



**Preliminary Report
of
the *R/V KAIMEI* Cruise KM20-02 Leg2**



FY2020 Engineering Cruise

in the Izu-Ogasawara area

June 10 – 16, 2020

Institute for Marine-Earth Exploration and Engineering (MarE3)

Japan Agency for Marine-Earth Science and Technology

(JAMSTEC)

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PREFACE

This cruise was planned to confirm the performance of Sercel streamer cable and its recording system which have been used on *R/V Kairei*. We conducted two-dimensional seismic reflection survey in the Izu-Ogasawara area. MCS system including both Sercel cable and recording system was checked and confirmed their performance correctly.

1. Participants aboard the R/V KAIMEI cruise

YAMAMOTO Fujio*	JAMSTEC
TSUKIOKA Satoshi	JAMSTEC
MIURA Seiichi	JAMSTEC
SHINMOTO Yuichi	JAMSTEC

*Chief of the cruise

Marine Technician

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HORIUCHI Yoshiki	Nippon Marine Enterprises, Ltd.
TAKIZAWA Kaoru	Nippon Marine Enterprises, Ltd.
NOGUCHI Naoto	Nippon Marine Enterprises, Ltd.
SERIZAWA Kimiko	Nippon Marine Enterprises, Ltd.
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2. Specification of Sercel MCS system

5-1. Recording system

24 bits digital recording system is used for seismic data recording. All data are stored on the NAS (Network Attached Storage) and LTO-6 tape as SEG-D format.

- Model : Sercel Seal Marine Seismic Data Acquisition System CMXL2000
- A/D Convertor : 24 bits
- Sampling Interval : 0.25、0.5、1、2、4 msec
- Maximum recording length : 99sec (in case of 444ch、4msec sampling int.)
- Data format : SEG-D

- Recording media : NAS、LTO-6 tape

5-2. Streamer cable

444 channels (5,550meters length) digital streamer cable is used to receive seismic signal. All data are digitized and are sent to shipboard recording system.

- Model : Sercel Sentinel Solid Cable
- Cable length : 5,550m
- Number of channels : 444
- Group interval : 12.5m
- Number of hydrophones per channel : 8

3. Survey area

Fig. 1 shows KM20-02 Leg2 survey area. The Izu-Ogasawara area and planed survey lines are shown in this figure.

