



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



12<sup>th</sup> May 00:00 – 24:00 JST Japan Standard Time (UTC+9)

### 1. Location

Position 40° 23.765' N, 144° 25.258' E

IODP-MSP borehole: M0084

Prospectus borehole: JTPN-09A

Water Depth: 7603 m

### 3. Operation

The ship arrived at Site M0084 by 0445 hrs and stood-by for the GPC operation. The 40 m GPC assembly was deployed at 0850 hrs and run down to 7750 m depth in cable length with winch speed at 1.0 m/s after inclinometer and transponder had been set on the winch cable at 20 m and 50 m above the GPC weighthead. Running was suspended at 7750 m depth in cable length at 1110 hrs for stabilization and resumed with 0.3 m/s of winch speed after holding for 3 minutes. Holes M0084 E and F were spudded-in and released at 7850.5 m of cable length at 1118 hrs. The GPC assembly was run back to surface with winch speed at 1.1 m/s and recovered on 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 sections. The science party started cutting 5 m segment into 1 m sections while sampling from each section bottom end at 1430 hrs. Cutting into 1 m sections and sampling were completed by 1900 hrs, and then curation and IW sampling began. Deck crew and GPC operation team completed making up the 40 m GPC assembly by 2100 hrs. MBES/SBP survey around Site M0084 commenced at 2100 hrs.

### 3. Science Report

The image data from hydroacoustic surveys conducted on 2 May and 4 May along two N-S and four E-W lines at the JTC15 and JTN05 basins described by Kioka et al. (2019) were quickly reviewed. The JTC15 basin is separated from north and south sub-basins by a topographic high. The southern basin floor tilts slightly northward, and is characterized by a stratified acoustic pattern. Several acoustically transparent layers were found. The amplitude of each reflector is large. The northernmost part of northern basin shows a stratified acoustic pattern with some transparent layers. A thick chaotic layer occurs in the central part of northern basin. The southern part of northern basin is thickly stratified with undulating weak amplitude reflectors. Site JTPN-02A is located in the central part of southern basin where acoustic penetration is ~35 m at the site. A few thick acoustically transparent layers occur in the JTN05 basin where site JTPN-07A is located. The acoustic pattern is similar to that of the northernmost part of JTC15 north sub-basin. Acoustic penetration is ~50 m at site JTPN-07A.

### 4. Core Recovery Details

Hole	C (Trigger corer)	D (GPC main)
Barrel length (m)	1.5	40
Cored length (m)	0.5	37.821
Curated length (m)	0.5	37.821
Recovery (%)	100	100
Number of sections	2	39

### 5. Time Breakdown

00:00 Continue to sail to Site M0084.  
04:45 Stand-by at Site M0084.  
08:00 Prepare running the 40 m GPC assembly  
08:30 Set Trigger to GPC assembly.  
08:50 Run GPC assembly into water. Set inclinometer and transponder on a winch cable at 20 m and 50 m above the GPC weighthead respectively. Set winch speed at 1.0 m/s.  
11:10 Hold running GPC assembly for 3 minutes at 7750 m depth in cable length for stabilization. Resume running GPC assembly down with 0.3 m/s.  
11:18 Spud-in and release from Holes M0084 E and F at 7850.5 m in cable length (tension before: 5.65 tonf; after: 6.4 tonf; overpull: 11.3 tonf)  
11:30 Run GPC assembly back to surface with 1.1 m/s of winch speed.  
13:30 Recover Trigger corer on deck

14:15 Recover GPC on deck.  
Dismantle Trigger corer and sampling.  
Begin withdrawing and cutting core into 5 m segments while preparing the next run.

14:30 Begin cutting 5 m segment into 1 m sections and sampling from each bottom end.

18:30 Complete cutting core into 1 m sections

19:00 Complete sampling from each bottom end

21:00 Complete making up 40 m GPC assembly.  
Start MBES/SBP survey around Site M0084

#14(S-N): From Lat: 40°27.2929' N, Long: 144°26.6621' E to Lat: 40°30.0021' N, Long: 144°27.9239' E  
 #13(N-S): From Lat: 40°30.0092' N, Long: 144°28.3825' E to Lat: 40°27.5409' N, Long: 144°27.2318' E  
 #17(E-W): From Lat: 40°27.7097' N, Long: 144°28.7558' E to Lat: 40°28.3445' N, Long: 144°25.8649' E

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

<b>In port</b>	35.0
<b>Transiting</b>	76.15
<b>Operating</b>	350.25
<b>Technical downtime</b>	0.0
<b>Weather downtime</b>	226.9
<b>Other downtime (specify)</b>	0.0

## 7. Weather

Cloudy and cool (<12 degC), with light breeze (<4 m/s) from the northeast – east northeast. A relatively strong current was observed (~1.8 knot to east) but no swell (wave height: ~0.2 m).

## 8. Planned Activity for the next 24 hours

Continue MBES/SBP survey around Site M0084. Sail to south for Kuroshio current survey

## 9. Health and Safety and Environmental

Toolbox talk before the operation

## 10. Photo of the day



1) A calm sea, a beautiful day (photo by NOKUTSU@ECORD/IODP/JAMSTEC)



2) Winch control room, 1 minute before spudding (photo by LMaeda@ECORD/IODP/JAMSTEC)





3) Visually confirmed GPC at surface (photo by NOKutsu@ECORD/IODP/JAMSTEC)



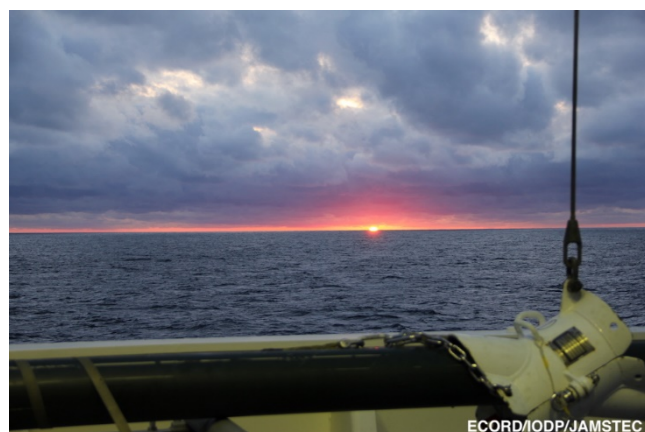
4) Supporting the barrel string to recover (photo by LMaeda@ECORD/IODP/JAMSTEC)



5) Making a pressure release hole (photo by LMaeda@ECORD/IODP/JAMSTEC)



6) Offshore Assistant EPM Takahiro Yokoyama cutting core into 1 m sections (photo by LMaeda@ECORD/IODP/JAMSTEC)



7) Sunset (photo by LMaeda@ECORD/IODP/JAMSTEC)



8) Co-Chief Ken Ikehara checking pressure release holes (photo by NOKutsu@ECORD/IODP/JAMSTEC)



9) Scientists Kana Jitsuno, Kan-Hsi Hsiung, and Toshiya Kanamatsu, the sampling team (photo by NOKutsu@ECORD/IODP/JAMSTEC)