



CRUISE REPORT ON RESEARCH ACTIVITY

M.V.SEAFDEC 2 Cruise No. 12-6/2005

2 – 23 July 2005

**Training for Human Resources Development (HRD) on Marine
Capture Fisheries in the BIMP-EAGA Region
West Coast of Sabah, Malaysia**

TD/RP/90

This report is based on preliminary data

For readers who may need data in the report, please contact to:

**Southeast Asian Fisheries Development Center
Training Department**

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Cruise report on Research Activity

1. Cruise Summary

Vessel name: MV.SEAFDEC2
Cruise no.: 12-6/2005 **Leg no:** -
Duration: 2-23 July 2005 (22 days)
Project Title:
Objective: Training for Human Resources Development (HRD) on marine Capture Fisheries in the BIMP-EAGA Region
Covered water: West Coast of Sabah, Malaysia
Latitude 05° 45' .00 N-07° 05' .00 N
Longitude 114° 40' .00 E-115° 52' .00 E
Port of call: Labuan and Kota Kinabaru, Malaysia
Main activity:
1. Practice on demersal fish samplings in the un-trawlable ground (Continental shelf and rocky grounds) using Bottom Vertical Long-line (BVL) and Trap fishing gear
2. Analysis on Distribution, composition and abundance of demersal fish
3. Practice on pelagic fish sampling from shore where deep sea (beyond 50-80 m from shore where depth is deeper than 200 m)
4. Oceanographic practice by ICTD
5. Practice on plankton and larvae collection using Bongo net

2. List of researcher and ship staff

Ship personnel

No.	Position	Name
1	Captain	Mr. Tossaporn Sukhapindha
2	Chief engineer	Mr. Veerachai Chettasumon
3	Second officer	Mr. Suren Pruksarat
4	Third officer	Mr. Somphote Vudthipanyo
5	Apprentice navigator	Mr. Anurak Loog-on
6	Second engineer	Mr. Komson Sangphuek
7	Boatswain	Mr. Vudthirat Vudthipanyo
8	Steerman	Mr. Pradit Kui-prasert
9	Steerman	Mr. Tana Rungjoy
10	Able seaman	Mr. Somkiat Phetrastien
11	Fitter	Mr. Vallop Phimroom
12	Oiler	Mr. Plew Shodok
13	Oiler	Mr. Boontarin Wara-in
14	Cook	Mr. Saichol Kornnoom
15	Ship's boy	Mr. Phaithoon Sriratanaphon
16	Assist. Master fisherman	Mr. Aussawin Buachuay

SEAFDEC Researchers

No.	Position	Name
17	Chief/Scientist	Mr. Isara Chanrachkij
18	Researcher	Mr. Narong Ruangsvakul
19	Assist. Researcher	Mr. Sukchai Arnupapboon
20	Assist. Researcher	Mr. Nakaret Yasook

DOF/Malaysia Researchers

No.	Position	Name
21	Researcher	Dr. Ahemed Sade
22	Researcher	Mr. Irman Isnain
23	Researcher	Mr. Binjamin Martin
24	Researcher	Mr. Guraim Gueh
25	Researcher	Mr. Calvin Morres
26	Researcher	Mr. Jamlidin Manap
27	Researcher	Mr. Chin Tet Foh
28	Researcher	Mr. Kamaruddin Othman
29	Researcher	Mr. Zainal Abidin Kando
30	Researcher	Mr. Lim Kui Poh @ Peter Lim
31	Researcher	Mr. Kamal Hj Salleh

3. Observation Summary

Oceanographic survey summary

Thirteen oceanographic stations along west coast of Sabah, Malaysia were conducted through this cruise. Each station conducted with 2 main activities including physical and biological oceanographic survey. The equipments that were used in each station and data file name were shown in table no. 1

ICTD (SeaBird 911)

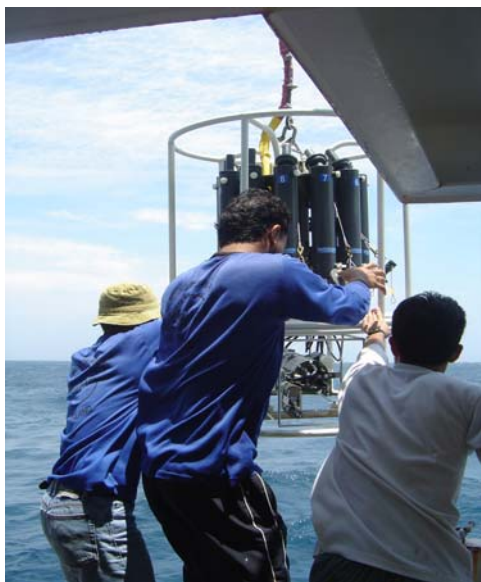


Fig. 1 Deploying of ICTD

M.V. SEAFDEC 2 ICTD systems compose with main three sensors for conductivity, temperature and depth, and four auxiliary sensors for dissolved oxygen, pH, chlorophyll fluorometer and PAR. The ICTD was lowered from the ship through the water from surface to 10 m. above sea bottom approximately with constant velocity 0.5 m/s and retrieved to sea surface at the same speed.

All ICTD data were average into every 1 meter interval. Data in each station were divided into down cast and up cast and profile of temperature, salinity, dissolve oxygen, pH and fluorescence chlorophyll-a in each station are shown in **Ap. I**.

During retrieved ICTD, Carousel water sample (Niskin Bottles) which is a part of CTD system were used to collect water sampler from standard depth. The water sample then were filter through Whatman GFC filter paper and stored in the freezer at -40 °C for nutrient (nitrite, nitrate, phosphate and silicate) analysis at SEAFDEC/Training Department laboratory, All samples will be analyzed as soon as it is possible. Then data will be sent to Indonesian national coordinator.

Remark: Profiles of most physical oceanographic data were plotted from down. Due to oxygen data showing a bit of irregular pattern (Apx. II), thus Oxygen data could not be used unit we can solve the problem (problem maybe cause from converting process)

Thermosalinograph with Fluorometer (TSG-Fluorometer)

TSG – Fluorometer were operated when MV.SEAFDEC2 cruising along the cruise track. Its system was designed to continuously record three parameters including temperature, salinity and fluorescence chlorophyll-a from underway vessel at approximately 5 meters below the sea surface. The data were average every 6 second.

Bongo net equipped with flowmeter:

Plankton net consisted of zoo plankton net and larvae net with mesh size were 330 μm and 500 μm , respectively. They were attached to 60 cm. diameter bongo frames. A flowmeter was attached at the aperture of net to measure the water volume passing through the net.

Quality of water (m^3) per one flowmeter revolution in front of zooplankton at station number was 0.0336 rpm^3 , and Quality of water (m^3) per one flowmeter revolution in front of larvae was 0.0094 rpm^3 in all station.

At each station a 30 minutes oblique tow of the bongo net was made with the ship speed 1.5-2 knots approximately. The depth of haul was from surface to 10-15 meters above the sea bottom or 140 meters for the station that was too deep, exceed 150 meters. The samples were preserved in 5% buffered formalin-seawater immediately.

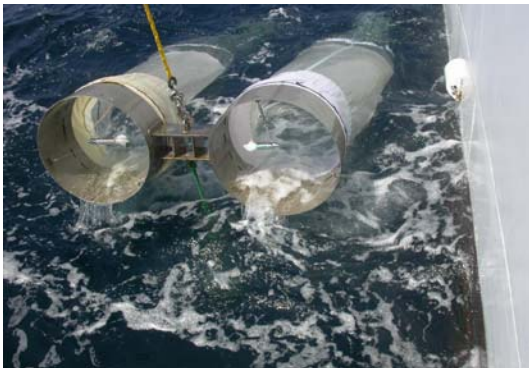


Fig. 2 Bongo net operation

Table 1. Partial detail of oceanographic survey stations of cruise no.12-6/2005

St.No. (Seafdec)	St.No. (Malaysia)	Date	Time (Malaysia)	Latitude	Longitude	Oceanographic instruments			Transparency		Bottom Depth (m)	Remark
						SBE CTD	TSG	TD	Secchi disc (m)	Foral scale		
1	1	8-Jul-05	09:02	05_47.85 N	114_57.55 E	S2d12001, S2u12001	20050708(1)	-	✓	✓	71	
2	2	8-Jul-05	14:12	05_59.53 N	114_53.71 E	S2d12002, S2u12002	20050708(2)	-	✓	✓	240	
3	3	9-Jul-05	08:12	06_08.45 N	115_02.84 E	S2d12003, S2u12003	20050709(1)	-	✓	✓	177	
4	4	9-Jul-05	16:45	06_15.52 N	115_12.54 E	S2d12004, S2u12004	20050710(1)	-	✓	✓	139	
5	5	10-Jul-05	16:00	06_25.98 N	115_23.36 E	S2d12005, S2u12005	20050712(1)	-	✓	✓	121	
6	9	14-Jul-05	08:07	06_59.08 N	115_49.20 E	S2d12006, S2u12006	20050714(1)	-	✓	✓	250	
7	10	14-Jul-05	14:25	06_57.92 N	115_42.26 E	S2d12007, S2u12007	20050714(2)	-	✓	✓	450	
8	11	14-Jul-05	18:00	06_44.35 N	115_24.61 E	S2d12008, S2u12008	20050715(1)	07151630	✓	✓	687	
9	12	15-Jul-05	15:00	06_30.42 N	115_15.10 E	S2d12009, S2u12009	20050715(2)	-	✓	✓	887	
10	13	15-Jul-05	18:10	06_15.31 N	115_00.80 E	S2d12010, S2u12010	20050715(3)	-	-	-	860	dim climate
11	14	16-Jul-05	08:05	06_07.73 N	114_31.73 E	S2d12011, S2u12011	20050716(1)	07161688	-	-	>2000	Raining
12	15	16-Jul-05	15:17	05_55.99 N	114_33.05 E	S2d12012, S2u12012	20050716(2)	-	-	-	1052	Raining
13	16	17-Jul-05	08:03	06_24.45 N	114_44.54 E	S2d12013, S2u12013	20050718(1)	0771588	-	-	>2000	Raining

Fishing survey summary

In this survey, fishing operation was divided into 4 kinds of gear that are 1) Bottom Vertical Longline 2) Pelagic Longline 3) Trap and 4) Squid Jigging.