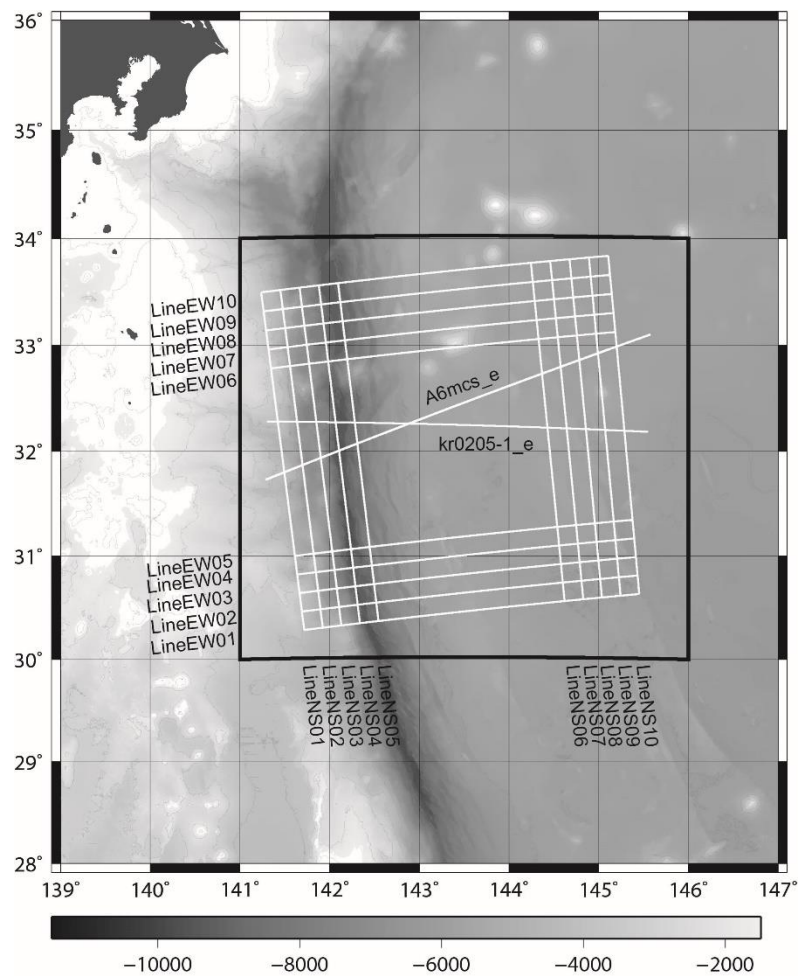


Fig. 1 Survey area

4. Cruise track

KM20-02 Leg2 cruise was started from JAMSTEC pier on June 10 and then, the vessel went to the proposed seismic line in the Izu-Ogasawara area. Once we arrived at streamer cable deployment point, XCTD measurement was performed. Then we deployed a streamer cable and four airgun arrays. MCS survey was conducted at 3 lines.

Finally, the vessel arrived at JAMSTEC pier on June 16 and we ended KM20-02 Leg2 cruise. Fig. 2 shows ship's tracks for the entire cruise and table 1 shows activity log during the cruise.

