



CRUISE REPORT ON RESEARCH ACTIVITIES

M.V. SEAFDEC 2 Cruise No. 15-9/2005

9 – 22 September 2005

National Fisheries Resource Survey in the Central Gulf of Thailand

TD/RP/92

This report is based on preliminary data

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

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Cruise Report on Research Activities

1. Cruise Summary

Vessel name: M.V. SEAFDEC 2
Cruise no.: 15-9/2005 **Leg no:** -
Project Title: National research program on fisheries resources survey in the Central Gulf of Thailand
Duration: 9 – 22 September 2005 (14 days)
Covered water: The Central Gulf of Thailand
Latitude 07°37'.52 N-11°37'.39 N
Longitude 100°18'.17 E-101°51'.89 E
Port of call: Samui district, Suratthani province, Thailand
Objective:
1. Oceanographic survey by ICTD, STD, PRR, Larvae bongo net by Oblique plane and TSG with Fluorometer
2. Acoustic survey
3. Fish sampling by bottom trawl

2. List of personal on board

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 Vudhipanyo
5	Second Engineer	Mr. Komson Sangphuek
6	Fishing Assistant	Mr. Aussawin Buachay
7	Boatswain	Mr. Vudthirat Vudthipanyo
8	Steersman	Mr. Pradit Kui-prasert
9	Steersman	Mr. Tana Rungjoy
10	Able Seaman	Mr. Jaroon Po-U
11	Fitter	Mr. Vallop Phimroon
12	Oiler	Mr. Plew Shodok
13	Oiler	Mr. Boontarin Wora-in
14	Oiler	Mr. Watchara Panasri
15	Cook	Mr. Saichol Kornnoom
16	Ship's Boy	Mr. Somsak Phangkunhuk

Researcher from SEAFDEC/TD

No.	Position	Name
1	Chief Scientist	Mr. Isara Chanrachkij
2	Assistant Researcher	Mr. Sayan Promjinda
3	Assistant Researcher	Ms. Sukanya Obromwan
4	Assistant Researcher/TRD	Mr. Nakaret Yasook
5	Researcher	Dr. Satsuki Matsumura
6	Assistant Researcher	Mr. Daisuke Arie
7	Participant form Niikata	Mr. Akio Maruyama
8	Participant form KU	Mr. Asirawat Preecha

Researcher from DOF of Thailand

No.	Position	Name
1	Researcher	Mrs. Pattira Lirdwitayaprasit
2	Researcher	Mr. Kanit Chuapun
3	Researcher	Lt.JG. Pissanu Siripittrakul RTN.
4	Researcher	Lt. Phithak Chaidee RTN.
5	Researcher	Mr. Chirdsak Chookong
6	Researcher	Mr. Aekkarat Waongkeaw
7	Researcher	Mr. Souvanich Chumnan
8	Researcher	Ms. Jureerat Songnui
9	Researcher	Mr. Viboon Mechareon
10	Assistant Researcher	Mr. Vichai Kangkorn

3. Observation Summary

Oceanographic survey summary

The survey had been conduct during 9-22 September 2005. Totally 19 survey stations are covered the Central Gulf of Thailand. Each stations consisted of acoustic survey, fishing sampling by bottom trawl and oceanographic activities namely; Integrated Conductivity Temperature and Depth System (iCTD), ThermoSalinograph-Fluorometer System (TSG), Profiling Reflectant Radiometer System (PRR 2600), Bongo net, Water sampling for nutrient analysis and chlorophyll measurement using Niskin water sampler. Furthermore measured water transparency by Secchi disc and water color by Foral scale.

The detail of oceanographic activities is shown in **Table 1**. The shortly activities summary of each oceanographic survey station are as follow:

Integrated Conductivity Temperature and Depth System (iCTD): The physical parameters such as temperature, conductivity, salinity, dissolve oxygen, pH and PAR (light measurement) were collected by iCTD. For each station, it was attached with the oceanographic winch with constant winch speed 0.5 m/s and drop through the water from surface to 10-15 m above sea bottom.

STD/CTD model SD 204: The STD/CTD instrument was carried out from DOF/Thailand. It is manually operated by activating the magnet sensitive switches. For each station, it was attached with iCTD instrument for collected salinity, temperature and depth data. And in case of sea rough condition, it was attached with the oceanographic winch instead of iCTD.

ThermoSalinograph – Fluorometer System (TSG): It is an oceanographic instrument that collected three parameters; temperature, salinity and fluorescence from under vessel (5 meters below sea surface) during sailed from station to station. However it could not operated when the vessel was drifting or during fishing operation.

