

MIRAI MR14-06 Leg3 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-05-08

[ReadMe](#) [Observation Data](#) [Data Format](#) [Quality Information](#)

Cruise ID: [MR14-06 Leg3](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen, Fluorescence, Silicate, Nitrate, Nitrite, Phosphate, Chlorophyll, Potential temperature, Density

Science Keywords:

OCEANS > OCEAN CHEMISTRY > NITRATE
OCEANS > OCEAN CHEMISTRY > NUTRIENTS
OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN CHEMISTRY > PHOSPHATE
OCEANS > OCEAN CHEMISTRY > SILICATE
OCEANS > OCEAN CHEMISTRY > SALINITY
OCEANS > OCEAN CHEMISTRY > CHLOROPHYLL
OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY
OCEANS > OCEAN OPTICS > FLUORESCENCE
OCEANS > OCEAN TEMPERATURE > POTENTIAL TEMPERATURE

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR14-06_leg3_all.pdf

For Using Data

Principal Investigator

CTDTMP : Iwao Ueki (JAMSTEC)
CTDSAL : Iwao Ueki (JAMSTEC)
CTDCND : Iwao Ueki (JAMSTEC)
SALNTY : Iwao Ueki (JAMSTEC)
CTDOXY : Iwao Ueki (JAMSTEC)
OXYGEN : Iwao Ueki (JAMSTEC)
FLUOR : Iwao Ueki (JAMSTEC)
SILCAT : Iwao Ueki (JAMSTEC)
NITRAT : Iwao Ueki (JAMSTEC)
NITRIT : Iwao Ueki (JAMSTEC)
PHSPHT : Iwao Ueki (JAMSTEC)
CHLWEL : Iwao Ueki (JAMSTEC)

Use Constraints

See [Terms and Conditions](#) about constrain of use.

Data Citation

See [Terms and Conditions](#) about data citation.

Instrument

Instrument:

Salinity measurement system



Instrument:

Fluorometer (TURNER DESIGNS)



Instrument:

Nutrient analyzer(5ch) (MR09-02 -)



Instrument:

Titration for DO Dissolved oxygen titration equipment (MR11-06 -)



Information on CTD data

Pressure sensor

Model : SBE9plus, Sea-Bird Electronics, Inc.
Measurement range : 0 to 6800 m
Accuracy : $\pm 0.015\%$ of full scale range
Resolution : 0.001% of full scale

Temperature sensor

Model : SBE3, Sea-Bird Electronics, Inc.
Measurement range : -5 to +35 °C
Accuracy : ± 0.001 °C
Resolution : 0.0002 °C

Salinity sensor

Model : SBE4, Sea-Bird Electronics, Inc.

Measurement range : 0 to 7 S/m

Accuracy : ± 0.0003 S/m

Resolution : 0.00004 S/m

DO sensor

Model : SBE43, Sea-Bird Electronics, Inc.

Measurement range : 120% of surface saturation

Accuracy : $\pm 2\%$ of saturation

Fluorometer

Model : Seapoint Sensors, Inc.

Measurement range : 0 - 5 $\mu\text{g/l}$

Resolution : 0.02 $\mu\text{g/l}$

Information on Chemical and Biological data

Salinity

Instruments : Autosal salinometer model 8400B (Guildline Instruments Ltd.)

Methods : -

Precision : The average and the standard deviation of absolute difference among 9 pairs of replicate samples were 0.0004 and 0.0003 in salinity

Reference Material/Calibration : IAPSO Standard Sea Water batch P157

Dissolved Oxygen

Instruments : Burette: APB-510/APB-620 manufactured by Kyoto Electronic Co. Ltd. /10 cm³ of titration vessel
Detector and Software: Automatic photometric titrator DOT-01X manufactured by Kimoto Electronic Co. Ltd

Methods : Winkler method/photometric methods

Precision : 0.08 $\mu\text{mol kg}^{-1}$

Reference Material/Calibration : 0.001667M KIO₃ solution

Silicate

Instruments : BL TEC K.K QuAAtro 2-HR

Methods : Molybdenum blue method

Precision : C.V. 0.11%

Reference Material/Calibration : RMNS, Silicon standard solution SiO₂ in NaOH 0.5 mol/L CertiPUR® (Merck KGaA)

Nitrate

Instruments : BL TEC K.K QuAAtro 2-HR

Methods : Diazotization method (reduced to nitrite by Cd - Cu tube)

Precision : C.V. 0.09%

Reference Material/Calibration : RMNS, potassium nitrate 99.995 suprapur® (Merck KGaA)

Nitrite

Instruments : BL TEC K.K QuAAtro 2-HR

Methods : Diazotization method

Precision : C.V. 0.12%

Reference Material/Calibration : RMNS, sodium nitrite (Wako Pure Chemical Industries, Ltd.)