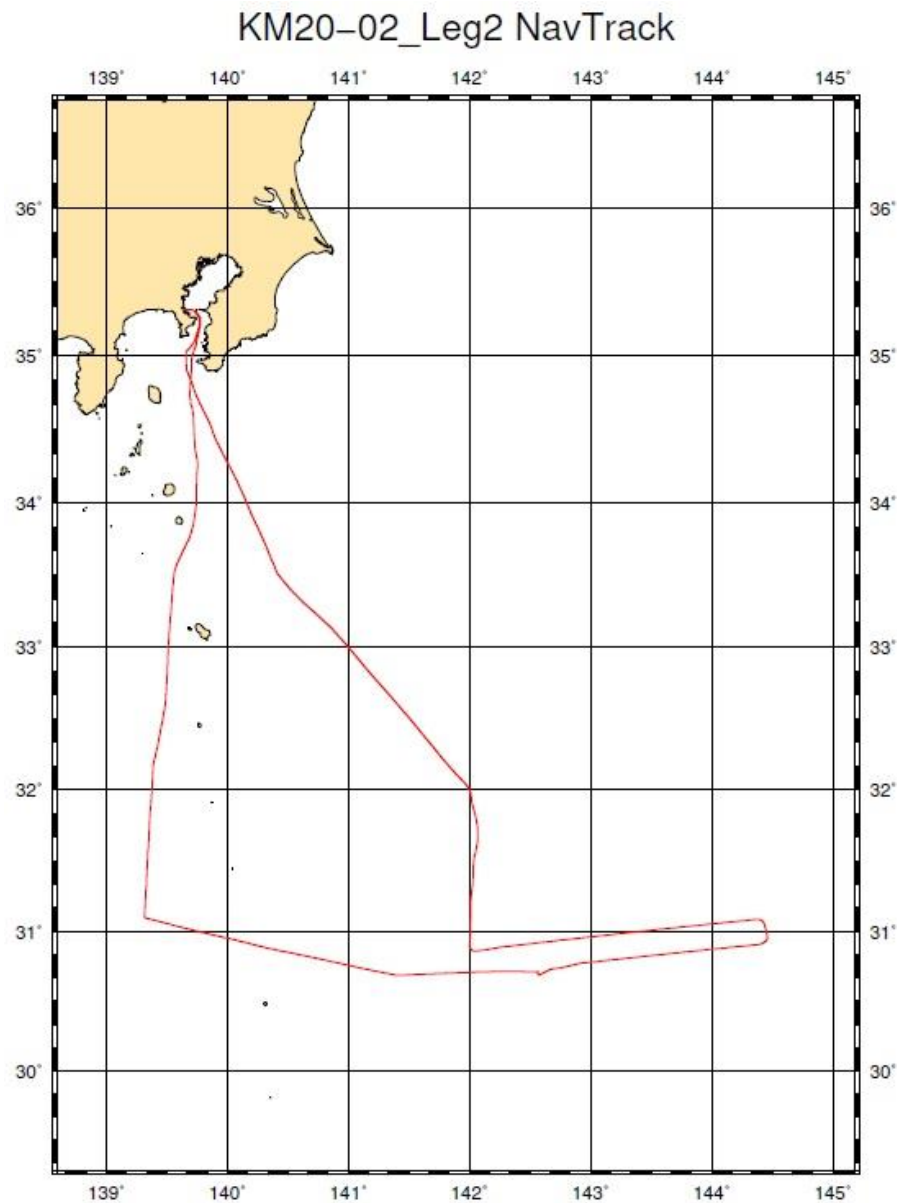


Fig. 2 Ship's tracks for the entire KM20-02 Leg2 cruise

Table 1 Cruise log

Date / Time(JST)	Descriptions
2020/6/10 Wed.	Noon Position:34-48.9N,139-43.0E (Off Tokyo Bay)
8:00	Onboarded
9:00	Let go all shore line and left JAMSTEC port for survey area
10:00	Carried out education and training for scientists
2020/6/11 Thu.	Noon Position:31-46.2N,142-03.2E (Izu Ogasawara)
6:00	Arrived survey area
6:30	Conducted XCTD
7:30	Started system deployment
2020/6/12 Fri.	Noon Position:30-55.2N,142-35.4E (Izu Ogasawara)
4:00	Finished deployment
10:00	Started test A (towing depth 25 m) along LineEW04
2020/6/13 Sat.	Noon Position:31-05.0N,144-21.5E (Izu Ogasawara)
0:00	Started test B (towing depth 12 m) along LineEW04
12:00	Finished LineEW04
16:21	Started LineEW03
2020/6/14 Sun.	Noon Position:30-44.3N,142-42.6E (Izu Ogasawara)
8:00	Finished LineEW03
8:30	Started system recovery
15:30	Finished recovery
18:00	Left survey area for JAMSTEC port
2020/6/15 Mon.	Noon Position:32-33.3N,132-41.6E (Izu Ogasawara)
2020/6/16 Tue.	
9:45	Sent out 1st shore line, arrived at JAMSTEC port, then completed voy. No.KM20-02 leg2
	- Disembarked

5. Preliminary results

5-1. Survey lines

The yellow lines with line name on Fig. 3 indicate the survey lines where the MCS data was recorded during cruise.