Profiling Reflectant Radiometer System (PRR 2600): PRR2600 is the instrument for measuring under water spectrum light energy and reflectance. It was operated at 13 stations. While one optical sensor was measuring at under water optical energy, the other sensor was monitoring the sky light condition. Under water sensor was dropped slowly up to near bottom and got the vertical profile. The speed was 0.5 m/s. Under water unit has inclination sensor so that low quality data by sensor inclination can be avoided. Three casts at each station were done and one of the best quality data was selected for further analysis. Water were sampled from 0m, 5m, 10m, 20m,30m, and near bottom and filtered onboard for analyzing Chlorophyll-a and CDOM (Colored Dissolved Organic Materials). Ocean color algorithms for detecting Chl-a and CDOM from satellite data will be developed by those data.

Bongo net: This instrument was used for oblique tows from surface to 10 m above sea bottom with 30 minutes operation time, towing speed 2 m/s. Bongo net consisted of zooplankton net and larvae net with mesh size are 330 μm and 500 μm , respectively. Both of net have 60 cm. net diameter, which attach with flow meter serial no. 20383 for zooplankton frame and serial no. 2120 for larvae frame. Flow rate of flow meter in zooplankton net was 0.0094 rpm^3 and larvae net was 0.0336 rpm^3 .

Water transparency and water color: The Secchi disc and Foral scale were used for measured water transparency and water color, respectively.

Nutrient analysis: Water samples from standard depths have collected by using 2.5 liters of Niskin water sampler that attached with iCTD. Then filtered through Whatman GF/C filter paper to remove any large particles, plankton and bacteria. Each sample was collected in 60 ml polypropylene bottle, which was rinsed with the sample solution before freezing at -40 °C. Thereafter whole samples from each station were analyzed by The Integral Futura Continuous Flow Automated Analysis of Seawater Nutrients at SEAFDEC/TD laboratory.

Table 1: Partial details of Oceanographic activities cruise no. 15-9/2005 in the Gulf of Thailand

St.No. (DOF)	Date	Time (Local)	Lat	Long	Oceanographic instruments					Transparency		Bottom Depth(m)	Filename				Remark
					CTD	STD	TSG	PRR	Bongo	Sechi disc (m)	Foral scale		iCTD	STD	TSG	PRR	
52	10-Sep-05	05:26	11_37.39 N	101_07.77 E	✓	-	✓	✓	✓	22.0	4	57	s2d15001	-	20050909	2005_09_10_0847	
50	10-Sep-05	12:45	11_37.38 N	100_37.91 E	✓	✓	✓	✓	✓	18.2	4	47	s2d15002	GOT_50	20050910	2005_09_10_1255	
76	11-Sep-05	05:20	11_07.54 N	100_37.74 E	✓	✓	✓	✓	✓	19.8	4	59	s2d15003	GOT_76	20050911(1)	2005_09_11_0826	
78	11-Sep-05	12:30	10_07.38 N	101_07.82 E	✓	✓	✓	✓	✓	15.6	3	60	s2d15004	GOT_78	20050911(2)	2005_09_11_1237	
108	11-Sep-05	17:00	10_43.66 N	101_07.89 E	✓	✓	✓	✓	✓	16.9	3	65	s2d15005	GOT_108	20050911(3)	2005_09_11_1700	
106	12-Sep-05	05:52	10_37.59 N	100_37.81 E	✓	✓	✓	✓	✓	12.3	3	60	s2d15006	GOT_106	20050912(1)	2005_09_12_0700	
140	12-Sep-05	10:57	10_07.29 N	100_27.76 E	✓	✓	✓	✓	✓	17.0	4	58	s2d15007	GOT_140	20050912(2)	2005_09_12_1109	
142	12-Sep-05	15:33	10_07.40 N	100_52.93 E	✓	✓	✓	✓	✓	20.5	4	62	s2d15008	GOT_142	20050912(3)	2005_09_12_1540	
144	12-Sep-05	17:25	10_07.38 N	101_00.44 E	✓	✓	✓	-	✓	-	-	68	s2d15009	GOT_144	20050912(4)	-	
143	13-Sep-05	06:15	10_08.56 N	101_07.40 E	-	✓	✓	-	✓	-	-	68	-	GOT_143	20050913(1)	-	
184	13-Sep-05	10:15	09_37.38 N	101_07.75 E	-	✓	✓	-	-	-	-	66	-	GOT_184	20050913(2)	-	
183	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Cancelled
181	15-Sep-05	17:35	09_37.29 N	100_18.17 E	✓	✓	✓	-	✓	-	-	30	s2d15010	GOT_181	20050915	-	
222	16-Sep-05	05:50	09_07.37 N	100_37.79 E	✓	✓	✓	✓	✓	9.8	5	36	s2d15011	GOT_222	20050916(1)	2005_09_16_0807	
224	16-Sep-05	11:46	09_07.46 N	101_07.89 E	✓	✓	✓	✓	✓	18.1	4	58	s2d15012	GOT_224	20050916(2)	2005_09_16_1144	
271	16-Sep-05	19:15	08_35.54 N	101_09.95 E	✓	✓	✓	-	-	-	-	58	s2d15013	GOT_271	20050916(3)	-	
269	17-Sep-05	05:52	08_37.38 N	100_37.93 E	✓	✓	✓	✓	✓	4.0	6	30	s2d15014	GOT_269	20050917(1)	2005_09_17_0757	
323	17-Sep-05	14:07	08_07.44 N	101_22.80 E	✓	✓	✓	✓	✓	15.4	4	50	s2d15015	GOT_323	20050917(2)	2005_09_17_1404	
424	19-Sep-05	15:00	07_07.47 N	101_51.89 E	-	✓	✓	✓	✓	12.1	4	52	-	GOT_424	20050919(1)	2005_09_19_1459	
374	20-Sep-05	05:50	07_37.52 N	101_38.00 E	✓	✓	✓	✓	✓	22.6	4	48	s2d15016	GOT_374	20050920	2005_09_20_0827	

