

KAIREI "Cruise Report"

KR18-12C

Off the east coast of Kyushu

Sept. 7th- 21th, 2018

Japan Agency for Marine-Earth Science and Technology

(JAMSTEC)

KR18-12C Cruise Report Contents

- 1. Cruise information
- 2. Participant list
- 3. Cruise Log
- 4. Objectives
- 5. Instruments and Operations
 - 5-1. Multi-beam Echo-sounder System and Sub-bottom Profiler
 - 5-2. Temperature profile
 - 5-3. Piston corer system
 - 5-4. Shipboard core flow

6. Preliminary Results

- 6-1 MBES and SBP surveys
- 6-2. PC operations
- 6-3. Lithology of Piston cores
- 7. Acknowledgement
- 8. Notice on Using

APPENDIX

Core Photo Visual Core Description Operation Inventory Winch Cable Tension records during PC operation Track of eight figure turn

1. Cruise Information

Cruise ID:KR18-12C Name of vessel: R/V KAIREI Chief scientist [Affiliation]: Toshiya Kanamatsu [CEAT JAMSTEC] Representative of the Science Party [Affiliation]: Toshiya Kanamatsu [CEAT JAMSTEC]] Proposal representative [affiliation]: Shuichi Kodaira [CEAT JAMSTEC] Cruise period: Sept. 7th, 2018-Sept. 21th, 2018 Ports of departure / arrival: JAMSTEC/ JAMSTEC (Figure 1) Research area: Kyusyu Toho oki (Figure 2)



Figure 1. Red line: ship track of KR18-12C. Box of black line corresponds to Figure 2



132°30' 132°40' 132°50' 133°00' 133°10' 133°20' 133°30' 133°40' 133°50' 132°10' 132°20'

Figure 2. KR18-12C research area: Red line: SBP and MBES Lines. Red circle: coring point

Scientific party

Toshiya Kanamatsu Ken Ikehara Taku Ajioka Mika Yamaguchi Akira So Yuki Miyajima Akihiro Tame

RV KAIREI Ship Crew

Yoshiyuki Nakamura Takeshi Muramatsu Syunsuke Fujii Tatsumi Deguchi Yuta Uozumi Kazuhiko Kaneda Shinichi Ikuta Akira Hanawa Yoshinobu Hiratsuk Shohei Miyazaki Hiroyasu Saitake Ryosuke Matsui Misato Taki Kaname Hirosaki Shuichi Yamamoto Kenii Nakae Nao Ishizuka Kenta Nasu Toshiya Saga Taisei Tanaka Ryo Nakanishi Junji Mori Toshinori Matsui Ryo Sato Makoto Kozaki Masakazu Ishida Fubuki Homma Kazuhiro Hirayama Masaru Sugiyama Chikara Aohori Koki Shinohara Hodaka Wakisaka

CEAT, JAMSTEC

Geological Survey of Japan, AIST Geological Survey of Japan, AIST Marine Works Japan Ltd Marine Works Japan Ltd Marine Works Japan Ltd Marine Works Japan Ltd

Master **Chief Officer** 2nd Officer 3rd Officer Jr.3rd Officer **Chief Engineer** 1st Engineer **2st Engineer** Jr.2nd Engineer 3rd Engineer Chief Electronics Operator 2nd Electronics Operator 3rd Electronics Operator **Boat Swain Ouarter Master Ouarter Master** Quarter Master Sailor Sailor Sailor Sailor No.1 Oiler Oiler Oiler Oiler Assistant Oiler Assistant Oiler Chief Steward Steward Steward Steward Steward

3. Cruise Log

| Date | Remarks |
|-----------------------|--------------------------------------|
| 7th Sept | |
| 10:00 | Departure from JAMSTEC |
| 11:00- | Briefing for safety and onboard life |
| 16:30- | Konpira praving |
| | |
| | Transit to the survey area |
| 8th Sept | |
| 18:00- | SBP and MBES surveys |
| 9th Sept | |
| • | SBP and MBES surveys |
| 11:45- | Cancel of piston coring operation |
| | |
| | SBP and MBES surveys |
| | |
| | Transit to the Oyodo survey area |
| th | |
| 10 th Sept | |
| 00.42 | |
| 00:43 | SBP and MBES surveys |
| 10.00 | Piston coring (PC01) |
| 10.00 | riston coring (r cor) |
| 15:12 | SBP and MBES surveys |
| 11th Sept | |
| • | |
| 09:00 | Suspended PC operation |
| | |
| 12:40 | Cancel of PC operation |
| 10.50 | |
| 10:52- | SBP and MBES surveys |
| 134h G | |
| 12th Sept | Distan caring (DC02) |
| 08.00 | riston cornig (rCo2) |
| 14.00 | Piston coring (PC03) |
| 14.00 | riston coring (r cos) |
| 18.37- | SBP and MBES surveys |
| 10.07 | SDT und HIDES Surveys |
| 13th Sept | |
| 09:00- | Cancel of PC operation |
| | SBP and MBES surveys |
| | |
| 14th Sept | |
| - | |
| 09:00- | Piston coring (PC04) |
| | |
| | SBP and MBES surveys |
| | |

15th Sept

| 09:00- | Piston coring (PC05) | | | | | | |
|----------------------------|--|--|--|--|--|--|--|
| | SBP and MBES surveys | | | | | | |
| 16th Sept | | | | | | | |
| 09:00- | Piston coring (PC06) | | | | | | |
| | SBP and MBES surveys | | | | | | |
| 17th Sept | | | | | | | |
| 09:00- | Piston coring (PC07) | | | | | | |
| | SBP and MBES surveys | | | | | | |
| 11:32-11:53 18:34-18:55 | 8 figure turn 8 figure turn | | | | | | |
| 18th Sept | | | | | | | |
| 09:00- | Piston coring (PC08) | | | | | | |
| | SBP and MBES surveys | | | | | | |
| 19th Sept | | | | | | | |
| 09:00- | Piston coring (PC09) Left research area Transit to LAMSTEC | | | | | | |
| 16:23-16:43 | 8 figure turn | | | | | | |
| 20h Sept. | | | | | | | |
| | Transit to JAMSTEC | | | | | | |
| 21th Sept. | | | | | | | |
| 09:00 | Arrival in JAMSTEC port (end of cruise) | | | | | | |

4. Objectives

This cruise was carried out under "Research Project for Compound Disaster Mitigation on the Great Earthquakes and Tsunamis around the Nankai Trough Region" entrusted by the Ministry of Education, Culture, Sports, Science, and Technology. The purpose is to investigate evidences of past -Tsunami in marine sediments. We planed to take marine sediment sample using a piston coring system, bathymetric and shallow sub-seafloor acoustic imaging surveys using a multi-beam echo-sounder system and sub-bottom profiler, visual core description, and sub-sampling for post-cruise researches on obtained during the cruise. Onboard results are reported in the followings sections.

5. Instruments and Operations

5-1. Multi-beam Echo-sounder System and Sub-bottom profiler

The *SeaBeam3012* Multi beam Echo sounder system (MBES), and *Bathy 2010* sub-bottom profiler (SBP) equipped with RV KAIREI were used to collect bathymetric and sub-bottom data in the study area. General specifications of the systems are summarized below.

| MBES: | Frequency | 12kHz |
|-------|-----------------|------------------------------------|
| | Depth range | 50 ~ 11,000m |
| | Swath width | Max150°(90° at Water depth 11000m) |
| | Max beam number | 301beams |
| | Beam width | 2°×1.6° |
| SBP: | Frequency | 3.5 kHz |
| | Beam width | 20° |
| | Depth range | 10 ~ 12,000m |
| | | |

5-2. Temperature profile

The sound velocity profile of the local water column, which was used for calibration of depth data for the bathymetry, was estimated from a temperature profile based on in-situ Expendable Bathythermograph (XBT: T05). Locations of XBT measurements and temperature depth profile are shown in **Table 5-2-1** and **Figure 5-2-1**.

| Num | Date | time | Lat. | Long. | Probe Type | Max depth (m) |
|------|------------|----------|-------------|---------------|------------|---------------|
| 0549 | 2018/09/08 | 09:01:06 | 32-14.1770N | 133- 54.6403E | T05 | 1830 |
| 0559 | 2018/09/09 | 14:48:04 | 31-59.4880N | 132-33.1937E | T05 | 1830 |



Figure 5-2-1. Temperature profiles obtained by XBT measurement on 2018/09/08 and 2018/09/9.

5-3. Piston corer system

5-3-1. Piston corer system (Figure 5-3-1)

A piston corer system consists of 0.59 ton weight, 4 m or 6 m long stainless steel barrels, a trigger, and a pilot core sampler. Polyvinyl chloride (PVC) tube is used as inner tube of barrels. The inner diameter (I.D.) of liner tube is 75 mm. The piston is composing of two O-rings (size: P63). For a pilot core sampler, we used a "75 mm diameter long-type pilot corer". The pilot corer consists of 112 kg weight, 50 cm or 70 cm long stainless barrels and PVC liner tube. The total weight of the system is approximately 0.7 ton. The transponder (XXX and OKISB-1017A (13.0 and 13.5 kHz) was attached to the winch wire above 50 m from the top of PC system to monitor the PC position.

5-3-2. Winch operation

A winding speed of winch wire was set to 30 m/min up to XXX water depth, and increased speed up at 60 m/min gradually. Wire out was stopped at a depth about 100 m above the seafloor for about 3 minutes to reduce sway of PC system. The wire out was restarted at a speed of 50m/min. After the abrupt drop of wire tension, wire out was stopped immediately. Subsequently winding up was started at a speed of 50 m/min until the tension gauge indicates that the corers were lifted off seafloor. Then, winch wire was wound at 60m/min.

5-4. Shipboard core flow

The shipboard procedure on piston core samples is shown in Figure 5-4-1,



Fig. 5-3-1. Specifications of piston-corer system used for KR18-12C.



Flow chart of handling procedure in KR18-12C_for Piston core



Figure 5-4-1. Shipboard core flow for KR18-12C

6. Preliminary results

6-1 MBES and SBP surveys

MBES and SBP surveys were carried out with ca. 5knt. Lines listed in Table 6-1 are on Figs 6-1-1, and 6-1-2. Each capture SBP image were presented from Fig. 6-2-1 to 6-2-42.

Table 6-1 survey line list

| Date | Time UTC | C IN/OUT | point | Lat | Long | Depth | heading (°) |
|-----------|----------|-----------|-------|--------------|---------------|-------|-------------|
| 2018/9/8 | 10:06:25 | IN | 01 1 | 32-13.0734N | 133-44.4278E | 2097 | 216.0 |
| | 12:57:30 | OUT | 01_2 | 32-00.9231N | 133-35.9323E | 2205 | 246.0 |
| | 13:35:01 | IN | 01_a | 32-00.8927N | 133-32.7906E | 2240 | 56.0 |
| | 16:46:38 | OUT | 01_b | 32-09.0236N | 133-50.0236E | 2537 | 62.0 |
| | 17:11:22 | IN | 01_c | 32-10.7926N | 133-49.5459E | 2308 | 244.0 |
| | 20:23:00 | OUT | 01_d | 32-02.9907N | 133-32.9810E | 2077 | 232.0 |
| | 21:01:22 | IN | 01_e | 32-04.8974N | 133-32.8331E | 2077 | 76.0 |
| | 21:45:20 | suspended | | 32-06.7340N | 133-36.6857E | 2192 | 81.0 |
| | 22:29:52 | restart | | 32-06.6480N | 133-36.6175E | 2199 | 71.0 |
| 2018/9/9 | 00:54:22 | OUT | 01_f | 32-13.0029N | 133-50.0115E | 1974 | 69.0 |
| | 01:08:33 | IN | 01 g | 32-13.9935N | 133-49.9940E | 1976 | 239.0 |
| | 02:52:37 | OUT | 01_h | 32-09.9785N | 133-40.9794E | 2012 | 238.0 |
| | 05:05:48 | IN | 01 o | 31-50.0026N | 133-33.0162E | 3833 | 66.0 |
| | 08:18:52 | OUT | 01_p | 31-58.0218N | 133-50.0432E | 3704 | 51.0 |
| | 15:43:00 | IN | 0v1 | 31-51.9830N | 132-35.9815E | 2158 | 225.0 |
| | 19:53:26 | OUT | 0y2 | 31-33.9860N | 132-22.9936E | 2240 | 217.0 |
| | 20:44:48 | IN | 0v3 | 31-42.0295N | 132-21.8158E | 2016 | 117.0 |
| | 23:08:57 | OUT | 0y4 | 31-37.6017N | 132-34.9147E | 2369 | 130.0 |
| 2018/9/10 | 06:11:19 | IN | 0v9 | 31-36.4149N | 132-30.2006E | 2155 | 289.0 |
| | 07:42:48 | OUT | 0y10 | 31-39.3204N | 132-21.9557E | 2409 | 283.0 |
| | 08.17.35 | IN | 0v5 | 31-43 9544N | 132-25 0243E | 2002 | 121.0 |
| | 10:09:40 | OUT | 0y6 | 31-40.4960N | 132-35.0199E | 1989 | 120.0 |
| | 11.00.47 | IN | 0v8 | 31-47 0221N | 132-36 9812E | 1895 | 290.0 |
| | 12:19:32 | OUT | 0y7 | 31-49.5441N | 132-29.8504E | 2018 | 278.0 |
| | 01.52.56 | IN | NSSP4 | 31-51 6021N | 132-17 0477E | 1947 | 262.0 |
| | 02:33:54 | OUT | wst1 | 31-51.6038N | 132-12.9930E | 1919 | 257.0 |
| | 02.52.12 | IN | wst3 | 31-49 9662N | 132-12 9099F | 1905 | 113.0 |
| | 03:31:43 | OUT | wst2 | 31-49.9466N | 132-16.7716E | 1949 | 108.0 |
| | 03.52.42 | IN | wst4 | 31-48 33270N | 132-16 71770F | 1955 | 255.0 |
| | 04:29:30 | OUT | wst5 | 31-48.2943N | 132-12.9888E | 1876 | 255.0 |
| | 05.08.20 | IN | wet? | 31_10 0519N | 132-16 7320E | 1052 | 256.0 |
| | 05.00.29 | OUT | wst2 | 31_49.9572N | 132-10.7557E | 1899 | 255.0 |