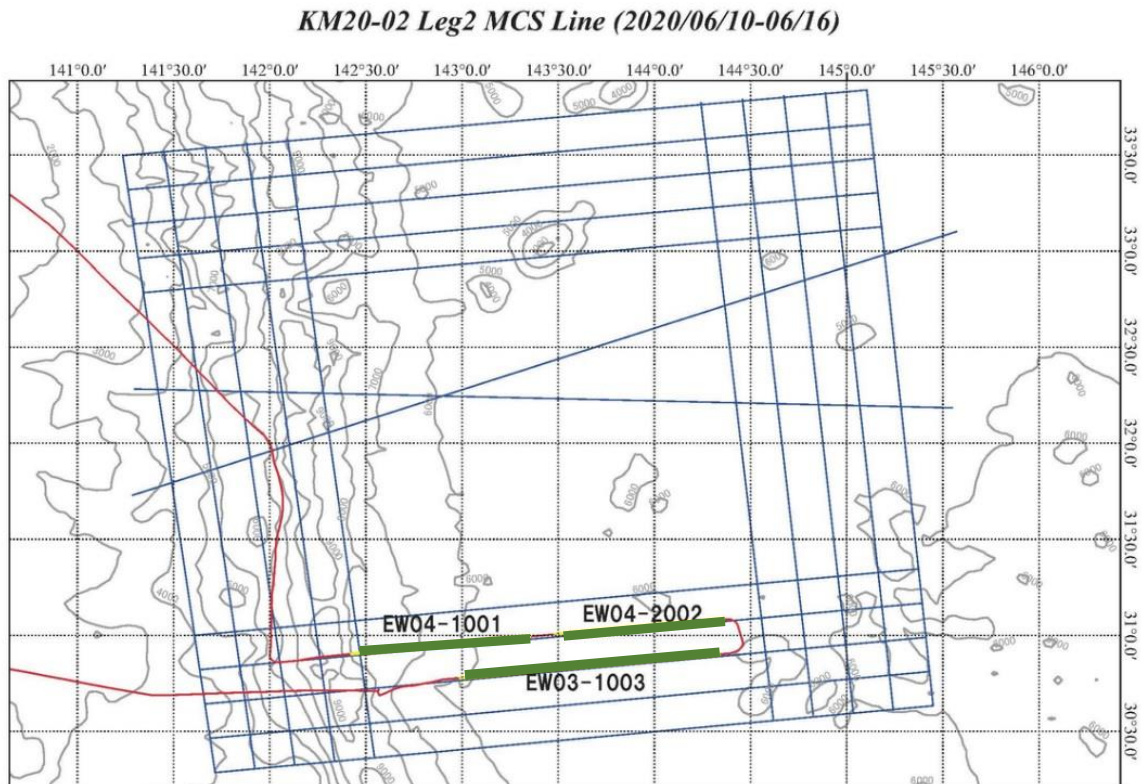


Fig. 3 MCS survey lines

5-2. MCS Profiles

Raw MCS reflection data was processed for the purpose of quality control during the cruise. Fig. 4, 5, 6 show the results of the onboard data processing.