Fishing survey summary

In this survey, bottom trawl were used for fish sampling.

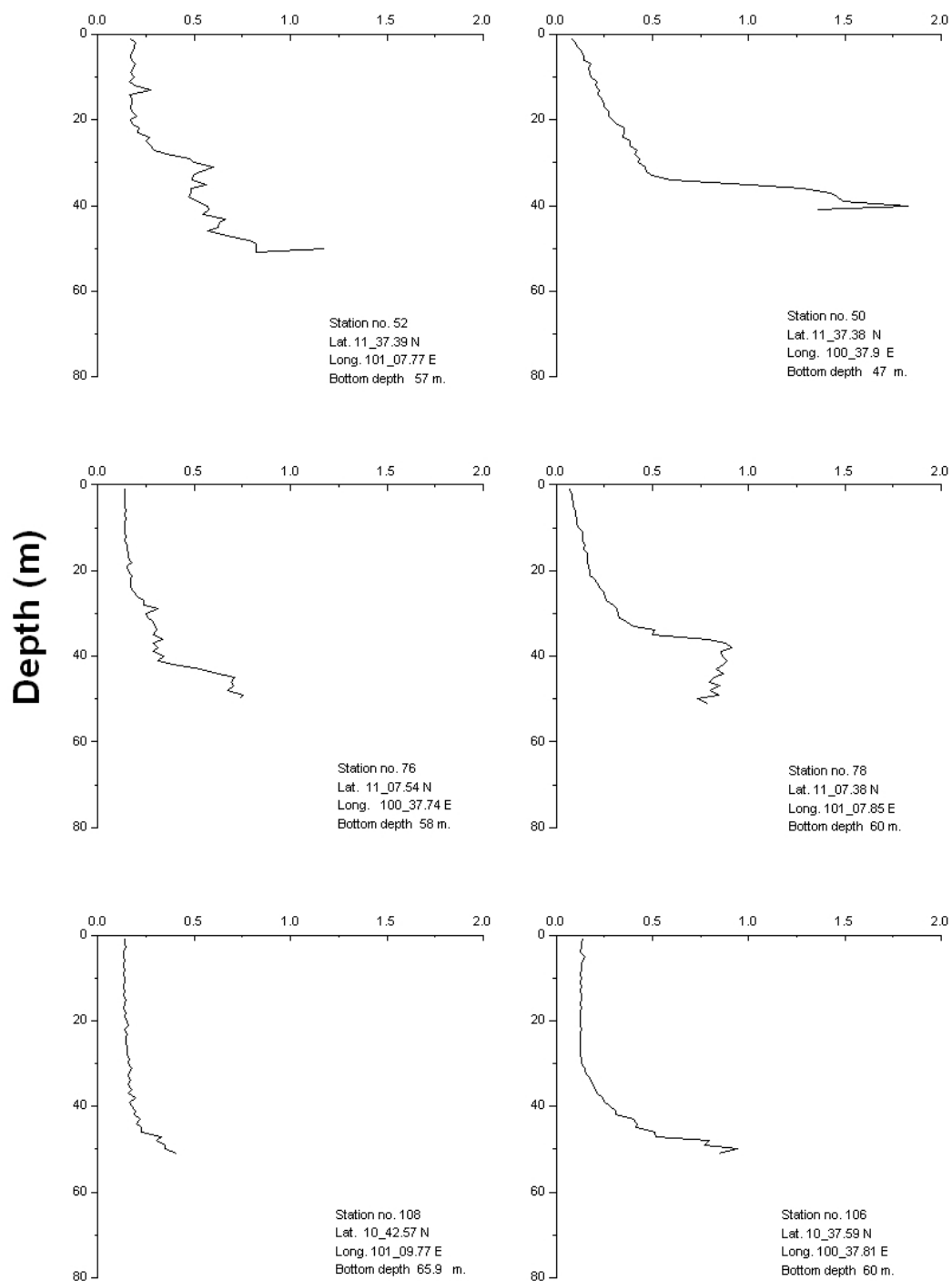
Bottom Trawl

This survey was operated total 13 stations covered the central Gulf of Thailand. The maximum catch was about 16.57 kg. at operation no. 06 (station no.181). At operation no. 4 and 5 were cancelled.