| | 06:28:44 | IN | wst6 | 31-46.6570N | 132-16.7247E | 1990 | 246.0 |
|-----------|----------------------|-----------|---------------|------------------------------|------------------------------|-------|--------|
| | 07:06:13 | OUT | wst7 | 31-46.6505N | 132-12.9696E | 1929 | 255.0 |
| | 07.48.06 | IN | wet | 21 45 0124N | 122 17 0627E | 2015 | 254.0 |
| | 07.48.00 | OUT | WSIO NSSP7 | 31-45 0108N | 132-14.0705E | 2013 | 253.0 |
| | 00.17.55 | 001 | 11001 / | 51 15.010010 | | 2010 | 200.0 |
| | 08:54:38 | IN | wst10 | 31-43.3454N | 132-18.0538E | 1995 | 254.0 |
| | 09:41:33 | OUT | wst9 | 31-43.3493N | 132-13.4802E | 1963 | 259.0 |
| | 10.21.22 | INI | | 21 41 6091N | 122 16 0602E | 1092 | 255.0 |
| | 10.21.33 10.51.45 | IN OUT | wst12 | 31-41.0981IN 31-41.7028N | 132-10.9092E 132-14.0398E | 1982 | 255.0 |
| | 10.51.45 | 001 | wst11 | 51-41.70201 | 152-14.0576L | 1050 | 230.0 |
| | 10:05:01 | IN | wst15 | 31-40.0271N | 132-15.9837E | 2003 | 340.0 |
| | 11:03:11 | mid point | wst14 | 31-45.0126N | 132-14.9990E | 2023 | 338.0 |
| | 12:24:13 | OUT | wst13 | 31-52.0166N | 132-14.9943E | 1944 | 344.0 |
| | 22 40 54 | D.I. | (22 | 21 46 501001 | 122 12 11045 | 1007 | 240.0 |
| 2010/0/12 | 23:48:54 | IN | wst23 | 31-46.5010N | 132-12.1184E | 1896 | 249.0 |
| 2018/9/13 | 00:09:31 | 001 | WSt22 | 31-46.4953N | 132-09.9649E | 18/9 | 254.0 |
| | 00:42:54 | IN | wst20 | 31-44.9827N | 132-11.0104E | 1902 | 330.0 |
| | 01:14:59 | OUT | wst21 | 31-48.0390N | 132-11.0073E | 1882 | 330.0 |
| | 01.46.00 | DI | | 21 40 0 40 2 1 | | 1006 | 0.50 0 |
| | 01:46:02 | IN | wst24 | 31-49.9402N | 132-13.0868E | 1906 | 253.0 |
| | 02:37:37 | 001 | wst25 | 31-49.946/N | 132-07.9814E | 1/88 | 253.0 |
| | 03:33:33 | IN | wst26 | 31-51.5964N | 132-12.9836E | 1918 | 256.0 |
| | 04:32:00 | OUT | wst27 | 31-51.5930N | 132-06.9853E | 1736 | 255.0 |
| | | | | | | | |
| | 05:57:00 | IN | wst18 | 31-54.1982N | 132-15.9825E | 1931 | 251.0 |
| | 06:45:49 | OUT | wst19 | 31-54.2014N | 132-10.9876E | 1906 | 252.0 |
| | 07.49.51 | IN | wst29 | 31-55 4994N | 132-15 9817E | 1928 | 253.0 |
| | 08:22:53 | OUT | wst28 | 31-55.4959N | 132-12.4649E | 1937 | 252.0 |
| | | | | | | | |
| | 09:43:28 | IN | wst31 | 31-56.9958N | 132-20.0760E | 1846 | 250.0 |
| | 10:40:35 | OUT | wst30 | 31-56.9989N | 132-13.9695E | 1935 | 253.0 |
| 2018/9/14 | 04.20.17 | IN | PC05point | 31-43 6919N | 132-15 2923F | 2018 | 323.0 |
| 2010/9/11 | 05:59:42 | OUT | wst13 | 31-52 0155N | 132-14-9940E | 1941 | 333.0 |
| | | 001 | | 01 02:01001 | | 17.11 | 222.0 |
| | 06:23:57 | IN | NSSP4 | 31-51.6272N | 132-17.0057E | 1947 | 284.0 |
| | 07:02:35 | midpoint | NSSP5 | 31-54.3114N | 132-14.7856E | 1956 | 294.0 |
| | 07:51:17 | OUT | MC12 | 31-57.51000N | 132-11.49180E | 1793 | 301.0 |
| | 00.04.50 | IN | wet33 | 31-58 4058N | 132-20 00/0F | 1855 | 253.0 |
| | 09.04.30 | OUT | wst32 | 31-58 4948N | 132-15 9616E | 1855 | 259.0 |
| | 09.10.00 | 001 | | 51 50.19 1011 | 152 15.901012 | 1917 | 209.0 |
| | 10:40:35 | IN | wst17 | 31-53.3010N | 132-18.0689E | 1904 | 252.0 |
| | 11:52:25 | OUT | wst16 | 31-53.3011N | 132-10.9896E | 1923 | 250.0 |
| 2019/0/15 | 04.12.12 | IN | wet25 | 21 50 0006N | 122 21 0042E | 1017 | 251.0 |
| 2010/9/13 | 04.15.15 04.54.15 | | wsi33 | 31-39.9990IN 32-00.0000N | 132-21.0043E 132-16.0878E | 1042 | 251.0 |
| | 04.34.13 | 001 | waljt | 52-00.0000IN | 152-10.90/0E | 1951 | 234.0 |
| | 05:28:40 | IN | wst37 | 32-02.0014N | 132-20.9823E | 1841 | 253.0 |
| | 06:08:21 | OUT | wst36 | 32-01.9964N | 132-16.9808E | 1875 | 260.0 |
| | 07.28.26 | IN | wet20 | 32 03 0057N | 132-26 0725E | 1806 | 257 0 |
| | 09.07.26 | OUT | wst38 | 32-03 9991N | 132-20.9725E 132-16 9786F | 1863 | 259.0 |
| | 57.07.20 | | | | 10- 10.0 (00L | | |

| 10:14:49 12:04:00 | IN OUT | wst41 wst40 | 32-05.9931N 32-06.0000N | 132-27.2135E 132-16.9935E | 1841 1893 | 261.0 260.0 |
|----------------------|-----------|----------------|------------------------------|------------------------------|--------------|------------------|
| 03.13.09 | IN | wst43 | 31-59 6840N | 132-14 9953F | 1886 | 227.0 |
| 03:57:27 | OUT | wst42 | 31-56.9950N | 132-11.9880E | 1854 | 224.0 |
| 05:12:30 | IN | wst44 | 32-06.3008N | 132-26.9833E | 1864 | 271.0 |
| 06:54:57 | OUT | wst45 | 32-08.2110N | 132-16.9826E | 1852 | 273.0 |
| 07:51:36 | IN | wst46 | 32-07.5051N | 132-26.9845E | 1809 | 266.0 |
| 09:21:50 | OUT | wst47 | 32-09.1523N | 132-17.9713E | 1901 | 270.0 |
| | DI | . 40 | 22 00 4(1 2). | | 1000 | a (a) a |
| 04:26:46 | IN OUT | wst49 wst48 | 32-08.4612N 32-10 5043N | 132-26.9857E 132-18.4899F | 1890 1886 | 269.0 273.0 |
| 05.54.55 | 001 | WSLHO | 52 10.504510 | 152 10.40771 | 1000 | 275.0 |
| 07:08:05 | IN | wst51 | 32-16.9992N | 132-31.9735E | 1641 | 265.0 |
| 09:28:31 | OUT | wst50 | 32-16.9988N | 132-17.9747E | 1677 | 262.0 |
| 03:20:49 | IN | wst56 | 32-13.9883N | 132-14.0030E | 1606 | 210.0 |
| 04:24:06 | OUT | wst57 | 32-08.9584N | 132-12.1836E | 1515 | 206.0 |
| 06:15:04 | IN | wst52 | 32-17.0043N | 132-37.9860E | 1561 | 259.0 |
| 07:14:56 | OUT | wst51b | 32-16.9979N | 132-31.9878E | 1642 | 259.0 |
| 07:47:04 | IN | wst54 | 32-15.0057N | 132-36.0067E | 1561 | 256.0 |
| 10:36:22 | OUT | wst55 | 32-15.0010N | 132-18.9568E | 1767 | 259.0 - |
| | | | | | | |



Figure 6-1-1: MBES and SBP survey lines in the east area.



Figure 6-1-2. MBES and SBP survey lines in the west area.



Fig 6-2-1 sub-bottom image of line 01_1-01_2. Sea Fig 6-1a for the location of survey line.



Fig 6-2-2 sub-bottom image of line 01a-01b. Sea Fig 6-1a for the location of survey line.



Fig 6-2-3 sub-bottom image of line 01c-01d. Sea Figure 6-1a for the location of survey line.



Fig 6-2-4 sub-bottom image of line 01 e - 01f. Sea Figure 6-1a for the location of survey line.



Fig 6-2-5 sub-bottom image of line 01 e - 01f. Sea Fig 6-1a for the location of survey line.



Fig 6-2-6 sub-bottom image of line 01g – 01h. Sea Fig 6-1a for the location of survey line.



Fig 6-2-7 sub-bottom image of line 010 - 01p. Sea Fig 6-1a for the location of survey line.



Fig 6-2-8 sub-bottom image of line oyo1 – oy2. Sea Fig 6-1b for the location of line.



Fig 6-2-9 sub-bottom image of line oy3 – oy4. Sea Fig 6-1b for the location of line.



Fig 6-2-10 sub-bottom image of line oy8 – oy7. Sea Fig 6-1b for the location of line.



Fig 6-2-11 sub-bottom image of line oy5 – oy6. Sea Fig 6-1b for the location of line.



Fig 6-2-12 sub-bottom image of line oy8 – oy7. Sea Fig 6-1b for the location of line.



Fig 6-2-13 sub-bottom image of line NSSP4 – wst1. Sea Fig 6-1b for the location of line.



Fig 6-2-14 sub-bottom image of line wst3 – wst2. Sea Fig 6-1b for the location of line.



Fig 6-2-15 sub-bottom image of line wst4 – wst5. Sea Fig 6-1b for the location of line.



Fig 6-2-16 sub-bottom image of line wst6 – wst7. Sea Fig 6-1b for the location of line.



Fig 6-2-17 sub-bottom image of line wst8 – NSSP7. Sea Fig 6-1b for the location of line.



Fig 6-2-18 sub-bottom image of line wst10 – wst9. Sea Fig 6-1b for the location of line.



Fig 6-2-19 sub-bottom image of line wst12 – wst11. Sea Fig 6-1b for the location of line.



Fig 6-2-20 sub-bottom image of line wst15 – wst13. Sea Fig 6-1b for the location of line.



Fig 6-2-21 sub-bottom image of line wst23 – wst21. Sea Fig 6-1b for the location of line.



Fig 6-2-22 sub-bottom image of line wst24 – wst25. Sea Fig 6-1b for the location of line.



Fig 6-2-23 sub-bottom image of line wst26 – wst27. Sea Fig 6-1b for the location of line.



Fig 6-2-24 sub-bottom image of line wst18 – wst19. Sea Fig 6-1b for the location of line.



Fig 6-2-25 sub-bottom image of line wst29 – wst28. Sea Fig 6-1b for the location of line.



Fig 6-2-26 sub-bottom image of line wst31 – wst30. Sea Fig 6-1b for the location of line.



Fig 6-2-27 sub-bottom image of line PC05 – wst13. Sea Fig 6-1b for the location of line.



Fig 6-2-28 sub-bottom image of line NSSP4 – MC12. Sea Fig 6-1b for the location of line.



Fig 6-2-29 sub-bottom image of line wst33 – wst32. Sea Fig 6-1b for the location of line.



Fig 6-2-30 sub-bottom image of line wst17 – wst16. Sea Fig 6-1b for the location of line.



Fig 6-2-31 sub-bottom image of line wst35 – wst34. Sea Fig 6-1b for the location of line.



Fig 6-2-32 sub-bottom image of line wst37 – wst36. Sea Fig 6-1b for the location of line.



Fig 6-2-33 sub-bottom image of line wst39 – wst38. Sea Fig 6-1b for the location of line.



Fig 6-2-34 sub-bottom image of line wst41 – wst40. Sea Fig 6-1b for the location of line.



Fig 6-2-35 sub-bottom image of line wst43 – wst42. Sea Fig 6-1b for the location of line.



Fig 6-2-36 sub-bottom image of line wst44 – wst45. Sea Fig 6-1b for the location of line.


Fig 6-2-37 sub-bottom image of line wst46 – wst47. Sea Fig 6-1b for the location of line.



Fig 6-2-38 sub-bottom image of line wst49 – wst48. Sea Fig 6-1b for the location of line.



Fig 6-2-39 sub-bottom image of line wst51 – wst50. Sea Fig 6-1b for the location of line.



Fig 6-2-40 sub-bottom image of line wst56 – wst57. Sea Fig 6-1b for the location of line.



Fig 6-2-41 sub-bottom image of line wst52– wst51b. Sea Fig 6-1b for the location of line.



Fig 6-2-42 sub-bottom image of line wst54 – wst55. Sea Fig 6-1b for the location of line.

6-2. PC operations

Nine cores were recovered during the cruise. Information for their locations are summarized in **Table 6-2-1**. Operation inventory records are attached to APPENDIX.

| Date (UTC) | Core | Water | Pos | Core Length/Pipe | | Winch wire | | |
|------------|------|-----------|-------------|------------------|---------|---------------|---------------------|------|
| | ID | depth (m) | Latitude | Longitude | PC | PL | Tension Max(ton) | К |
| 20180910 | PC01 | 2,449 | 31-40.1078N | 132-27.3951E | 3.81/6 | 0.51 | 43.6 | 0.63 |
| 20180912 | PC02 | 2,425 | 31-48.2212N | 132-33.4195E | 2.49 /6 | 0.70 | 49.8 | 1.13 |
| 20180912 | PC03 | 2,457 | 31-42.6024N | 132-28.9377E | 3.74/6 | 0.72 | 41.9 | 0.64 |
| 20180914 | PC04 | 2,451 | 31-38.5079N | 132-24.4124E | 3.08 /4 | 0.90 | 46.5 | 0.66 |
| 20180915 | PC05 | 2,014 | 31-43.6985N | 132-15.2708E | 4.77 /6 | 1.37 | 33.6 | 0.21 |
| 20180916 | PC06 | 1,943 | 31-53.2951N | 132-14.0010E | 2.79 /6 | 1.19 | 34.5 | 0.45 |
| 20180917 | PC07 | 2,012 | 31-47.8784N | 132-15.1536E | 3.57/6 | 0.76 | 37.1 | 0.43 |
| 20180918 | PC08 | 1,905 | 32-09.0025N | 132-18.9986E | 4.30/6 | 0.65 | 25.8 | 0.09 |
| 20180919 | PC09 | 1,944 | 31-53.3109N | 132-14.0081E | 3.57/4 | 0.84 | 30.0 | 0.27 |

 Table 6-2-1.
 Summary of PC operation during KR18-12C

6-3. Lithology of piston cores

Sediment lithology of the obtained piston and pilot gravity cores are summarized as **Figs. 6-3-1** and **6-3-2**. Core length of each core section on the visual description sheet is summarized in **Table 6-3-1**. We use the core length from **Table 6-3-1** for the core summary in this section. Detailed visual description is available in Appendix. Sediment lithology is different among the geographical areas, but thick reworked volcanic ash bed is found in all basins except of the Hyuga Basin; the Oyodo Basin (Sts. PC01, PC02, PC03 and PC04), a basin at the foot-of-slope (Sts. PC05 and PC07), a basin at the mouth of a submarine canyon connected to Miyazaki shelf (Sts. PC06 and PC09) and the Hyuga Basin (St. PC08). Sediment lithology of each area are summarized as below.