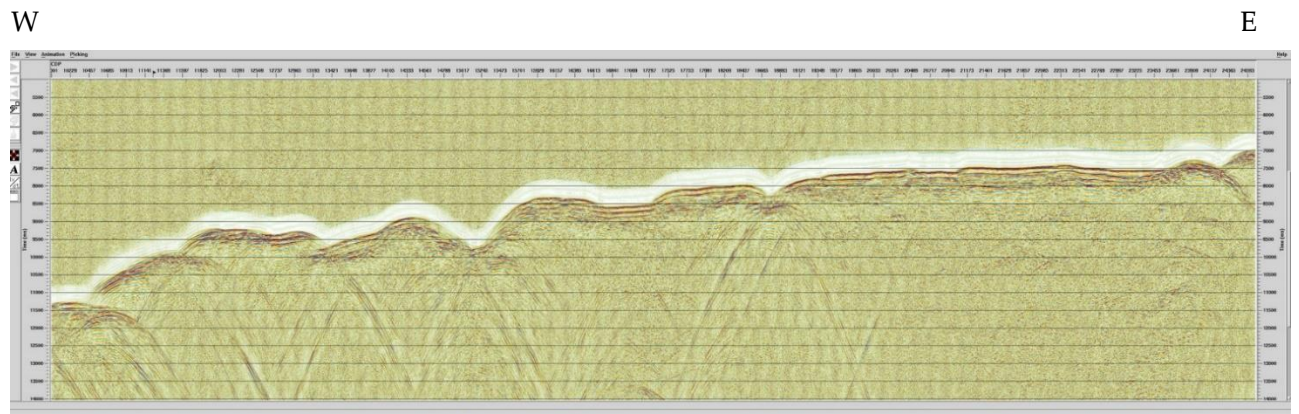


Fig. 4 Line EW04-1001

W

E

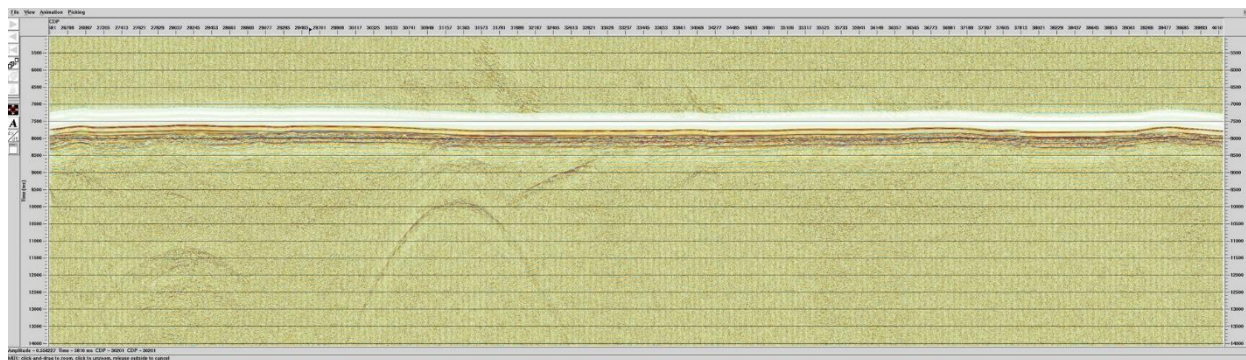


Fig. 5 Line EW04-2002

W

E

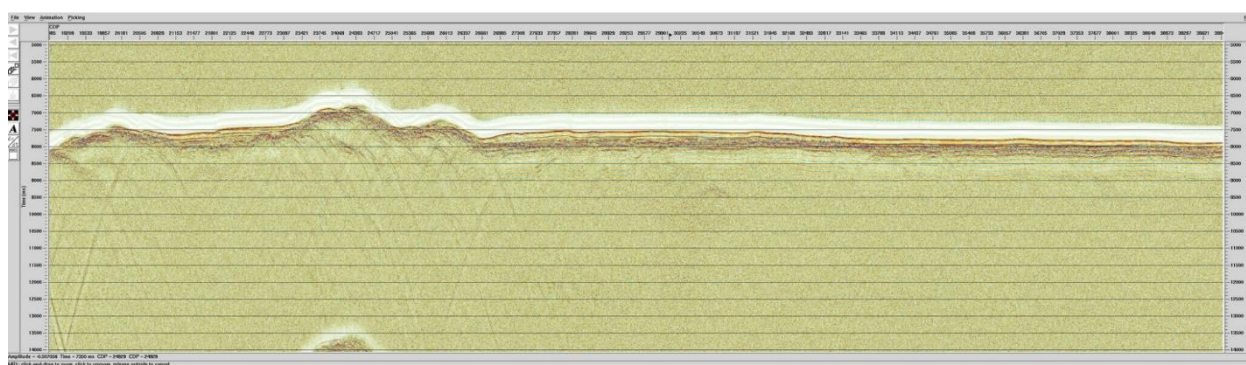


Fig. 6 Line EW03-1003

6. Acknowledgement

We thank Captain YOSHIDA Rikita, crew and technical staffs of our experiments conducted during the KM20-02 Leg2 cruise, for their kind and thoughtful supports during the cruise.

※ Notice on using

This cruise report is a preliminary documentation as of the end of cruise.

This report is not necessarily corrected even if there is any inaccurate description (i.e. taxonomic classifications). This report is subject to be revised without notice. Some data on this report may be raw or unprocessed. If you are going to use or refer the data on this report, it is recommended to ask the Chief Scientist for latest status.

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