Phosphate

Instruments : BL TEC K.K QuAAtro 2-HR

Methods : Molybdenum blue method

Precision : C.V. 0.10%

Reference Material/Calibration : RMNS, potassium dihydrogen phosphate anhydrous 99.995 suprapur® (Merck KGaA)

Chlorophyll a

Instruments : Fluorophotometer model 10-AU-005 (Turner design)

Methods : Extract in N, N-dimethylformamide /fluorometric determination (Welschmeyer non-acidification method)

Precision : -

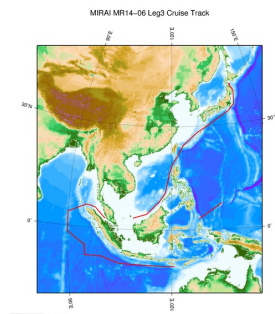
Reference Material/Calibration : Pure chlorophyll a (Sigma-chemical Co.)

About this data

There are some description error for nutrient data of this cruise.

Please refer to the errata of the cruise report.

Related Information



[Enlarge Image](#)

MR14-06 Leg3

Ship Name: MIRAI

Period: 2015-01-22 - 2015-02-25

Chief Scientist: Iwao Ueki (JAMSTEC)

Proposal ▶ Study of structure and formation process of the Ontong Java Plateau

Title:

Update History

2018-05-08	An observation data was registered.
2018-01-25	An observation data was registered.
2017-07-28	An observation data was registered.
2017-02-25	An observation data was registered.

JAMSTEC

[Site Policy](#)

[Privacy Policy](#)

[Application for Data and](#)

[Samples](#)

Lists

[Publication List](#)

[Amount of Public Info.](#)

[Data](#)

[Map Search](#)

Information of the Ships

NATSUSHIMA

KAIYO

YOKOSUKA

MIRAI

Information of the Submersibles

KAIKO

SHINKAI 2000

SHINKAI 6500

Go to a Cruise Information

Cruise ID:

[Go](#)

[Data Policy](#)

[Data Tree](#)

[KAIREI](#)

[DEEP TOW](#)

[Go to a Dive Information](#)

[What's New](#)

[Detailed Search](#)

[CHIKYU](#)

[HYPER-DOLPHIN](#)

Dive ID:

[Update History](#)

[KAIMEI](#)

[URASHIMA](#)

[Feeds](#)

[SHINSEI MARU](#)

[YOKOSUKA DEEP TOW](#)

[6K Camera DEEP TOW](#)

[6K Sonar DEEP TOW](#)

[KM-ROV](#)

[POWER GRAB SAMPLER](#)

[\(SHELL\)](#)

[POWER GRAB SAMPLER](#)

[\(CLOW\)](#)

[BMS](#)

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



JAMSTEC 国立研究開発法人
海洋研究開発機構
JAPAN AGENCY FOR MARINE EARTH SCIENCE AND TECHNOLOGY

MIRAI MR14-06 Leg3 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-05-08

ReadMe Observation Data **Data Format** Quality Information

Cruise ID: [MR14-06 Leg3](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: [JAMSTEC](#)

Exchange Format

Provided in the Exchange Format of CCHDO (CLIVAR and Carbon Hydrographic Data Office).

Please see the following link for details of Exchange Format.

[CCHDO | CLIVAR & Carbon Hydrographic Data Office](#)