The Oyodo Basin

We obtained four piston cores with four pilot gravity cores from four sites in the Oyodo Basin. The Oyodo Basin is divided into the northern and southern basins separated by small bathymetric relief. Stratified acoustic facies above two thick acoustically transparent layers at the surface is found in the SBP profiles at each site. Coring sites were selected for depocenters at the northern basin (St. PC02) and north (St. PC03), central (St. PC01) and south (St. PC04) of the southern basin.

PC01, PC02, PC03, PC04, PL01, PL02, PL03 & PL04: Four cores (~250–380 cm long) recovered from the Oyodo Basin show similar lithology. The cores composed of grayish olive silt with bioturbation. A few thin coarse silt layers were intercalated. Thick volcanic ash layers, most of which were considered as the reworked layers, found at the lower part of the cores. Lower part of the cores were deformed and distorted during the coring. Grayish olive silt with bioturbation composed of all pilot gravity cores (~50–90 cm long).

A basin at the foot-of-slope

Two piston cores were recovered from a basin at the foot-of-slope off Miyazaki. Stratified acoustic facies is characteristic in the basin (Lines wst15–wst13 and wst13–PC05). A few acoustically transparent layers are found below the stratified facies. Thickness of the stratified facies becomes thinner north- and southward.

PC05, PC07, PL05 & PL07: A piston core (PC05: 477.3 cm long) was collected at the depocenter of a basin at the foot-of-slope off Miyazaki. Major lithology of the piston core was bioturbated silt. Many sand layers (a few to 33 cm thick) with upward fining grading structure found in the core. Another piston core (PC07: 357.4 cm long) from the southern part of the basin was also composed of bioturbated silt. Several sand layers with their thickness of <~10 cm were intercalated at the upper and middle part of the core. Many reworked volcanic ash layers were occurred at the lower part of the core.

Two pilot cores (PL05: 136.7 cm long, and PL07: 75.9 cm long) were composed of bioturbated silt. A thin volcanic ash layer was found in PL05 and a medium silt patch was occurred in PL07.

A basin at the mouth of submarine canyon connecting to Miyazaki shelf

Two piston cores at the same location were recovered from a basin at the mouth of submarine canyon connecting to Miyazaki shelf. Acoustically stratified facies is recognized on the SBP record (Line wst17–wst16). A few acoustically transparent layers are observed in SBP records. **PC06, PC09, PL06 & PL09**: Two cores (PC06: 279 cm long, and PC09: 356.6 cm long) were obtained from a basin near the submarine canyon mouth. Main lithology of two cores was bioturbated silt with a few coarse silt layers. A thick reworked volcanic ash layer was occurred at the lower part of the cores. Although a reworked volcanic ash layer with plant debris was occurred at the core top of PC06, there was no corresponding layer in PC09. Volcanic ash layer with similar characteristics was observed at the lower part of PC09. Two pilot gravity cores (PL06: 118.7 cm long, and PL09: 83.7 cm long) were mainly composed of bioturbated silt. A volcanic ash layer and a volcanic ash spot was observed in PL06, and two and one event layer were found in PL06 and PL09.

The Hyuga Basin

A piston core was obtained from the deepest part of Hyuga Basin. Stratified acoustic facies covers at the basin floor, but a thick acoustically transparent layer is observed in subsurface (Line wst46–47). **PC08 & PL08:** A piston core (PC08: 429.9 cm long) was composed of bioturbated silt. A few coarse silt layers, some of which showed upward-fining grading structure, were intercalated. Two thin volcanic ash layers were observed in the core. A pilot gravity core (PL08: 65.4 cm long) was composed of bioturbated silt.



Fig. 6-3-1 Columnar section of each piston core



Fig. 6-3-2 Columnar section of each pilot and multiple core (Legend is the same as Fig. 6-4-1)

| Core | Section 1 | Section 2 | Section 3 | Section 4 | Section 5 | Section 6 | Core Catcher | Total (cm) | Remarks |
|------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|------------|---|
| PC01 | 26.6 | 102.5 | 91.0 | 98.8 | 0.0 | 61.7 | | 380.6 | sec 3 15.5-19cm void |
| PL01 | 51.0 | | | | | | | 51.0 | |
| PC02 | | 63.7 | 100.0 | 16.4 | 18.4 | 50.5 | | 249.0 | |
| PL02 | 70.0 | | | | | | | 70.0 | |
| PC03 | | 70.0 | 100.0 | 90.0 | 18.4 | 96.0 | | 374.4 | sec 3A 0.8-5.5cm void; sec 6 74.5-76cm void |
| PL03 | 71.5 | | | | | | | 71.5 | |
| PC04 | 32.2 | 100.0 | 81.2 | 94.4 | | | | 307.8 | |
| PL04 | 81.7 | | | | | | 8.2 | 89.9 | |
| PC05 | | 66.4 | 100.6 | 100.0 | 99.8 | 98.5 | 12.0 | 477.3 | sec 6/CC 4cm overlap |
| PL05 | 8.0 | 20.0 | 96.5 | | | | 12.2 | 136.7 | sec 3/CC 2.5cm overlap |
| PC06 | | | | 82.0 | 101.0 | 96.0 | | 279.0 | sec 4A 0.8-5cm void |
| PL06 | 19.2 | 99.5 | | | | | | 118.7 | |
| PC07 | | 73.2 | 100.0 | 100.4 | 43.0 | 40.8 | | 357.4 | |
| PL07 | 75.9 | | | | | | | 75.9 | |
| PC08 | | 46.8 | 100.7 | 99.6 | 100.2 | 73.0 | 9.6 | 429.9 | |
| PL08 | 65.4 | | | | | | | 65.4 | |
| PC09 | 48.0 | 100.0 | 101.1 | 93.5 | | | 14.0 | 356.6 | sec 6A 0-60cm void |
| PL09 | 83.7 | | | | | | | 83.7 | |

Table 6-3-1 Core length of each core section

7. Acknowledgement

We are grateful for the efforts of Captain Nakamura and his crews during the cruise. We thank all the support from staffs in JAMSTEC. Especially thanks to Mr. Maki in the Research Fleet Department for his considerable efforts.

8. Notice on Using

Notice on using: Insert the following notice to users regarding the data and samples obtained.

This cruise report is a preliminary documentation as of the end of the cruise. This report may not be corrected even if changes on contents (i.e. taxonomic classifications) may be found after its publication. This report may also be changed without notice. Data on this cruise report may be raw or unprocessed. If you are going to use or refer to the data written on this report, please ask the Chief Scientist for latest information. Users of data or results on this cruise report are requested to submit their results to the Data Management Group of JAMSTEC.

APPENDIX

Core Photo









KR18-12C PC05











Visual Core Description





KR18-12C PCOI Sec. 3 W ochinan) FOAM -6 « original section top 7.574/1 clayey silt biotub. foram bearing. 1 -15.5 void FOAM purrow filled by vitis (lithic, grz). GADE Bluepin. --() 1 -39 biotub. but clean boundary 7.574% sitty clay biotub. for an beaving, darker (dakelive) than upper 05 5 e burrows filled by v.f.s (punice, glass, littuie) C 3 7.5 rt/ silty day biotub. for an bearing 200 ~ C 0 05 0 = 99 7.57 3/2 v.f.s. ts punice, glass, lithic. = 100.5 sharp top a base. 115 B5 160×220 0.5 (129.1-220.1) void 9.5cm

KR18-12C PCO1 Sec. 4 W (ochistan) 3 2574/1 sitty clay biotub. foran bearing to convow filled by v.f.s. glass. littue, pumice. -31 7.543/2 silt massive 9.543/2 c.silt parallel laminated glass, littuic 43.5 7.57 4/1 silt slightly clayay fisturb. for an bearing . - 57 \$1/5/2 sitt-sized ash with some
(glass) with some
te crack
wassive & crack 57 4/2 m-silt sized ash massive 574/1 m-sitt gized ash drassive 573/2 c. silt sized ash weakly graded? - 98.8 $\frac{1}{20} = 98.8 (220.1 - 318.9)$



KR 18-12c PCOl sec. 6 W ochinan) FOAM - 3 2.574/1 c.silt-sized ash 2.515/1 pavallel lawinated v.f.s-c.silt sized ash = 27.5 1.5573/2 v.f.s. sized ash glass gtz? fidspar?? -32 545/2 siltsized ash glass biotub. = 32 bioture. = 32 bioture. = darker part coarser and pure glass (553/2) darker part coarser and pure glass (553/2) (pubble walled). yup - - with = darker.) 574/2 revorted?? Lin mer < burrow? 574/2 sitt-sized ask massive pure glass (bubble walled). -68.7 FOAM -67.5 115 B3-64.7 (318,9-380,6)



KR18-12C PCO2 sec.2 Tochiman FOAM -1.8 7.573/2 silt bioturb. ------ --195 1.5741 sitt biotonb. foran bearing. - 22. 17 graded 9.543/2 c.s. It (punice) sharp top & base. 7.543/2 v.f.s. paral lawinsted punice rich (prunice, lithic, niner pt). 7.554/1 Sitt biotund. forum bearing 1 2 -65.5 $\frac{115}{1.8} = \frac{160 \times 220\%}{1.8} = 65.5 \quad (0 - 63.7)$

KR18-12C PC02 Sec: 3 ochistan) 0 100 7.584/1 silt biotub. for an bearing. AND A 00 503 7.574/1 silt biotud foram bearing. -2.08 3.04 \$44/2 silt sized ash biotub. after deposition? lighter than the lower to the 514/2 silt sized ash - 100 lowermost 7mm coarser m-c.sittsized ash State Sala (bubble-walled) 115 B5 160×220 (63.7-163.7)

KR18-12C PC02 Sec. 4 W Tochiman 574/2 m-c. sitt-sized ash (glass incl. bubble-walled) massive. slightly upward finning -16.4 FOAM 2,05 115 B5 160×220% :0-16,4 (163.7-180.1)

KR18-12C PC02 Sec. 5 W







Tochiman -1.0 543/2 silt loose (it e irregular depression modern burrow ?? 7.5×3/2 silt biotury. 0 toram bearing . 42 a' 7.57 4/ silt bioturb. foran bearing. GOES E. 0 • 0 -71 c.silt patches 54.9 315 B5 160×2207/ (0-70)

KR18-12C PCO3 Sec.2 W




KR18-12C PC03 sec. 5 W Tochiman 1 爬目 POAM 574/2 sittsized ash glass, HM reworked? esty silt block? 11 - 573/2 m-c. sitt sized ash reworked? -125 573/1 c. sitt ash glass, HH parallel laminated sharp bone 7.57% silt biotub. glass rich = 19.4 small foram? amount of -23 JIS B5 169×2207-9.4 (260-278.4)

KR18-12C PC03 sec.6 W ochiman) 5 7.574/1 silt Diotuch forom bearing glass rich. \$74/1 sitt-sized ash massive. graded , m-c.sitt sized olive 543/2 c. silt-sized ash gloss, HM. 1 573/2 m-c. silt sized ash 573/1 c.sitt-u.f.s. sized ash glass. HM shay base 60 572/1 c.sitt-v.f.s. sized ash Eburrows?? 544/3 e.sitt- v.f.s. sized ash glass style m-sitt sized ash browish -14.5 void c.silt sized ash glass gray 574/2 545/2 574/2_ sittized ask well-sorted glor 4575/2 579/2 97.5 51 5/2-FOAM -100 1.5 anvoid 374.4



KR18-12C PC04 1 W







KR18-12C PC04 Sec. 4 W

ochiman)

FOAM 4 9.573/ c.silt lithic, sta > c. silt portches 0. 7.5 44/1 silt bioturb. from bearing glass rich foram -25 575/2 silf-sized ash poplet intubated boundary T gradual 544/2 sitt-sized ash massive - 57. 5 graded 5+4/2 un-c. silt-sized ash parallel lawinated 15 13/2 c. silt-sized ash. pavallel laminated 61 544/2 m. silt sized ash. massive = 545/1 sitt-sized ash A 41 7 4 7 5 gradel 574/2 misitt sized ash pavallel laurented 543/2 v.f.s. sized ash inchell tras?? sharp boundary. 545/2 sitt-sized ash massive incl. pubble-walled olive 1 74.2. light brow-2.574/2 c.siH-sized ash - 88.5 - 88.5 72210 5+4/2 sitt-sized ash massive 2.545/2 silf-sized ash massive incl. bubble-wall - 96.7 FOAM -100,4 115 B5 12×3=96.7 (213.4-307.8)

94.4







KR18-12C PC05 sec. 3 W

7.543/1 sitt massive s. 2 graded 7.573/1 m-c. silt parallel (animated sharp base. 9.5 lithic. ste. 7.574/ silt piotenb. forom bearing. - 32.5 sharp boundary 7.573/1 sitt massive 0 00 \$97 graded well sorted \$1.2 Little at animated sharp bare lithic, gts. 7.544/ sitt bioturb. foram bearing. -14 - 100.6 11 S B 5 160×220 100.6 (66.4 - 167.0)

ochiman)

