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

3rd May 00:00 – 24:00 JST Japan Standard Time (UTC+9)

1. Location

Position 39° 26.439' N, 144° 12.971' E
IODP-MSP borehole: M0087
Prospectus borehole: JTPN-02A
Water Depth: 7520 m

2. Operations Report

MBES/SBP survey around JTPN-02A was continued and completed by 0330 hrs. The ship moved to the GPC deployment point and stood-by at 0600 hrs. The 20 m GPC assembly was run into the water at 0855 hrs, the inclinometer and transponder were set on the winch cable at 20 m and 50 m above the GPC weighthead respectively, and the GPC assembly was lowered to 7700 m depth in cable length with winch speed 0.5 – 1.0 m/s (0 – 100 m depth in cable length) and 1.2 – 1.5 m/s (100 – 7600 m depth in cable length), and then held for 3 minutes to stabilize the GPC assembly. Running the GPC down resumed with 0.3 m/s of winch speed and the GPC assembly spudded-in and released Holes M0087 A and B at 1124 hrs at 7788 m of cable length. While running down GPC, wind speed and surface current gradually increased and exceeded 15 m/s and 1.8 knot respectively.
The GPC was run back at higher than normal speed- 1.5 – 1.6 m/s due to worsening sea conditions, and was safely recovered on deck by 1345 hrs. Breaking out the Trigger corer and sampling was conducted soon after GPC assembly was secured. At the same time deck crew and GPC operation team started withdrawing and cutting core into 5 m segments. The science team started cutting the segments into 1 m sections from 1415 hrs. Sampling from each section bottom end was conducted in No. 3 laboratory due to the rough sea conditions. Cutting and sampling were completed by 1600 hrs. Deck crew and GPC operation team completed making up 20 m GPC assembly by 1800 hrs. The ship moved to Site JTPC-09A and stood-by for WOW.

In the laboratory, lab tech continued MSCL logging and completed up to both M0086 A and B (Site JTPN-05A), M0087 A and the top 10 m of M0087 B cores (Site JTPN-02A), while IW measurements were completed all for sections of M0083 C and D (Site JTPC-05A).

3. Science Report

N/A

4. Core Recovery Details

Hole	M0087 A (Trigger)	M0087 B (GPC main)
Barrel length (m)	1.5	20
Cored length (m)	1.475	18.975
Curated length (m)	1.475	18.975
Recovery (%)	100	100
Number of sections	3	20

5. Time Breakdown

00:00 Continue MBES/SBP survey
#6(W-E): From Lat: 39°27.7703’ N, Long: 144°15.4481’ E to Lat: 39°27.7860’ N, Long: 144°11.9349’ E
#5(W-E): From Lat: 39°27.1857’ N, Long: 144°11.9922’ E to Lat: 39°27.1832’ N, Long: 144°15.7192’ E
#4(W-E): From Lat: 39°26.1376’ N, Long: 144°15.8516’ E to Lat: 39°26.1554’ N, Long: 144°12.1141’ E
#3(W-E): From Lat: 39°25.5545’ N, Long: 144°12.3459’ E to Lat: 39°25.5644’ N, Long: 144°16.0842’ E
03:30 Move to Site JPTN-02A and stand-by
06:00 Prepare GPC operation
08:35 Set Trigger to GPC assembly.
08:55 Run GPC into water. Set inclinometer and transponder on a winch cable at 20 m and 50 m above the weighthead of GPC respectively. Set winch speed 0.5 – 1.0 m/s (to 100 m depth in cable length) and 1.2 -1.5 m/s (7700 m depth in cable length).
11:15 Hold running GPC 3 minutes at 7700 m depth in cable length for stabilization. Resume running GPC down with 0.3 m/s.

12:24 Spud-in and released from Holes M0087 A and B at 7788 m in cable length (tension before: 3.9 tonf, 4.3 tonf, overpull 7.4 tonf).
11:30 Run GPC back to surface with 1.5 – 1.6 m/s winch speed.
13:05 Recover Trigger corer on deck
13:45 Recover GPC assembly on deck.
Dismantle Trigger corer, cut core and collect BW.
Start withdrawing and cutting core into 5 m segments
14:15 Start cutting 5 m segment into 1 m sections while transferring sections to No. 3 laboratory.
Start making up 20 m GPC assembly for the next run.
14:45 Start sampling from each bottom end at No. 3 laboratory.
15:15 Complete cutting 5 m segment into 1 m sections and transferring sections to No. 3 laboratory.
16:00 Complete sampling from each bottom end, and start curation and IW sampling at No. 3 laboratory.
18:00 Complete making up 20 m GPC assembly for the next run.
Move to Site JTPC-09A
20:30 Stand-by around Site JTPC-09A for WOW.

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

In port	10.0
Transiting	30.4
Operating	240.5
Technical downtime	0.0
Weather downtime	211.4
Other downtime (specify)	0.0

7. Weather

Cloudy and cool (~10 degC), with northwesterly winds (<14 m/s), and surface current flowing west northwest at 1.3 knot with 1.5 m wave height in the morning. However, wind speed and surface current increased around noon and wind direction turned to southwest. Wind and current speed reached ~19 m/s and 1.9 knot respectively with wave height 3.5 m during recovery operation. Strong winds and high waves persisted the rest of the day.

8. Planned Activity for the next 24 hours

Conduct 20 m GPC at Site JTPN-02A.

9. Health and Safety and Environmental

Toolbox talk before the operation

10. Photo of the day

1) Marine Officers reporting sea condition and GPC cable rope position, and Captain controlling the ship position (photo by LMaeda@ECORD/IODP/JAMSTEC)

2) GPC operation team securing Trigger weighthead for rough seas (photo by LMaeda@ECORD/IODP/JAMSTEC).

3) Rough seas (photo by NSakurai@ECORD/IODP/JAMSTEC)