Bottom Vertical Longline

This type of fishing gear was operated 6 stations in the survey area. The maximum catch (in weight) was 35.2 kg in station no. 3. The partial detail of bottom vertical longline fishing survey is shown in Table 2.

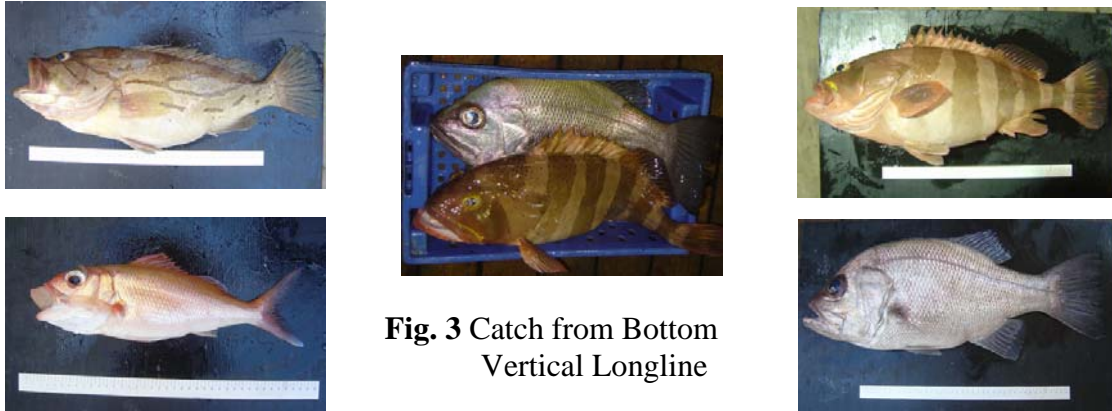


Fig. 3 Catch from Bottom Vertical Longline

Pelagic Longline

This type of fishing gear was operated 4 stations in the survey area. The maximum catch (in weight) was 123.20 kg in station no. 3. The partial detail of pelagic longline fishing survey is shown in Table 3.



Fig. 4 Catch from Pelagic Longline

Trap

This type of fishing gear was operated 6 stations in the survey area. The maximum catch (in weight) was 53.66 kg in station no. 5. The partial detail of trap fishing survey is shown in Table 4.

Squid Jigging

This type of fishing gear was operated 2 stations in the survey area. The maximum catch (in weight) was 0.40 kg in station no. 1 and there was no target species caught in station no. 2. The partial detail of squid jigging fishing survey is shown in Table 5.

Table 2. Partial detail of Bottom Vertical Longline fishing survey of cruise no.12-6/2005

Station no.		Shooting		Hauling		Total hook number	Immersion time	Total catch	
		Start	Finish	Start	Finish			No. (pcs.)	Weight (kg)
1	Date	7/7/2005	7/7/2005	8/7/2005	8/7/2005	720	10 hrs 32 min	7	10.500
	Time	1832	1906	0640	0745				
	Latitude	05°47'.85 N	05°46'.92 N	05°46'.95 N	05°47'.83 N				
	Longitude	114°58'.98 E	114°57'.94 E	114°58'.12 E	114°58'.96 E				
2	Date	8/7/2005	8/7/2005	8/7/2005	8/7/2005	702	4 hrs 05 min	4	10.800
	Time	1324	1405	1810	1918				
	Latitude	06°01'.00 N	05°59'.50 N	05°59'.80 N	06°00'.70 N				
	Longitude	114°54'.40 E	114°53'.60 E	114°53'.90 E	114°54'.50 E				
3	Date	9/7/2005	9/7/2005	9/7/2005	9/7/2005	720	4 hrs 46 min	37	35.200
	Time	0712	0752	1158	1303				
	Latitude	06°08'.18 N	06°09'.50 N	06°09'.20 N	06°08'.40 N				
	Longitude	115°03'.03 E	115°04'.00 E	115°04'.00 E	115°03'.40 E				
4	Date	10/7/2005	10/7/2005	10/7/2005	10/7/2005	720	3 hrs 53 min	11	3.400
	Time	0607	0650	1000	1108				
	Latitude	06°15'.80 N	06°17'.20 N	06°16'.90 N	06°16'.00 N				
	Longitude	115°12'.00 E	115°12'.70 E	115°12'.70 E	115°12'.10 E				
5	Date	10/7/2005	10/7/2005	11/7/2005	11/7/2005	720	3 hrs 18 min	40	29.069
	Time	0608	0642	1000	1107				
	Latitude	06°25'.73 N	06°27'.15 N	06°25'.80 N	06°26'.90 N				
	Longitude	115°24'.15 E	115°25'.18 E	115°23'.90 E	115°25'.00 E				
6	Date	11/7/2005	11/7/2005	11/7/2005	11/7/2005	720	4 hrs 10 min	15	12.900
	Time	1320	1350	1800	1912				
	Latitude	06°25'.10 N	06°26'.50 N	06°25'.24 N	06°26'.30 N				
	Longitude	115°23'.50 E	115°24'.30 E	115°22'.96 E	115°24'.10 E				

Table 3. Partial detail of Pelagic Longline fishing survey of cruise no.12-6/2005

Station No.		Shooting		Hauling		Total hook number	Immersion Time	Total catch	
		Start	Finish	Start	Finish			No. (pcs.)	Weight (kg)
1	Date	14/7/2005	14/7/2005	14/7/2005	14/7/2005	329	5 hrs 2 min	3	52.10
	Time	0515	0651	1153	1350				
	Latitude	07°03'.90 N	06°55'.52 N	06°55'.90 N	07°01'.60 N				
	Longitude	115°51'.12 E	115°49'.56 E	115°48'.80 E	115°46'.00 E				
2	Date	15/7/2005	15/7/2005	15/7/2005	15/7/2005	387	5 hrs 9 min	3	35.70
	Time	0435	0638	1147	1354				
	Latitude	06°42'.52 N	06°41'.80 N	06°39'.70 N	06°40'.60 N				
	Longitude	115°21'.40 E	115°11'.10 E	115°10'.60 E	115°18'.30 E				
3	Date	16/7/2005	16/7/2005	16/7/2005	16/7/2005	401	5 hrs 14 min	8	123.20
	Time	0445	0642	1156	1410				
	Latitude	06°06'.46 N	06°07'.10 N	06°05'.80 N	06°05'.60 N				
	Longitude	114°41'.97 E	114°31'.72 E	114°40'.00 E	114°31'.50 E				
4	Date	17/7/2005	17/7/2005	17/7/2005	17/7/2005	455	5 hrs 3 min	1	2.20
	Time	0444	0645	1148	1427				
	Latitude	06°16'.67 N	06°23'.36 N	06°22'.00 N	06°16'.80 N				
	Longitude	114°36'.62 E	114°44'.59 E	114°45'.00 E	114°38'.20 E				

Table 4. Partial detail of Trap fishing survey of cruise no.12-6/2005

Station no.		Shooting		Hauling		Total no. of trap	Immersion time	Total catch	
		Start	Finish	Start	Finish			No. (pcs.)	Weight (kg)
1	Date	7/7/2005	7/7/2005	8/7/2005	8/7/2005	100	13 hrs 25 min	7	3.24
	Time	1800	1827	0752	0845				
	Latitude	05°46'.70 N	05°48'.02 N	05°47'.98 N	05°46'.95 N				
	Longitude	114°57'.80 E	114°58'.80 E	114°58'.76 E	114°58'.02 E				
2	Date	8/7/2005	8/7/2005	8/7/2005	8/7/2005	100	6 hrs 30 min	303	18.23
	Time	1245	1827	1952	2120				
	Latitude	05°59'.30 N	06°00'.60 N	05°59'.40 N	06°00'.30 N				
	Longitude	114°54'.40 E	114°55'.30 E	114°54'.60 E	114°52'.20 E				
3	Date	9/7/2005	9/7/2005	9/7/2005	9/7/2005	100	6 hrs 30 min	50	15.30
	Time	0640	0707	1310	1423				
	Latitude	06°09'.24 N	06°08'.10 N	06°08'.10 N	06°09'.10 N				
	Longitude	115°04'.42 E	115°03'.48 E	115°03'.60 E	115°04'.30 E				
4	Date	9/7/2005	9/7/2005	10/7/2005	10/7/2005	100	12 hrs 25 min	325	24.17
	Time	1811	1835	0802	0919				
	Latitude	06°15'.43 N	06°16'.10 N	06°15'.62 N	06°16'.72 N				
	Longitude	115°12'.46 E	115°12'.96 E	115°12'.50 E	115°13'.06 E				
5	Date	10/7/2005	10/7/2005	11/7/2005	11/7/2005	100	13 hrs 40 min	204	53.66
	Time	1750	1820	0800	0908				
	Latitude	06°26'.28 N	06°27'.08 N	06°26'.04 N	06°26'.90 N				
	Longitude	115°23'.15 E	115°24'.11 E	115°23'.07 E	115°23'.90 E				
6	Date	11/7/2005	11/7/2005	11/7/2005	11/7/2005	100	15 hrs 35 min	104	4.25
	Time	1400	1425	0600	0725				
	Latitude	06°26'.70 N	06°25'.70 N	06°25'.77 N	06°26'.70 N				
	Longitude	115°23'.80 E	114°58'.80 E	115°22'.61 E	115°23'.60 E				

Table 5. Partial detail of Squid Jigging fishing survey of cruise no.12-6/2005

Station no.		Luring		Jigging		Total no. of Jig	Total jigging time	Total catch	
		Start	Finish	Start	Finish			No. (pcs.)	Weight (kg)
1	Date	14/7/2005	14/7/2005	14/7/2005	14/7/2005	100	2 hrs	2	0.40
	Time	1900	2200	2000	2200				
	Latitude			06°41'.88 N	06°39'.19 N				
	Longitude			115°22'.81 E	115°20'.94 E				
2	Date	15/7/2005	15/7/2005	16/7/2005	16/7/2005	100	1 hrs 30 min	0	0.00
	Time	2125	0200	0030	0200				
	Latitude			06°05'.90 N	06°05'.60 N				
	Longitude			114°42'.40 E	114°41'.80 E				