KR18-12C PC05 sec. 4 W ochiman) 2, 7.574/1 sitt biotub. foram, sponge spicule. ----14 7.583/2 sitt massive. T graded 127.573/ c. sitt parallel laminated gts, glass?, lithic, shell frag? = plant debris ?? 1 graded -43.2. 2.543/, c. silt parallel lawinated sharper exosional base gots, lithic, glass, pF? 7.57 4/1 sitt bioturb. foram. bearing 58.3 7.573/2 sitt massive 1 graded 69 7.543/1 m-c. sitt parallel laminated sharp base grs. lithic -7.5+4/1 sitt bioturb. e glightly darker. -100 115 B5 0-100 (167.0 -267.0)

KR18-12C PC05 Sec. 5 W ochiman -120 2.8 7.574/1 sitt Situb. foran sponse picule C 7.55 3/2 silt massive Tgraded. 37.2 7.573/1 m-c. silt glass littic, punice sharp base 7.544/1 silt biotub. foram bearing. 3 - 200 47 3 72-73cm rounded pumice 74 7.573/2 sitt massive. -80,3 7.573/1 m-c. sitt lithic gloss? sharpbase biotub. 10 10 G 7.574/1 sitt bioturb. foram bearing. Stores & · 25 97.5 - 99,87,573/2 filt massive JIS B5 10×22099.8 (267.0 - 366.8)

KR18-12C PCO5 sec. 6 W ochiman massive 7.573/2 M. silt sharp bace The state of the - 5.6 530 7.5441 sitt bioturb C indistinct a biotud. 3 7.54 3/2 sitt massive bioturb after dep. 34.2 punice, lithic, gtz in: 2.5 r. y, sitt biotub. forom beeving 5 49 indistinct & biotub - C - Lini 7.543/2 silt massive . 52.573/1 x - c. silt parallel lawinated sharp base 12 - 10 34 7.575% chayey sitt 7.5841 silt biotund. -73 indistinct e bioturb. 7.5×3/2 silt massive 9.573/1 c. sitt privice sharp base to main to 7.5741, sitt biotub 85.5 7.5 43/2 m-c. silt punice indistinct ty enbase 89 2.5T 4/ sitt biotub. -98.5 FOAM - 100 115 B5 160×220 98.5 (366.8-465.3)



KR18-12C PLO5 sec. 1 W ochinan) FOAM - 1 2.57 4/1 silt disettly biotumb. -9 $115 B5 \frac{160 \times 220\%}{1-9} (0-8)$

KR18-12C PLOS sec. 2 W Tochiman The m 7.574/1 silt biotub. foram bearing. The P 2. - 20 118 B5 160×220% (8-28)





KR18-12C PC06 Sec. 4 W 0.8 plant depris -5 7.57 5/1 c. sitt sized ash reworked -5 sharp but distorted base 7.5441 silt biotub. forau bearing content + cisit in burrow t c. sitt in burrows 50-- 33 2.573/2 sitt massive? Tgraded -42.57.543/1 c.silt parallel laminated sharp base. 7.574/1 sitt bioturb. for am bearing, 00 10 - 82.8 $118 B 5 \frac{160 \times 220}{0.8} - 82.8 \quad (0 - 82.0)$

KR18-12C PC06 Sec. 5 W ochiman 7.544/ silt biotund. foram bearing . 12 7.573/2 sitt biotub. after dep. highly biotubated boundary originally massive? Signaly massive: 90 7.5741 silt biotub. foran bearing. in most -----0 indictinct & biotubated boundary 55 7.5+3/2 sitt massive T graded 75+3/1 c. sitt parallel laminated 70 lithic, gte, pF sharp basae 2.574/1 silt biotub. forom bearing < 7.54 3/2 cisitt in burrows E glave ride. \$ST \$6-86.5 2.57% c. silt glass, lithic & 55 \$543/2 c. siltsized ash burrow fill? 2.573/2 siltsized ash. ash. \$75/1 silt sized ash (fine) 7.574/2 sitt-sized ash massive) \$Y3/2 m. silt-sized ash bodded -10/ 5/2/ m-c. sitt sized ash glass, HM. lithic.

115 B5 160×220% (82.0-183.0)

KR18-12C PC06 sec. 6 W

Energy City 12/1 c. silt sized ash FOAM F57 72 sitt sized ash burrows ?? 57 4/2 1. C. . . . 544/2 c.sitt sized reverled ash glass. -16 amalgamated veworked ash layers each layer has base with m-c.s: It's zed ash covered by sitt-sized ash 112 . A . A . A X . 3 . 544/2 . 57 5/2 minan - 30 2.5 Y 5/2 part day out 43.5 5Y3/1 c-m. sitt sized ash glass with HH. - 48.5 e 2.515/1 silt-sized ash - 57 514/2 mail war as < 5442 5442 - 66 514/2 sitt sized ash graded. 5441 m.sitt sized ash 96.8 FOAM - 99.5 115 B5 0.8-96.8 (1830-279.0) 96.0

Tochinan



KR18-12C PL06 sec. 2 W ochiman 7.544/1 sitt biofueb. foram bearing . 30 indistinct & bioturb. boundary, 7.573/2 sitt massive - 4/ 7.583/2 m-c. sitt parallel laminated sharp base. lithic, gre, pF? 0 0 58-58.5 7.573% c.silt lithic biotand. 7.574/1 silt bioturb. foram bearing. = 73.3-13.5 7.545/1 c.sittsized ash patch. FAAM 199.5 115 B5 160×220999.5 (19.2-118.7)

KR18-12C PC07 Sec. 2W CAM TO 08 573/2 silt lose 7.51% sitt biotub. 7.573/2 m. silt barrow fill or biotand. layer. 1.574, silt biotab. foram bearing = 40,5 biotand Top 7.5+ 3/2 silt massive 52.5 52.5 1 graded 7.574/1 sitt biotund. from & gonge spice bearing. 14 115 B5 160×220 8-74 (0-73.2)

KR18-12C PC07 sec. 3 W ochinan 7.574/1 sitt biotub. foram bearing 7.554/1 m. sitt biotunb. foram rich 0 2 bisturb. top -60.8 e plant 7.57 3/2 C. S. H parallel laninoted sharp top 2 base 64.8 abis 7.57 3/2 C. S. H parallel laninoted sharp top 2 base 15thic, gts. pteropeda?. 0 . 2.574/1 silt biotub foran bearing . . 75.7 7.543/2 silt biotund. Gen - 83.5 biotund. but sharp? boundary 7.57 2/1- 3/2 m-c. sitt parallel lawinated sharp base lithic. gte, purice. - 89.8 9 3 7.544/1 sitt biotund foran bearing -100 JIS B5 150×220 (73.2-173.2)

KR18-12C PC07 Sec. 4W

ochinan

----@ @ + 9.57 4/1 c.sitt-uf.s patches punice, lithic ste 7.574/1 silt picture. foram bearing --21 9.542/1 c. silf bioturb but sharp base & top prime, lithic, gtz -25 2.544, silt bioturb. forom bearing. (3) indistinct boundary. P.573/2 sitt massive? -33.6 0 1.373/2 c. sitt share bare glass, gtz, lithic 326 7.573/4 376-38.2 0.siltsistish 7.5481, silt biotub. foram bearing , - m. sitt rich (glass rich) indistinct top a base 67.5 574/1 m sitt glass rich biotunb. 71.5 -72 evenion surface 2 evenion surface 7.57 2/1 c. sitt pavallel laminated lithic, glass 110 m 1.57 3/1 - 5/1 princeous f-m.s. parallel laminated or bedded -----Sharp base 8-13-2 - ----84.2 2.574/1 sitt biotub. gloss rich 7.573/2 m- o. silt sized ash reporked 90 7.54 41 sitt biotub. -95 7.543/1 c.sittsized ash reworked 96.5 = 7.543/2 n-c. sittsized ash graden Agnaded 7.543/2 sitt sized ash massive -100, & 7.543/2 m-sitt sized ash reworked?

115 B5 200 -100.4 (173.2 -273.6)

KR18-12C PC07 Sec. 5 W ochiman 1.5 1.573/2 c. sitt sized ash reworked prosional a sharp bear 7.574/ sitt biotub glass rich - negitive - 2 10.8 7.573% m-c.sitt stoup bace biotub top 7.574/1 silt biotub glass rich . 15 544/2 silt sized ash. TITE >m.c.silt sized 30,2 573/2 c. sittsized ash parallel lain nated or bedded. -43 FOAM 45.4 118 85 0-43 (273.6 - 316.6)

KRIA-12C PC07 Sec. 6 W Tochiman) 1 耗目 FOAM -4,0 +1.574, mind patch 0 545/1 f-w.s. sited punice plant debris incl. 2.515/2 C. silt-of.s sized punice plant detris & m-f. ssized punice incl. Ewood -4 wood e 575/1 f-m.s. sized parice plant debis ind. FOAM. 448 - 46. 5 118 B5 16042205-444.8 (316.6-357.4) 40.8

KR18-12C PL07 Sec. 1 W Tochiman) FOAM 2.7 2543/ silt exidized loose 554/2 silt distub foram bearing tholes 40 7.5 YY/1 sift bioturb. foran shell frag? bearing 53: 2 - Espense spicule 7.574/ sitt biotand. foram bearing. 0 2.543/2 m-c. silt burrow fill? (the second -78.6 115 B5 102227 - 78.6 (Q-75.9)

KR18-12C PC08 Sec. 2 W



KR18-12C PC08 sec. 3 W Tochiman) -----(0) -7.574/1 silt biotub. Joram bearing 7.57 3/2 - 4/1 silt massive. \$8.8 & slightly coarse at base 72.0 7.57 3/2 silt massive 52.0 7.57-2/1 c. silt parallel - cross lawinated sharp & eros: onal bare gtz. lithic . TOP 7.574/1 sitt biotunb. foram bearing. 1. 40 C 5 2-92 7.573/2 silt massive -100.7 115 B5 160×20-100.7 (46.8-147.5)

KR18-120 PC08 Sec. 4 W ochiman) 1.5×3/2 m. silt massive -2.2 7.57-4/ c.sitt cross-lawinatere sharp & erosional base gts, lithic, pF? 23 200 7.574/1 sitt bioturb foram bearing 7.5×3/2 silt bioturb. (i (3) -7.5+4/ sitt biotub -1.5+ 3/ m. sitt burrow fill? 2 7.573/2 72.5 indistinct boundary. 7.553/2 sitt massive 87 9.572/1 n-c.sitt cross-lavinated sharp bare gre, lithic, 7.574/1 sitt bioturb. Ray foram bearing . - 99.6 115 B5 100-99.6 (147.5-247.1)



KR18-12C PC08 Sec. 6 W ochinan 7.574/1 silt bioturb. foram bearing 0 3 24-24.5 m.sitt burrow fill? 2.574/1 silt biotub. foram bearing . j. B 7.573/, m-c. silt (glass). 7.574/1 sill biotub. - 57 VOID - 175.5 7.543/1 c.silt sharpbase 17 lithic, sto, pF 100 7.57 4/1 silt biotub. gloss pearing. EQ 88.5 7.573/1 m-c. sitt (ash) -91.5 glass rich. FOAM -100 118 85 10 291.5 (347.3-420.3)

18.5 cm VOID 73.0 cm

KR18-12C PC08 CC W


KR 18-12C PL08 sec. 1 W octiman) 544/2 silt loose 7.5742 sitt biotand. 11.5 7.5+3/2 sitt biotub. 25 7.5+4/, silt sisturb. forom bearing 34.8 001 D. C. C. 7.5+3/2 silt bioturb. 53 7. ET 4/1 silt biotund. foran bearing 654 FOAH 115 B5 160×220% 65.4 (0-65.4)





KR18-12C PC09 sec. 3 W ochiman | P 0 ----8 60 2.574 sitt bieturb. foram bearing 0 0 - And -1 S. C. and. (1) 1 00 2.574/1 sitt tiotud foran bearing ? 7.573/2 silt bioturb bat originally massive? 7graded 7.573/2 v.f.s-c.silt sharp bace. 80.5 5m.silt burow fill glass, lithic 5m.silt burow fill bioturb. foram bearing. . -91.2 7.54 3/2 m-c. silt glass rich 94.5 7.5 44/1 silt biotenb. glass rich 2.574/2 sitt-sized ash. -101.1

KR18-12C PC09 sec. 4 W ochinan) POAM -0.8 574/2 c.s.tt sized ash. (mis sized punice with plant debris patch m-c.s. sized punice with plant debris, woward 2.5 TH2 m-f-sized punce with small plant debris 2.544/2 fosized punice. 2.572/1 v.f.s. sized ash. lithic, glass, sto, HH. highly distorted 57 2.584/2 V.f.S. sized punice and glass at base 1 see 200 inchis anothe VCD 2.575/2-6/2 atternation of m-c.sitt sized and sitt-sized ash above each bed graded 59cm archive 0-60 cm void 943 FOAM 99 115 85 160 8 - 94.3 (249.1 - 342.6) 93.5

KR18-12C PC09 sec. 4 W 3 ochiman) FOAM -0,8 573/2 siltsized ash - 6 2.574/2 f-w.s. sized pumice in it is 2.572/1 c. silt-v.f.s. Field Commice 3. Somp 2.57 Hz e.s. sized punice 40-42.5 100 100 20 200 2.572/1 c.silt ried lithic gtz. pF, punice, HM 56 2.574/2 f-m.s. sized punice with plant debris ------JIS B5 160×220%



Tochinan) = 0,8 2,543/2 silt loose ~ 5mm 2 5+3/2 sitt 1005e. ** . 7.574/1 silt potund. toram bearing . . 7.5+3/1 m.silt barrow fill? THE 7.574/1 silt bioturb. forau bearing 1.57 \$/1 m-c. silt burner fill? lithic? 885 FOAM + 85.7 115 B5 160×2205 0.8-84.5 (0-83.7)

KR18-12C PL09 Sec. 1 W

Operation Inventory

Coring Inventory

PRC-SG1-030 別紙12 PC インベントリシート

< Observation info.>

1

.

| Cruise name | KR-18-12C | | Operator | P | |
|-------------------------------|---------------------------------|---------------------|----------------|-----------------|----------------|
| Date (UTC) | YIMID 2018, 9, 7 | <i>10</i> R | ecorded by | <u> </u> | - ~ \ |
| Core Number | Prol | Т | ransponder AF | 電子製 からス球 | IP (SI2-B10) |
| Area | 九世录方三中 | . I1 | nclinometer | | _ |
| Sampling Site | Peol | | others | | _ |
| | | | | | |
| <corer info.=""></corer> | > | _ | | ť | |
| Corer type | (nner / Outer | Riston / Gravity | Pilot t | ype_75 ברקב_ | . |
| Weight | 592 | kg | Pilot Wei | ght <u>ر</u> زم | kg |
| Pipe Length A | 1. / CU3 6 | m | Pilot Pipe Len | gth 0.70(120) |) _m |
| Main wire | \$ 10, 12,8 | m | Pilot W | /ire 12.6 | m |
| Free Fall | 3.6 | m | | | |
| | З, | 4 | | | |
| <condition></condition> | | | | | |
| Weather_ | 睛 | v | Vave height | 1.5 | m |
| Wind direction | 356 deg. | Curre | nt direction | 48,9 de | — g. |
| Wind speed | 9.7 m/s | Cu | rrent speed | <u>,,, m</u> | s knt |
| , | | | | | _ |
| <operation></operation> | | | | | |
| | Time | | | | ļ |
| | 110 22 272 7 | | | | ļ |
| Start operation | -+++0=+7- | | | | |
| | La | atitude | Longitude | Depth | |
| 1 | | | | 2374 | |
| The the better | 9/10 (TP)_ | 31-40,10784 | 132-27.3951 | 1 2 2444 | /m |
| | $\frac{4201234}{(\text{Shin})}$ | Vin Augus | ()) | \sim | , "Í |
| ļ | (amp) | <u>31-40, 0117N</u> | 132-21 1322 | 55 2447 | "" [|
| | 9/10 | | | | į |
| Finish operation | 5-07:7 | | | | ĺ |
| I | | | | | l |

MEMO

(銀夏、緑豆、張力さて不調*7cb-目現し、
(So)、SOQ、イハーート のFF (1:53)
(本部 務),
(南)作業時間、
- 安全でっか抜けにくい
タト 3-ラ タト告へ、
- TP、ON (3:02) のFF((4:46)

PCログシート

| Cruise Name Core Name | | | | | y m d Page | | | |
|-----------------------|--------------------|------------------------|--------------------------|--------------------------------|------------------------|----------------------|--|--|
| <u>KR18-1</u> | 20 | <u>c PC 0/</u> | | | | 2018/9/10 1/2 | | |
| | | | | | | Recorded by | | |
| Time (UTC <u>)</u> | Water depth (m) | Wire out length (m) | Tension (<u>K¥</u>) | Wire speed (<u>m/mim</u>) | Wire out / in (↓/↑) | Remarks | | |
| 1:37 | 2445 | | | | - | 作等用力的 | | |
| 2=38 | 2443 | | | | | PCAULT | | |
| 98=د | 244/ | - | | - | - | 排水完3 | | |
| 2:41 | 2443 | | | | | PC直立 | | |
| 2=47 | 2448 | | 43 | | | PLや1+1、着化 | | |
| 2:50 | 2451 | ~ | 5.0 | | - | PL取11付代完3 | | |
| 2-50 | 2450 | - | 4.7 | _ | - | 乳取(付储度) | | |
| 3:00 | 2450 | - | 4.6 | | | 安全·新放 | | |
| 320/ | J.448. | 0 | 3.9 | - | - | PC着水、它词 | | |
| 3:04 | 2446 | 50 | 4.0 | | | WO. 50m - 旦殡止 | | |
| 3:07 | 2454 | 50 | 41 | | - | TP取11何时完了 | | |
| 3:08 | 2450 | 50 | 4.2 | ~ <u>}</u> 0. | V | 老王出し朝73 | | |
| 3211 | 2451 | (0D | 4.5 | ~40 | | WO. 100m TP: 44m | | |
| 322/ | 2.448 | 500 | 6.6 | ~60 | V | WO: 500m | | |
| 3=29 | 2452 | (000 | 120 | ~ 60 | V | 000= (000m | | |
| 3:37 | 2449 | 1500 | 14.0 | ~60 | * | WO = 1500 m | | |
| 3:46 | 2430 | 2000 | (6.0 | ~60 | Ļ | WO: 2000 M TP 1902 | | |
| 3:54 | 2456 | 2400 | ఎఎ.0 | ~0 | - | WD: 2400m, 一旦停止, 3分网 | | |
| 3:58 | 2447 | 2400 | 20.1 | ~20 | V | 先まむし | | |
| 4:01:35 | 2449 | 2460 | 9.9x | 20 | T | 着社 | | |
| 4:01 | 2449 | 2460 | 10 | | - | 痛止、卷日口丁、 | | |
| 4:02:11 | 245/ | 2451 | 43.6 | 20 | 1 | 离匡左雄沉、,增2座 | | |
| 4:10 | 2452 | J000 | 19.7 | 60 | 1 | WD:2000m | | |
| 4:18 | 2450 | 1500 | 16.3 | 60 | | WD:1500m | | |
| 4126 | 2450 | 1000 | 12.0 | 60 | 1 | WD: LOCOM | | |
| 4:34 | 2455 | 500 | 7.4 | 60 | 1 | W0,500m | | |
| 4:44 | 2457 | 50 | 4.8 | | | TPXA | | |
| 4:45 | 2454 | 50 | 4.2 | | | TP取り外し完了 | | |

it = 9.8kN

PCログシート Page

| Cruise Name | | | Core Name PC | 0/ | | y m d 2018/9/10 | Page $2/2$ |
|---------------|--------------------|---------------------------------------|---------------------------|------------|------------------------|--------------------|------------|
| | <u> </u> | | | | | Recorded by | |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension (<u>↓⊂N_)</u> | Wire speed | Wire out / in (1/1) | Remarks | |
| 4:48 | 245/ | 0 | 4.4 | | | 天秤水面 | |
| 4:51 | 2452 | | 3.3 | | | PL取叫外レ | |
| 4:52 | 7423 | | 3,1 | - | | PL揭収完3 | |
| 4:59 | 2434 | | | | | 天秤取リントレ | |
| 5:02 | 2455 | - | - | | | PCAD | |
| 5-07 | 2455 | | | | - | Pc揭收定3 | |
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%1t ≒ 9.8kN

Coring Inventory

PRC-SG1-030 別紙12 PC インベントリシート

| < Observatio | on info.> | | | , | | |
|---|------------------------------|---------------------|-------------------|--------------|----------------------------|----------------------|
| Cruise name | kp_ | 18-12 C | Operator | 医山 | | |
| Date (UTC) | ۲/M/D کې | 18. 9. te 11~12 | Recorded by | 57 | <u>к</u> | |
| Core Number | | PC 02 | Transponder | 浜迁厍 F | 农村32珠~7月 | (212-810 |
| Area | | 1-1-1 \$ 3-14 | Inclinometer | | - | |
| Sampling Site | | PCOZ | others | | | |
| <corer info.<="" td=""><td>></td><td></td><td></td><td></td><td></td><td></td></corer> | > | | | | | |
| Corer type | Imer / | Outer Piston / Grav | vity | Pilot type | 173=73- | |
| Weight | | 592 kg | Pik | ot Weight_ | 112 | kg |
| Pipe Length | AL/SOS | <u>۲ م</u> | Pilot Pip | e Length | 0.70(1.20) | m |
| Main wire | φ <u></u> [•. | 12-8 m | F | ilot Wire | 12-6 | m |
| Free Fall | | <u>3,4</u> m | | | | |
| <condition></condition> | | | | | | |
| Weather | 承 | | Wave height | [. | <u>0 m</u> | |
| Wind direction | (10 | deg. | Current direction | ٤t | , 9 deg. | |
| Wind speed | 6.9 | m/s | Current speed | 2. | <u>.5 1945</u> | knt |
| <operation></operation> | > Time | | | | | , |
| Start operation | 7(1 23: 08: 38 | | | | | |
| | | Latitude | Longitude | : | Depth | |
| | 9/12 00:56=01 | (TP)_3{_48,22 2, | N (32_33) | 4193F | ~3%₽ ~2349.9 | - m |
| Hit the bottom | | (Ship) 31- 48,1731 | EN 132-33-3 | 264øE | 2425 | m |
| Finish operation | 9/12 02 = 09 = 200 | : | | | | |
| мемо | | | | | | |
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PCログシート

| (| Cruise Name | | | Core Name | | | y m d Page | |
|------------|----------------------|-------------|-------------|---|------------------|----------------------------|----------------------|--|
| - | 10/2/8- | 12 (| · <u>PC</u> | | <u> </u> | | | |
| · г | T | Water death | Wing out | Tornion | Wire speed | Wire out (| Recorded by · y A | |
| | UTC) | (m) | length (m) | (<u></u> | (<u>M/k?</u> k) | in (\downarrow/\uparrow) | Remarks | |
| 9/11 | ZJ: 08 | 223J | | - | | - | 有半開始. | |
| | 23:15 | 2305 | - | - | - | - | 天舸亚的11定了. | |
| | 23:20 | 2297 | - | - | - | - | PC 最上的" | |
| | 23:22 | 234० | ~ | ł | - | 1 | 注水完了. | |
| | 23:26 | 2387 | - | 9.08 | ł | 1 | PC 正立. | |
| | 23:29 | 2419 | - | 3-96 | Ŋ. | - | PL AFF1" | |
| | 23:30 | 2416 | - | 7,8 | | - | 12L 莓小 | |
| | 2]:]2 | 2922 | - | J.7 | - | - | PL取住11定了 | |
| | 23=34 | 2702 | 1 | 6,6 | - | - | ·安全+> 所放. | |
| | 23235 | 2424 | 0 | £.t | | - | Pc 花々 - モリントの | |
| | 2]:36 | 2429 | D | 1.0 | | - | 7 7 7 2 . | |
| | 2]>38 | 2434 | ţo | J. 4 | ~ | - | WO:50m图作上 | |
| | 2]={ | 2087 | t. | 5.4 | - | - | TP 取得11克子 | |
| | 2}:42 | 2431 | J. | 5.2 | | - | てきた | |
| | 2}:47 | 2471 | ot | 5.7 | -20 | 4 | 老士山し開始 | |
| | 23:55 | 2423 | 00t | 7-6 | ~ 400 | ¥ | wo= 300m. | |
| 1/1z | 60 = 04 | 2429 | [000] | 11.8 | ~60 | 4 | 1~0~(000m,一旦代上。并能健的了 | |
| | 60:24 | 2429 | (000) | 4-8 | ~60 | 4 | だま出し開始 | |
| | 60×JJ | 2426 | 1500 | 15.0 | No | ł | | |
| | 00=42 | 2930 | 2000 | 18.2 | ~60 | + | | |
| | 00=48 | 2426 | 2350 | 22.3 | ~\$0 | 4 | 一旦(六上,36陶(ආ1)。 | |
| | 00=51 | 2928 | 2520 | 21.8 | ~20 | 4 | 荒3出L图板. | |
| 0=56=0 | - 80, 36, | 2925 | 2436 | Min // | 70 | 4 | 着虚 | |
| | 00:36:0} | 2425 | 2436 | 11~49 | | • | 供止、笼工上17、 | |
| | 00:56:30 | 2425 | 2420 | 49.83 | 20 | 7 | 離區不住況。 | |
| | 0(~ 04 | 2428 | 2000 | 20.3 | ~60 | 1 | | |
| | 0[:13 | 2929 | 1300 | 17.7 | ~60 | 1 | | |
| | 0(220 | 2928 | (000 | 13.3 | ~60 | 个 | | |

%1t ≒ 9.8kN

PCログシート

| Cruise Name | | | Core Name | | | y m d Page |
|---------------|--------------------|------------------------|---------------------------|----------------------------------|------------------------|--------------------|
| KR18-1 | کر | | PC | 02 | | 2018/9/tell~12 2/2 |
| | | | | | | Recorded by 9 * |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension (<u>↓∠N</u>) | Wire speed (<u>h~/1~iL</u>) | Wire out / in (↓/↑) | Remarks |
| 0(=26 | 2420 | 800 | (°.1 | ~60 | ſ | -卫侍上,《本融位老钢瓷 |
| 0(= 28 | 2466 | 800 | 113 | ~60 | 1 | 老王口"阴焰 |
| 0(:34 | 2422 | 500 | 8.0 | ~60 | 1 | |
| 0(=42 | 24[1 | <u>56</u> | 5.5 | ~60 | t | TP小面 |
| 0(:45 | 2395 | <u>5</u> 6 | J-6 | ~60 | ſ | 「伊取りに免了。 |
| 01=48 | 2396 | * ⁰ | 5.3 | _ | - | 元行 1.1面 |
| 0(:49 | ~ | t | • | - | - | てや オフ. |
| 6(237 | 2378 | - | 3.7 | | ~ | PL 揭收定了。PL取集1定了 |
| 0(:59 | 2379 | + | ~ | ~ | - | 天和取りトレ宅? |
| 02=02 | 2372 | - | • | - | - | pc / Top |
| 02:09 | 2366 | 1 | - | - | - | PC 据收定了. |
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%1t = 9.8kN

Coring Inventory

PRC-SG1-030 別紙12 PC インベントリシート

< Observation info.> KR 18-120 Ch P Cruise name Operator 与米 YIMD 2018. 9. 12. Recorded by Date (UTC) Core Number pc 03 14 1/234 1 Transponder 九小川東ない Area Inclinometer 119-11JA OKI PCas Sampling Site others <Corer info.> クシュアシー Corer type (nne) / Outer Riston / Gravity Pilot type 592 112 Weight Pilot Weight kg kg Pilot Pipe Length 0.70 (1,20) 6 Pipe Length AL / SU m m 12.8 Main wire Pilot Wire 12-1 10, m m **£** 3 Free Fall 3 m <Condition> <も)/ 承 1.5 Weather Wave height m 105 38.8 Wind direction deg. Current direction deg. 2.2 Wind speed 8.0 m/s Current speed nots the <Operation> Time 9/12 05:27:74 Start operation Longitude Latitude Depth 2378 2/12 (TP) 31-42.6024N 132-28.9377E m 07=12=51 Hit the bottom (Ship) 31- 42. 3034 W 2457 182-28, 91890E m 9/12 Finish operation 08:24:==

МЕМО

「AIILI」用 OCI ··· RK 13.0比セ、Tx 13.5kHz 、 法河南子教がデスな) (SIZ-BIO) に 保々いちがたれ、使用した。 ハ 「アットル」用のにそ

PCログシート

| Cruise Name | 2-12-0 | | Core Name | 67 | | y m d Page | | | |
|---------------|--------------------|------------------------|---------------|-------------------------------|------------------------|--------------------|--|--|--|
| _ <u>KK10</u> | -120 | | | | | | | | |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension | Wire speed (<u>Mhih</u>) | Wire out / in (1/1) | Remarks | | | |
| 05:27 | 2464 | - | - | } | ~ | 作学開始. | | | |
| 03:34 | 2463 | - | - | - | - | 天斜取住片克了 | | | |
| 05:40 | 2461 | _ | _ | 1 | _ | PC 先上17~ | | | |
| 05:42 | 2461 | - | - | - | + | 注水定了 | | | |
| 05:45 | 2462 | - | £,3 | | } | Pc 连支 | | | |
| 05:48 | 2462 | ~ | 5.1 | ~ | - | PL REH. | | | |
| Q5:49 | 2461 | ~ | 3.6 | | 1 | PL 着de | | | |
| 52:52 | 2461 | - | 5-1 | ł | - | PL 孩开门完了 | | | |
| 05:54 | 2962 | ~ | ±.5 | - | 1 | 安全tas所放 | | | |
| pt: 20 | 2462 | - | t.t | - | - | pc 養水 | | | |
| 05:55 | 2462 | 0 | 4.6 | - | - | せひ も同 | | | |
| 03: 37 | 2460 | 20 | .3.5 | - | ~ | WO=Joh. 一旦代达. | | | |
| 06:03 | 2461 | 30 | J.7 | _ | - | TP取付H定了 | | | |
| 06= 03 | 2466 | 60 | J. 0 | 1 | - | TP 篇咏 | | | |
| 06=05 | 2462 | 60 | 4.8 | ~30 | 4 | 差出し開始 | | | |
| 06=07 | 2460 | (00. | Ĵ.2 | ~30 | 4 | (No: 100n. | | | |
| 06= 17 | 2460 | 500 | 7-6 | ~]0. | ¥ | * | | | |
| 062 23 | 246 (| 800 | 9.9 | ~30. | + | 一旦停止。本能位是沟重 | | | |
| 06=37 | 2437 | 800 | 10.7 | ~60 | ¥ | | | | |
| 06=42 | 2459 | (660 | <i>l</i> [. 9 | ~60 | ¥ | | | | |
| 06=20 | 2456 | (500 | (5_0 | ~60 | 4 | ハッンレコのハッン、 チャンネル奏項 | | | |
| 8t = 20 | 2453 | 2000 | (8.4 | ~60 | 4 | | | | |
| tocpo | 2936 | 2390 | 22.3 | ٥ مطرم | 4 | 一旦(气止,3份陶復祥。 | | | |
| 07208 | 2434 | 2190 | 2(.6 | ~20 | 4 | 卷1出、関始 | | | |
| 6[(22 | 51 2437 | 2470 | | 20 | V | 著在 | | | |
| 0 (=12= 59 | 1 2457 | 2470. | # 11~41 | | - | イビ・差エエカ | | | |
| 0[]=[3:34 | 7 2457 | 2459 | 41.86 | 20 | 1 | 曹庙证认 | | | |
| 7:23:30 | 2457 | 2000- | 19.5 | ~66 | 1 | | | | |

%1t ≒ 9.8kN

| Cruise Name KR (8- | Core Name PC 6 3 | | | | y m d Page $20(8/9/12 < 2/2)$ | | |
|-----------------------|---------------------|------------------------|--|--------------------------------|-------------------------------|------------------|--|
| | <u> </u> | | <u>. </u> | <u> </u> | - | Recorded by 3+ | |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension | Wire speed (<u>m/min</u>) | Wire out / in (↓/↑) | Remarks | |
| 07=30 | 2458 | 1500 | 173 | ~6°. | 1 | | |
| 67= 37 | 2460 | (006 | 13.3 | ~60 | 1 | | |
| 07:4(| 2460 | 800 | 10.9 | ~60. | 1 | - 且停止 - 本陷位定调整 | |
| 67=44 | 2461 | 800 | 11.5 | ~60 | 1 | 老王上八部份 | |
| o{~49 | 2438 | 200 | 8. (| ~60 | 1 | | |
| pt=70 | 2440 | tt | \$ 4 | ~ 60 | 1 | TP 1- TP | |
| 08=01 | 2440 | <u>55</u> | 51 | - | - | TP 取外し定了 | |
| 08:04 | 2936 | ٥ | 5.1 | ~ | - | 天府小面 | |
| 20=80 | - | * | - | | - | TP #7 | |
| 08=1(| 2430 | ~ | 3.7 | - | ~ | PL 褐板定了: PL即引し定了 | |
| 08=14 | 2427 | | ~ | - | - | 天辉取りし定了 | |
| p1=80 | 2929. | | ~ | - | - | p>c defin | |
| 08224 | 2422 | - | ~ | - | - | ドレ場収定了 | |
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%1t ≒ 9.8kN

PRC-SG1-030 別紙12 PC インベントリシート

Coring Inventory

| < Observation | n info.> | |
|--------------------------|---|--|
| Cruise name | KR 18-12C | Operator 自调 |
| Date (UTC) | YMD 2018, 9,14 | Recorded by |
| Core Number | PCOY | Transponder OEI HATCH- (初合原)) |
| Area | 九州東方三中 | Inclinometer |
| Sampling Site | PC04 | others |
| <corer info.=""></corer> | • | |
| Corer type | (inner / Outer Piste | Dip/Gravity Pilot type 75 175- |
| Weight | 592 k | א Pilot Weight און אין אין אין אין אין אין אין אין אין אי |
| Pipe Length A | L/SUS 4 | m Pilot Pipe Length 0.7 (\$20) m |
| Main wire | \$ 10 10,8 | m Pilot Wire 10.6 m |
| Free Fall | <u>3.4</u> | <u>m</u> |
| <condition></condition> | | |
| Weather | 睛 | Wave height (O m |
| Wind direction | (73 deg. | Current direction 368 deg. |
| Wind speed | 3,0 m/s | Current speed 2.1 # ht |
| Start operation | Time <i>9/14 </i> Latitud | e Longitude Depth |
| Hit the bottom | 9/14 1:51:28 (TP) <u>3/-3</u> 3:75 (Ship)3/-3 | 2375 88.50794 <u>2375</u> m 98.4240 132-24.4124E 23749 m 98.4240 132-24.3277E 245/ 20 m |
| Finish operation | 9/14 2:58 | |
| MEMO | | · · · · · · · · · · · · · · · · · · · |
| | | · · · · · · · · · · · · · · · · · · · |
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PCログシート

| Cruise Name | | Core Name | | | | y m d Page | | |
|---------------|--------------------|------------------------|-----------------------|------------|------------------------|-----------------|--|--|
| KR18-12 | R18-12C PC 04 | | | | | 2018/9/14 1/2 | | |
| | | | | | | Recorded by R | | |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension (<u> </u> | Wire speed | Wire out / in (1/1) | Remarks | | |
| 0:06 | 2409 | 1 | 1 | | - | 维莱用加 | | |
| 0:19 | 2424 | - | - | | | PC BULIT | | |
| 0:20 | 2441 | - | | - | - | 注水完3 | | |
| 0:25 | 2432 | | 5.4 | | | PC 直立. | | |
| 0:28 | 2×53 | | 3.8 | - | | PLRYEA | | |
| 0:30 | 2432 | | 5.1 | | | PL 取付员} | | |
| 0:35 | 2456 | _ | 4.Y | | | Pc着水 | | |
| 0:35 | 2457 | 0 | 4.3 | ~30 | V | ক ০ টারী | | |
| 0:38 | 2435 | 50 | なの | | - | WD:50m-且保止、TP取灯 | | |
| 0:42 | 2454 | 50 | 5-1 | | | TP取研究了,参于出し | | |
| 0:52 | 2461 | 300 | 6.(| ~40 | 4 | 7129 項且 | | |
| 0 = 34 | 2457 | 400 | 6.8 | ەئ~ | + | 林山 邓王. | | |
| 0:36 | 2457 | 430 | 7.6 | ~50 | 4 | てりたちない | | |
| 0-21 | 2455 | 200 | 8.1 | ~20 | 4 | 内人之外 塔里. | | |
| 1=02 | 2436 | 800 | (0, b | ~# | 4 | -旦侍上,孝貌臣定诩至 | | |
| 1216 | 2435 | 800 | /०. ५ | ~ 60 | 4 | 老出し開始. | | |
| (= 20 | 2438 | (000 | 11.8 | ہ کہ | 4 | | | |
| 1:28 | 2459 | 1500 | [5.2 | ~(• | 4 | | | |
| 1=36 | 2457 | 2000 | 18.0 | ~60 | 4 | | | |
| 1=43 | 2453 | 2380 | 22.1 | - 0 | + | 一旦们庄,习谷阏住有. | | |
| 1:46 | 2453 | 2380 | 22. } | ~20 | 4 | 充土し用切る | | |
| 1=51=28 | 3 245 (| 2473 | 11.2 | 0 | _ | 著壶 | | |
| (= 5(= 30 | , 245[| 2473 | - | ~20 | 1 | 代止、荒江竹" | | |
| ft = 1t=) | 2454 | 2465 | MAX 46-50 | ~20 | 1 | 静虚確況、項正 | | |
| 1:59 | 2456 | 2000 | 19.8 | ~60 | Γ Υ | | | |
| 2:08 | 2451 | 1300 | 17.5 | 260 | 1 | | | |
| 2:16 | 2455 | 1000 | 13.1 | 60 | T | | | |
| אביב | 2451 | 500 | 8,3 | 60 | Í | | | |

% It ≒ 9.8kN

PCログシート

| Cruise Name | | | Core Name | | | y m d | Page | |
|---------------|--------------------|------------------------|-------------------------|------------------------------------|------------------------|----------------|------|--|
| KR18-1 | <u>20</u> | PC 04 | | | | 2018/9/14 212 | | |
| | | | | | | Recorded by R | | |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension (<u>₩</u>) | Wire speed (on <u>lon lon</u>) | Wire out / in (↓/↑) | Remarks | | |
| 02:32 | 7448 | 50 | 5.5 | | - | WO 50m TP>1CA. | | |
| 02=36 | 2446 | 50 | 5.2 | | - | TP取外L完了 | | |
| 02=40 | 2448 | ð | 5.0 | — | | 天秤水面 | | |
| 02=45 | 2 448 | | 3.4 | | - | PL据Q纪3 | | |
| 02:50 | 2449 | ļ | | - | - | 天秤取(1外上完3 | | |
| 02:53 | 2451 | - | | | _ | PC 水面 | | |
| 02:38 | 2446 | ļ | | _ | | Pc 楊収完3 | | |
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PRC-SG1-030 別紙12 PC インベントリシート

Coring Inventory

< Observation info.>

| | Cruise name Date (UTC) Core Number Area Sampling Site | <u>KR18-</u> YMD <u>2018.</u> <u>PC05</u> <u>TC+</u> <u>PC05</u> | 120 9.15 民方3件 | Operator Recorded by Transponder Inclinometer others | | £\$\$ |
|--|---|--|----------------------|--|---------------|----------------|
| Corer type $\frac{1}{100} / 0uter Regard / Gravity$ Pilot type $\frac{25}{275-}$ Weight $\frac{592}{12}$ kg Pilot Weight $\frac{12}{12}$ kg Pilot Weight $\frac{12}{12}$ kg Pilot Weight $\frac{12}{12}$ kg Pilot Pipe Length $0.7 (1.2m)$ m Main wire ϕ $100 (12.8)$ m Pilot Wire $\frac{12.6}{12.6}$ m Pilot Vire $\frac{12.6}{12.6}$ m Pilo | <corer info.=""></corer> | | | | | |
| Weight 592 kgPilot Weight $1/2$ kgPipe LengthAL (SU)2 6 mPilot Pipe Length 0.7 ($(, 2, 2, \infty)$) mMain wire ϕ 10 12.0 mMain wire ϕ 10 12.0 mFree Fall 3.44 mWeatherBarWave height 1.0 WeatherBarCurrent direction 57.0 Wind direction $$ | Corer type | (nner / Ou | ter Riston / | Gravity | Pilot type 75 | 5273- |
| Pipe Length <u>AL (SU)</u> <u>6</u> <u>m</u> Main wire <u>6 (0 (2, 0)</u> <u>m</u> Free Fall <u>2, 4 m</u> Condition> Weather <u>B</u> <u>Wave height</u> <u>1.0 m</u> Wind direction <u>197 deg.</u> Current direction <u>57, 0 deg.</u> Wind speed <u>6, 0 m/s</u> Current speed <u>2, 6 m/s</u> <u>100</u> Coperation> <u>Time</u> <u>9/75</u> Start operation <u>0, 05</u> Latitude Longitude Depth <u>1936</u> <u>9/75</u> Start operation <u>0, 05</u> Latitude Longitude Depth <u>1936</u> <u>9/75</u> Hit the bottom <u>1, 2, 6, 2055</u> (Ship) <u>3/-43, 639467</u> <u>132-75, 2073</u> <u>2019</u> <u>m</u> Finish operation <u>2, 28</u> | Weight | 59 | 2 kg | Pi | lot Weight | 112 kg |
| Main wire ϕ IO ISQ m Pilot Wire IQQ m Free Fall g <td< td=""><td>Pipe Length A</td><td>LISUS</td><td><u>6 m</u></td><td>Pilot P</td><td>ipe Length</td><td>7 (1.2m) m</td></td<> | Pipe Length A | LISUS | <u>6 m</u> | Pilot P | ipe Length | 7 (1.2m) m |
| Free Fall $3 4$ m Condition> Wave height 1.0 m Wind direction 1.97 deg. Current direction 57.0 deg. Wind speed 6.0 m/s Current speed 2.6 π /s π /s Vind speed 6.0 m/s Current speed 2.6 π /s π /s Start operation 0.05 Latitude Longitude Depth $1/936$ $9/75$ (TP) $3/-43.6985N$ $132-15.2085$ -7932 -7932 m Hit the bottom $1/226202$ (Ship) $3/-43.63942M$ $132-75.20735$ 20192 20192 m MEMO MEMO MEMO MEMO MEMO MEMO MEMO MEMO | Main wire | ¢ <u>10</u> 1. | 2. <u>8</u> m | | Pilot Wire | 1.2.6 m |
| Start operation Value Value <td>Free Fall</td> <td>3</td> <td><u> </u></td> <td></td> <td></td> <td></td> | Free Fall | 3 | <u> </u> | | | |
| Weather $\underline{P_1}$ Wave height $/.0$ m Wind direction $.97$ deg. Current direction 57.0 deg. Wind speed 6.0 m/s Current speed 2.6 $z=5$ fat <operation> Time $9/.5$ Start operation 0.05 Latitude Longitude Depth $1/938$ $9/.5$ (TP) $3/-43.6985N$ $132-15.2768E$ $-7938E$ -7938</operation> | <condition></condition> | | | | | |
| Wind direction 197 deg. Current direction 57.0 deg. Wind speed 6.0 m/s Current speed 3.6 m/s //// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 /// 1936 // 1936 /// 1936 // | Weather | 确 | | Wave heigh | t0 | m |
| Wind speed <u>6.0</u> m/s Current speed <u>5.6</u> m/s current speed <u>5.6</u> m/s current speed <u>5.6</u> m/s constraints $\frac{9/35}{5}$ start operation $\frac{0.05}{0.05}$ Latitude Longitude Depth 1936 $\frac{9/15}{1936}$ (TP) $3/-43.6985N$ $132-15.2087$ $\frac{1938}{1938}$ m Hit the bottom $132-15.2087$ $\frac{1938}{1938}$ m Current speed $\frac{9/15}{1936}$ (Ship) $3/-43.6394N$ $132-15.20737$ 2014 m m Finish operation $\frac{9/15}{2.28}$ | Wind direction | 197 | deg. | Current direction | 5%0 | deg. |
| $\begin{array}{r} \text{COperation} > \\ & \text{Time} \\ & 9/15 \\ \text{Start operation} & 0.05 \\ & \text{Latitude} & \text{Longitude} & \text{Depth} \\ & 1/938 \\ & 9/15 & (\text{TP}) \underline{3/-43.6985N} & \underline{132-15.2982} & \underline{-7932} \\ \text{Hit the bottom} & \underline{132-202} \\ & \text{(Ship)} \underline{3/-43.6394M} & \underline{132-15.20732} & \underline{2014222} \\ & \text{Finish operation} & \underline{228} \\ \end{array}$ | Wind speed | 6.0 | m/s | Current speed | 1 | mis feht |
| Latitude Longitude Depth 1/938 9/15 (TP) $3/-43.6985N$ $132-15.2708E$ $-7938EHit the bottom 1.26202(Ship) 3/-43.6394N 132-15.2073E 2014 -mFinish operation 2:28MEMO$ | <operation></operation> | Time 9/15 0105 | | | | |
| Hit the bottom $132-132-132-132-1000$ 1120000 $(Ship) 31-43.63944 132-15.20737 2.014200 m9/15Finish operation 2.28MEMO$ | _ | 945 | Latitude | Longitud | ie C 15.8z | Depth /938- |
| (Ship) 31-43.63944 132-15.2073E 2014====m 4/15 Finish operation 2:28 MEMO | Hit the bottom | 1226:02 | () <u>37-49.0</u> | 1783 <u>- 154- 1</u> | 3. × /00E | -11-0-1 |
| Finish operation | - | | (Ship <u>) 31-43</u> | 6394H 132-13 | 5. 02 OSE | m |
| МЕМО | Finish operation | 4/15 2:28 | | | | |
| | МЕМО | | | | | |