Format Information

Column No.	Column Heading Mnemonic	Units Mnemonic	Reporting Precision	FORTTRAN Format	Comments
1	EXPOCODE		A14		ExpoCode
2	SECT_ID		A6		Section ID
3	STNNBR		A6		Station Number
4	CASTNO		I3		Cast Number
5	SAMPNO		A7		Sample Number
6	BTLNBR		A7		Bottle Number
7	BTLNBR_FLAG_W		I1		Bottle quality flags
8	DATE		I8		Cast date
9	TIME	UTC	A4		Cast time
10	LATITUDE	DEG	F8.4		-
11	LONGITUDE	DEG	F9.4		-
12	DEPTH	METERS	I5		Bottom depth
13	CTDDPT	METERS	F9.1		Depth
14	CTDDPT_FLAG_W		I1		Quality flags for CTD data
15	CTDPRS	DBAR	F9.1		Pressure
16	CTDPRS_FLAG_W		I1		Quality flags for CTD data
17	CTDTMP	ITS-90	F9.4		Temperature
18	CTDTMP_FLAG_W		I1		Quality flags for CTD data
19	CTDTMP_1	ITS-90	F9.4		Temperature (secondary sensor)
20	CTDTMP_1_FLAG_W		I1		Quality flags for CTD data
21	CTDSAL	PSS-78	F9.4		Salinity
22	CTDSAL_FLAG_W		I1		Quality flags for CTD data
23	CTDSAL_1	PSS-78	F9.4		Salinity (secondary sensor)
24	CTDSAL_1_FLAG_W		I1		Quality flags for CTD data
25	CTDCND	S/M	F11.6		Conductivity (primary sensor)
26	CTDCND_1	S/M	F11.6		Conductivity (secondary sensor)
27	SALNTY	PSS-78	F9.4		Bottle Salinity
28	SALNTY_FLAG_W		I1		Quality flags for water samples
29	SALNTY_1	PSS-78	F9.4		Bottle Salinity (replicate)
30	SALNTY_1_FLAG_W		I1		Quality flags for water samples
31	CTDOXY	UMOL/KG	F9.2		Oxygen_CTD
32	CTDOXY_FLAG_W		I1		Quality flags for CTD data
33	CTDOXY_1	UMOL/KG	F9.2		Oxygen_CTD (secondary sensor)
34	CTDOXY_1_FLAG_W		I1		Quality flags for CTD data
35	CTDOXV	V	F9.4		Oxygen_CTD voltage (primary sensor)
36	CTDOXV_1	V	F9.4		Oxygen_CTD voltage (secondary sensor)
37	OXYGEN	UMOL/KG	F9.2		Oxygen
38	OXYGEN_FLAG_W		I1		Quality flags for water samples
39	OXYGEN_1	UMOL/KG	F9.2		Oxygen (replicate)
40	OXYGEN_1_FLAG_W		I1		Quality flags for water samples
41	FLUOR	MG/CUM	F9.3		Fluorescence
42	FLUOR_FLAG_W		I1		Quality flags for CTD data
43	SILCAT	UMOL/KG	F9.2		Silicate
44	SILCAT_FLAG_W		I1		Quality flags for water samples
45	SILCAT2	UMOL/KG	F9.2		Silicate (replicate)
46	SILCAT2_FLAG_W		I1		Quality flags for water samples
47	SILCAT_AVE	UMOL/KG	F9.2		Silicate (average)
48	SILCAT_AVE_FLAG_W		I1		Quality flags for water samples
49	NITRAT	UMOL/KG	F9.2		Nitrate
50	NITRAT_FLAG_W		I1		Quality flags for water samples
51	NITRAT2	UMOL/KG	F9.2		Nitrate (replicate)
52	NITRAT2_FLAG_W		I1		Quality flags for water samples
53	NITRAT_AVE	UMOL/KG	F9.2		Nitrate (average)
54	NITRAT_AVE_FLAG_W		I1		Quality flags for water samples
55	NITRIT	UMOL/KG	F9.2		Nitrite
56	NITRIT_FLAG_W		I1		Quality flags for water samples
57	NITRIT2	UMOL/KG	F9.2		Nitrite (replicate)
58	NITRIT2_FLAG_W		I1		Quality flags for water samples
59	NITRIT_AVE	UMOL/KG	F9.2		Nitrite (average)
60	NITRIT_AVE_FLAG_W		I1		Quality flags for water samples
61	PHSPHT	UMOL/KG	F9.3		Phosphate
62	PHSPHT_FLAG_W		I1		Quality flags for water samples
63	PHSPHT2	UMOL/KG	F9.3		Phosphate (replicate)
64	PHSPHT2_FLAG_W		I1		Quality flags for water samples
65	PHSPHT_AVE	UMOL/KG	F9.3		Phosphate (average)

Column No.	Column Heading	Mnemonic	Units	Mnemonic	Reporting Precision	FORTTRAN Format	Comments
66	PHSPHT_AVE_FLAG_W				I1		Quality flags for water samples
67	CHLWEL		UG/L		F9.2		Chlorophyll a
68	CHLWEL_FLAG_W				I1		Quality flags for water samples
69	CHLWEL_1		UG/L		F9.2		Chlorophyll a (replicate)
70	CHLWEL_1_FLAG_W				I1		Quality flags for water samples
71	THETA		DEG C		F9.4		Potential temperature
72	THETA_1		DEG C		F9.4		Potential temperature (secondary sensor)
73	SIG0		KG/CUM		F9.4		Density
74	SIG0_1		KG/CUM		F9.4		Density (secondary sensor)

ODV Format

Please see the following link for details of ODV Format and ODV Software.