Fig. 3 Cruise track map: cruise no.12-6/2005

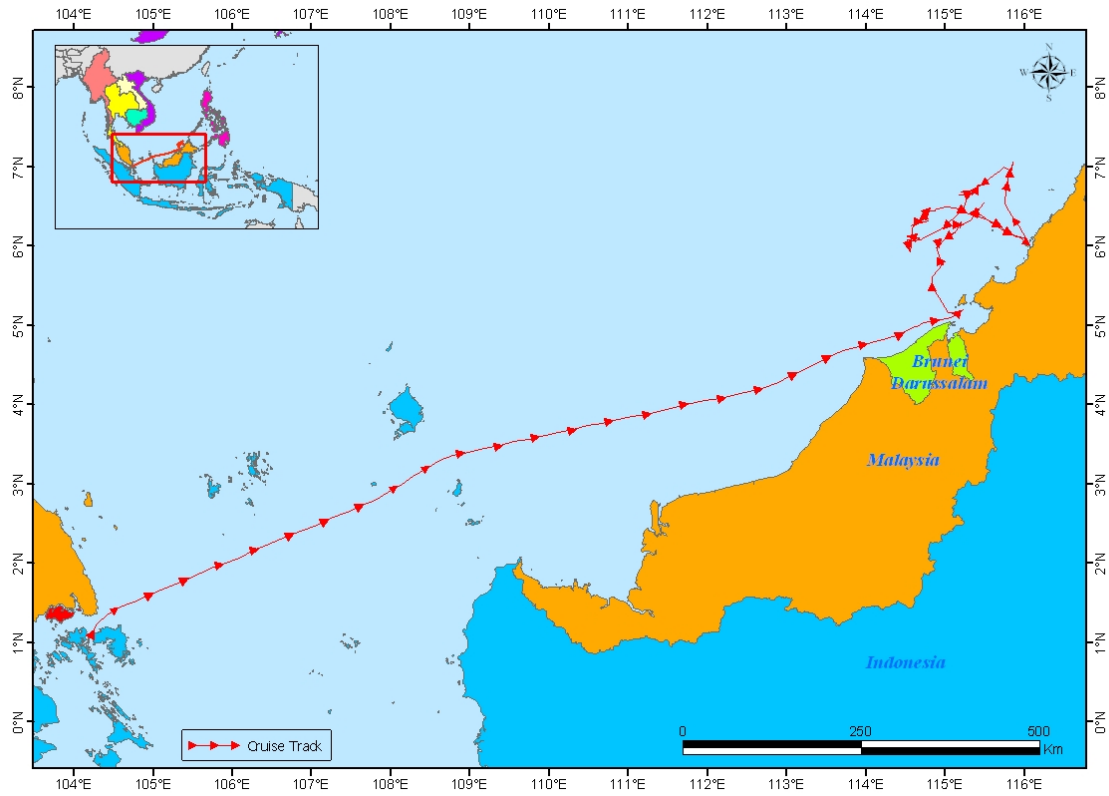
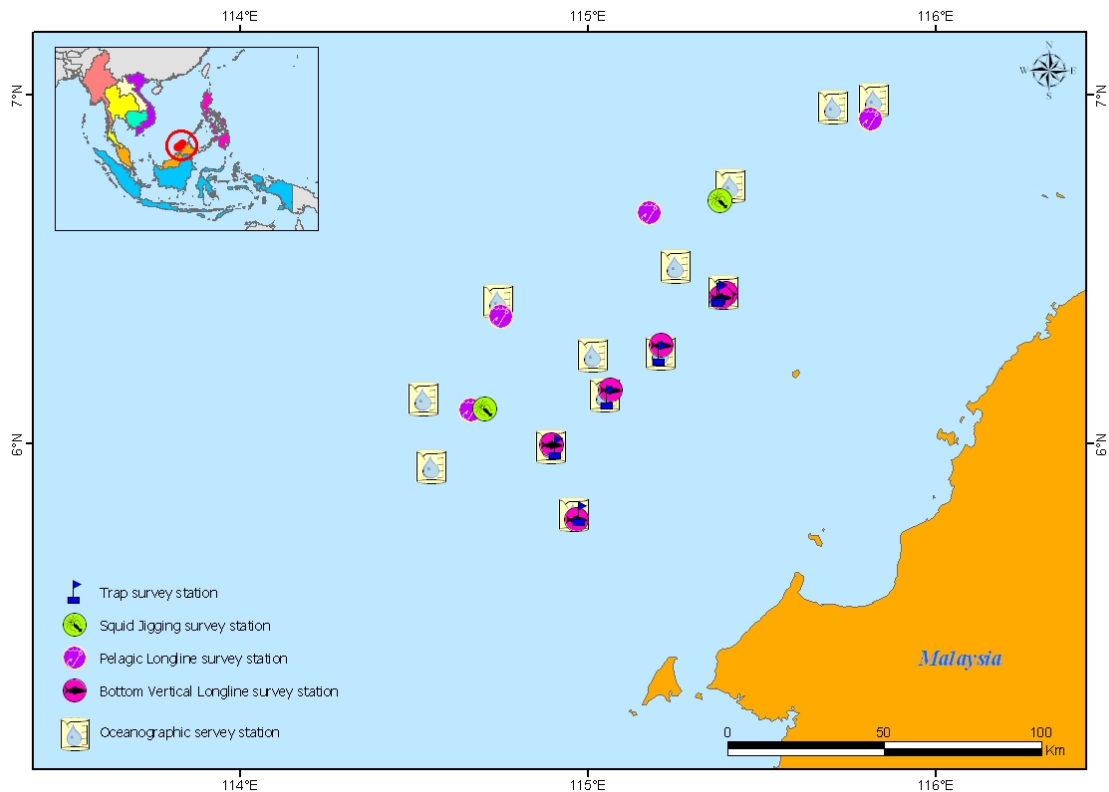
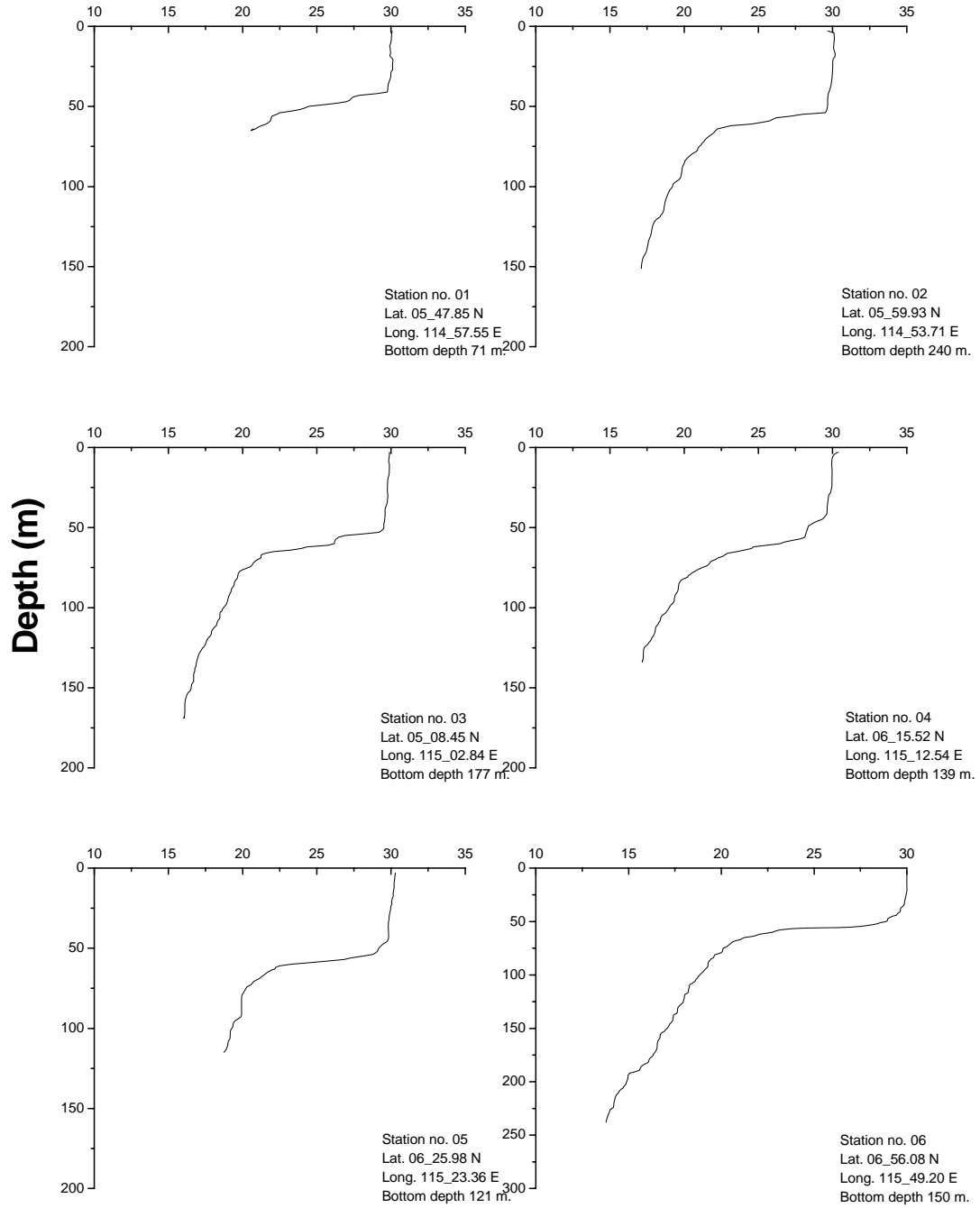


Fig. 4 Oceanographic and Fishing survey stations of cruise no.12-6/2005

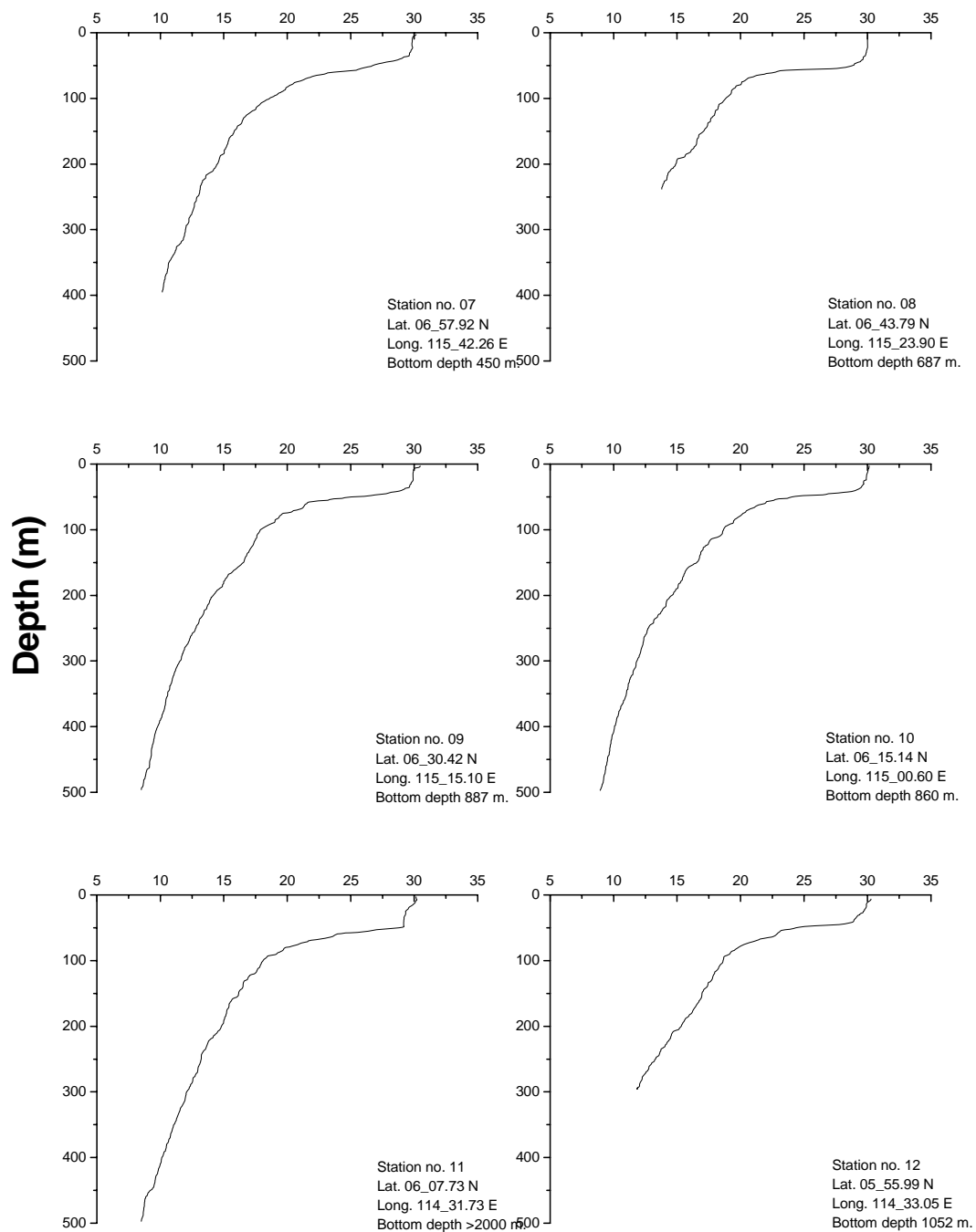


Appendix I

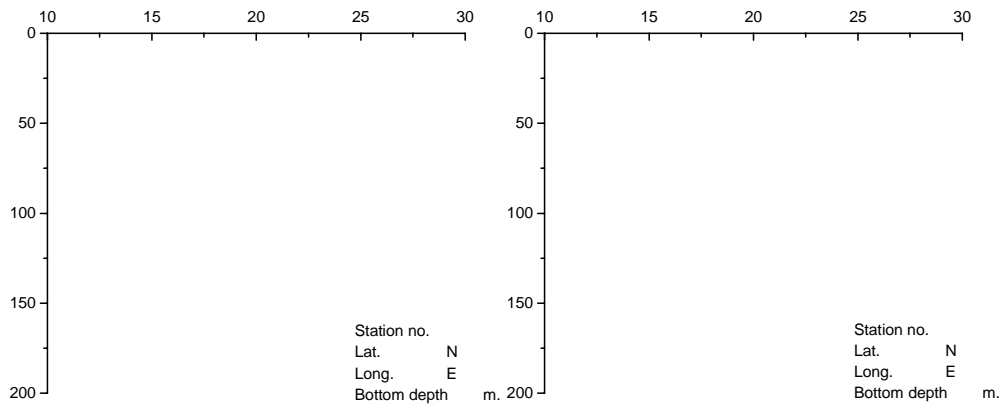
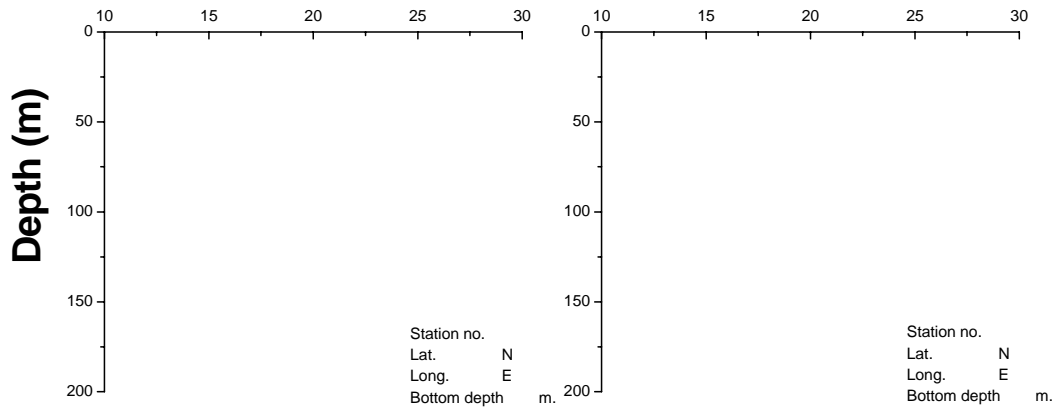
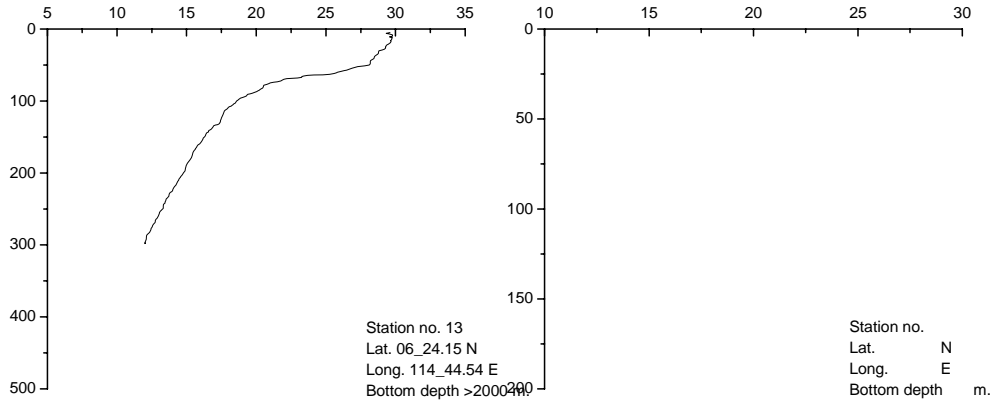
Temperature (°C)



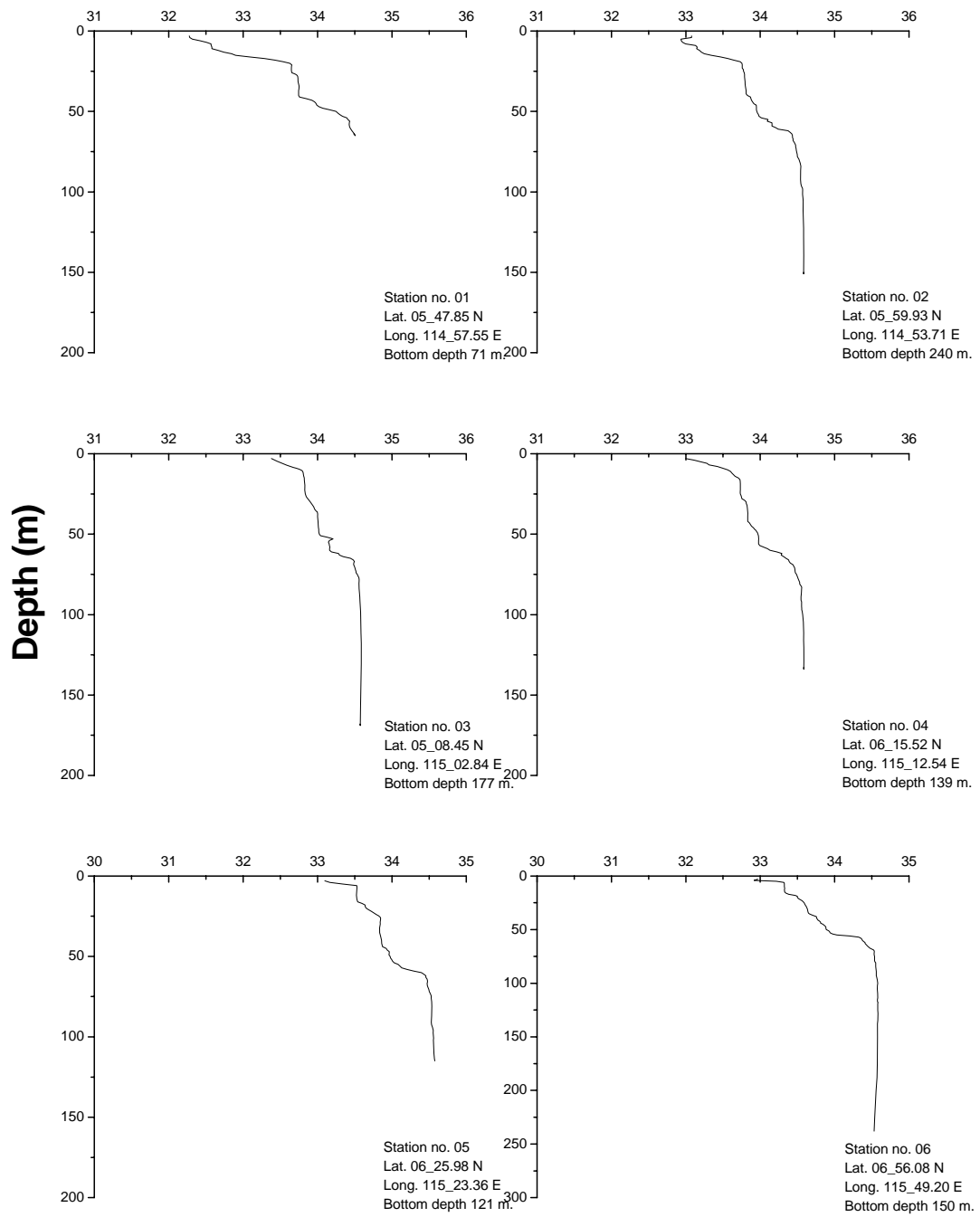
Temperature (°C)



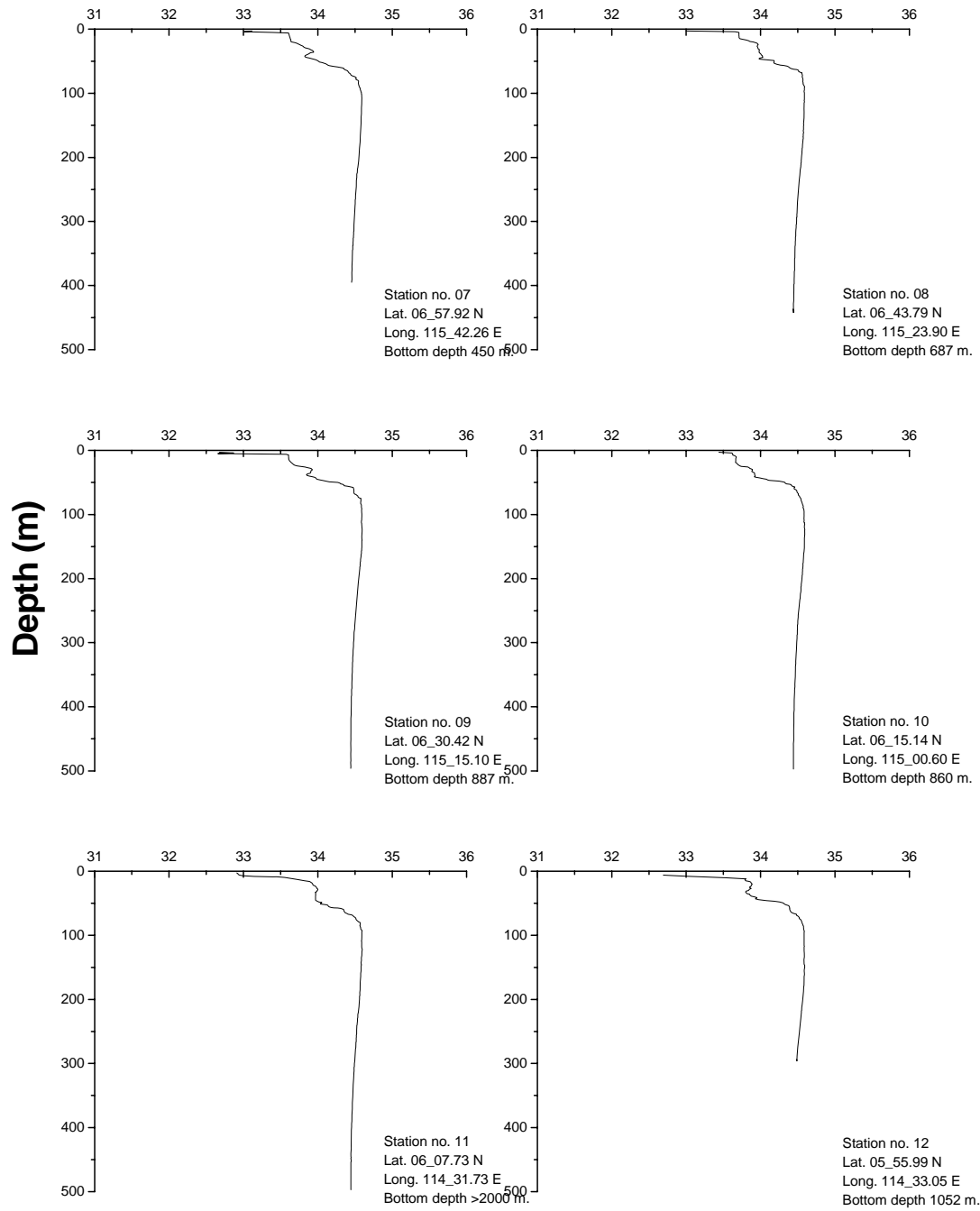
Temperature (°C)



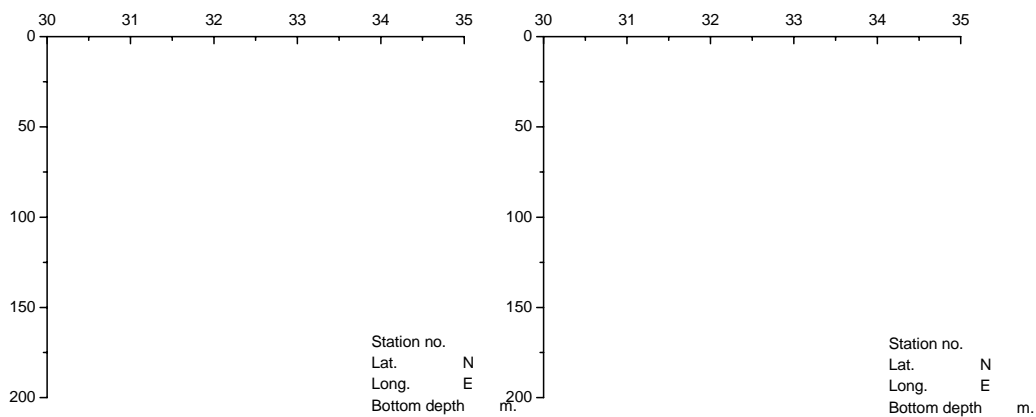
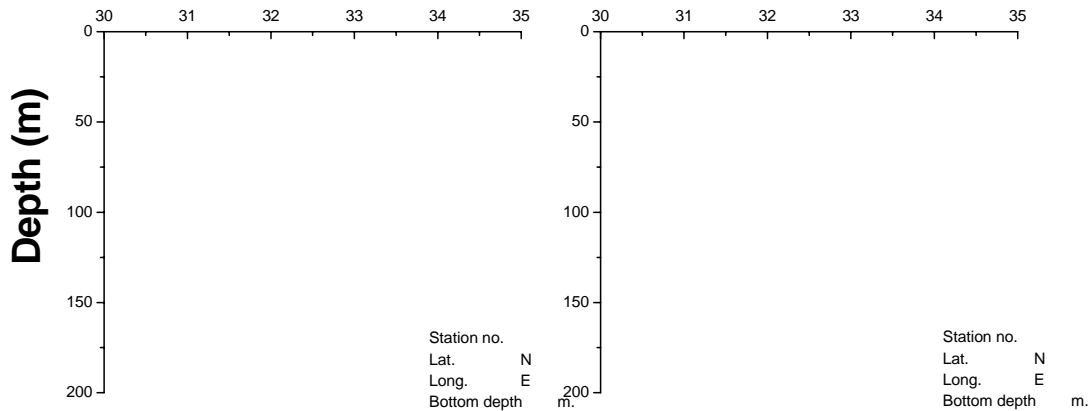
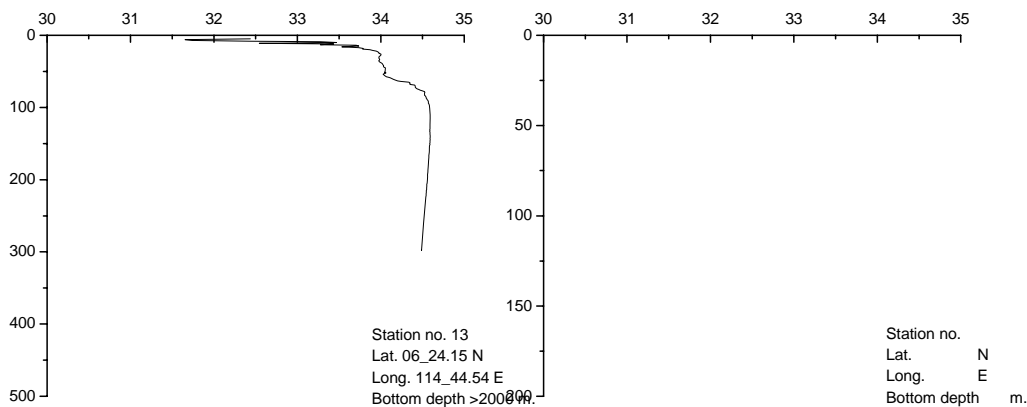
Salinity (PSU)



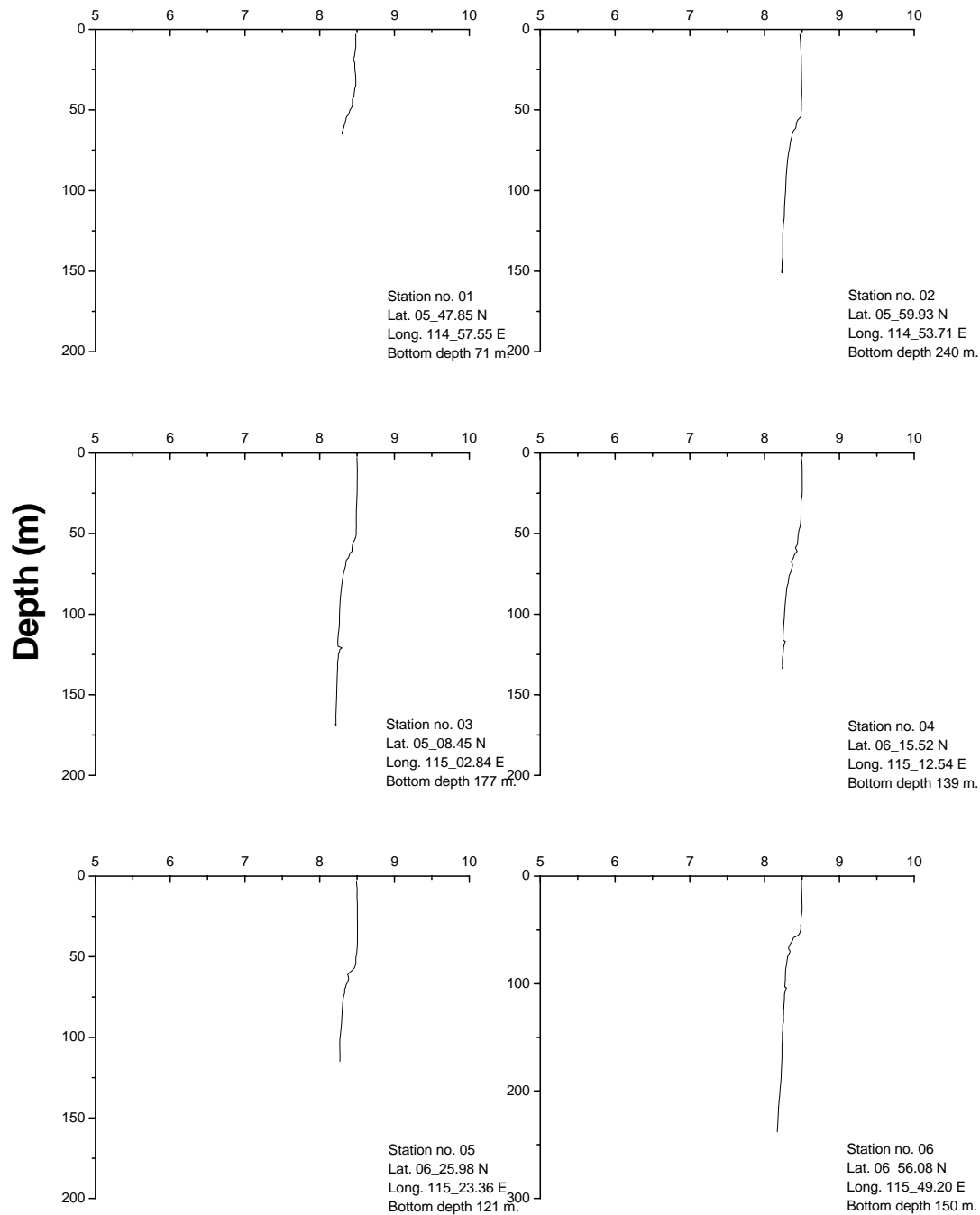
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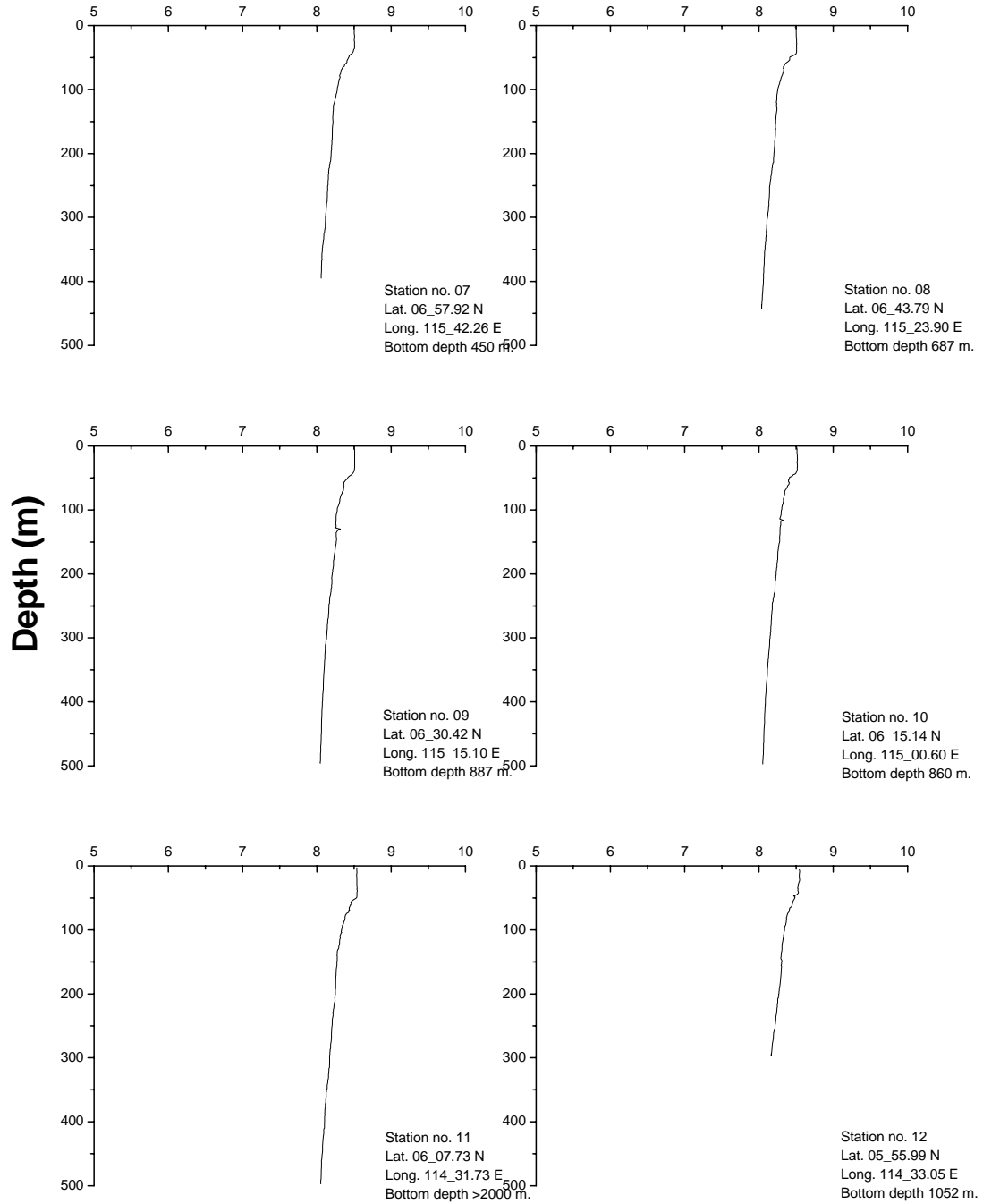
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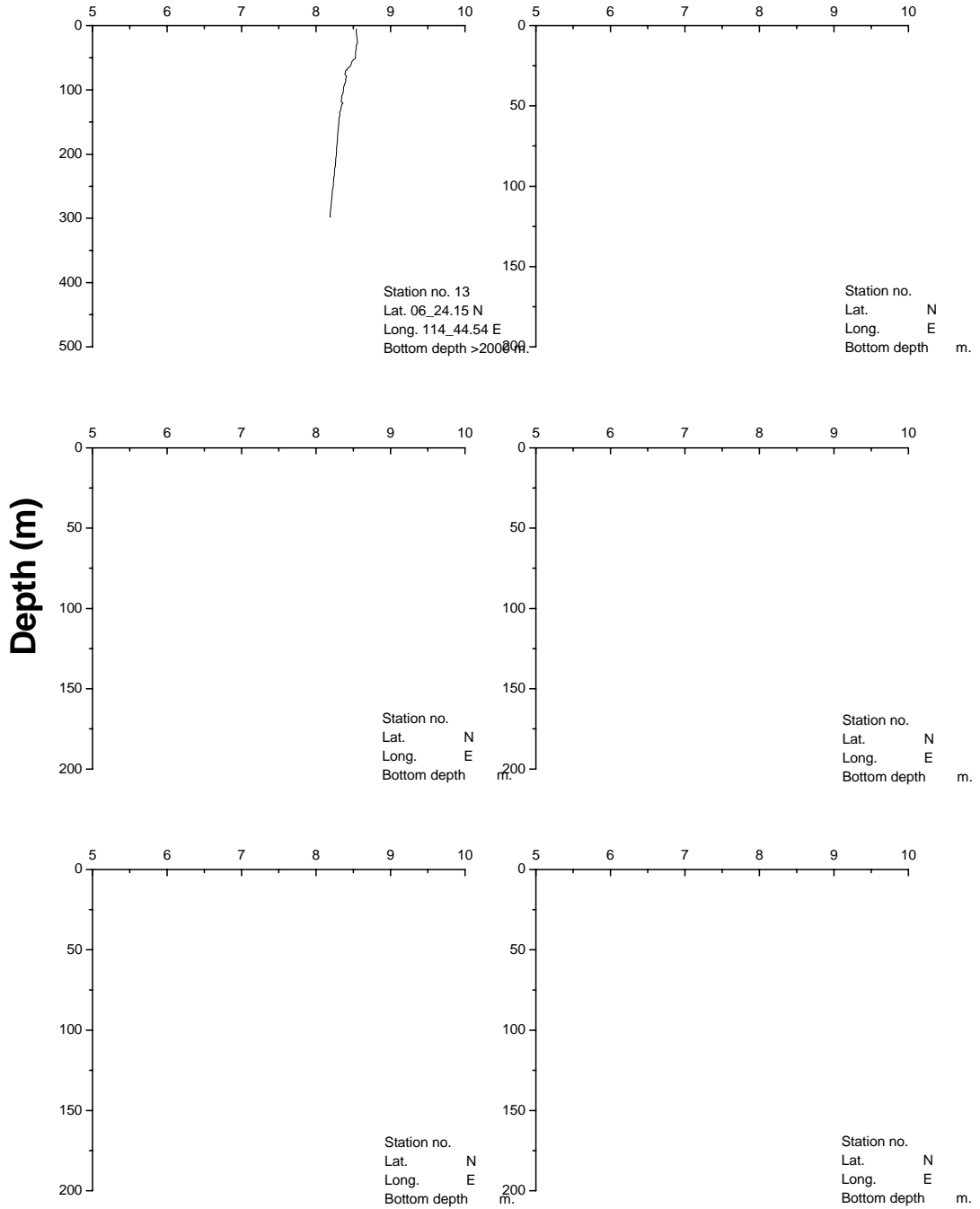
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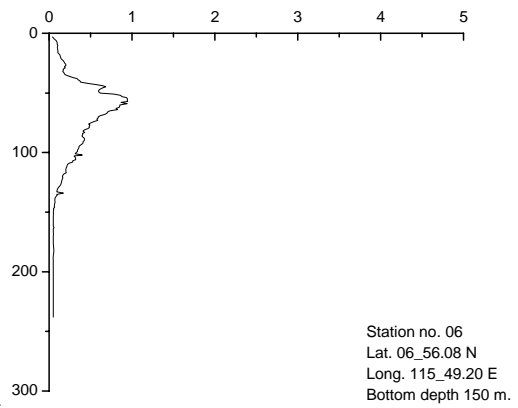
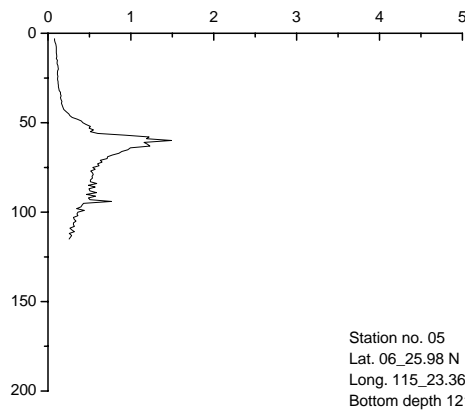
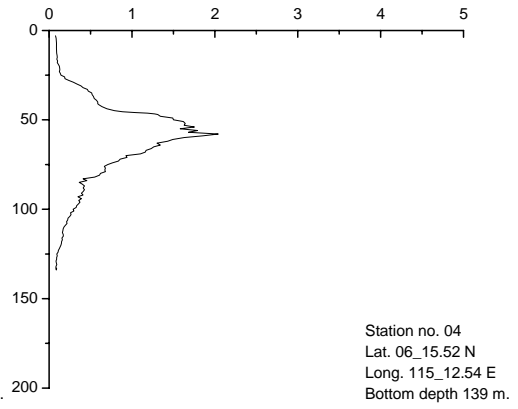
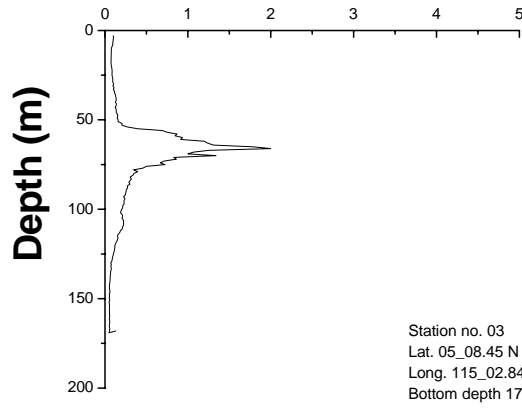
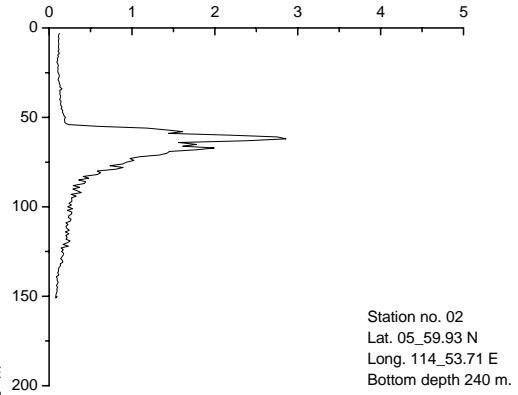
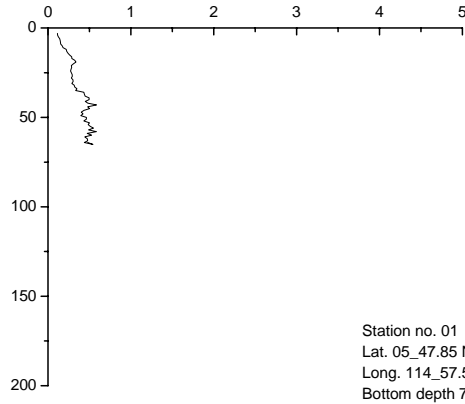
pH