| Cruise Name | | | Core Name | | | PCログシート y m d Page |
|---------------|--------------------|------------------------|--------------------------|------------|------------------------|--|
| <u> </u> | <u> して </u> | | PC | 05 | | 2018/9/15 1/1 |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension (<u>kN</u>) | Wire speed | Wire out / in (1/1) | Remarks |
| 0:05 | 1966 | 1 | _ | | _ | 作業用始 |
| 0:07 | 2016 | 1 | - | | | PC带川IT |
| 0:19 | 2015 | - | | | - | 注水完} |
| 0:23 | 2017 | - | <u>5,</u> 2 | _ | - | Pc直立 |
| 0.26 | 2014 | | 4.2 | | | PLBUILY" |
| 0:30 | 2015 | | 5.5 | - | | PL取(7完3 |
| 0:30 | 2015 | - | 5.3 | 1 | - | 安全でと解放 |
| 0:33 | 2018 | D | 4.9 | ~30 | L | やい調、ききない |
| 0:35 | 7102 | 50 | 5-1 | _ | | TP取11(17中号 W0.50 |
| 0139 | 2014 | 50 | 5.6 | ~30 | 1 | TP取りはけ完3、巻きなし |
| 0:54 | 2013 | 500 | 8-1 | 60 | L | |
| 1:02 | 2017 | 1000 | 11.7 | 60 | L L | |
| 1:10 | 2017 | 1500 | . 15.X | 60 | 5 | |
| 1:18 | 2014 | 1930 | 17.1. | ÷ | | -且痹止,3分周保持 |
| 1:21 | 2014 | 1930 | 17-1 | ~20 | V | 参き出レ |
| 1:26:02 | 2014 | 2021 | MIN 9.14 | 20-0 | 1 | 着走,一旦海上、老王54 |
| 1:26:35 | 2014 | 2012 | 33,55 MAX | 0~20 | T | 留住立確認、增速 |
| 1:35 | 2015 | 1500 | 17.6 | 60 | 1 | |
| 1=43 | 20/3 | 1000 | 13.5 | 60 | 1 | |
| 1:51 | 2016 | 500 | <i>A</i> .3 | 60 | 1 | |
| 1:59 | 2017 | 50 | 5.8 | | | TP水面,一里编世 |
| 2:03 | 2015 | 50 | 5.0 | | | TP 取11外1完3 |
| 2:06 | 2016 | D | 4.8 | - | - | 天神, 12 面 |
| 2:09 | 2018 | ð | 3.2 | | - | 一日間の |
| 2212 | 2017 | D | 3.5 | - | - | PL揭收完3 |
| 2:18 | 2018 | - | | | | 天秤取11外レ党3 |
| 2:22 | 2017 | | | | | PCNE |
| 8د: ت | 2017 | | | | | Pc揭yczzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz |

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Ver.2.30(20140909) Marine Works Japan LTD.

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Coring Inventory

| < Observation | n info.> | | | | | |
|--------------------------------------|---------------------------------------|--------------------|-----------------------|-------------------|---------------------------------------|-------|
| Cruise name | KP(8 | - 12 C | Ope | rator E+ B | | |
| Date (UTC) | Y/M/D 2018 | . 9.16 | Recorde | ed by 柳芥 | | |
| Core Number | <u> </u> | 6 | Transpo | onder Thudust | n DK2-TP | |
| Area | -h-1+ | 日本方きり | Inclinon | neter <u>-</u> | | |
| Sampling Site | PC | 06 | 0 | thers | | |
| <corer info.=""></corer> | • | | | | | |
| Corer type | Inner / O | uter Priston | / Gravity | Pilot type | 75277- | |
| Weight | 5 | ٩ ٢ kg | | Pilot Weight | 112 | kg |
| Pipe Length A | .L / SOS | 6 m | Pil | lot Pipe Length | 1.70 (1.20) | m |
| Main wire | φ <u>(</u> 0, | (1.8 m | | Pilot Wire | 12.6 | m |
| Free Fall | | <mark>3.4</mark> m | | | | |
| <condition> Weather_</condition> | 暍 | | Wave h | eight (, o | m | |
| Wind direction | 254 | deg. | Current dire | ction <u>35</u> . | deg. | - |
| Wind speed | 5.4 | m/s | Current s | speed 3, | 5 m/s | : knt |
| <operation></operation> | Time V[6 0 2 05 2 55 | | | | | |
| · - | | - Latitude | Lon | gitude | Depth | |
| Hit the bottom | 416 (≥28 ≥43 | (TP) 31. 53 | .2951N (32 | 14.0010E | (867 | m |
| | | (Ship) 31- 5 | 3. 2416#M <u>132-</u> | 12.9399\$E | 1943 | m |
| Finish operation | 9/16 2=27====== | - | | | | |
| мемо | | | | | · · · · · · · · · · · · · · · · · · · | |

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PRC-SG1-030 別紙13 PCログシート

| Cruise Name | -120 | | Core Name PC | 06 | | <u>y</u> m d 20[8/9/16 | PCD 9 9 - 1 Page 2 / 2 |
|---------------|--------------------|------------------------|-----------------|--------------------------------|------------------------|---------------------------|------------------------------|
| | | | | | | Recorded by 1/2 A | |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension | Wire speed (<u>h/hih</u>) | Wire out / in (1/1) | Remarks | |
| [245 | (942 | 1000 | 13.3 | ~60 | 1 | | |
| [: t: j | 1944 | 500 | 7-8 | ~lo | 1 | | |
| 5=00 | (९46 | 50 | さい | ~60 | f | TPAB | |
| 2= 04 | [947 | 50 | 5.6 | 0 | \$ | 可取外し見了 | |
| Z207 | [95] | 0 | 50 | - | - | 天行小匾 | |
| 2210 | (930 | ł | 4.1 | - | - | 比取秋し定了 | |
|)i=C | (936 | - | 3.8 | - | - | PL 1/70 | |
| 2:15 | (954 | 4 | 3.8 | - | - | PL 棉收党了 | |
| 2:17 | 1952 | • | - | - | - | 元钟取外に定了 | |
| 2:20 | (ខ្ស | + | _ | _ | - | pente | |
| 2=27 | (45) | | 1 | | + | PC 指収定す | |
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| Cruise Name | 12.0 | | Core Name PC | <u>۸</u> 6 | | y m d Page $26/8/9/16$ |
|---------------|--------------------|------------------------|-----------------|------------------------------|------------------------|------------------------|
| | | | | 0.0 | | Recorded by My K |
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension | Wire speed (<u>m(hin)</u>) | Wire out / in (↓/↑) | Remarks |
| 0=05 | (908 | 1 | 1 | - | | 作等間時 |
| 0 = 1 (| 1902 | - | <u>ر</u> | <i>ر</i> | - | 天斜取付11 定了 |
| tl=0 | (9 02 | | | <u> </u> | ~ | PC Fr. シー |
| 0=15 | (891 | - | - | - | - | 江小完了 |
| 1=20 | [837 | I | 3.7 | | - | pc Et. |
| 0:21 | 878) | - | 3.9 | ' | - | PL 员上叶" |
| 0=22 | 1814 | ł | J .9 | - | | PL 菁水 |
| 0=25 | 1836 | - | 土2 | 1 | ~ | 凡 取引 [定] |
| 0:25 | 1847 | 1 | 5.3 | ~ | - | 安全t3-所放 |
| 1=29 | 1871 | ~ | 4.1 | 1 | - | pc 著小 |
| 0=27 | 1892 | D | 4.4 | ł | | ナ "戸 記 |
| 0=28 | 1902 | D | 4-5 | ~ 30 | * | 老山の開始 |
| 0=29 | 1924 | 20 | 4.9 | Ь | it | 一旦作止 |
| 0-33 | 1927 | 70 |).t | 0 | | TP取HH定了 |
| 0:35 | 1927 | J0 | 5.0 | ە دى | 4 | 79 萬水 |
| 6=36 | [928 | 30 | 2-1 | ~30 | 4 | 老业L 開始 |
| 0=37 | 1929 | (00 | J.4 | 人子 | 4 | |
| 0=48 | [943 | 300 | 7.ŋ | ~ Jo | ł | 墙建. |
| 0233 | 1941 | 800 | <i>l°.</i> 3 | ~t | - | -旦代止 : 本酯位遣钥匙 |
| [202 | (992 | 800 | 10,2 | ~bo | 4 | だましん 特 |
| 1206 | [943 | (000 | 12.0 | ~60 | 4 | |
| {>1 | (942 | (300 | [3.2 | ~60 | 4 | |
| (=21 | [943 | (860 | 17.3 | D | - | 一旦代止,36个件门。 |
| (229 | 1993 | 1860 | 16.4 | ~20 | ł | 老礼に開始 |
| 228=43 | 1943 | 1947 | R.43 | 20 | 4 | 著在 |
| 1=28=47 | [19] | (147 | - | | - | 伟上·龙上 |
| (=29=22 | /942 | 1937 | MAX 39.39 | zo | 1 | 勘底确记、增速. |
| 1:36 | 1943 | 1500 | 18.2 | 60 | ↑ | |

※1ι ≒ 9.8kN

PRC-SG1-030 別紙12 PC インベントリシート

Coring Inventory

| < Observation | info.> | | | | | | | |
|--------------------------|-------------|----------|-------------|----------------|-------------|--------------|--------------|-----|
| Cruise name | <u>kR18</u> | -120 | | | Operator | UND_ | | |
| Date (UTC) | Y/M/D 2018 | , 9.1 | \$7_ | Rec | corded by | 岢 | | |
| Core Number | <u>_Pco</u> | 7 | | Tra | nsponder | 0k1 (11)6任 | <u>2·()</u> | |
| Area | <u>九世</u> 集 | 动中 | <u>_</u> | Inc | linometer | | | |
| Sampling Site | PC o' | 7 | | | others_ | | | |
| <corer info.=""></corer> | | | | | | | | |
| Corer type | Inner / O | uter | Priston / C | iravity | P | ilot type | <u>-67 ב</u> | |
| Weight | 59 | 72 | kg | | Pilot | Weight | 12 | kg |
| Pipe Length AL | . 1 EUS | 6.0 | m | | Pilot Pipe | e Length | 7(1.2) | m |
| Main wire | ¢ <u>/0</u> | 12.8 | m | | Pi | lot Wire 🔌 🔗 | 12.6 | m |
| Free Fall | 3. | 4 | m | | | | | |
| <condition></condition> | | | | | | | | |
| Weather | 晴 | | | Wa | ave height | 1.0 | m | |
| Wind direction | 307 | deg. | | Current | t direction | 42.4 | deg. | |
| Wind speed | 2.0 | m/s | | Cun | rent speed | 3.1 | No.42 | Kht |
| <operation></operation> | Time | | | | | | | |
| 9, | 117 | | | | | | | |
| Start operation | 0:0/ | – L | atitude | | Longitude | | Depth | |
| | | (TP) | 31-47. | 8 <u>784</u> 4 | _13213 | 5. 1536E | 1930 | m |
| HIT THE DOTION | 1:15:01 | (Ship) | 31-47.8 | <u>818</u> | 132-15. | 1033E | 2012 | m |
| Finish operation | 02:13 | - | | | | _ | | |
| мемо | | | | | | | | |
| TP (23:52 | ON | | | | | | | |

着在码a TP位置は、SOJ=>>9(1:14:57)を記入。

PRC-SG1-030 別紙13 PCログシート

PCログシート Page

112

| Cruise Name | |
|-------------|--|
| KR18-12C | |

Time

(UTC)

Water depth

(m)

Wire out

length (m)

Core Name PC 07

I

Wire speed

(m/min)

Tension

(<u>kn</u>)