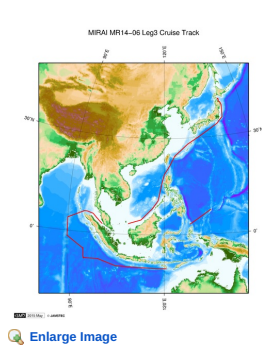
[Ocean Data View \(ODV\)](#)

Format Information

Column No.	Column Heading	Comments
1	Cruise	Cruise Label
2	Station	Station number_Cast number
3	Type	Station type
4	mon/day/yr	Cast date
5	hh:mm	Cast time
6	Latitude [degrees_north]	-
7	Longitude [degrees_east]	-
8	Bot. Depth [METERS]	Bottom depth
9	CTDDPT[METERS]	Depth
10	QF	Quality flags for CTD data
11	CTDPRS[DBAR]	Pressure
12	QF	Quality flags for CTD data
13	CTDTMP[ITS-90]	Temperature
14	QF	Quality flags for CTD data
15	CTDTMP_1[ITS-90]	Temperature (secondary sensor)
16	QF	Quality flags for CTD data
17	CTDSAL[PSS-78]	Salinity
18	QF	Quality flags for CTD data
19	CTDSAL_1[PSS-78]	Salinity (secondary sensor)
20	QF	Quality flags for CTD data
21	CTDCND[S/M]	Conductivity (primary sensor)
22	QF	Quality flags for CTD data
23	CTDCND_1[S/M]	Conductivity (secondary sensor)
24	QF	Quality flags for CTD data
25	SALNTY[PSS-78]	Bottle Salinity
26	QF	Quality flags for water samples
27	SALNTY_1[PSS-78]	Bottle Salinity (replicate)
28	QF	Quality flags for water samples
29	CTDOXY[UMOL/KG]	Oxygen_CTD
30	QF	Quality flags for CTD data
31	CTDOXY_1[UMOL/KG]	Oxygen_CTD (secondary sensor)
32	QF	Quality flags for CTD data
33	CTDOXV[V]	Oxygen_CTD voltage (primary sensor)
34	QF	Quality flags for CTD data
35	CTDOXV_1[V]	Oxygen_CTD voltage (secondary sensor)
36	QF	Quality flags for CTD data
37	OXYGEN[UMOL/KG]	Oxygen
38	QF	Quality flags for water samples
39	OXYGEN_1[UMOL/KG]	Oxygen (replicate)
40	QF	Quality flags for water samples
41	FLUOR[MG/CUM]	Fluorescence
42	QF	Quality flags for CTD data
43	SILCAT[UMOL/KG]	Silicate
44	QF	Quality flags for water samples
45	SILCAT2[UMOL/KG]	Silicate (replicate)
46	QF	Quality flags for water samples
47	SILCAT_AVE[UMOL/KG]	Silicate (average)
48	QF	Quality flags for water samples
49	NITRAT[UMOL/KG]	Nitrate
50	QF	Quality flags for water samples
51	NITRAT2[UMOL/KG]	Nitrate (replicate)
52	QF	Quality flags for water samples
53	NITRAT_AVE[UMOL/KG]	Nitrate (average)
54	QF	Quality flags for water samples
55	NITRIT[UMOL/KG]	Nitrite
56	QF	Quality flags for water samples
57	NITRIT2[UMOL/KG]	Nitrite (replicate)
58	QF	Quality flags for water samples
59	NITRIT_AVE[UMOL/KG]	Nitrite (average)
60	QF	Quality flags for water samples
61	PHSPHT[UMOL/KG]	Phosphate
62	QF	Quality flags for water samples
63	PHSPHT2[UMOL/KG]	Phosphate (replicate)
64	QF	Quality flags for water samples
65	PHSPHT_AVE[UMOL/KG]	Phosphate (average)
66	QF	Quality flags for water samples
67	CHLWEL_FLAG_W	Chlorophyll a

Column No.	Column Heading	Comments
68	QF	Quality flags for water samples
69	CHLWEL_1[UG/L]	Chlorophyll a (replicate)
70	QF	Quality flags for water samples
71	THETA[DEG C]	Potential temperature
72	QF	Quality flags for CTD data
73	THETA_1[DEG C]	Potential temperature (secondary sensor)
74	QF	Quality flags for CTD data
75	SIG0[KG/CUM]	Density
76	QF	Quality flags for CTD data
77	SIG0_1[KG/CUM]	Density (secondary sensor)
78	QF	Quality flags for CTD data
79	SAMPNO	Sample Number
80	QF	Bottle quality flags