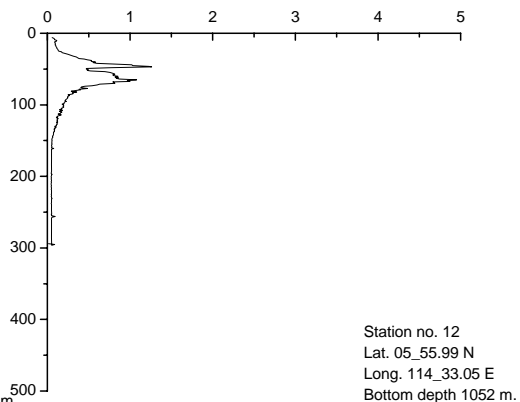
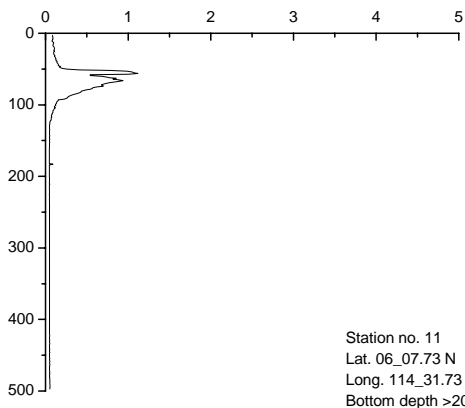
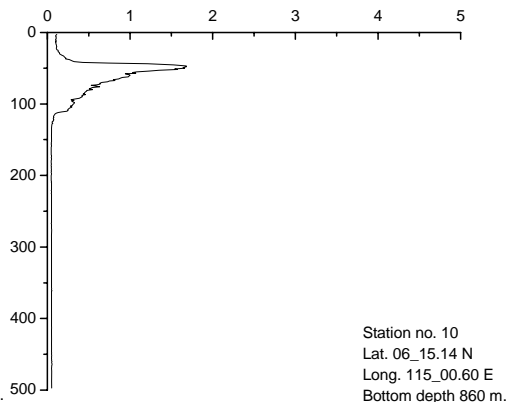
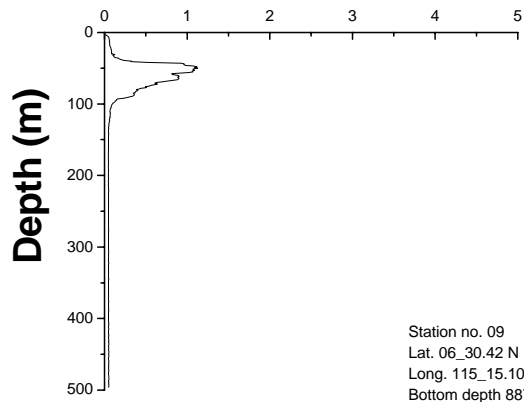
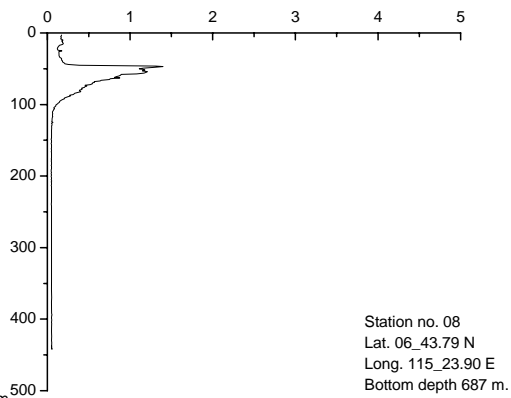
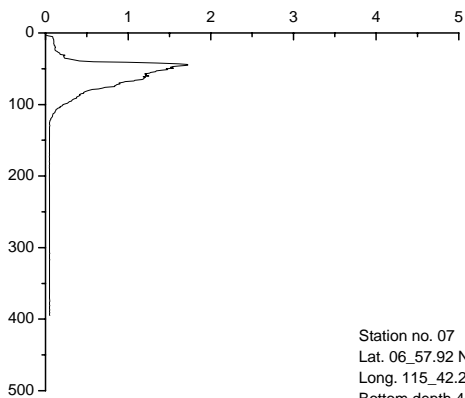
pH