Т

y m d 2018/9/17 Recorded by

| | Recorded by | |
|-----------------------|-------------|---------|
| Wire out / in(1/1) | | Remarks |
| | 作業用せる | |
| - | PCPULT | |

| 00:01 | 2016 | - | | | | 作案例 10. |
|---------|------|-------|-------------|----------|---|------------------------|
| 0:09 | 2014 | | - | | | PC FULT |
| 0-10 | 2017 | _ | - | _ | (| 津水良3 |
| 0:13 | 2015 | | | | - | PC直立 |
| 0:17 | 2018 | - | | | 1 | PL POILT" |
| 0:20 | 2018 | | 5-1 | | | PL取时代了 |
| 0:21 | 2017 | | 3-1 | ļ | 1 | 腔で>解放、巻き出し |
| 0:23 | 2017 | 0 | 44 | ~` | | せつ記. |
| 0:25 | 2010 | 50 | 5.0 | - | | TP取1157,一里停止 |
| 0128 | 2015 | 50 | 5,2 | <u> </u> | | TP取11177完3、巻き出し |
| 0:43 | 2012 | 500 | 29 | 60 | ł | |
| 0:52 | 2012 | 1000 | 11.8 | 60 | V | |
| 1:01 | 2012 | 1500 | 15.0 | 60 | l | |
| 1:08 | 2012 | 1940 | 17.0 | | | WO:1940 -国济上 (3念(同)保F到 |
| 1:11 | 2013 | ,940 | 17.0 | ~20 | V | 老に欲し再用 |
| 1215:01 | 2012 | 2018 | 9.07 | ~20 | J | 着在,一里痹止、卷王叶" |
| 1215:42 | 20/2 | 006 د | рах 37./ | 20 | 1 | 离金融配, |
| 1:24 | 2011 | 1500 | 17.4 | 60 | 1 | |
| 1:32 | 2011 | 1000 | 13.2 | 60 | 1 | |
| 1:40 | 2008 | 500 | 7.8 | 60 | 1 | |
| 1:47 | 2006 | 50 | 5.9 | | | TP-KA. |
| 1:51 | 2004 | 50 | 5.1 | | - | TP取1外L皂3 |
| 1:54 | 2000 | 0 | 4.8 | | | 天秤水面 |
| 1.57 | 1996 | 0 | 3.6 | | - | PL取11外1完3 |
| 1259 | 1994 | д | 3-6 | - | - | PL本国 |
| 2:03 | 1994 | σ | 3.6 | | - | 天秤取11外レ売3 |
| 2:05 | 1990 | | - | - | | PL揭牧完3 * |
| 2=08 | 1983 | - | - | | | PCNE |

※1t ≒ 9.8kN

PCログシート Page

| Cruise Name | 12-0 | | Core Name PC | 07 | - | y m d 2018/9/17 Recorded by | Page ک_ / |
|---------------|--------------------|--|---------------------------|-----------------------|------------------------|-----------------------------------|--------------|
| Time (UTC) | Water depth (m) | Wire out length (m) | Tension (<u>LeH</u>) | Wire speed (m/min) | Wire out / in (1/1) | Remarks | |
| 2:13 | 1978 | | | | - | PC楊收完3 | |
| | | | | | | | |
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Coring Inventory

| < Observatio | n info.> | | | 1 6 | | |
|----------------------------|--------------|---------------|-------------------|---------------|-----------------|------------|
| Cruise name | K21 | 8-120 | Operator | 官坞 | | |
| Date (UTC) | YM/D 2018 | . 9. 18 | Recorded by | 77× | | |
| Core Number | ٢ | . 08 | Transponder | 「ねいれい」用 | 061-78 | |
| Area | 1.11 | 小林训 | Inclinometer | | | |
| Sampling Site | PC | | others | | | |
| <corer info.=""></corer> | > | | | | | |
| Corer type | kingr / Ou | iter Piston / | Gravity | Pilot type 71 | -650 | |
| Weight | | 92 <u>kg</u> | Pil | ot Weight | 112 | kg |
| Pipe Length A | AL / SO3 | <u>6</u> m | Pilot Pi | pe Length 0.7 | <u>o (1.20)</u> | m |
| Main wire | φ[0 | 12.8 m |] | Pilot Wire(| 2-6 | m |
| Free Fall | · | 8.4 m | | | | |
| <condition></condition> | | | | | | |
| Weather | 2+1 | | Wave height | 1.5 | m_ | |
| - Wind direction | 356 | deg. | Current direction | 50.6 | deg. | |
| Wind speed | 7.3 | m/s | Current speed | 3.0 | m/s | Kht |
| <operation></operation> | | | | | | · |
| l | Time 9/19 | | | | | |
| Start operation | n: 04 ====t | | | | | ļ |
| | | Latitude | Longitud | e | Depth | |
| | 9/18 | (TP) 32-09. | 0023N 132-11 | 1. 9986E | (825 | |
| Hit the bottom | 1=28=14 | 90-55 (chin) | 973806/ 122-18 | 94730E | 1905 | m |
| 1 | - (| (Smp) 52 00- | | | | —" į |
| | 9/18 24 | | | | | 1 |
| Finish operation | 2:27-55 | · | | | | |
| мемо | | | | | | |
| | | | | | | 1 |

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PRC-SG1-030 別紙13 PCログシート

Page

| Cruise Name | |
|-------------|-----|
| KK18- | 120 |

Core Name PC 08 y m d 2018 / 9 / 18 Decorded by <u>99</u>*

1/2

| | water depth | Wire out | Tension | Wire speed | Wire out / | Remarks |
|---------|-------------|------------|--------------|-----------------|------------|------------------|
| 1=04 | (m) 1878 | rengui (m) | | (<u>eyen</u>) | - | 行掌閉檢 |
| 02/0 | 8781 | _ | _ | - | - | 天行取住北京了 |
| 0=14 | 1764 | ~ | _ | - | _ | PC # 17" |
| 0=15 | (887 | | - | - | - | 注水克」 |
| 0=17 | 1897 | | 3.9 | - | - | pc ēt |
| 0:20 | 1909 | - | 38 | | - | PL R. 17" |
| 0:21 | (906 | | 3.8 | - | - | PL 著水 |
| 0=23 | 1905 | - | 4.6 | | - | PL距行H定了 |
| 0=25 | 1906 | - | 4.6 | | - | 時至te> 解放. |
| D=26 | (9ot | σ | 38 | — | - | pcth |
| 0=26 | 1909 | 0 | 3.8 | | - | t"0 2A |
| 8520 | 1906 | 30 | 4.2 | 0 | 4 | -臣(羊止 |
| 0=33 | 1906 | 20 | 4.3 | Ŭ | - | TP 取得H良了 |
| 0=33 | (905) | 50 | 4.3 | ~ 30 | 4 | 老上し開始 |
| 0=36 | (905 | (00 | 4.5 | ~30 | 4 | 七家道. |
| 0:47 | (901 | 500 | 7.6 | ~ 60 | 4 | |
| 0:52 | 1902 | 800 | 10.0 | D | + | 一旦 (1止 » 本航 但定调盘 |
| 1= 03 | 1902 | 800 | (0.1 | ~ 60 | 4 | 老出し開始 |
| [+07] | (902 | (000 | 11.8 | ~60 | * | · · · |
| (=15 | [903 | 1500 | 15.2 | ~60 | • | |
| (22) | [90] | 1820 | 15.7 | D | 4 | 一旦付止 3倍間御礼 |
| 1 24 | (903 | 1820 | 13.8 | ~20 | 4 | 老出、閉始 |
| 1228=14 | 1905 | 1900 | HIN 6-55 | 20 | 4 | 著弦 |
| (=28=16 | (905 | 1900 | - | 0 | - | 代上、卷±11" |
| 1=29=02 | 1905 | 1887 | MAX 23.81 | 20 | 1 | 粗龙碓泥 |
| /235 | 1903 | 1500 | 16.7 | 60 | 1 | |
| [=43 | 1904 | 1000 | 12.9 | 60 | 1 | |
| (= 21 | (902 | 500 | 7-4 | 60 | 1 | |

PCログシート Page

| Cruise Name | (| | Core Name | - 9 | | y m d | Page |
|-------------|-------------|------------|--|-----------------|------------|------------------|-------------|
| _per105 | 20 | | <u>. PC</u> | 08 | | Recorded by 1997 | |
| Time | Water depth | Wire out | Tension | Wire speed | Wire out / | Remarks | |
| (UTC) | (m) | length (m) | <u>(</u> <u></u> | (<u>h/µih)</u> | in (1/†) | | |
| >39 | 1902 | 70 | 2.5 |) | - | | |
| 2003 | [90] | - | 7.2 | | - | てり取りんで | |
| 2:06 | (90) | | 4.1 | ~ | - | 天轩中国 | |
| 2209 | (899 | - | 40 | - | | PL 7491- C | |
| 2=15 | [898] | - | 3.8 | - | - | PL 楼收定了 | |
| 2=19 | 1898 | - | - | - | - | 天和取死レ党了 | |
| 2220 | 293 | ~ | - | - | - | pc the | |
| 2:24 | (89) | - | - | - | - | PC 楊收定] | |
| ` | | | | | | | |
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%lt ≒ 9.8kN

Coring Inventory

< Observation info.>

| Cruise name | kR18 | 2-120 | Operator | 20 米 | _ | |
|--------------------------|--------------|-------------------|-------------------|---------------------|------------|-------------|
| Date (UTC) | YMD 2018 | 9 19 | Recorded by | E | | |
| Core Number | Per | 9 | Transponder | OKI-TP | (船) (41) | |
| Area | - <u></u> | 电方字中 | Inclinometer | | | |
| Sampling Site | PCO | 9 | others | | | |
| <corer info.=""></corer> | | | | | | |
| Corer type | (Inney / O | uter Riston | / Gravity | Pilot type | 1527ラー | |
| Weight | 59 | 2 <u>kg</u> | Pil | lot Weight | 112 | kg |
| Pipe Length Al | L/ 303 | 4 <u>m</u> | Pilot Pi | ipe Length <u>(</u> | 27(1.2) | m |
| Main wire | \$ <u>10</u> | 10.8 m | | Pilot Wire | 10.6 | m |
| Free Fall | 3 | <u>, 4 m</u> | | | | |
| <condition></condition> | | | | | | |
| Weather | <もり | | Wave height | t/ | <u>0 m</u> | |
| Wind direction | 9 | deg. | Current direction | 40.5 | deg. | |
| Wind speed | 5.1 | m/s | Current speed | <u></u> | 7 1948 | Ktr4 |
| <operation></operation> | - - | | | | | |
| | Time | | | | | |
| Start operation | 9/19 0:03 | _ | | | | |
| | | Latitude | Longitud | le | Depth | |
| | 4 | (TP) <u>3/-53</u> | 3109N 132-14 | 1.0081E | 1867 | ≨ n′ |
| Hit the bottom | 1:11:49 | (Ship) 3/-53, | 26344 132-13. | <u>.95378</u> | 1944 | n |
| | | | | | | |

MEMO

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Finish operation 2:05

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PCログシート Page

111

| Cruise Name | |
|-------------|--|
| KR18-12C_ | |

Core Name PC 09

У m 2018/9/19 Recorded by

d

| Time | Water depth | Wire out | Tension | Wire speed | Wire out / in (1/1) | Remarks |
|-------------|-------------|----------|----------|------------|------------------------|----------------|
| 1100 | 1929 | | | <u></u> | | 5下柴雨75 |
| מו יה | ,925 | | | | | PCFILT |
| 0211 | 1928 | | | | _ | 主水完3 |
| DIL | 193n | _ | 2.6 | | | PC直立 |
| 0:16 | 1934 | - | 3.4 | | _ | PLRYZIT |
| 0:19 | ,935 | - | 4.2 | | _ | PL取内口良子 |
| 0:2/ | 1935 | - | 4,2 | - | - | 安全モッン解放 |
| 7.55 | 19315 | D | 3.9 | | | 世日词 |
| 0:25 | 1940 | 50 | 4.1 | | - | WOSO TPARINTY |
| <i>בו</i> ה | 1938 | 50 | 45 | ~30 | ~; | TP取1177完3、卷末比L |
| 0:41 | 1943 | 500 | 7.4 | ~60 | لل ال | |
| 0:50 | 1940 | (000 | 11.6 | 60 | L | |
| 0:59 | 1942 | 1500 | 14.8 | 60 | V | |
| 1:04 | 1943 | 1870 | 15.9 | | - | 一旦停止. 3分网保持 |
| 1:07 | 1944 | 1870 | 15.8 | 20 | | 巻き出し |
| 1211249 | 1944 | 1947 | Min 7.88 | 20 | 1- | 着在、一县停止、光工叶 |
| 1:12:27 | 1943 | 1936 | 19.95 | 20 | 1 | 朝在確認 |
| 1:19 | 1942 | 1500 | 16.7 | 60 | <u> </u> | |
| 1:28 | 1944 | (000 | 12,8 | 60 | 1 | |
| 1:41 | 1943 | 200 | 6,3 | 60 | <u>↑</u> | |
| 1:44 | 1943 | 50 | 5.5 | | - | TP水面 |
| 1:46 | 1948 | 50 | 5.1 | | ļ — | TPAZIIZAV |
| 1:49 | 1947 | 0 | 4.8 | - | - | 天和水面 |
| ./:5/ | 1947 | 0 | 3.9 | | | PL取外レ |
| 1:57 | 1951 | - | 3.9 | - | - | PL 据收完了 |
| 1:59 | 1952 | | | | | 天秤取11外レ完3 |
| 2-01 | 1949 | | - | - | <u> </u> | PC*AM |
| 2:05 | 1950 | <u> </u> | | | | Pc 据收完3 |

Winch Cable Tension record

Vertical axis: tension (kN)

Horizontal axis: time

Annotation: Events

KR18-12C PC01 Cable Tension Record


KR18-12C PC02 Cable Tension Record



KR18-12C PC03 Cable Tension Record



KR18-12C PC04 Cable Tension Record



KR18-12C PC05 Cable Tension Record



KR18-12C PC06 Cable Tension Record



KR18-12C PC07 Cable Tension Record



KR18-12C PC08 Cable Tension Record



KR18-12C PC09 Cable Tension Record



Track of figure 8 turns





2018 Sep 17 13:36:36 R/V KAIREI, Mercator Projection, Data_source=SOJ



CMD 2018 Sep 20 00:11:41 R/V KAIREI, Mercator Projection, Data_source=SOJ