Related Information



[Enlarge Image](#)

MR14-06 Leg3

Ship Name: MIRAI
Period: 2015-01-22 - 2015-02-25
Chief Scientist: Iwao Ueki (JAMSTEC)
Proposal ▶ Study of structure and formation process of the Ontong Java Plateau
Title:

Update History

2019-05-08	An observation data was registered.
2018-01-25	An observation data was registered.
2017-07-28	An observation data was registered.
2017-02-25	An observation data was registered.

JAMSTEC

Site Policy
Privacy Policy
Application for Data and Samples
Data Policy
What's New
Update History
Feeds

Lists

Publication List
Amount of Public Info.
Data
Map Search
Data Tree
Detailed Search

Information of the Ships

NATSUSHIMA
KAIYO
YOKOSUKA
MIRAI
KAIREI
CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

Information of the Submersibles

KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW
HYPER-DOLPHIN
URASHIMA
YOKOSUKA DEEP TOW
6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB
SAMPLER (SHELL)
POWER GRAB
SAMPLER (CLOW)
BMS

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

Dive ID:

Copyright 2011 Japan Agency for Marine-Earth Science and Technology

 **JAMSTEC** 国立研究開発法人
海洋研究開発機構
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

MIRAI MR14-06 Leg3 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-05-08

[ReadMe](#) [Observation Data](#) [Data Format](#) [Quality Information](#)

Cruise ID: [MR14-06 Leg3](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

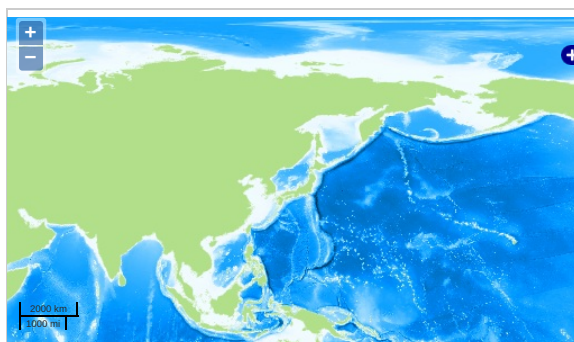
Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen, Fluorescence, Silicate, Nitrate, Nitrite, Phosphate, Chlorophyll, Potential temperature, Density

Science Keywords:

OCEANS > OCEAN CHEMISTRY > NITRATE
OCEANS > OCEAN CHEMISTRY > NUTRIENTS
OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN CHEMISTRY > PHOSPHATE
OCEANS > OCEAN CHEMISTRY > SILICATE
OCEANS > OCEAN CHEMISTRY > SALINITY
OCEANS > OCEAN CHEMISTRY > CHLOROPHYLL
OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY
OCEANS > OCEAN OPTICS > FLUORESCENCE
OCEANS > OCEAN TEMPERATURE > POTENTIAL TEMPERATURE

Observation Map



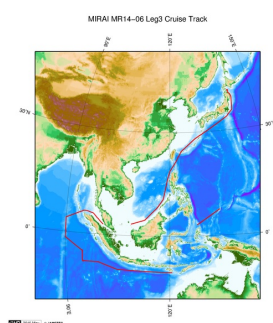
— ... Observation Line — ... Navigation ● ... Observation, Dive Point, Hole

Imagery reproduced from ...

Data List

☐ **File names**
☐ MR140603_ex_bot.csv
☐ MR140603_odv_bot.txt

Related Information



[Enlarge Image](#)

MR14-06 Leg3

Ship Name: MIRAI

Period: 2015-01-22 - 2015-02-25

Chief Scientist: Iwao Ueki (JAMSTEC)

Proposal ▶ Study of structure and formation process of the Ontong Java Plateau

Title:

Update History

2018-05-08	An observation data was registerd.
2018-01-25	An observation data was registerd.
2017-07-28	An observation data was registerd.
2017-02-25	An observation data was registerd.

Cruise ID:

Dive ID:

Feeds

SHINSEI MARU
HAKUHO MARU

YOKOSUKA DEEP TOW
6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB SAMPLER
(SHELL)
POWER GRAB SAMPLER
(CLOW)
BMS

Copyright 2011 Japan Agency for Marine-Earth Science and
Technology



JAMSTEC 国立研究開発法人
海洋研究開発機構
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY