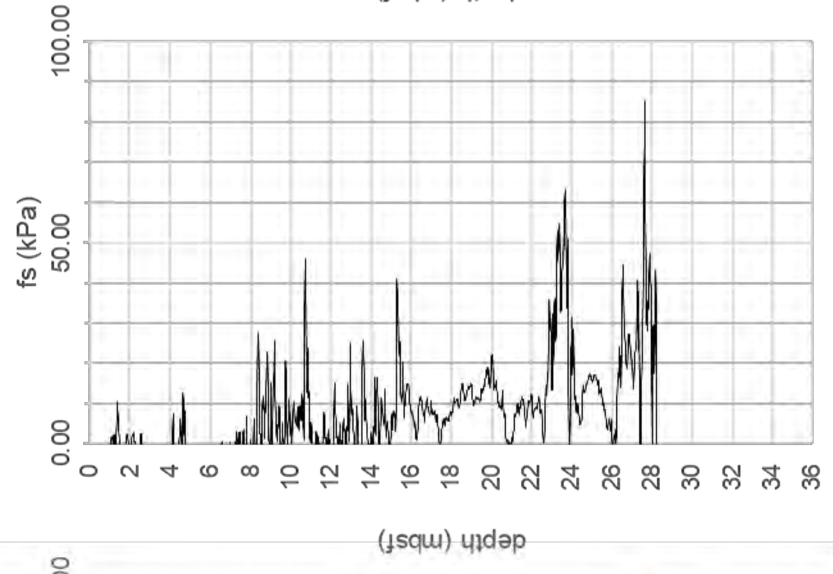
PF07-06



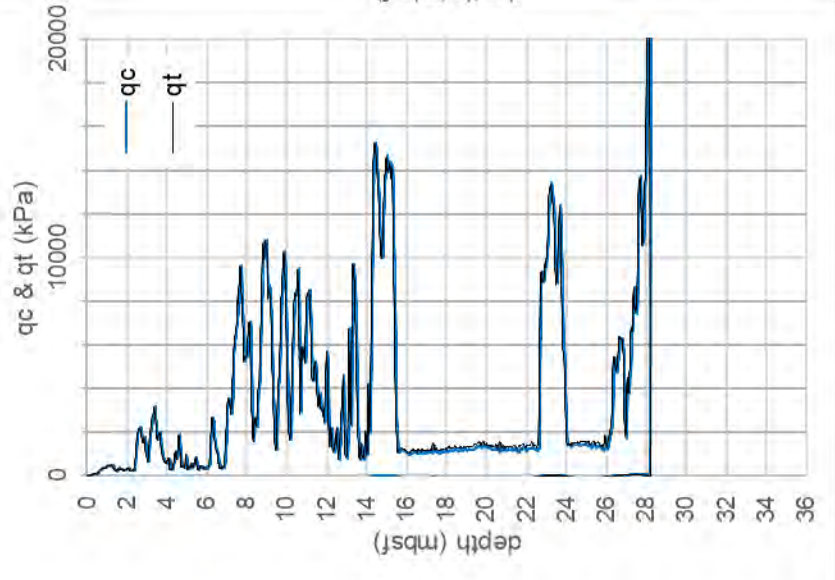
Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)



u_2 (kPa)
depth (mbsf)

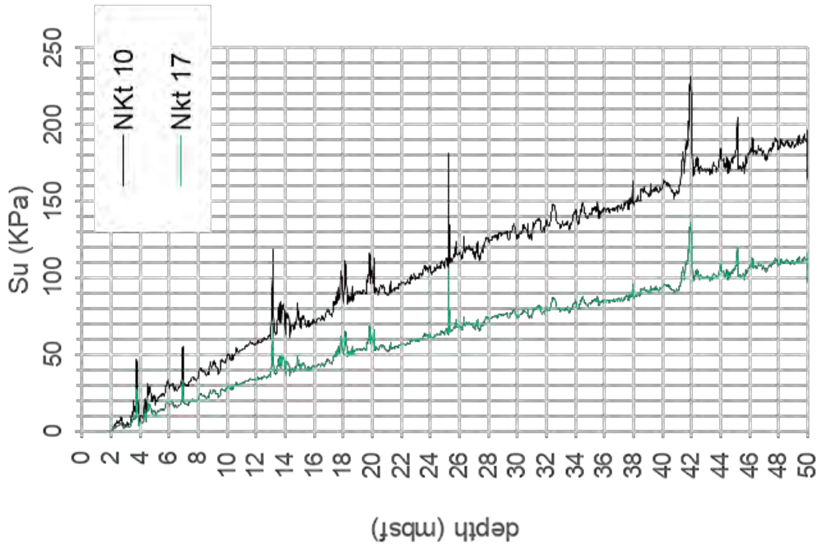


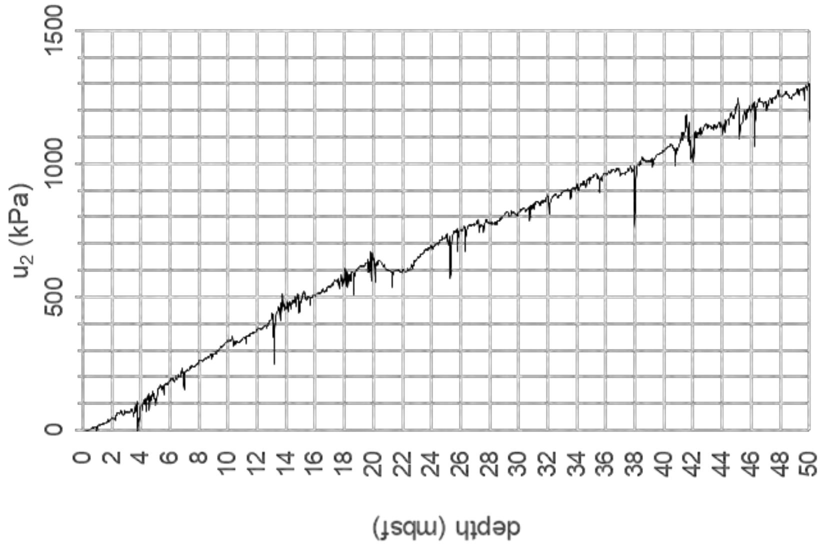
fs (kPa)
depth (mbsf)

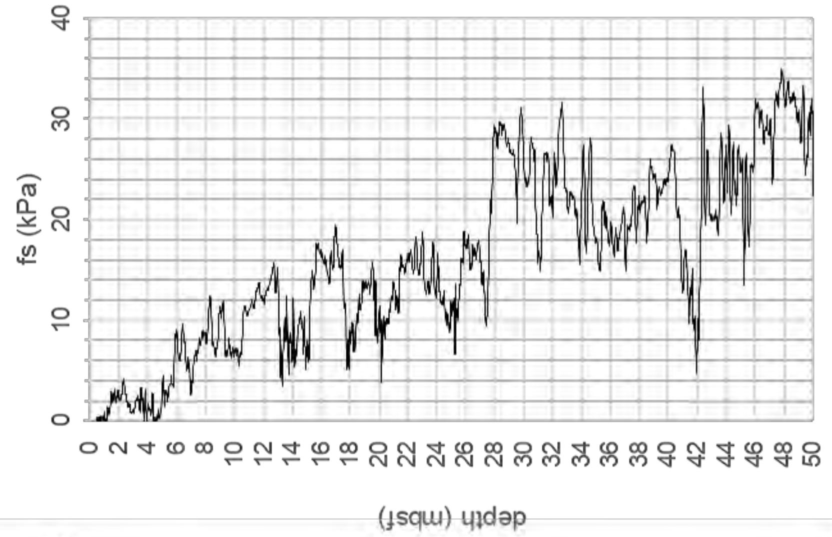


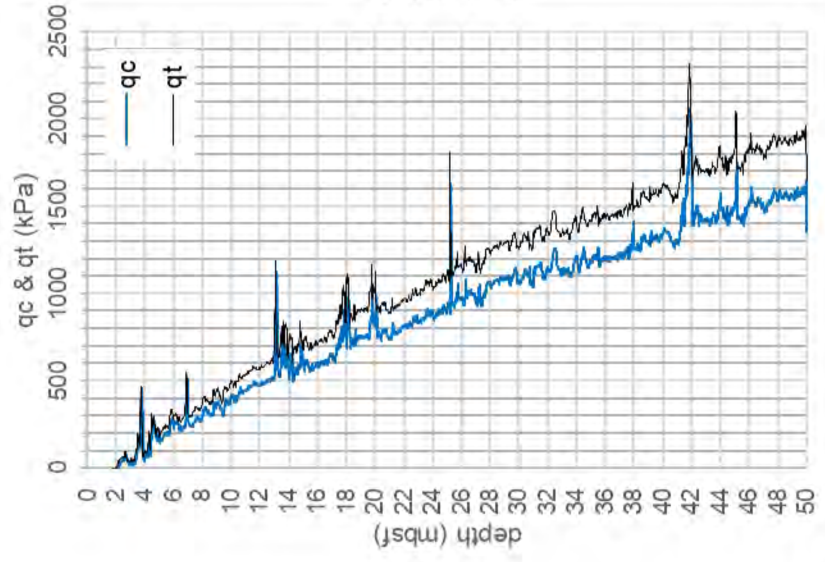
qc & qt (kPa)
qc
qt
depth (mbsf)

PF08-01

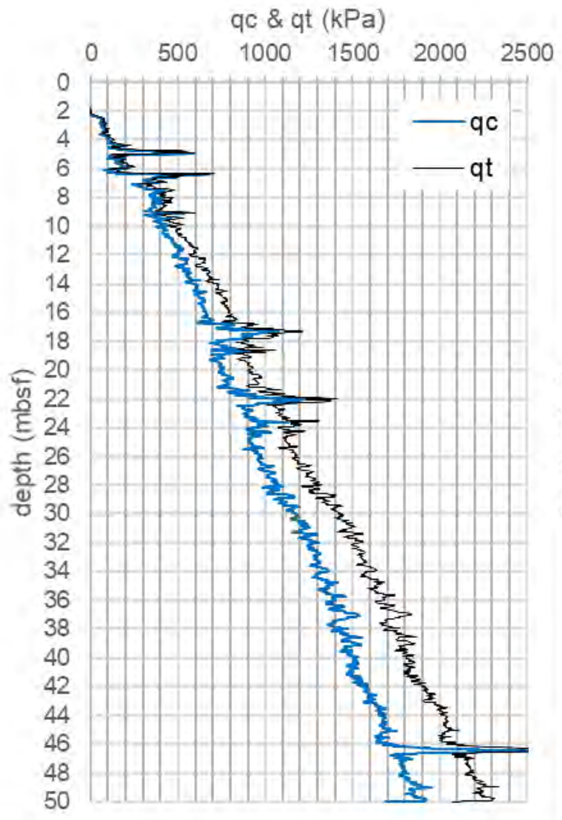

Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)

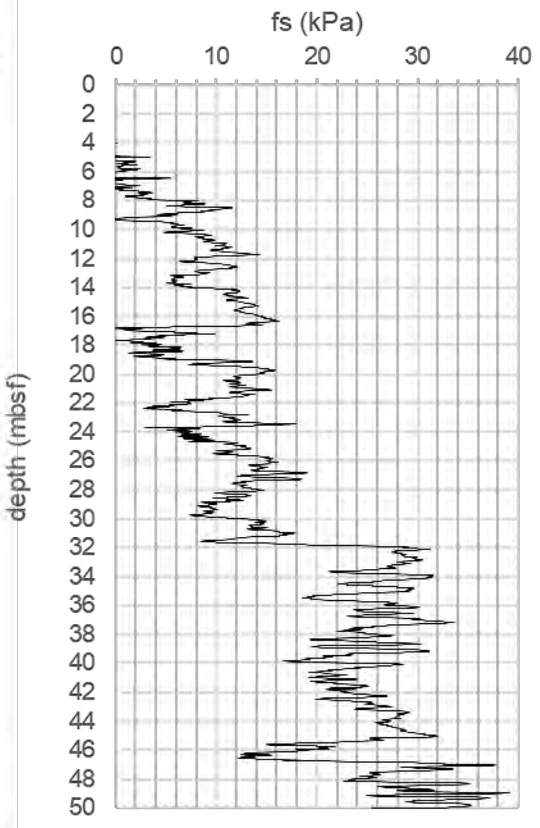

u2 (kPa)
depth (mbsf)

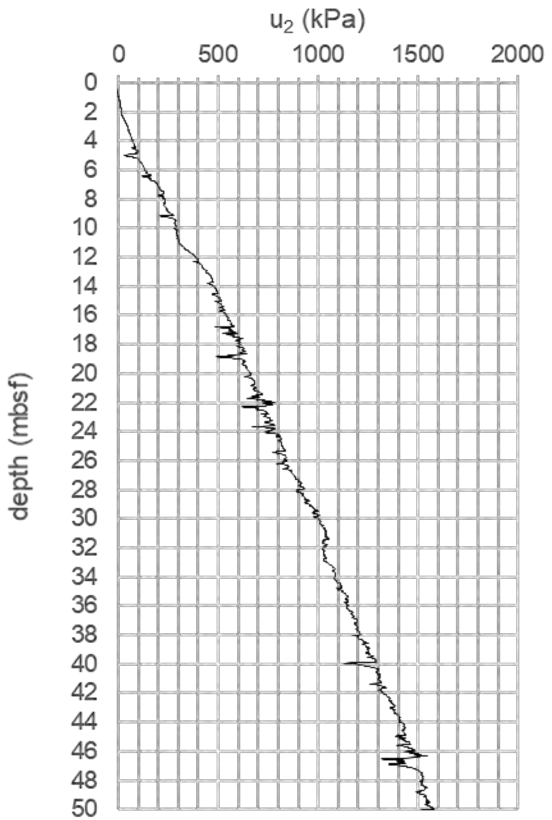

fs (kPa)
depth (mbsf)

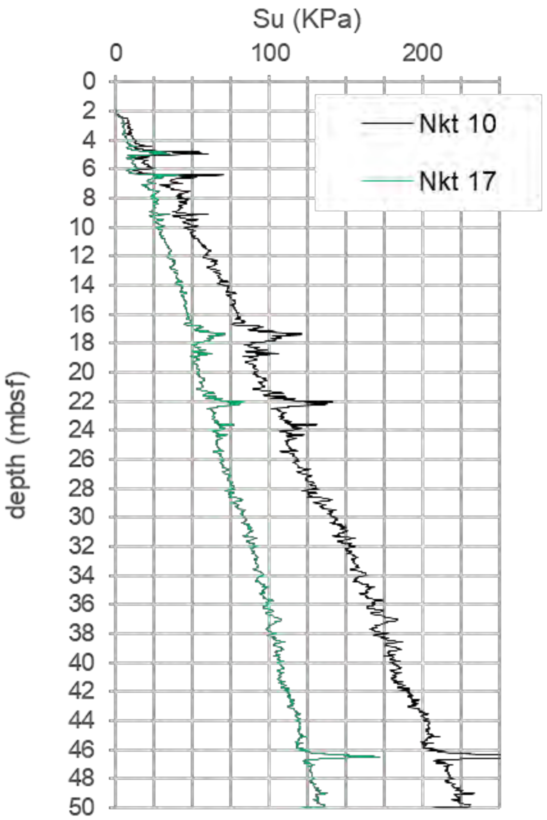

qc & qt (kPa)
qc
qt
depth (mbsf)

PF08-02

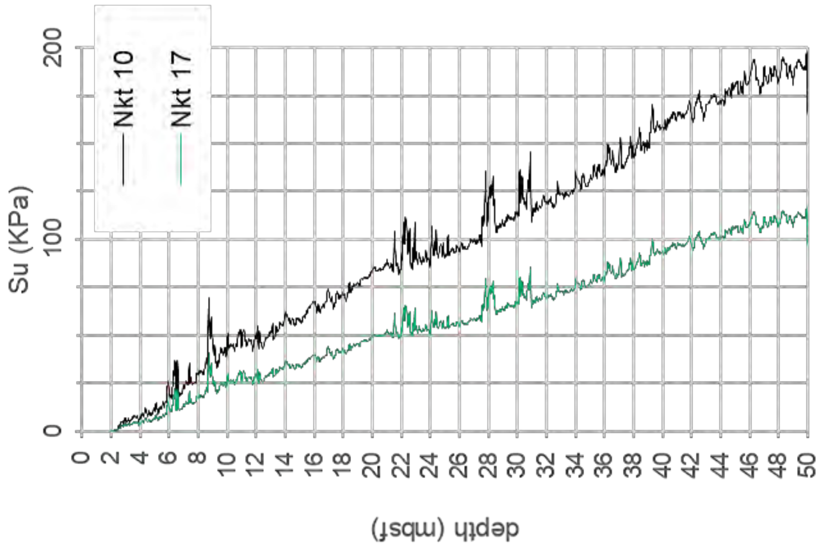

qc & qt (kPa)
depth (mbsf)
qc
qt

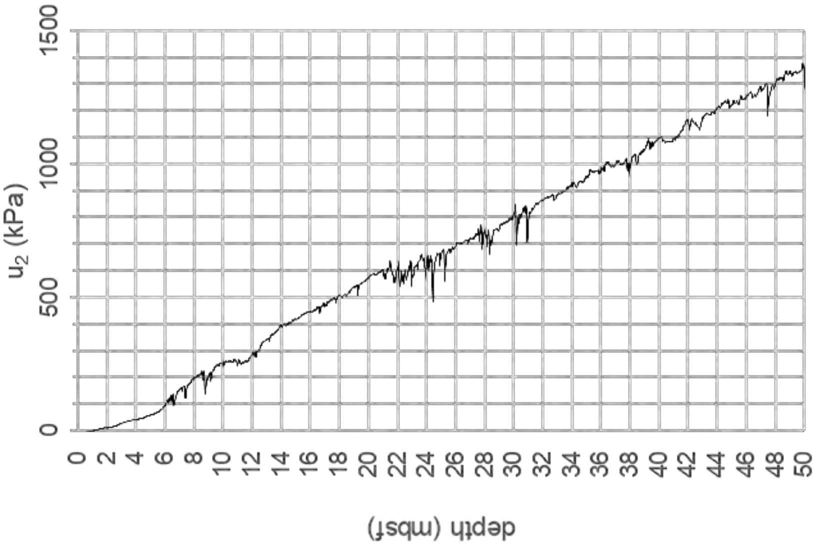

fs (kPa)
depth (mbsf)

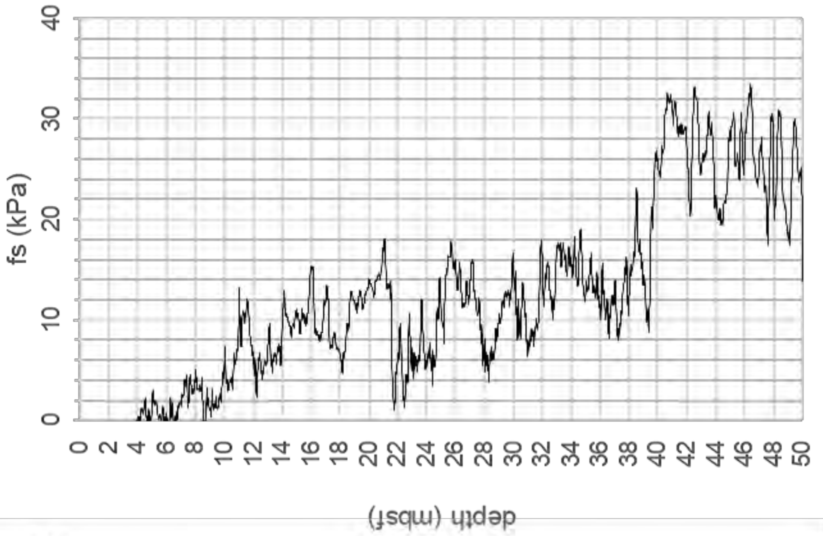

u_2 (kPa)
depth (mbsf)

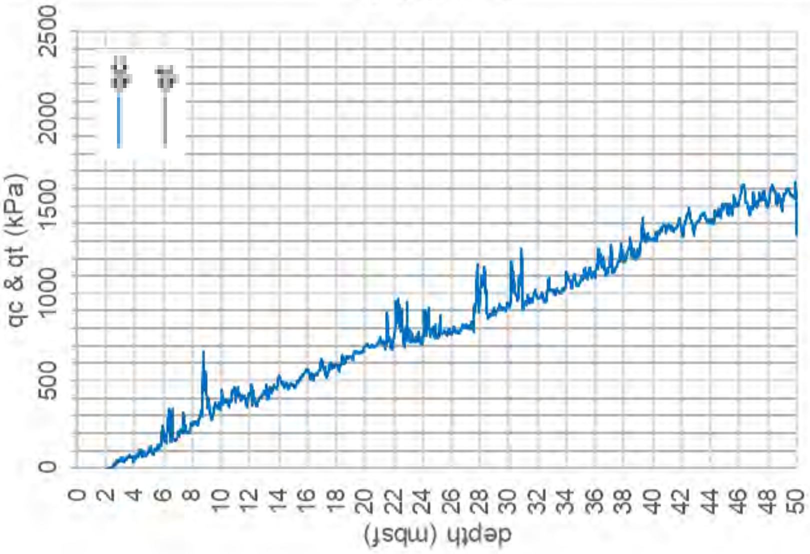

Su (KPa)
depth (mbsf)
Nkt 10
Nkt 17

PF08-03

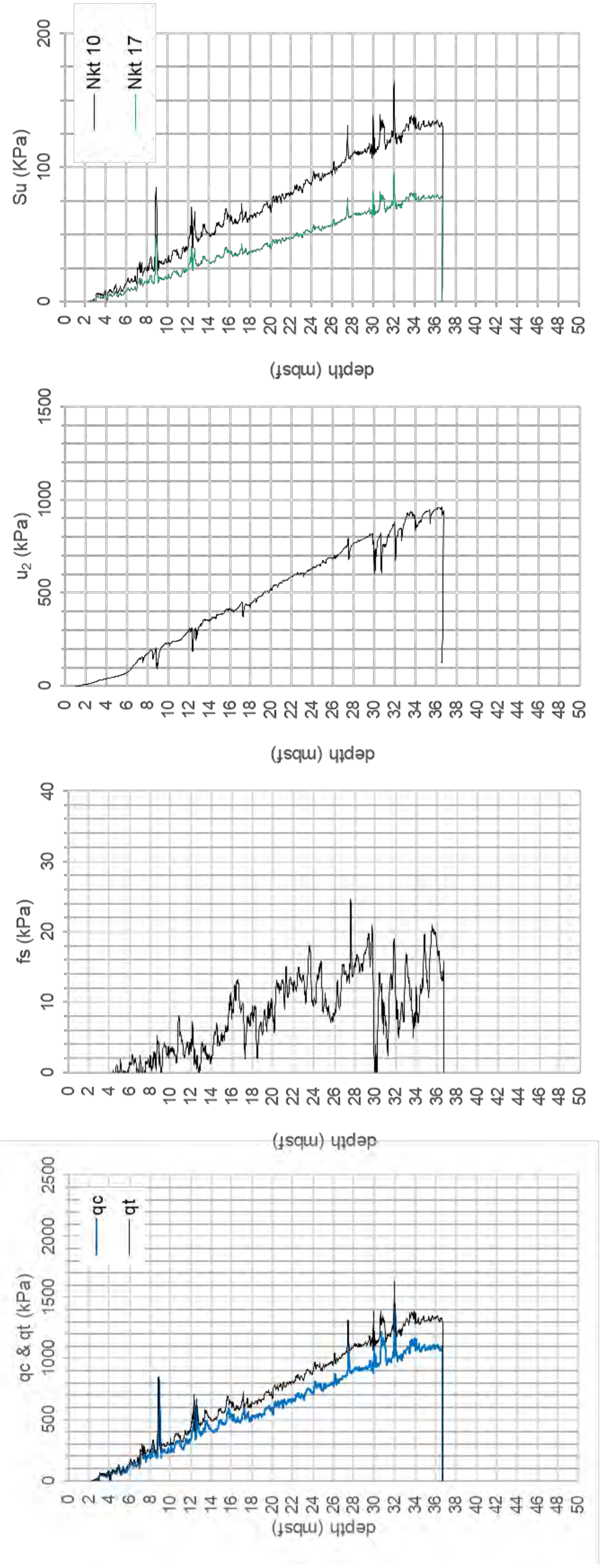

Su (KPa)
depth (mbsf)
Nkt 10
Nkt 17


u_2 (kPa)
depth (mbsf)

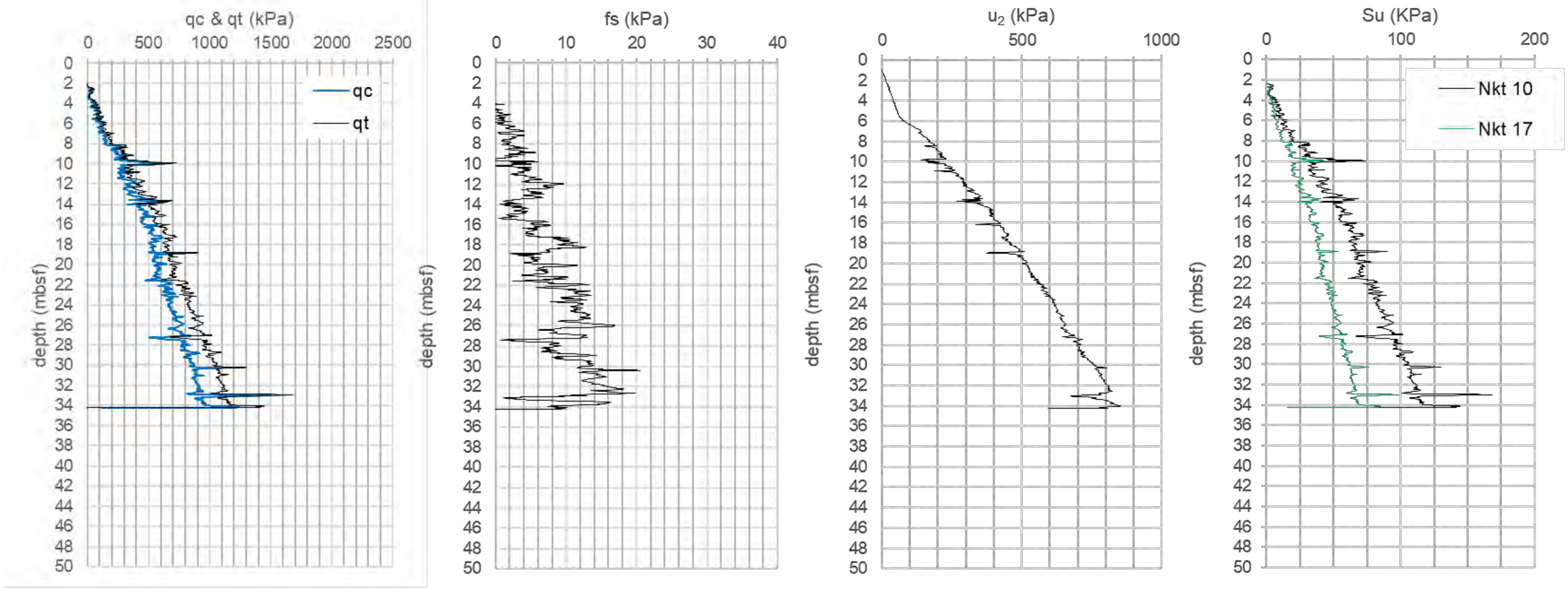

fs (kPa)
depth (mbsf)


qc & qt (kPa)
depth (mbsf)

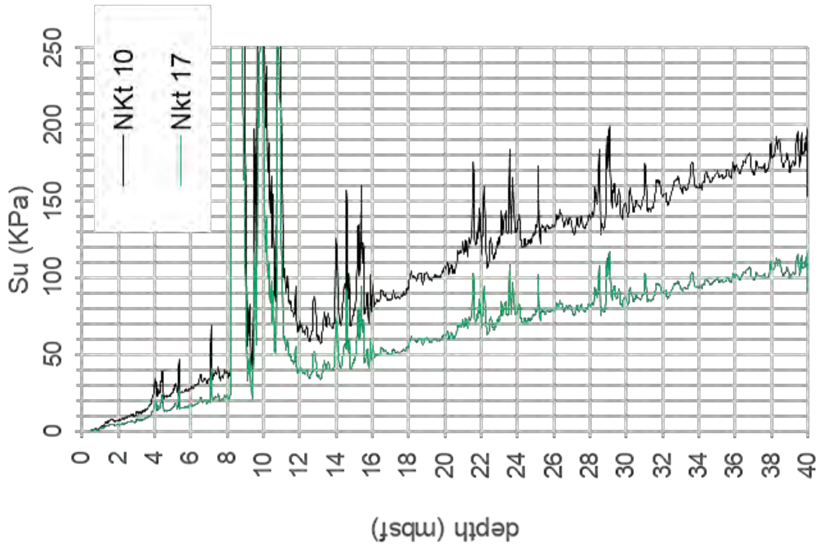
PF08-04

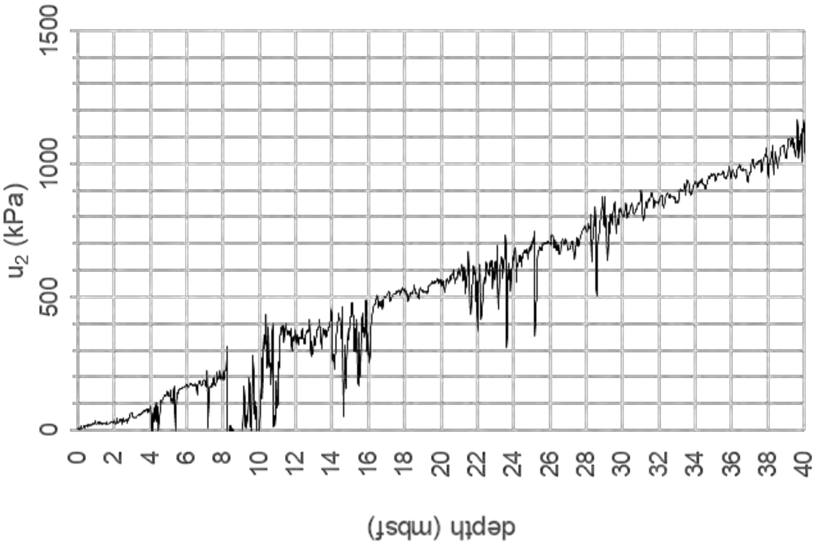

Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

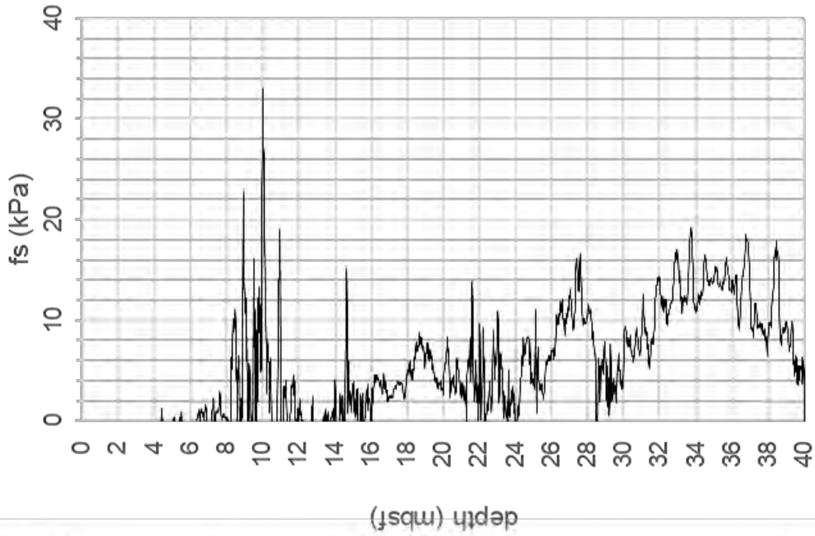
PF08-05

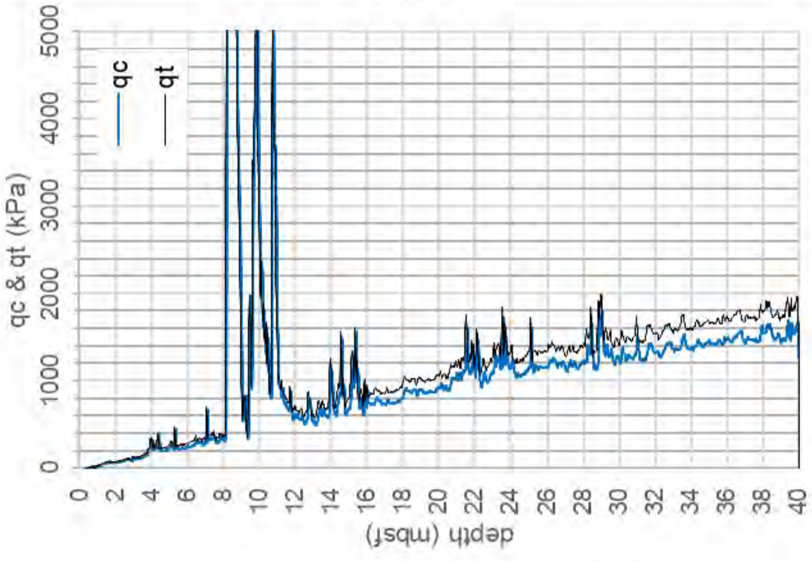

qc & qt (kPa)
qc
qt
depth (mbsf)
fs (kPa)
depth (mbsf)
u_2 (kPa)
depth (mbsf)
Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)

PF09-01

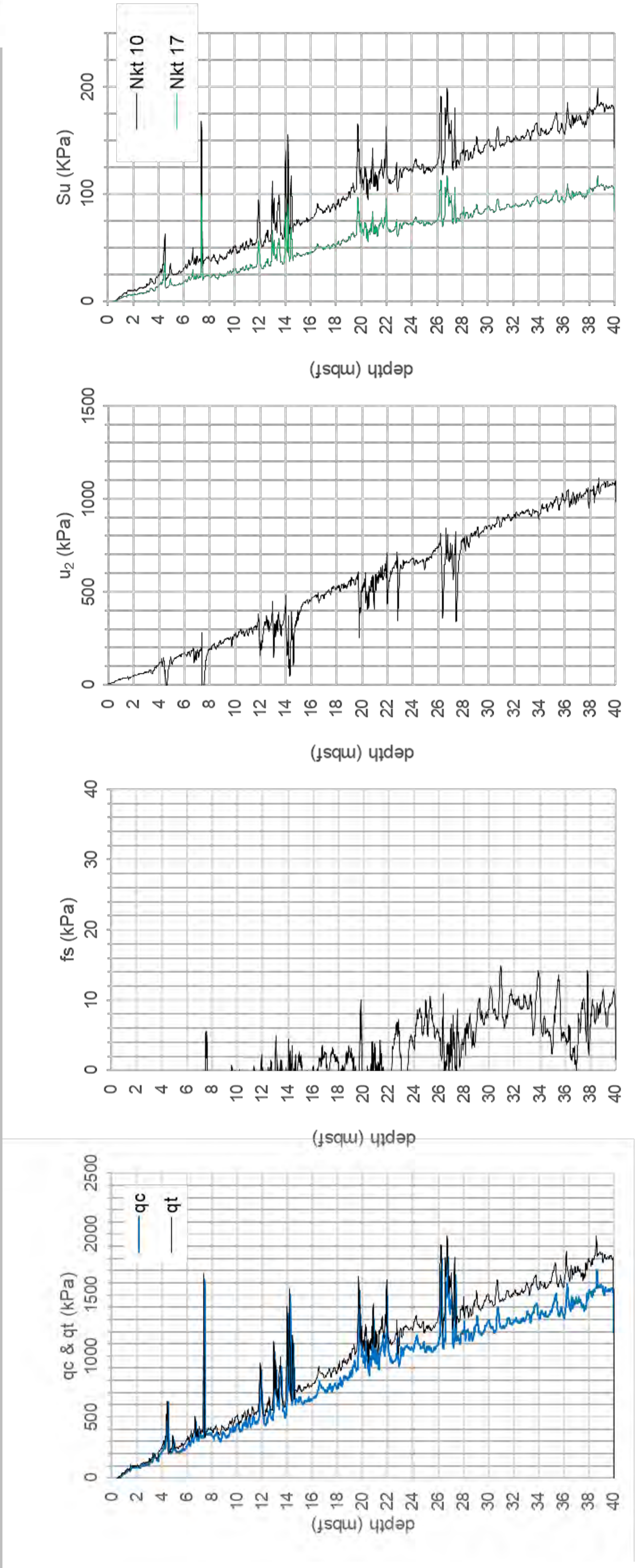

Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)


u2 (kPa)
depth (mbsf)


fs (kPa)
depth (mbsf)

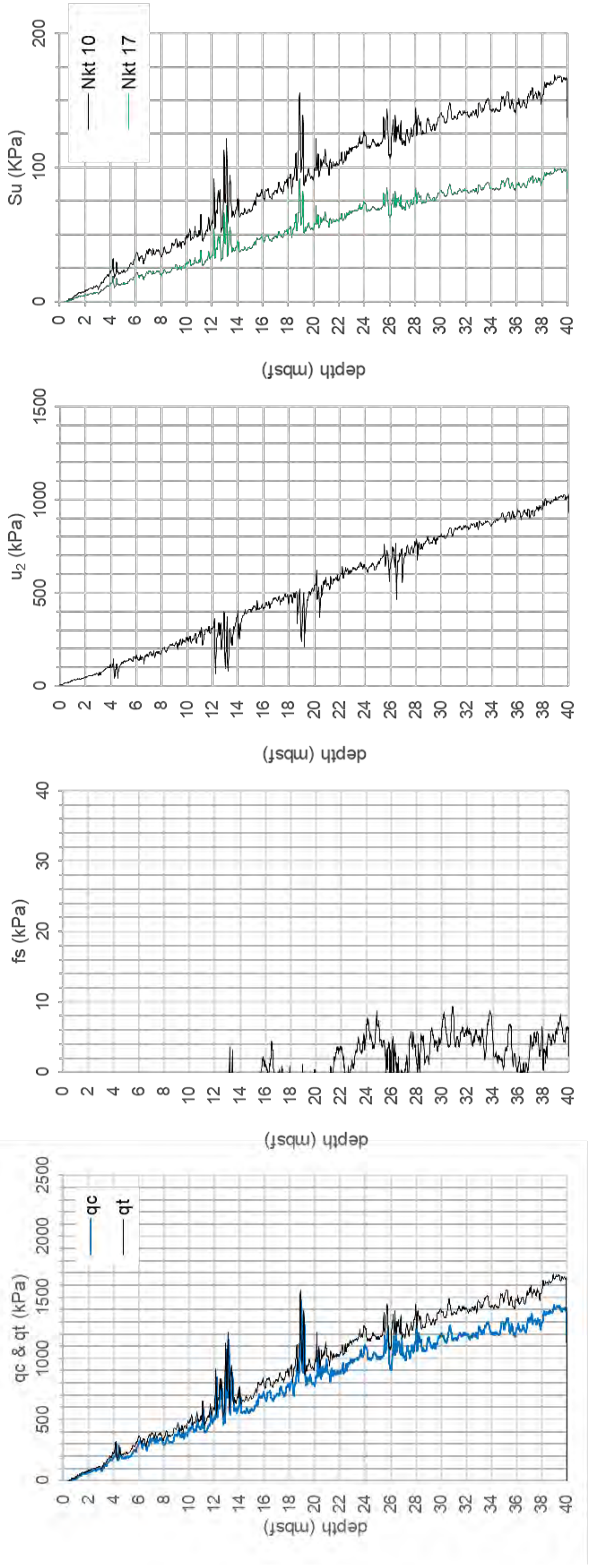

qc & qt (kPa)
qc
qt
depth (mbsf)

PF09-02

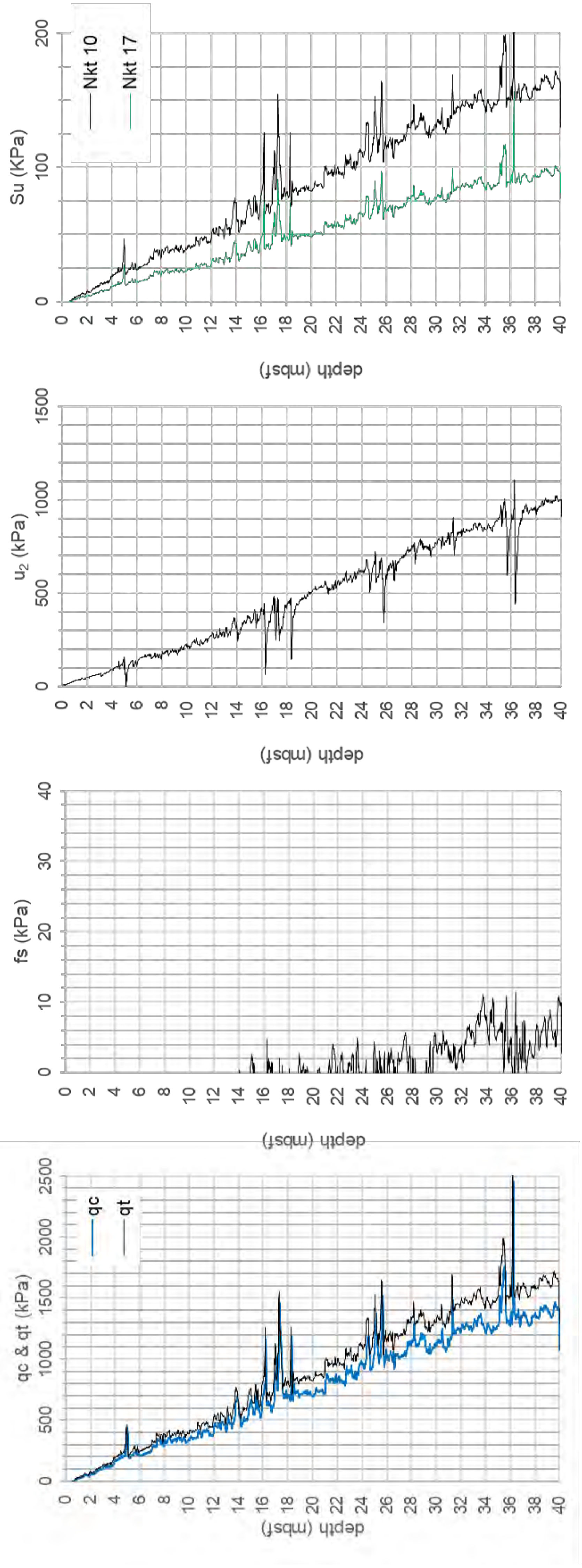

Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

ALBACORE

PF09-03

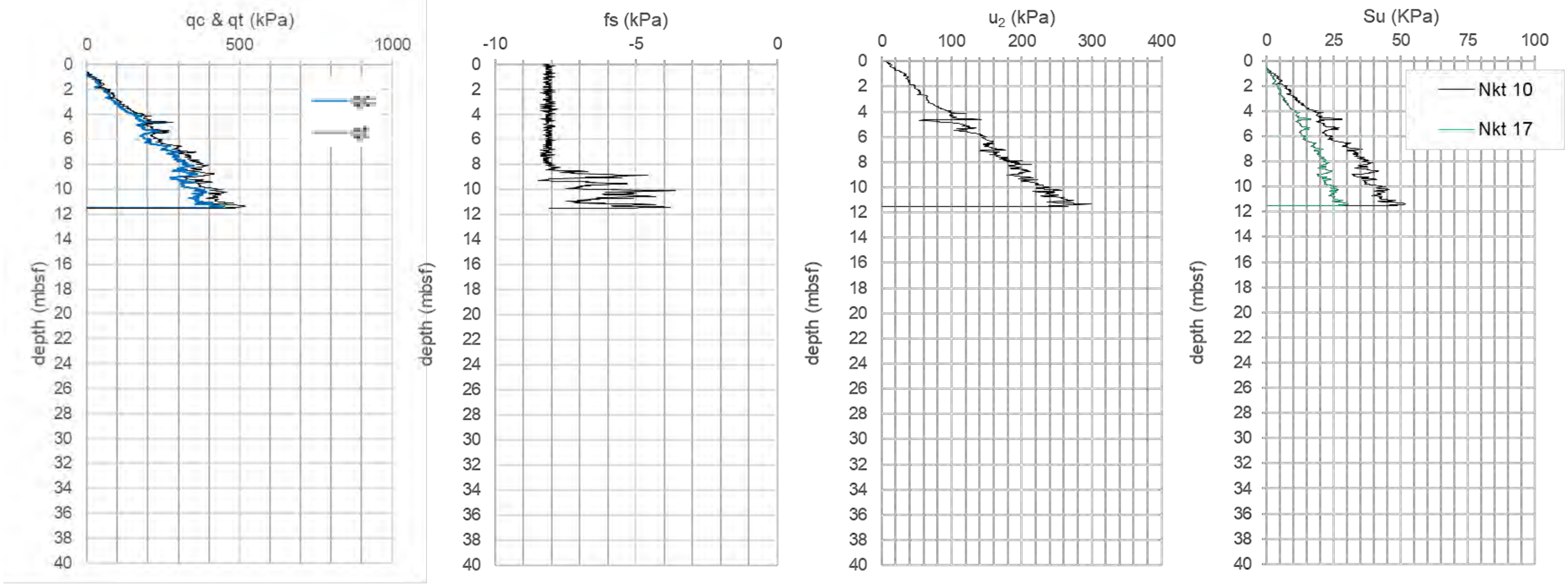


PF09-04



Su (KPa)
Nkt 10
Nkt 17
depth (mbsf)
u2 (kPa)
depth (mbsf)
fs (kPa)
depth (mbsf)
qc & qt (kPa)
qc
qt
depth (mbsf)

PF09-05


qc & qt (kPa)
0
500
1000
qc
qt
depth (mbsf)
fs (kPa)
-10
-5
0
depth (mbsf)
u_2 (kPa)
0
100
200
300
400
depth (mbsf)
Su (KPa)
0
25
50
75
100
Nkt 10
Nkt 17
depth (mbsf)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40

APPENDIX 5 : Quart Technique Mission Albacore

Quart Technique Mission ALBACORE

N/O Pourquoi Pas ?

<u>Du 13 octobre 2021 au 15 novembre 2021</u>
La Seyne sur mer – La Seyne sur mer

-
Commandant : Gerard Bourret
Chef de mission : Elia d'Acremont – Sara Lafuerza
Responsable embarquée : Jean Claude LE PAGE

-

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<u>PARTICIPANTS :</u>

<u>ELECTRONIQUE</u>
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Les heures sont exprimées en heure TU

<u>Samedi 16 octobre :</u>

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10h00 : Test sippican bâbord

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<u>Mardi 19 octobre :</u>

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01h30 : Tir Sippican T7_00002
01h50 : Arrivée sur ZEE Maroc, début d'acquisition SMF 7150 + SUBOP PP_0001
01h57 : Début de profil SMF 7150 + SUBOP PP_0002
02h37 : Fin de profil, début de giration
02h43 : Début de profil retour vers station SMF 7150 + SUBOP PP_0003.
03h09 : Arrivée en station, fin de profil ;
14h06 : Reprise acquisition ADCP 38
14h45 : Route vers point Penfeld ***SV5*** – Reprise acquisition SMF 24 kHz + SUBOP PP_0004
17h38 : Tir Sippican T7_***00002***. Entrée dans SMF
17h45 : Arrêt ADCP 38 et 150 avant giration
17h50 : Début de profil Site survey SV5-SV6. SMF 7150 et SUBOP PP_0005
18h05 : Fin de profil, arrêt des acquisitions. Début de plongée Penfeld

<u>Mercredi 20 octobre :</u>

06h45 : début de transit vers point SV5 – 10knts – SUBOP PP_0006 + ADCP 38 / 150 + SMF 7150 24kHz
07h45 : Tir Sippican T7_0004. Entré dans SMF

07h52 : Arrivée SV5 – Début de profil –> SV6 - 6nds – Arrêt ADCP 38/150 – Chgt fichier SMF + SUBOP PP_00007
08h14 : SV6 Fin de profil - Giration vers SV7 – 10nds - Chgt fichier SMF + SUBOP PP_0008 – Reprise ADCP38/150
08h50 : Tir Sippican T7_0005
08h59 : Début de profil SV7 -> SV8 – Intégration T7_0005 dans SMF – Arrêt ADCP 38/150 – Chgt fichiers SMF + SUBOP PP_00009
09h15 : Fin de profil, giration vers SV8
09h22 : Début de profil SV8 -> SV20 –Chgt fichiers SMF + SUBOP PP_00010
09h40 : SV20 - Fin de profil – Rte vers SV18
09h45 : Chgt de fichier SMF + SUBOP PP_00011 – Rte vers SV18
09h50 passage sur SV18 puis boucle pour giration – Pas de chgt de fichier.
10h02 : SV18 début profil -> SV16 – Chgt fichier SMF + SUBOP PP_00012
10h15 : SV16 Fin de profil – SV14 Début de profil - Chgt fichier SMF + SUBOP PP_00013
10h30 : SV14 Fin de profil – Giration vers SV22 (pas de boucle) Début de profil - Chgt fichier SMF + SUBOP PP_00014
10h44 : Giration vers SV22. Pas de chgt de fichier
10h48 : SV22 Début de profil - Chgt fichier SMF + SUBOP PP_00015 ***Survey Penfeld***
11h20 : SV20 Fin de profil - Chgt fichier SMF + SUBOP PP_00016 – Route vers Site 13_17 – 10nds – ADCP 38/150
12h10 : En station Site 13_17. Arrêt SMF + SUBOP + ADCP 38/150

Jeudi 21 Octobre

09h14 : Route vers Pt SITE_21 – 6nds – ADCP 150 *(pas 38, risque interférences avec 24kHz si pas de synchro - vu avec OE)* + SMF + SDS PP_00017
09h54 : passage sur SITE_21, on continue route avant retour, sondeurs tjrs actifs
09h58 : Stop acquisitions – Retour au Pt SITE_21 pour carottage.
10h15 : En station
22h02 : Arrivée au Point 2 (début de boite). Lancement acquisition ADCP 138 – SMF 24 kHz (sonde 450m) – SDS PP_00018
22h10 : Correction Subop mode 50m<P<500m – Chgt fichier SDS PP_00019
22h44 : Tir Sippican T7_00006
22h54 : intégration T7_00006 dans SMF 24kHz
23h04 : Arrivée point 3 - Fin de profil. On continue route avant giration Pts 3 -> 4. Pas de chgt de fichier.
23h06 : Début de giration – Chgt de fichier SMF + SDS PP_00020
23h12 : Début de profil – Chgt fichier SMF + SDS PP_00021
23h28 : Fin de profil – Stop acquisition SMF + SDS
23h37 : Début de profil –> Pt 5 - Reprise acquisition SMF + SDS PP_00022

Vendredi 22 Octobre

00h07 : Fin de profil – Giration – Chgt fichier SMF + SDS PP_00023
00h13 : Début de profil Pt 6 -> Pt 7 - Chgt fichier SMF + SDS PP_00024
02h10 : Arrêt ADCP 150
02h39 : Fin de profil – Giration
02h46 : Début de profil Pt 8 -> Pt 9 - Chgt fichier SMF 7150, début d'acquisition 7111 + SDS PP_00025
03h53 : Fin de profil – Giration – Arrêt de SMF 7150
04h00 : Début de profil Pt 10 -> Pt 11 - Chgt fichier SMF 7111+ SDS PP_00026
04h20: Tir Sippican T10_00007
05h25 : Fin de profil – Giration
05h35 : Début de profil Pt 12 -> Pt 13 - Chgt fichier SMF 7111+ SDS PP_00027

07h24 : Début de profil Pt 13 -> Pt 14 - Chgt fichier SMF 7111+ SDS PP_00028
07h37 : Début de profil Pt 14 -> Pt 15 - Chgt fichier SMF 7111+ SDS PP_00029
09h27 : Début de profil Pt 16 -> Pt 17 - Chgt fichier SMF 7111+ SDS PP_00030
09h52 : tir sippican T10_0008
10h05 : Intégration T10_0008 dans 7111
11h31 : Fin de profil – Giration – Chgt fichier SMF 7111 + Pause acqut° SDS
11h38 : Début de profil Pt 18 -> Pt 19 - Chgt fichier SMF 7111+ SDS PP_00031
11h54 : Tir Sippican T10_0009
12h08 : intégration dans SMF 7111
13h39 : Fin de profil – Giration – Chgt fichier SMF 7111 + Pause acqut° SDS
13h48 : Début de profil Pt 20 -> Pt 21 - Chgt fichier SMF 7111+ SDS PP_00032
15h37 : Défaut réseau Techsas. Plus de données positions et attitude. Arrêt acquisition. Vitesse réduite à 2kts.
15h47 : Reprise d'acquisition. Vers Pt 21. SMF + SDS PP_00033
16h06 : Fin de profil – Giration – Chgt fichier SMF 7111 + Pause acqut° SDS
16h12 : Début de profil Pt 22 -> Pt 23 - Chgt fichier SMF 7111+ SDS PP_00034
18h15 : Fin de profil – Giration – Chgt fichier SMF 7111 + Pause acqut° SDS
18h24 : Début de profil Pt 24 -> Pt 25 - Chgt fichier SMF 7111+ SDS PP_00035
21h30 : Plantage sondeur. Relance PDS, pas mieux. Relance 7p, ok, reprise acquisition. Fichier SDS PP_00036
22h26 : Fin de profil – Giration – Chgt fichier SMF 7111 + Pause acqut° SDS
22h34 : Début de profil Pt 28 -> Pt 29 - Chgt fichier SMF 7111+ SDS PP_00037

<u>Samedi 23 Octobre</u>

00h36 : Fin de profil – Giration – Chgt fichier SMF 7111 + Pause acqut° SDS
00h42 : Début de profil Pt 30 -> Pt 31 - Chgt fichier SMF 7111+ SDS PP_00038
02h43 : Fin de profil – Giration – Chgt fichier SMF 7111 + Pause acqut° SDS
02h49 : Début de profil Pt 32 -> Pt 33 - Chgt fichier SMF 7111+ SDS PP_00039
03h47 : Fin de profil, début de giration. Chgt fichier SMF 7111 + Pause acqut° SDS
03h48 : Début de profil. Traversier vers le sud en vue de remonter vers un second traversier nord avec un passage sur Site 32.
04h07 : Fin de profil, début de giration. Chgt fichier SMF 7111 + Pause acqut° SDS
04h12 : Début de profil. Traversier vers le nord Chgt fichier SMF 7111+ SDS PP_00041
04h36 : Passage sur site 32
05h10 : Mise en route du SMF 7150
05h19 : Fin de profil – Transit vers site 24 – Arrêt SMF 7111 + SDS PP_00042
05h23 : Mise en route de ADCP 150 pour transit vers site 23
05h58 : Arriver en station site 23, Fin d'acquisition
12h05 : Transit 9nds vers Pt 28 – SMF 7150 + SDS SDS PP_00043
12h32 : Arrivée Pt 28 – Arrêt SMF 7150 + SDS
20h25 : Transit vers Pt 1006 – 10nds – SMF 7150 + ADCP 150 + *SDS PP_00044 – Plantage archivage. Fichier 45 ok*
20h48:Tri Sippican – T7_00010
20h57: intégration T7_0010 dans SMF 7150
21h36 : Début de profil Pt 1006 -> Pt 1005 - Chgt fichier SMF 7150+ SDS PP_00046
23h38 : Fin de profil, début de giration. Chgt fichier SMF 7150+ SDS PP_00047
23h55 : Fin de giration - Début de profil Pt 1004 -> Pt 1003 - Chgt fichier SMF 7150+ SDS PP_00048
23h59 : arrêt ADCP 150

<u>Dimanche 24 Octobre</u>

01h45 : Fin de profil, début de giration. Chgt fichier SMF 7150+ SDS PP_00049
02h05 : Début de profil Pt 1004 -> Pt 1003 - Chgt fichier SMF 7150+ SDS PP_00050
04h08 : Fin de profil. Transit vers Site 20 - Chgt fichier SMF 7150+ SDS PP_00051
04h48 : Arrivée sur Site 20. Fin d'acquisition.
11h48 : Transit 10nds vers site 12_18 – SMF 7150 + SDS PP_00052
12h20 : Arrivée au Pt 12_18. Arrêt acquisitions.

20h01: Transit Pt 12_18 -> Pt 2000 - SMF 7150 + SDS PP_00053
20h13 : Début de profil Pt 2000 -> Pt 2001 - Chgt fichier SMF 7150+ SDS PP_00054
20h50 : Pt 2001- giration -> Pt 2002 - Chgt fichier SMF 7150+ SDS PP_00055 + Chgt mode SDS 50m<prof<500
21h29 : Pt 2002 -> Pt 2003 - Chgt fichier SMF 7150+ SDS PP_00056
21h45: Tir Sippican n° T7_00011
21h55 : Intégration T7_00011 dans SMF 7150
22h29 : Pt 2003 giration -> Pt 2004 - Chgt fichier SMF 7150+ SDS PP_00057
22h43 : Pt 2003 -> Pt 2004 - Chgt fichier SMF 7150+ SDS PP_00058
23h18 : On s'écarte de 350m vers le nord, même profil.
23h20 : Chgt mode SDS prof>500 80% - SDS PP_00059
23h25 : on sort du profil pour boucher trou au sud, pas de conséquence pour profil car déjà passé.
23h36 : fin de profil – Giration vers Pt 2006. Chgt fichier SMF 7150+ SDS PP_00060
23h47 : début de profil Pt 2006 -> Pt 2007 - Chgt fichier SMF 7150+ SDS PP_00061

Lundi 25 Octobre

00h47 : fin de profil – Giration vers Pt 0008. Chgt fichier SMF 7150+ SDS PP_00062
00h54 : début de profil Pt 0008 -> Pt 0007 - Chgt fichier SMF 7150+ SDS PP_00063
01h46 : fin de profil – Giration vers Pt 0006. Chgt fichier SMF 7150+ SDS PP_00064
01h56 : début de profil Pt 0006 -> Pt 0005 - Chgt fichier SMF 7150+ SDS PP_00065
01h59 : Passage sur profil célérité T7_00010
02h55 : fin de profil – Giration vers Pt 0004. Chgt fichier SMF 7150+ SDS PP_00066
03h05 : début de profil Pt 0004 -> Pt 0003 - Chgt fichier SMF 7150+ SDS PP_00067
03h55 : fin de profil – Décalage vers 3000. Chgt fichier SMF 7150+ SDS PP_00068
03h05 : début de profil Pt 3000 -> Pt 3001 - Chgt fichier SMF 7150+ SDS PP_00069
04h30 : fin de profil – transit vers site 12_18. Chgt fichier SMF 7150+ SDS PP_00070
04h52 : Arrivé sur site 12_18. Fin d'acquisition

19h46 : On quitte station site 96 pour transit 10nds -> Pt 34 - SMF 7150 - SDS PP_00071 (mode 50<prof<500)
20h02 : Mise en acquisition 7111 (sonde 290-310m). 7150 tjrs en acquisition.
20h10 : Arrêt SMF 7150 - Chgt sondeur référence (7111)
20h28 : début de profil Pt 34 -> Pt35 – 7nds – Chgt fichier SMF 7111+ SDS PP_00072
20h38 : Tir Sippican T7_00012 (sonde à 104m)
20h54 : intégration dans 7111. Pas terrible. Essai T7_00002 -> ok pour sondeur
21h14 : célérité à surveiller.
22h01 : Pt 35 fin de profil – Giration vers Pt 36 – Chgt fichier SMF 7111+ SDS PP_00073
22h13 : Pt 36 début de profil -> Pt 37 - Chgt fichier SMF 7111+ SDS PP_00074
22h31 : Tir Sippican T10_00013 (sonde à 100m)
22h41 : intégration T10_00013 – Pas de chgt pour le sondeur…
22h49 : Célérité sondeur ok
23h33 : Pt 37 fin de profil – Giration vers Pt 38 – Chgt fichier SMF 7111+ SDS PP_00075
23h45 : Pt 38 début de profil -> Pt 39 - Chgt fichier SMF 7111+ SDS PP_00076

Mardi 26 Octobre

00h49 : Pt 39 fin de profil – Giration vers Pt 40 – Chgt fichier SMF 7111+ SDS PP_00077
00h56 : Pt 40 début de profil -> Pt 41 - Chgt fichier SMF 7111+ SDS PP_00078
01h55 : Pt 41 fin de profil – Giration vers Pt 42 – Chgt fichier SMF 7111+ SDS PP_00079
02h04 : Pt 42 début de profil -> Pt 43 - Chgt fichier SMF 7111+ SDS PP_00080
02h47 : Pt 43 fin de profil – Giration vers Pt 44 – Chgt fichier SMF 7111+ SDS PP_00081
02h55 : Pt 44 début de profil -> Pt 45 - Chgt fichier SMF 7111+ SDS PP_00082
03h35 : Pt 45 fin de profil – Giration vers Pt 49 – Chgt fichier SMF 7111+ SDS PP_00083
03h49 : Pt 49 début de profil -> Pt 48 - Chgt fichier SMF 7111+ SDS PP_00084
04h15 : Pt 48 fin de profil – Giration vers Pt 51 – Chgt fichier SMF 7111+ SDS PP_00085
04h37 : Pt 51 début de profil -> Pt 50 - Chgt fichier SMF 7111+ SDS PP_00086
05h37 : Pt 50 fin de profil. Début de transit vers site 96
06h13 : Début d'acquisition 7150, fin d'acquisition 7111.
06h25 : Arrivée sur Site 96. Fin d'acquisition s

15h30 : Début d'acquisition transit vers site 101
15h48 : Début acquisition grand fond
17h30 : Tir sippican T7_00014. Ajouter dans 7111 et 7150
17h35 ; Arrivée sur site 101 (Pt 4) - Changement de profil. Vitesse 7nds
17h40 : Arrêt 7150
18h05 : Pt 03 début de profil -> Pt 2 – Chgt fichier 7111 + SDS PP_00090
18h12 : Pt 2 fin de profil – Giration vers Pt 1 - Chgt fichier 7111 + SDS PP_00091
18h15 : début de profil -> Pt 1 Chgt fichier 7111 + SDS PP_00092
18h29 : Pt 1 fin de profil. Giration rte transit 10nds vers SVAI2 - Chgt fichier 7111 + SDS PP_00093
18h54 : Mise en marche 7150. Sondeur référence sur 7150
19h00 : Arrêt 7111
19h04 : Chgt mode SDS prof.>500m - SDS PP_00093
19h51 : Tir Sippican T7_00015
19h58 : intégration T7_00015 dans 7150
20h03 : Début de profil SVAI.1 -> SVAI.2 - Chgt fichier 7150 + SDS PP_00095
20h42 : Fin de profil. Giration pour aller au Pt 41_47 - Chgt fichier 7150 + SDS PP_00096
20h47 : Retour sur SVAI.2 vers Pt 41_47. Chgt fichier 7150 + SDS PP_00096
21h00 : en station. Arrêt acquisition SMF + SDS

Mercredi 27 octobre

15h42 : Transit vers site 41. Début d'acquisition.
16h19 : Site 41 : Fin d'acquisition.

20h26 : Rte transit 10nds vers Pt PT01_C (Survey Penfeld) - Chgt fichier 7150 + SDS PP_00099
21h00 : Pt PT01_C – Début de profil -> PT02_C – 7nds - Chgt fichier 7150 + SDS PP_00100
21h16 : Fin de profil – Retour au Pt Penfeld 38_43. Arrêt SMF + SDS.

Jeudi 28 octobre

15h36 : Transit vers site 90. Début d'acquisition
15h59 : Arrêt dans ZEE Espagne, fin d'acquisition
21h40 : Entrée ZEE Maroc. Tir Sippican T7_00016
21h45 : Pt 4001 début de survey/profil -> Pt 4012 - Chgt fichier 7150 + SDS PP_00102
21h51 : Intégration T7_00016 dans 7150
22h15 : Fin de profil – Giration vers Pt 4009 - Chgt fichier 7150 + SDS PP_00103

22h27 : Début de profil -> Pt 4010 - Chgt fichier 7150 + SDS PP_00104
22h56 : Fin de profil – Giration vers Pt 4007 - Chgt fichier 7150 + SDS PP_00105
23h04 : Début de profil -> Pt 4008 - Chgt fichier 7150 + SDS PP_00106
23h32 : Fin de profil – Giration vers Pt 4005 - Chgt fichier 7150 + SDS PP_00107
23h41 : Début de profil -> Pt 4006 - Chgt fichier 7150 + SDS PP_00108

Vendredi 29 octobre

00h09 : Fin de profil – Giration vers Pt 4003 - Chgt fichier 7150 + SDS PP_00109
00h17 : Début de profil -> Pt 4004 - Chgt fichier 7150 + SDS PP_00110
00h46 : Fin de profil – Giration vers Pt 4001 - Chgt fichier 7150 + SDS PP_00111
00h55 : Début de profil -> Pt 4002 - Chgt fichier 7150 + SDS PP_00112
01h23 : Fin de profil – fin de boite bathy ->npt 8 - Chgt fichier 7150 + SDS PP_00113
00h55 : Début de profil -> Pt npt7 - Chgt fichier 7150 + SDS PP_00114
02h23 : Fin de profil – Giration vers Pt npt6 - Chgt fichier 7150 + SDS PP_00115
02h28 : Début de profil -> Pt np1 - Chgt fichier 7150 + SDS PP_00116
03h00 : Fin de profil – Giration vers Pt npt10 - Chgt fichier 7150 + SDS PP_00117
03h10 : Début de profil -> Pt np1 - Chgt fichier 7150 + SDS PP_00118
03h48 : Fin de profil – Giration vers Pt npt13 - Chgt fichier 7150 + SDS PP_00119
03h55 : Début de profil -> Pt np14 - Chgt fichier 7150 + SDS PP_00120
04h27 : Fin de profil – Giration vers Pt npt11 - Chgt fichier 7150 + SDS PP_00121
04h49 : Début de profil -> Pt np12 - Chgt fichier 7150 + SDS PP_00122
05h25 : Fin de profil – fin de boite bathy -> site 49 fichier 7150 + SDS PP_00123
05h46 : Arrivée sur site 49, fin d'acquisition.
09h50 : Fin de station, rte transit vers site 36 - 10nds - Chgt fichier 7150 + SDS PP_00124
10h38 : Mise en marche 7111
10h41 : Arrêt 7150
10h55 : Passage SDS en mode 50 < prof < 500m – chgt fichier SDS PP_00125
11h02 : Fin de transit – Giration vers Site 36 - Chgt fichier 7111 + SDS PP_00126
11h12 : En station. Arrêt des acquisitions.
17h41 : Transit vers Pt SV_PF05_2 (Survey Penfeld) - 7111 + SDS PP_00127
17h46 : SMF 7150 en acquisition + Arrêt 7111
18h07 : Chgt mode SDS prof > 500m 80% - SDS PP_00128
18h11 : Chgt mode SDS 50> prof > 500m - SDS PP_00129
18h14 : Pt SV_PF05_2 début de profil -> SV_PF05_1 – Chgt fichier 7150 + SDS PP_00130
18h29 : Fin de profil – Giration vers Pt BOB2 - Chgt fichier 7150 + SDS PP_00131
18h42 : Début de profil Pt BOB2 -> Pt BOB1 - Chgt fichier 7150 + SDS PP_00132
19h01 : Fin de profil – Retour sur Site 91 - Chgt fichier 7150
19h11 : Arrêt acquisitions2

Samedi 30 Octobre

05h58 : On quitte sites Penfeld pour transit 10nds vers Pt AH_01 – SMF 7150 + SDS PP_00133
06h29 : Pt AH_01 – Début de profil -> AH_02 - 7nds - Chgt fichier SMF 7150 + SDS PP_00134
06h39 : Mise en acquisition SMF 7111
06h54 : Arrêt SMF 7150
07h30 : on réduit vitesse à 5nds
07h59 : Fin de profil – Giration vers AH_03 - Chgt fichier SMF 7111 + SDS PP_00135
08h02 : Fin de giration – Profil vers Pt AH_03 - Chgt fichier SMF 7111 + SDS PP_00136
08h09 : Giration pour reprendre profil AH_03 -> AH_04 - Chgt fichier SMF 7111 + SDS PP_00137
08h11 : Début de profil -> AH_04 - Chgt fichier SMF 7111 + SDS PP_00138
09h19 : Fin de profil – Giration vers AH_05 - Chgt fichier SMF 7111 + 7150 + SDS PP_00139

09h26 : Début de profil -> AH_05 - Chgt fichier SMF 7111 + 7150 + SDS PP_00140
09h54 : Stop acquisition 7150 + mise en marche sondeur de navigation passerelle
10h20 : Fin de profil – Giration vers AH_06 - Chgt fichier SMF 7111 + SDS PP_00141
10h26 : Fin de giration – Profil vers Pt AH_06 - Chgt fichier SMF 7111 + SDS PP_00142
10h30 : Début de profil -> AH_07 - Chgt fichier SMF 7111 + SDS PP_00143
10h43 : sondeur de navigation stoppé
10h49 : Mise en acquisition SMF 7150
10h54 : Fin de profil – Giration vers AH_08 - Chgt fichier SMF 7111 + 7150 + SDS PP_00144
10h57 : Fin de giration – Début de profil vers Pt AH_08 Chgt fichier SMF 7111 + 7150 + SDS PP_00145
11h13 : Fin de profil – Giration vers AH_08 - Chgt fichier SMF 7111 + 7150 + SDS PP_00146
11h15 : Fin de giration – Début de profil vers Pt AH_09 - Chgt fichier SMF 7111 + 7150 + SDS PP_00145
11h20 : Arrêt acquisition SMF 7150 + mise en marche Sondeur de navigation
11h31 : Passé Pt SITE_78 - Début de giration vers profil AH_09 -> AH_10- Chgt fichier SMF 7111 + SDS PP_00148
11h47 : Fin de giration – Début de profil vers Pt AH_10 - Chgt fichier SMF 7111 + SDS PP_00149
11h54 : Fin de profil – Giration début de profil vers AH_11 - Chgt fichier SMF 7111 + SDS PP_00150
12h34 : Changement de profil vers AH_12. Chgt fichier SMF 7111 + SDS PP_00151
13h03 : Changement de profil vers AH_13. Chgt fichier SMF 7111 + SDS PP_00152
13h30 : Fin de profil – Giration début de profil vers AH_14 - Chgt fichier SMF 7111 + SDS PP_00153
13h34 : Fin de giration – Début de profil vers Pt AH_14 - Chgt fichier SMF 7111 + SDS PP_00154
13h43 : Fin de profil – Giration début de profil vers AH_15 - Chgt fichier SMF 7111 + SDS PP_00155
13h46 : Fin de giration – Début de profil vers Pt AH_16 - Chgt fichier SMF 7111 + SDS PP_00156
14h35 : Fin de profil – Giration début de profil vers AH_16 - Chgt fichier SMF 7111 + SDS PP_00157
14h42 : Fin de giration – Début de profil vers Pt AH_17 - Chgt fichier SMF 7111 + SDS PP_00158
15h50 : Fin de profil – Giration début de profil vers AH_18 - Chgt fichier SMF 7111 + SDS PP_00159
16h00 : Fin de giration – Début de profil vers Pt AH_18 - Chgt fichier SMF 7111 + SDS PP_00160
17h12 : Fin de profil – Giration début de profil vers AH_19 - Chgt fichier SMF 7111 + SDS PP_00161

18h00 : fin de profil – Transit vers Site 93 – 8nds - Chgt fichier SMF 7111 + SDS PP_00162
18h02 : Mise en route SMF 7150
18h10 : Arrêt SMF 7111
18h35 : Arrivée Site 93 – Arrêt acquisition SMF + SDS

Dimanche 31 Octobre

17h55 : Rte transit vers Pt SITE_57 - SMF 7111 + SDS PP_00166
18h16 : Passage sur Pt SITE _57 - Chgt fichier SMF 7111 + SDS PP_00167
18h18 : Rte vers Pt SITE_63 pour Survey Penfeld. Chgt fichier SMF 7111 + SDS PP_00168
18h29 : Début de profil Survey – Site 63 -> 65 - Chgt fichier SMF 7111 + SDS PP_00169
18h36 : Fin de profil – Retour au Pt SITE_65 pour Penfeld. Chgt fichier SMF 7111 + SDS PP_00170
18h51 : Arrêt acquisitions.

lundi 1er novembre

06h12 : Rte transit vers Pt SITE_73 – SMF 7111 + SDS PP_00171
06h47 : Arrivée en station au SITE_73 – Arrêt des acquisitions.
19h01 : Rte transit vers Pt SV2AH_1 pour Survey - SMF 7111 + SDS PP_00172
19h21 : Début de profil SV2AH_1 -> SV2AH_2 - Chgt fichier SMF 7111 + SDS PP_00173
19h43 : fin/début de profil SV2AH_2 -> SV2AH_3 - Chgt fichier SMF 7111 + SDS PP_00174
20h10 : fin/début de profil SV2AH_3 -> SV2AH_4 - Chgt fichier SMF 7111 + SDS PP_00175
20h43 : fin de profil - Giration pour reprendre profil SV2AH_4 -> SV2AH_5 - Chgt fichier SMF 7111 + SDS PP_00176

20h51 : Début de profil SV2AH_4 -> SV2AH_5 - Chgt fichier SMF 7111 + SDS PP_00177
21h00 : lancement SMF 7150
21h08 : fin de profil - Giration pour profil SV2AH_6 -> SV2AH_7 - Chgt fichier SMF 7111 +7150 + SDS PP_00178
21h28 : Début de profil SV2AH_6 -> SV2AH_7 - Chgt fichier SMF 7111 + 7150 + SDS PP_00179
21h44 : Arrêt 7150
21h51 : fin/début de profil - SV2AH_7 -> SV2AH_8 - Chgt fichier SMF 7111 + SDS PP_00180
22h00 : lancement sondeur de navigation
22h19 : fin de profil – Pt SV2AH_8 non atteint - Giration pour retrouver profil SV2AH_8 -> SV2AH_9 - Chgt fichier SMF 7111 + SDS PP_00181
22h23 : début de profil SV2AH_8 -> SV2AH_9 - Chgt fichier SMF 7111 + SDS PP_00182 – Stop sondeur navigation
22h38 : lancement SMF 7150
22h50 : fin de profil - Giration pour profil SV2AH_10 -> SV2AH_11 - Chgt fichier SMF 7111 +7150 + SDS PP_00183
23h12 : Début de profil SV2AH_10 -> SV2AH_11 - Chgt fichier SMF 7111 + 7150 + SDS PP_00184
23h20 : Arrêt 7150
23h31 : lancement sondeur de navigation
23h40 : fin de profil – Pt SV2AH_11 non atteint - Giration pour retrouver profil SV2AH_11 -> SV2AH_12 - Chgt fichier SMF 7111 + SDS PP_00185
23h44 : fin de giration – Début de profil SV2AH_11 -> SV2AH_12 - Chgt fichier SMF 7111 + SDS PP_00186

Mardi 2 novembre

00h03 : fin de profil - Giration pour profil SV2AH_12 -> SV2AH_13 - Chgt fichier SMF 7111
00h06 : fin de giration – Début de profil SV2AH_12 -> SV2AH_13 - Chgt fichier SMF 7111 + SDS PP_00187
00h36 : fin de profil - Giration pour profil SV2AH_13 -> SV2AH_14 - Chgt fichier SMF 7111
00h40 : fin de giration – Début de profil SV2AH_13 -> SV2AH_14 - Chgt fichier SMF 7111 + SDS PP_00188 + Mise en route 7150
00h55 : fin de profil - Giration pour profil SV2AH_14 -> SV2AH_15 - Chgt fichier SMF 7111 + 7150
00h59 : fin de giration – Début de profil SV2AH_14 -> SV2AH_15 - Chgt fichier SMF 7111 + SDS PP_00189
01h12 : Arrêt SMF 7150
01h27 : fin de profil - Giration pour profil SV2AH_15 -> SV2AH_16 - Chgt fichier SMF 7111
01h32 : fin de giration – Début de profil SV2AH_15 -> SV2AH_16 - Chgt fichier SMF 7111 + SDS PP_00190
01h53 : fin de profil - Giration pour profil SV2AH_16 -> SV2AH_17 - Chgt fichier SMF 7111
01h56 : fin de giration – Début de profil SV2AH_16 -> SV2AH_17 - Chgt fichier SMF 7111 + SDS PP_00191
03h06 : fin de profil - Giration pour profil SV2AH_17 -> SV2AH_18 - Chgt fichier SMF 7111
01h56 : fin de giration – Début de profil SV2AH_17 -> SV2AH_18 - Chgt fichier SMF 7111 + SDS PP_00192
03h06 : fin de profil - Giration pour profil SV2AH_18 -> SV2AH_19 - Chgt fichier SMF 7111
03h21 : fin de giration – Début de profil SV2AH_18 -> SV2AH_19 - Chgt fichier SMF 7111 + SDS PP_00193
04h28 : Fin de profil. Transit vers Site 66. Chgt fichier SMF 7111 + SDS PP_00194
05h00 : Plantage de SUBOP, redémarrage PC, OK

19h02 : Rte transit 10 nds pour survey Banc Xauen -> Pt B01 - SMF 7111 + SDS PP_00195
19h19 : Mise en route 7150
19h24 : Arrêt sondeur 7111
19h48 : passage sur pt RG9
19h49 : Mise en route 7111
19h56 : arrêt 7150
20h02 : début de profil Pt B01 ->B02 - Chgt fichier SMF 7111 + SDS PP_00196
21h16 : Fin de profil – Début de giration vers B03 - Pas d'acquisition
21h23 : début de profil Pt B03 -> B04 - Chgt fichier SMF 7111 + SDS PP_00197

22h31: Alerte Techsas *(Equipment + Log Item OK = vert)*
22h47 : Fin de profil – Début de giration vers B05 - Pas d'acquisition
23h00: Plantage PDS2000 *(Equipment rouge)* – Redémarrage PDS 2000
23h10 : fichier test
23h16 : début de profil Pt B05 -> B06 - Chgt fichier SMF 7111 + SDS PP_00198

<u>Mercredi 3 novembre</u>

00h55 : Fin de profil – Début de giration vers B07
01h05 : début de profil Pt B07 -> B08 - Chgt fichier SMF 7111 + SDS PP_00199
02h50 : Fin de profil – Début de giration vers B09
02h58 : début de profil Pt B09 -> B10 - Chgt fichier SMF 7111 + SDS PP_00200
04h40 : Fin de profil – Début de giration vers B1
04h45 : début de profil Pt B11 -> B12 - Chgt fichier SMF 7111 + SDS PP_00201
06h57 : Fin de profil. Mise en station, pour remettre poulie de carottage. Arrêt Subop
07h03 : arrêt enregistrement 7111. En station
09h38 : début de profil Pt B27 -> B28 - Chgt fichier SMF 7111 + SDS PP_00202
10h22 : fin de profil – Giration vers B25 – Chgt fichier 7111
10h35 : début de profil Pt B25 -> B26 - Chgt fichier SMF 7111 + SDS PP_00203
10h57 : Chgt fichier SMF 7111 (fichier précédent pour traitement test données selon houle)
11h57 : Alerte Techsas – SEABAT planté – Relance (Nv fichier 7111)
12h04 : Giration vers B22 – Pause acquisition SUBOP
12h33 : début de profil Pt B22 -> B21 - Chgt fichier SMF 7111 + SDS PP_00204
12h35 : plantage SUBOP – Redémarrage – Fichier 204 tjrs
14h37 : Giration vers B20 – Pause acquisition SUBOP
14h46 : début de profil Pt B20 -> B19 - Chgt fichier SMF 7111 + SDS PP_00205
16h47 : Giration vers B18 – Pause acquisition SUBOP
16h50 : début de profil Pt B18 -> B17 - Chgt fichier SMF 7111 + SDS PP_00206
18h54 : Giration vers B16 – Pause acquisition SUBOP
16h50 : début de profil Pt B16 -> B15 - Chgt fichier SMF 7111 + SDS PP_00207
21h07 : fin de la boite, direction l'Espagne. Vitesse max (6h sur le point) +Mise en route du 7150 24Khz SDS PP_0208 (>500m)
21h13 : acquisition ADCP150Khz
21h16 : arrêt du 7111
3h à 23h15 pour arriver dans les eaux espagnoles (2h15 local)

Arrivée ZEE espagnol couper SMF et SDS, mettre le EA600 en route (12Khz)
ADCP à mettre en route 38Khz 150Khz
Synchro OSEA. Synchro EA600 12Khz
Changer sonde de référence dans techsas

23h45 : Arrivée ZEE Espagnole. Arrêt SMF + SDS

<u>Jeudi 4 novembre</u>

00h20 : vu avec Seb : Maitre ADCP 150 - Esclave EA600 12kHz + ADCP38

15h24 : Retour ZEE Marocaine – Rte transit 10nds vers Pt SITE_133 - Arrêt ADCP 38 & 150 + EA 600 – Lancement 7150 + SDS PP_00209
15h15 : SITE_133 - Arrêt SMF 7150 + SDS
21h02 : Rte transit vers survey Banc Xauen Pt B_19 -> B_20 – 7150 + SDS PP_00210
22h11 : Giration – Arrêt 7150
22h12 : Début de profil B_19 -> B_20 - 7111 + SDS PP_00211

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Vendredi 5 novembre

00h14 : Giration vers B32 – Arrêt acquisition SUBOP
00h24 : Début de profil B_32 -> B_31 - 7111 + SDS PP_00212
00h42 : Fin de profil, route vers B30. SDS PP_00213
01h15 : Début de profil B_30 -> B_29 - 7111 + SDS PP_00214
01h28 : Crash de PDS2000. Redémarré le temps réel : OK
02h15 : Fin de profil, route vers B_14 - SDS PP_00215
02h35 : Début de profil B_14 -> B_13 - 7111 + SDS PP_00214
04h18 : Fin de profil. Route vers Site_130 - 7111 + SDS PP_00215
04h24 : Mise en route 7150
04h40 : Arrêt du 7111
05h03 : Arrivée sur site 130, arrêt des acquisitions
15h10 : Debut de transit vers B33, 7111 + SDS PP_00218
15h54 : Début de profil B_33 -> B_34 - 7111 + SDS PP_00219
16h50 : Fin de profil, transit vers B35, 7111 + SDS PP_00220
15h54 : Début de profil B_35 -> B_36 - 7111 + SDS PP_00221
17h33 : Fin de profil, route vers WP_3 pour survey Penfeld Site_154. 7111 + SDS PP_00222
17h53 : Mise en acquisition du 7150
18h04 : Arrêt 7111
18h21 : Remise en acquisition du 7111
18h38 : Arrêt 7150
18h43 :Subop planté – Relance du logiciel. SDS PP_00223 -> pente
19h02 : Pt WP_3 – giration – Chgt fichier 7111 + SDS PP_00224
19h22 : Début de profil WP_3 -> SITE_152 (Survey Penfeld) - Chgt fichier 7111 + SDS PP_00225
19h30 : Fin de profil – Arrêt acquisition 7111 + SDS.

Samedi 6 novembre

06h19 : Rte transit 10nds vers Site_79 - 7111 + SDS PP_00226
07h07 : Arrivée Site_79. Fin acquisition 7111 + SDS
08h17 : Rte transit 10nds vers Site_65 - 7111 + SDS PP_00227
09h23 : Sur Site_65. Arrêt acquisition 7111 + SDS
19h23 : Transit 10nds vers Survey Penfeld SS01 – 7111 + SDS PP_00228
20h27 : Mise en route 7150
20h13 : Début de profil site survey SS01 – 7111 + SDS PP_00229
20h23 : Fin de profil

Dimanche 7 Novembre

17h10 : Transit vers début de profils SDS : 7111 + SDS PP_00230
17h20 : Mis en route des ADCP 150
17h43 : Début de profil PT1 -> PT2 - 7150 + SDS PP_00231 + ADCP 150
18h31 : Fin de profil – Giration vers PT3 – Chgt fichier 7150 + SDS PP_00232 + ADCP 150
18h43 : Début de profil PT3 -> PT4 - Chgt fichier 7150 + SDS PP_00233 + ADCP 150
19h25 : Fin de profil – Giration vers PT5 - Chgt fichier 7150 + SDS PP_00234 + ADCP 150

19h36: Début de profil PT5 -> PT6 - Chgt fichier 7150 + SDS PP_00235 + ADCP 150
20h06 : Sippican T7_00019
20h28 : Fin de profil – Giration vers PT7 - Chgt fichier 7150 - Pas de SDS - ADCP 150
20h37 : Début de profil PT7 -> PT8 - Chgt fichier 7150 + SDS PP_00236 + ADCP 150
21h29 : Fin de profil – Giration vers PT9 - Chgt fichier 7150 - Pas de SDS - ADCP 150
21h41 : Début de profil PT9 -> PT10 - Chgt fichier 7150 + SDS PP_00237 + ADCP 150
22h33 : Fin de profil – Giration vers PT11 - Chgt fichier 7150 - Pas de SDS - ADCP 150
22h40 : Début de profil PT10 -> PT11 - Chgt fichier 7150 + SDS PP_00238 + ADCP 150
23h19 : Fin de profil – Giration vers PT12 - Chgt fichier 7150 - Pas de SDS - ADCP 150
23h28 : Début de profil PT11 -> PT12 - Chgt fichier 7150 + SDS PP_00239 + ADCP 150
23h53 : Fin de profil – Giration vers PT13 - Chgt fichier 7150 - Pas de SDS - ADCP 150

Lundi 8 Novembre

00h02 : Début de profil PT13 -> PT14 - Chgt fichier 7150 + SDS PP_00240 + ADCP 150
00h32 : Fin de profil- Chgt fichier 7150 - ADCP 150
00h36 : Début de profil PT14 -> PT15 - Chgt fichier 7150 + SDS PP_00241 + ADCP 150
00h39 : Retour sur point PT14 pour profil PT14 -> PT15 dû à une erreur de communication avec la passerelle
00h49 : Début de profil PT15 -> PT16 - Chgt fichier 7150 + SDS PP_00242 + ADCP 150
00h58 : Fin de profil- Chgt fichier 7150 - ADCP 150
01h00 : Début de profil PT16 -> PT17 - Chgt fichier 7150 + SDS PP_00243 + ADCP 150
01h14 : Fin de profil- Chgt fichier 7150 - ADCP 150
01h16 : Début de profil PT17 -> PT18 - Chgt fichier 7150 + SDS PP_00244 + ADCP 150
01h33 : Fin de profil- Chgt fichier 7150 - ADCP 150
01h35 : Début de profil PT18 -> PT19 - Chgt fichier 7150 + SDS PP_00245+ ADCP 150
01h46 : Fin de profil- Chgt fichier 7150 - ADCP 150
01h48 : Début de profil PT19 -> PT20 - Chgt fichier 7150 + SDS PP_00246 + ADCP 150
01h46 : Fin de profil, début de transit vers point 29- Chgt fichier 7150 - SDS PP_00247 ADCP 150
02h26 : Début de profil PT29 -> PT28 - Chgt fichier 7150 + SDS PP_00248 + ADCP 150
02h40 : Interruption du profil PT29 -> PT28 pour repasser sur le mont (raté au sondeur). Arrêt acquisition SDS.
02h50 : Début d'acquisition PT28 -> PT29, Mise en route 7111, arrêt 7150. SDS PP_00249 + ADCP 150
02h58 : Fin de profil, transit vers PT29 Chgt fichier 7111 + SDS PP_00250 + ADCP 150
03h11 : Fin de profil, giration vers PT27 Chgt fichier 7111 + SDS PP_00251 + ADCP 150
03h17 : Début de profil PT27 -> PT26 - Chgt fichier 7150 + SDS PP_00252+ ADCP 150
03h30 : Remise en route sondeur 7150
04h08 : Fin de profil- Chgt fichier 7150 – 7111 - ADCP 150
04h09 : Début de profil PT26 -> PT25 - Chgt fichier 7150 + 7111 + SDS PP_00253+ ADCP 150
04h14 : Fin de profil- Chgt fichier 7150 – 7111 - ADCP 150
04h16 : Début de profil PT25 -> PT24 - Chgt fichier 7150 + 7111 + SDS PP_00254+ ADCP 150
05h00 : Arrêt 7150
05h04 : Fin de profil, début de transit vers site 93. Chgt fichier 7111 + SDS PP_00255+ ADCP 150
05h20 : Mise en route 7150
05h35 : Site 93, fin d'acquisition

Mardi 9 Novembre

10h33 : Transit 7nds "Prévision Bathy" – Rte vers Pt Survey 1 - 7111 + SDS PP_00256
10h54 : Giration pour arriver Pt Survey 1 – Chgt fichier 7111 + stop SDS
10h58 : Début de profil 5nds - Survey 1 -> Survey 2 – Chgt fichier 7111 + SDS PP_00257
11h19 : Giration - Chgt fichier 7111 + stop SDS

11h20 : Chgt fichier 7111 + SDS PP_00258
12h10 : Plantage de Seabat. Redémarré OK
12h12 : Changement de profil, fichier 7111 + SDS PP_00259
12h30 : Fin de profil de reconnaissance. Transit vers Site_160, fichier 7111 + SDS PP_00260
12h57 : Fin d'acquisition.

18h57: Rte 10nds transit vers"survey Al Hoceima". 7111 + SDS PP_00261 + ADCP 150
19h18 : ADCP 150 stoppé, attente O.E pour accord.
19h27 : Giration – Chgt fichier 7111 + Stop SDS
19h29: Début de profil Pt_1 -> Pt_2 – Chgt fichier 7111 + SDS PP_00262 + ADCP 150 (config ADCP Pt fd synchro externe // config OSEA "7111 maitre ADCP 150 à 50%")
19h55 : Fin de profil – Giration vers Pt_3 - Chgt fichier 7111 – Stop SDS – ADCP 150
20h06 : Début de profil Pt_3 -> Pt_4 – Chgt fichier 7111 + SDS PP_00263 + ADCP 150
20h34 : Fin de profil – Giration vers Pt_4 - Chgt fichier 7111 – Stop SDS – ADCP 150
20h40 : Début de profil Pt_4 -> Pt_5 – Chgt fichier 7111 + SDS PP_00264 + ADCP 150
20h50 : Fin de profil – Giration vers Pt_5 - Chgt fichier 7111 – Stop SDS – ADCP 150
20h55 : Début de profil Pt_5 -> Pt_6 – Chgt fichier 7111 + SDS PP_00265 + ADCP 150
21h15 : test arrêt ADCP – Beaucoup de bruitage.
21h17 : sans effet, tjrs bruité, remise en marche ADCP 150
21h22 : Fin de profil – Giration vers Pt_7 - Chgt fichier 7111 – Stop SDS – ADCP 150 (Moins de bruitage)
21h40 : Début de profil Pt_7 -> Pt_8 – Chgt fichier 7111 + SDS PP_00266 + ADCP 150
22h12 : Fin de profil – Giration vers Pt_9 - Chgt fichier 7111 – Stop SDS – ADCP 150
22h22 : Début de profil Pt_9 -> Pt_10 – Chgt fichier 7111 + SDS PP_00267 + ADCP 150
22h58 : Fin de profil – Giration vers Pt_11 - Chgt fichier 7111 – Stop SDS – ADCP 150
23h08 : Début de profil Pt_11 -> Pt_12 – Chgt fichier 7111 + SDS PP_00268 + ADCP 150
22h58 : Fin de profil – Giration vers Pt_13 - Chgt fichier 7111 – Stop SDS – ADCP 150

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mercredi 10 novembre 2021

00h08 : Début de profil Pt_13 -> Pt_14 – Chgt fichier 7111 + SDS PP_00269 + ADCP 150
00h45 : Fin de profil – Giration vers Pt_15 - Chgt fichier 7111 – Stop SDS – ADCP 150
00h55 : Début de profil Pt_14 -> Pt_15 – Chgt fichier 7111 + SDS PP_00270 + ADCP 150
01h35 : Fin de profil – Giration vers Pt_16 - Chgt fichier 7111 – Stop SDS – ADCP 150
01h38 : Début de profil Pt_15 -> Pt_16 – Chgt fichier 7111 + SDS PP_00271 + ADCP 150
01h52 : Fin de profil – Giration vers Pt_17 - Chgt fichier 7111 – Stop SDS – ADCP 150
01h55 : Début de profil Pt_16 -> Pt_17 – Chgt fichier 7111 + SDS PP_00272 + ADCP 150
02h51 : Fin de profil – Giration vers Pt_18 - Chgt fichier 7111 – Stop SDS – ADCP 150
02h53 : Début de profil Pt_17 -> Pt_18 – Chgt fichier 7111 + SDS PP_00273 + ADCP 150
02h58 : Plantage Seabat. Redémarré OK
03h00 : Fin de profil – Giration vers Pt_19 - Chgt fichier 7111 – Stop SDS – ADCP 150
03h02 : Début de profil Pt_19 -> Pt_20 – Chgt fichier 7111 + SDS PP_00274 + ADCP 150
03h49 : Changement de profil Pt_20 -> Pt_21 – Chgt fichier 7111 + SDS PP_00275 + ADCP 150
04h02 : Fin de profil – Giration vers Pt_22 - Chgt fichier 7111 – Stop SDS – ADCP 150
04h07 : Début de profil Pt_21 -> Pt_22 – Chgt fichier 7111 + SDS PP_00276 + ADCP 150
04h47 : Fin de profil – Giration vers Pt_23 - Chgt fichier 7111 – Stop SDS – ADCP 150
04h56 : Début de profil Pt_22 -> Pt_23 – Chgt fichier 7111 + SDS PP_00277 + ADCP 150
05h48 : Fin de profil – Giration vers Pt_24 - Chgt fichier 7111 – Stop SDS – ADCP 150
05h56 : Début de profil Pt_24 -> Pt_25 – Chgt fichier 7111 + SDS PP_00278 + ADCP 150
07h06 : Fin de profil – Giration vers Pt_26 - Chgt fichier 7111 – Stop SDS
07h17 : Début de profil Pt_26 -> Pt_27 – Chgt fichier 7111 + SDS PP_00279 + ADCP 150
08h26 : Fin de profil – Giration vers Pt_28 - Chgt fichier 7111 – Stop SDS
08h28 : Début de profil Pt_26 -> Pt_27 – Chgt fichier 7111 + SDS PP_00280 + ADCP 150

08h32 : Fin de profil – Giration vers Pt_28 - Chgt fichier 7111 – Stop SDS
08h35 : Début de profil Pt_28 -> Pt_29– Chgt fichier 7111 + SDS PP_00281 + ADCP 150
08h26 : Fin de profil – Giration vers Pt_29 - Chgt fichier 7111 – Stop SDS
08h58 : Début de profil Pt_29 -> Pt_30– Chgt fichier 7111 + SDS PP_00282 + ADCP 150
08h26 : Fin de profil – Giration vers Pt31_- Chgt fichier 7111 – Stop SDS
09h29 : Début de profil Pt_30 -> Pt_31 – Chgt fichier 7111 + SDS PP_00283 + ADCP 150
09h55 : Fin de profil – Giration - Chgt fichier 7111 – Stop SDS
09h56 : Début de profil Pt_31 -> Pt_32 - Chgt fichier 7111 + SDS PP_00284 + ADCP 150
10h00 : Arrêt 7150
10h07 : Fin de profil – Giration - Chgt fichier 7111 – Stop SDS
10h10 : Début de profil Pt_32 -> Pt_33 - Chgt fichier 7111 + SDS PP_00285 + ADCP 150
10h24 : déviation sur Bd pour éviter embarcation.
10h26 : giration pour rejoindre prochain profil - Chgt fichier 7111 – Stop SDS
10h30 : Début de profil Pt_33 -> Pt_34 - Chgt fichier 7111 + SDS PP_00286 + ADCP 150
10h51 : Fin de profil mais on continue pour boucher un trou
10h56 : Giration – Transit 10nds pour survey Site_80 - Chgt fichier 7111 – Stop SDS
11h00 : Chgt fichier 7111 + SDS PP_00287 + ADCP 150
11h03 : Mise en marche 7150
11h37 : 7150 sondeur référence – Chgt fichier SMF
11h39 : Arrêt 7111
11h58 : arrêt SDS pour chgt de mode prof > 500m – Nv fichier SDS PP_00288
12h26 : Début de profil 7nds Pt_801 -> Pt_802 - Chgt fichier 7150 + SDS PP_00289 + ADCP 150
12h39 : on ralentit à 5nds pour passage sur Site_80
13h05 : Fin de profil – Giration - Chgt fichier 7150 – Stop SDS
13h07 : Début de profil Pt_802 -> Pt_803 - Chgt fichier 7150 + SDS PP_00290 + ADCP 150
13h29 : Fin de profil – Giration - Chgt fichier 7150 – Stop SDS
13h33 : Début de profil Pt_803 -> Pt_804 - Chgt fichier 7150 + SDS PP_00291 + ADCP 150
14h00 : Arrêt acquisitions – Retour sur Pt Site_80.
17h12 : Début de transit vers Site_85. Chgt fichier 7150 + SDS PP_00292 + ADCP 150
20h02 : Chgt mode SDS (50<prof<500) - PP_00293
22h05 : Début de profil 7nds - Site_85 -> Site_86 - Chgt fichier 7150 + SDS PP_00294 + ADCP 150
22h16 : Fin de profil – Giration pour profil suivant - Chgt fichier 7150 – Stop SDS
22h22 : Début de profil Pt_86 -> Pt_87 - Chgt fichier 7150 + SDS PP_00295 + ADCP 150
22h38 : Fin de profil/début de profil (même rte) Pt_87 -> Pt_88 - Chgt fichier 7150 + SDS PP_00296 + ADCP 150
22h51 : Fin de profil – Giration pr continuer rte Pt_88 -> Pt_89 - Chgt fichier 7150 + SDS PP_00297 + ADCP 150
22h54 : démarrage 7111
23h10 : fin de profil – Giration pour rejoindre profil CB_01 -> CB_02 - Chgt fichier 7150 + 7111 – Stop SDS
23h12 : début de profil à 10nds CB_01 -> CB_02 - Chgt fichier 7150 - Stop 7111 - SDS PP_00298 + ADCP 150
23h43 : Fin de profil – Giration - Chgt fichier 7150 – Stop SDS

Jeudi 11 novembre

00h05 : Début de profil 7nds CB_01001 -> CB_01002 - Chgt fichier 7150 + SDS PP_00299 + ADCP 150
00h29 : Mise en route SMF 7111
00h49 : Arrêt 7111
00h57 : Fin de profil – Giration - Chgt fichier 7150 – Stop SDS
01h08 : Début de profil 7nds CB_01003 -> CB_01004 - Chgt fichier 7150 + SDS PP_00300 + ADCP 150
01h27 : Mise en route SMF 7111

01h34 : Arrêt 7111
02h12 : Fin de profil – Giration - Chgt fichier 7150 – Stop SDS
02h21 : Début de profil 7nds CB_01005 -> CB_01006 - Chgt fichier 7150 + SDS PP_00301 + ADCP 150
03h01 : Mise en route SMF 7111
03h05 : Arrêt 7111*
03h25: Fin de profil – Giration - Chgt fichier 7150 – Stop SDS
03h34 : Début de profil 7nds CB_01007 -> CB_01008 - Chgt fichier 7150 + SDS PP_00302 + ADCP 150
04h00 : Arrêt du 7111
04h11 : Décalage de 200m sur la gauche. Chgt fichier 7150 + SDS PP_00303
04h35: Fin de profil – Giration - Chgt fichier 7150 – Stop SDS
04h45 : Début de profil 7nds CB_01009 -> CB_01010 - Chgt fichier 7150 + SDS PP_00304 + ADCP 150
04h51 : Arrivée sur site 85, fin d'acquisition

13h33 : Profil sur Pt Site_87 7111+7150 + SDS PP_00305

19h11 : Transit 10nds vers Pt Site_86bis – 7111 + 7150 + SDS PP_00306
19h15 : Arrêt 7111
19h17 : Mise en marche ADCP 150
19h37 : Début de profil 7,5nds Site_86bis -> II1 - Chgt fichier 7150 + SDS PP_00307 + ADCP 150
19h58 : Début/fin de profil Site_II2 -> II3 - Chgt fichier 7150 + SDS PP_00308 + ADCP 150
20h35 : fin de profil – giration vers Pt II3 - Chgt fichier 7150 – Stop SDS
20h44 : Début/fin de profil Site_II3 -> II4 - Chgt fichier 7150 + SDS PP_00309 + ADCP 150
21h00 : On accélère 10nds pour transit vers La Seyne
21h10 : Fin de profil. Arrêt acquisitions.

APPENDIX 6 : Onboard foraminifera observations

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	CORE NAME	SITE	RECOVERY DATE	AREA	WATER DEPTH	CORE LENGHT			FORAMS					
2						theory	reality	sections	SECTION NUM	sedim	B or T	sieved	binocular	G/IG
3	ALB-GC01	90						8	1/8	NOT TAKEN				
4									2/8	✓	B	✓	✓	G
5									3/8	✓	B	✓	✓	G
6									4/8	✓	B	✓	✓	G
7									5/8	✓	B	✓	✓	G?
8									6/8	✓	B	✓	✓	IG
9									7/8	✓	B	✓	✓	G
10									8/8	✓	B	✓	✓	G
11	ALB-GC02	13-17							CORE NOT SAMPLED FOR FORAMS					
12	ALB-CL01	1						15	1/15	✓	B	✓		
13									4/15	✓	B	✓		
14									7/15	✓	B	✓		
15									10/15	✓	B	✓		
16									13/15	✓	B	✓		
17									15/15	✓	B	✓		
18	ALB-GC03	12-18	20/10/2021		787m	12m		4	1/4	✓	B	✓	✓	IG
19									2/4	✓	B	✓	✓	?
20									3/4	✓	B	✓	✓	G
21									4/4	✓	B	✓	✓	IG
22	ALB-GC04	10	20/10/2021		1500m	12m		3	1/3	✓	B	✓	✓	IG
23									2/3	✓	B	✓	✓	G?
24									3/3	✓	B	✓	✓	G?
25	ALB-GC05	21	21/10/2021		1003m	24m		5	1/5	✓	T	✓	✓	IG
26									1/5	✓	B	✓	✓	IG
27									2/5	✓	B	✓	✓	G
28									3/5	✓	B	✓	✓	G
29									4/5	✓	B	✓	✓	G
30									5/5	✓	B	✓	✓	G
31	ALB-CL05	21			1003m	20m		10	1/10	✓	T	✓	✓	IG
32									1/10	✓	B	✓	✓	IG
33									2/10	✓	B	✓	✓	IG
34									3/10	✓	B	✓	✓	G
35									4/10	✓	B	✓	✓	G
36									5/10	✓	B	✓	✓	G
37									6/10	✓	B	✓	✓	G
38									7/10	✓	B	✓	✓	G
39									8/10	✓	B	✓	✓	G
40									9/10	✓	B	✓	✓	G
41									10/10	✓	B	✓	✓	G
42	ALB-CL06	24	23/10/2021		592m	21m		20	1/20	✓	B	✓		
43									2/20	✓	B	✓		
44									3/20	✓	B	✓		
45									4/20	✓	B	✓		
46									5/20	✓	B	✓		
47									6/20	✓	B	✓		
48									7/20	✓	B	✓		
49									8/20	✓	B	✓		
50									9/20	✓	B	✓		
51									10/20	✓	B	✓		
52									11/20	✓	B	✓		
53									12/20	✓	B	✓		
54									13/20	✓	B	✓		
55									14/20	✓	B	✓		
56									15/20	✓	B	✓		
57									16/20	✓	B	✓		
58									17/20	✓	B	✓		
59									18/20	✓	B	✓		
60									19/20	✓	B	✓		
61									20/20	✓	B	✓		
62	ALB-CL07	22	23/10/2021		593m	20m		22	CORE NOT SAMPLED FOR FORAMS					
63	ALB-CL08	28	24/10/2021		767m	20m		21	1/21	✓	T	✓	✓	IG
64									1/21	✓	B	✓	✓	IG
65									2/21	✓	B	✓	✓	IG
66									3/21	✓	B	✓	✓	G
67									4/21	✓	B	✓	✓	G
68									5/21	✓	B	✓	✓	G
69									6/21	✓	B	✓	✓	G
70									7/21	✓	B	✓	✓	G
71									8/21	✓	B	✓	✓	G
72									9/21	✓	B	✓	✓	G
73									10/21	✓	B	✓	✓	G
74									11/21	✓	B	✓	✓	G
75									12/21	✓	B	✓	✓	G
76									13/21	✓	B	✓	✓	G
77									14/21	✓	B	✓	✓	G
78									15/21	✓	B	✓	✓	G
79									16/21	✓	B	✓	✓	G
80									17/21	✓	B	✓	✓	G
81									18/21	✓	B	✓	✓	G
82									19/21	✓	B	✓	✓	G
83									20/21	✓	B	✓	✓	G
84									21/21	✓	B	✓	✓	G
85	ALB-CL09	27	24/10/2021		832m	12m		11	CORE NOT SAMPLED FOR FORAMS					
86	ALB-CL010	20	24/10/2021		1022m	20m		21	1/21	✓	T	✓		
87									1/21	✓	B	✓		
88									2/21	✓	B	✓		
89									3/21	✓	B	✓		
90									4/21	✓	B	✓		
91									5/21	✓	B	✓		
92									6/21	✓	B	✓		
93									7/21	✓	B	✓		
94									8/21	✓	B	✓		
95									9/21	✓	B	✓		
96									10/21	✓	B	✓		
97									11/21	✓	B	✓		
98									12/21	✓	B	✓		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	CORE NAME	SITE	RECOVERY DATE	AREA	WATER DEPTH	CORE LENGHT			FORAMS					
2						theory	reality	sections	SECTION NUM	sedim	B or T	sieved	binocular	G/IG
99									13/21	✓	B	✓		
100									14/21	✓	B	✓		
101									15/21	✓	B	✓		
102									16/21	✓	B	✓		
103									17/21	✓	B	✓		
104									18/21	✓	B	✓		
105									19/21	✓	B	✓		
106									20/21	✓	B	✓		
107									21/21	✓	B	✓		
108	ALB-CL11	21	24/10/2021		1003m	20m		21	CORE NOT SAMPLED FOR FORAMS					
109									1/20	✓	T	✓	✓	IG
110									1/20	✓	B	✓	✓	IG
111									2/20	✓	B	✓	✓	IG
112									3/20	✓	B	✓	✓	G
113									4/20	✓	B	✓	✓	G
114									5/20	✓	B	✓	✓	G?
115									6/20	✓	B	✓	✓	G
116									7/20	✓	B	✓	✓	G
117									8/20	✓	B	✓	✓	G
118									9/20	✓	B	✓	✓	G
119	ALB-CL012	12-18	24/10/2021		787m	20m		20	10/20	✓	B	✓	✓	G
120									11/20	✓	B	✓	✓	IG
121									12/20	✓	B	✓	✓	IG
122									13/20	✓	B	✓	✓	IG
123									14/20	✓	B	✓	✓	IG
124									15/20	✓	B	✓	✓	G?
125									16/20	✓	B	✓	✓	G?
126									17/20	✓	B	✓	✓	IG
127									18/20	✓	B	✓	✓	IG
128									19/20	✓	B	✓	✓	IG
129									20/20	✓	B	✓	✓	?
130	ALB-CL13+CL13BIS	12-18	25/10/2021		787m	36m		21+4	CORE NOT SAMPLED FOR FORAMS					
131	ALB-CL14	96	25/10/2021		397m			5	CORE NOT SAMPLED FOR FORAMS					
132	ALB-CL15	29	25/10/2021		419m				CORE NOT SAMPLED FOR FORAMS					
133	ALB-CL16	38-43			1189m			20	CORE NOT SAMPLED FOR FORAMS					
134									1/8	✓	T	✓	✓	IG
135									1/8	✓	B	✓	✓	G
136									2/8	✓	B	✓	✓	G
137									3/8	✓	B	✓	✓	G
138	ALB-CL17	39-46	27/10/2021		1267m			8	4/8	✓	B	✓	✓	G
139									5/8	✓	B	✓	✓	G
140									6/8	✓	B	✓	✓	G
141									7/8	✓	B	✓	✓	G
142									8/8	✓	B	✓	✓	G
143	ALB-CL18	40						8	CORE NOT SAMPLED FOR FORAMS					
144	ALB-CL19	41-47						5	CORE NOT SAMPLED FOR FORAMS					
145	ALB-CL20	42-50						4	CORE NOT SAMPLED FOR FORAMS					
146	ALB-CL21	92						11	CORE NOT SAMPLED FOR FORAMS					
147	ALB-CL22	92	31/10/2021			6m		6	All core bottom sections sampled, sieved and dried out for Laurent to have them ready for analysis					
148	ALB-CL23	93	31/10/2021			12m		10						
149	ALB-CL24	94	31/10/2021			12m		11						