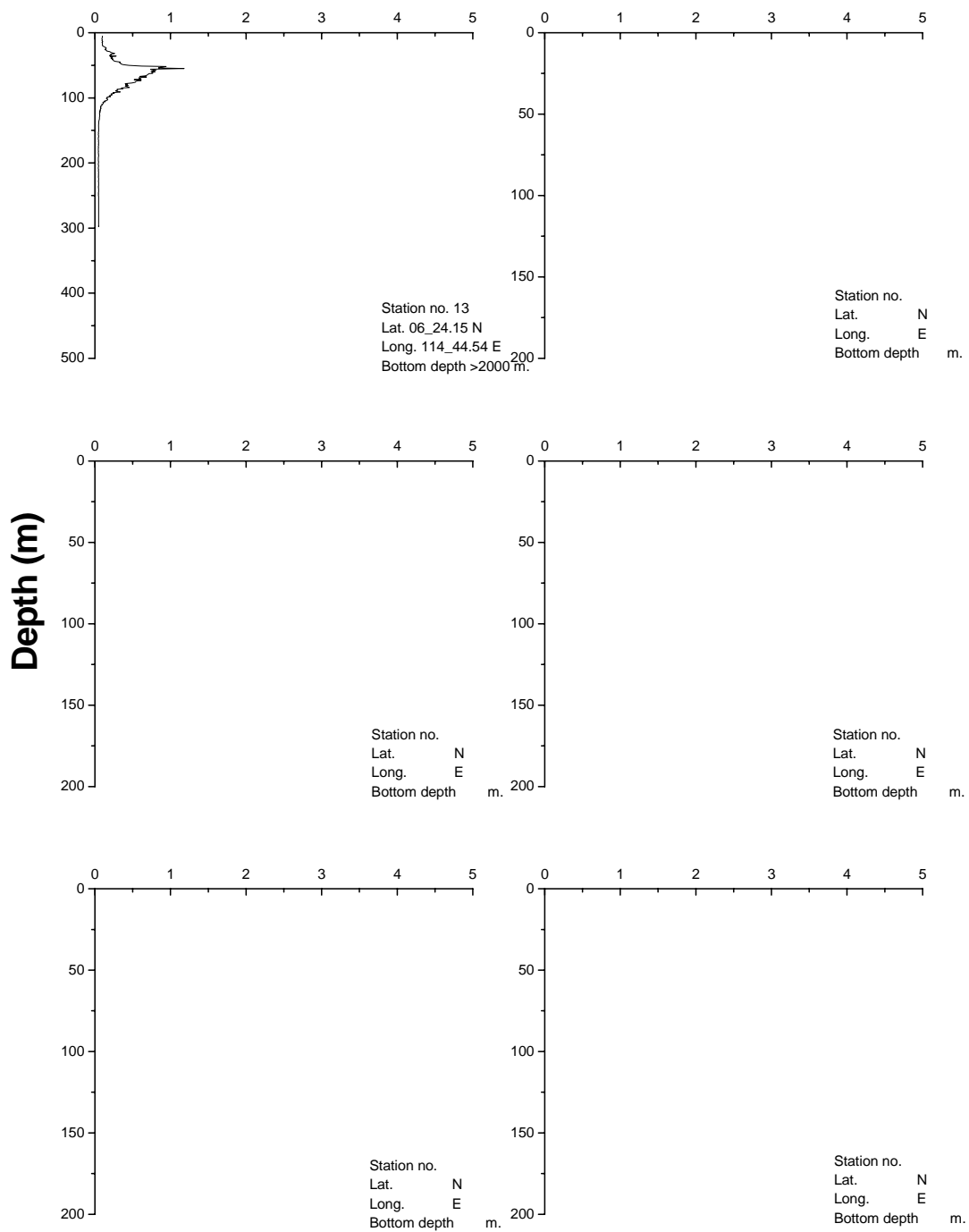
Fluorescence



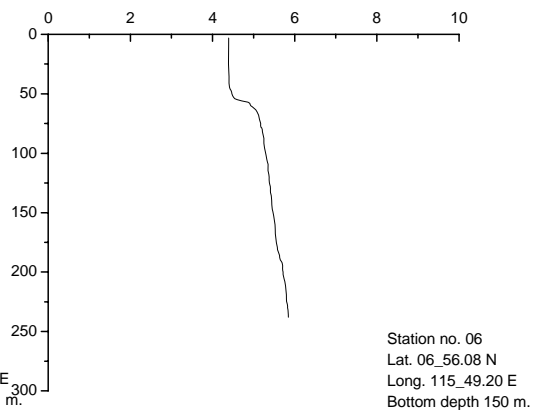
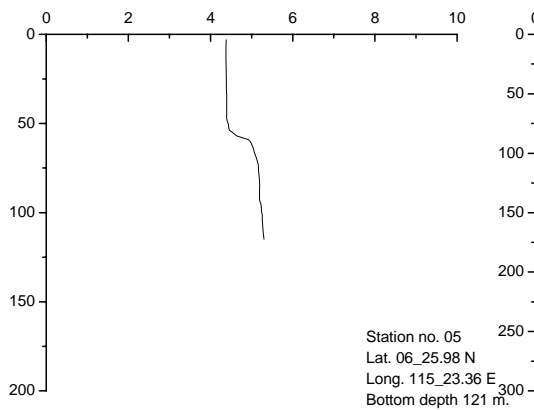
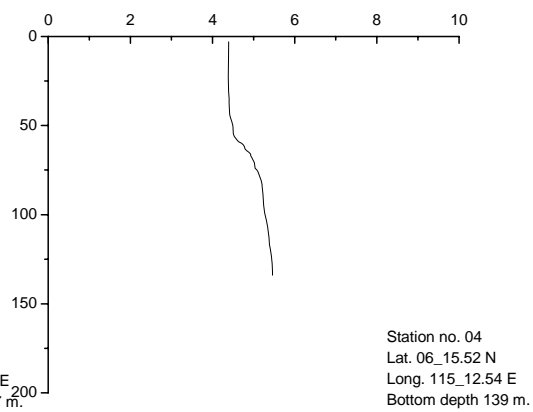
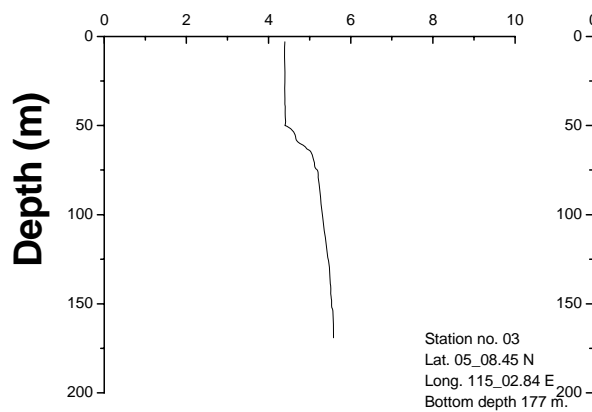
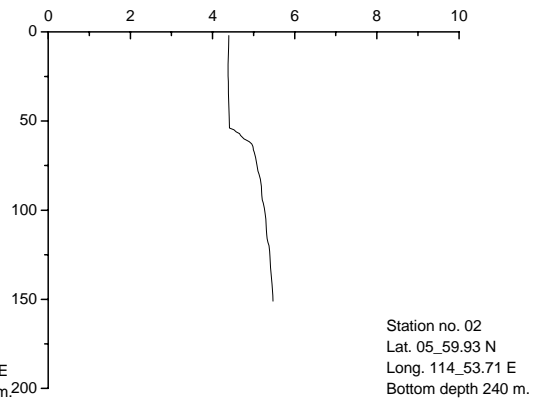
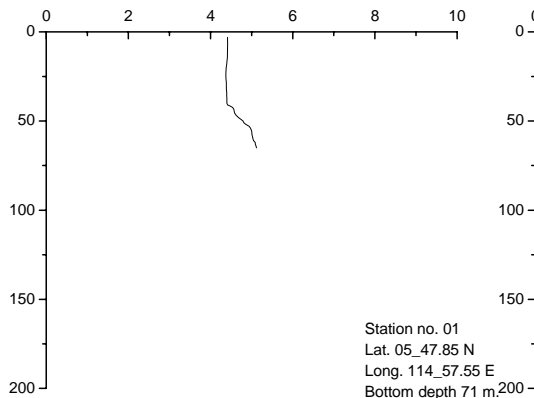
Fluorescence



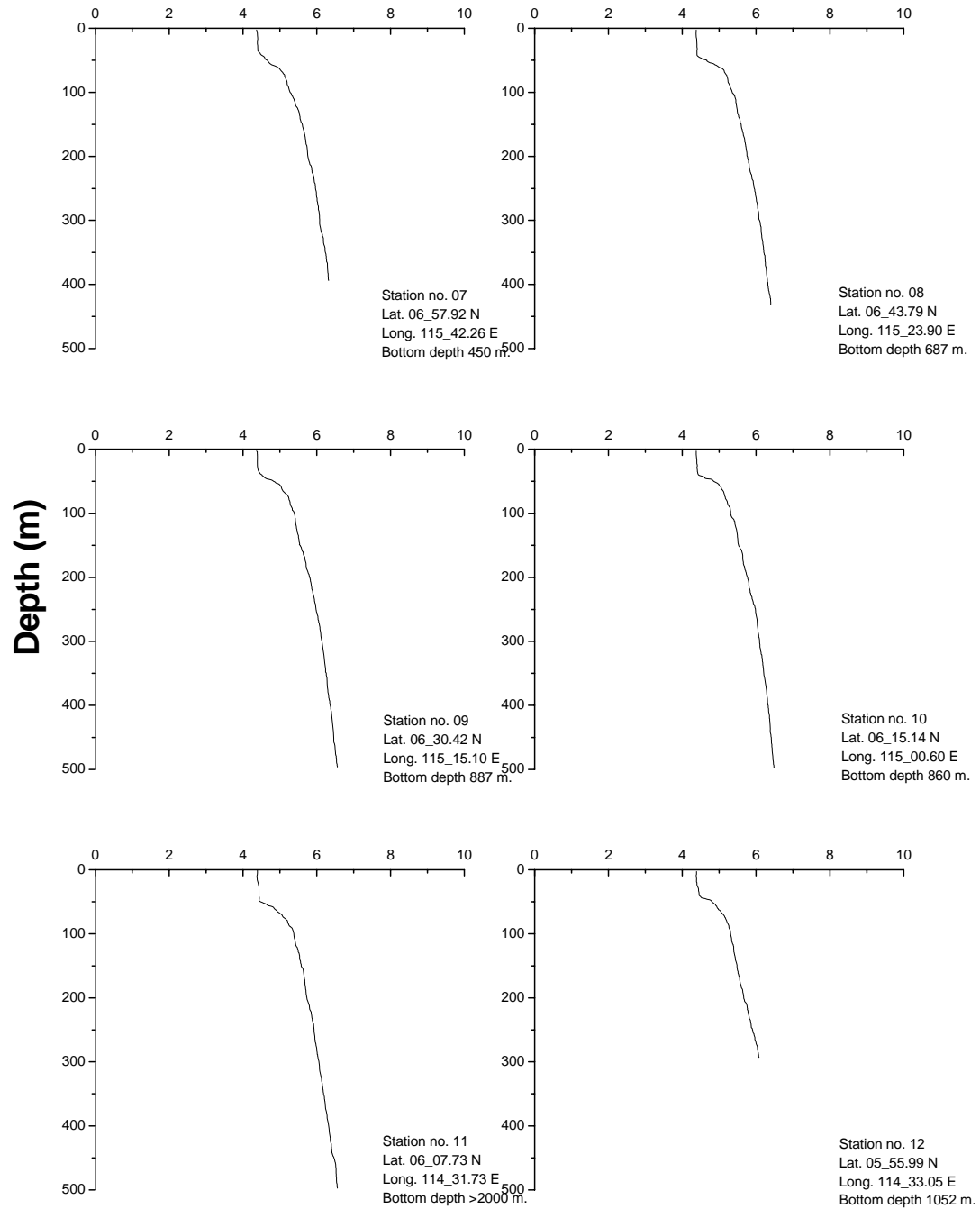
Fluorescence



Oxygen (ml/l)



Oxygen (ml/l)



Oxygen (ml/l)

