Daily Drilling and Scientific Report for IODP Expedition 386
Japan Trench Paleoseismology, 2021

30th May 00:00 – 24:00 JST Japan Standard Time (UTC+9)

1. Location at noon
Position 36° 53.501' N, 143° 24.473' E
IODP-MSP borehole: M0095
Prospectus borehole: JTPS-05B
Water Depth: 7697 m

3. Operation
The ship continued to sail to south while monitoring the surface current. The surface current was observed to be ~3 knots at Site JTPC-01A at 0000 hrs and 3.6 knots at Site JTPS-10A at 0230 hrs, respectively. Therefore the current at both sites was too strong to be able to maintain ships position during GPC operationsand the decision was made to head to Site JTPS-05B. The ship arrived at Site JTPS-05B at 0730 hrs and found surface current flowing at ~2 knots, and the decision was made to conduct the GPC operation.
A short MBES/SBP survey was conducted around the site from 0730. The 30 m GPC operation began at 0815 hrs. The GPC assembly was deployed at 0910 hrs and run down with winch speed at 1.0 m/s after setting inclinometer on a winch cable at 20 m above the GPC weighthead. Running was suspended for 3 minutes at 7800 m depth in cable length at 1120 hrs for stabilization and resumed at 0.3 m/s. Holes M0095 A and B were spudded-in and released at 7949 m of cable length at 1132 hrs. The GPC assembly was run back to surface at 1.2 m/s and recovered to deck at 1415 hrs. Soon after recovery, the Trigger corer was dismantled and BW and sediment at the bottom were sampled, while the deck crew and GPC operation team began withdrawing and cutting core into 5 m segments. At 1500 hrs the science party started cutting 5 m segments into 1 m sections while sampling from each section bottom end. Sectioning and sampling were completed by 1645 hrs, and then curation and IW sampling began. The GPC barrel string was disconnected from the weighthead, washed and secured by 1730 hrs. Then, the ship set sail for the JAMSTEC quay at Yokosuka.

3. Science Report
The hydroacoustic survey conducted on 19th of May was reviewed. The survey was carried out along three N-S and one NE-SW line at JTS15 basin described by Kioka et al. (2019).
The basin is divided into three sub-basins by two topographic highs. The northern basin is a small basin forming the central part of a NE-SW trending depression. Sediments of the northern basin are well-stratified, especially in the uppermost ~20 m. The amplitude of reflectance of each layer is higher than those in the central and southern basins. Sediments in the central basin are well-stratified with a few thin acoustically transparent layers which become thicker southward in accordance with the tilt of the sedimentary strata. Acoustic penetration is high (>40 m) in the central basin. The central basin floor is deeper than those of the northern and southern basins. Site JTPS-07A is located in the southern part of central basin. Sediments of the southern basin are stratified with thicknesses of ~10 m. An acoustically chaotic layer is found below the stratified layer

4. Core Recovery Details

Hole	A (Trigger corer)	B (GPC main)
Barrel length (m)	1.5	30
Cored length (m)	0.895	28.345
Curated length (m)	0.895	28.345
Recovery (%)	100	100
Number of sections	2	29

5. Time Breakdown
00:00 Continue to sail to Site JTPN-01A, 3 knot surface current observed.
00:10 Decision to go to Site JTPS-10A
02:30 Arrive at Site JTPS-01A, 3.6 knot surface current observed.
02:40 Decision to go to Site JTPS-05B
07:30 Arrive at Site JTPN-01A and 2 knot surface current observed. Decide to proceed with GPC operation.
Conduct MBES/SBP survey at the site.

From Lat: 36°54.0177' N, Long: 143°24.8434' E to Lat: 36°52.7740' N, Long: 143°23.8048'E

08:15 Completed MBES/SBP survey. Prepare running 30 m GPC
08:45 Set Trigger corer to GPC assembly
09:10 Run GPC assembly into water. Set inclinometer on a winch cable at 20 m above the GPC weighthead. Start running down the GPC assembly with winch speed at 1.0 m/s
11:20 Hold running the GPC assembly for 3 minutes at 7800 m depth in cable length for stabilization. Resume running the GPC assembly down at 0.3 m/s.
11:32 Spud-in and released from Holes M0095 A and B at 7949 m in cable depth (tension before: 4.4 tonf, 5.2 tonf, overpull 8.3 tonf).
11:45 Run GPC back to surface with winch speed at 1.2 m/s.
13:35 Recover Trigger corer to deck
14:15 Recover GPC assembly to deck.
Dismantle Trigger corer, cut core and collect BW.
Start withdrawing and cutting core into 5 m segments.
15:00 Start cutting core into 1 m sections while collecting sediment samples from each section bottom end
16:45 Complete cutting and sampling.
17:30 Complete disassembling and washing GPC
Start sailing to Yokosuka JAMSTEC HQ

6. Hours (inc. cumulative total) – no contractual implications can be made from these figures

In port	35.0
Transiting	182.5
Operating	567.75
Technical downtime	4.0
Weather downtime	318.5
Other downtime (specify)	34.25

7. Weather

It was fine with some clouds and warm (~20 degC) all day. A gentle northerly wind (~6 m/s) blew and wave heights were 2 m. The surface current flowed northwards at ~2 knot in the morning and decreased to ~1 knot in the afternoon.

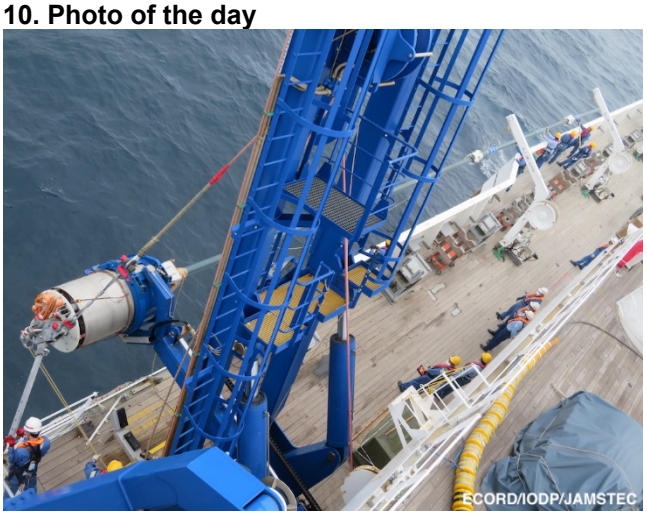
8. Planned Activity for the next 24 hours

Sail back to the quay of Yokosuka JAMSTEC HQ

9. Health and Safety and Environmental

Toolbox talk before the operation

10. Photo of the day



1) The final GPC operation (photo by KIkehara@ECORD/IODP/JAMSTEC)

2) The last core cutting (photo by NOkutsu@ECORD/IODP/JAMSTEC)

3) Co-Chief Ken Ikehara (photo by LMaeda@ECORD/IODP/JAMSTEC)

4) Scientist Toshiya Kanamatsu (photo by LMaeda@ECORD/IODP/JAMSTEC)

5) Scientist Kana Jitsuno (photo by LMaeda@ECORD/IODP/JAMSTEC)

6) Offshore Assistant EPM Takahiro Yokoyama (photo by LMaeda@ECORD/IODP/JAMSTEC)

7) Offshore Assistant EPM Natsumi Okutsu (photo by LMaeda@ECORD/IODP/JAMSTEC)

8) Zoom meeting with onshore ESO/MarE3 team (photo by NOkutsu@ECORD/IODP/JAMSTEC)

9) The Expedition 386 Offshore Team (photo by LMaeda@ECORD/IODP/JAMSTEC)