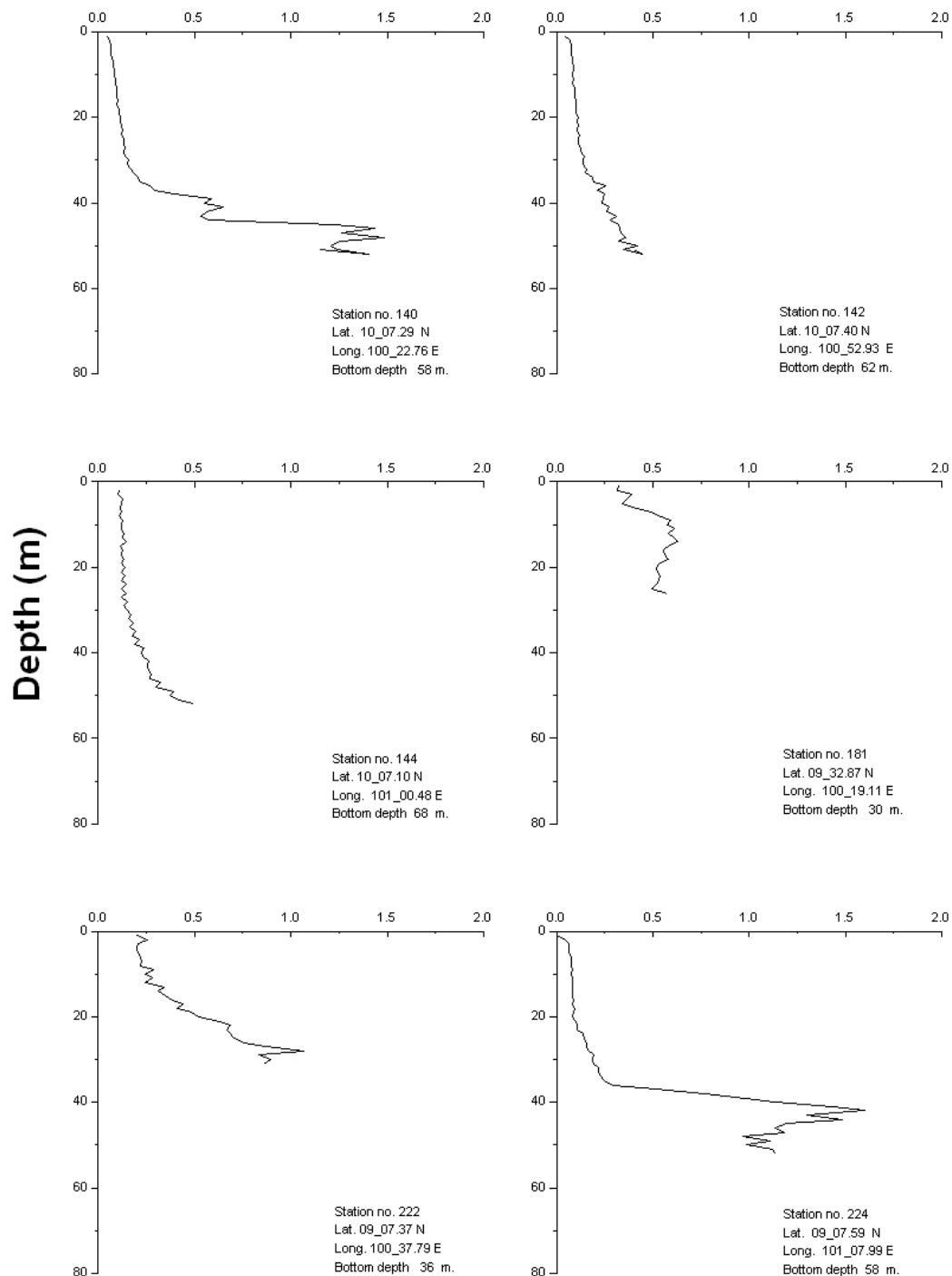
The detail of fishing operation had shown in fishing logsheet.

Appendix I

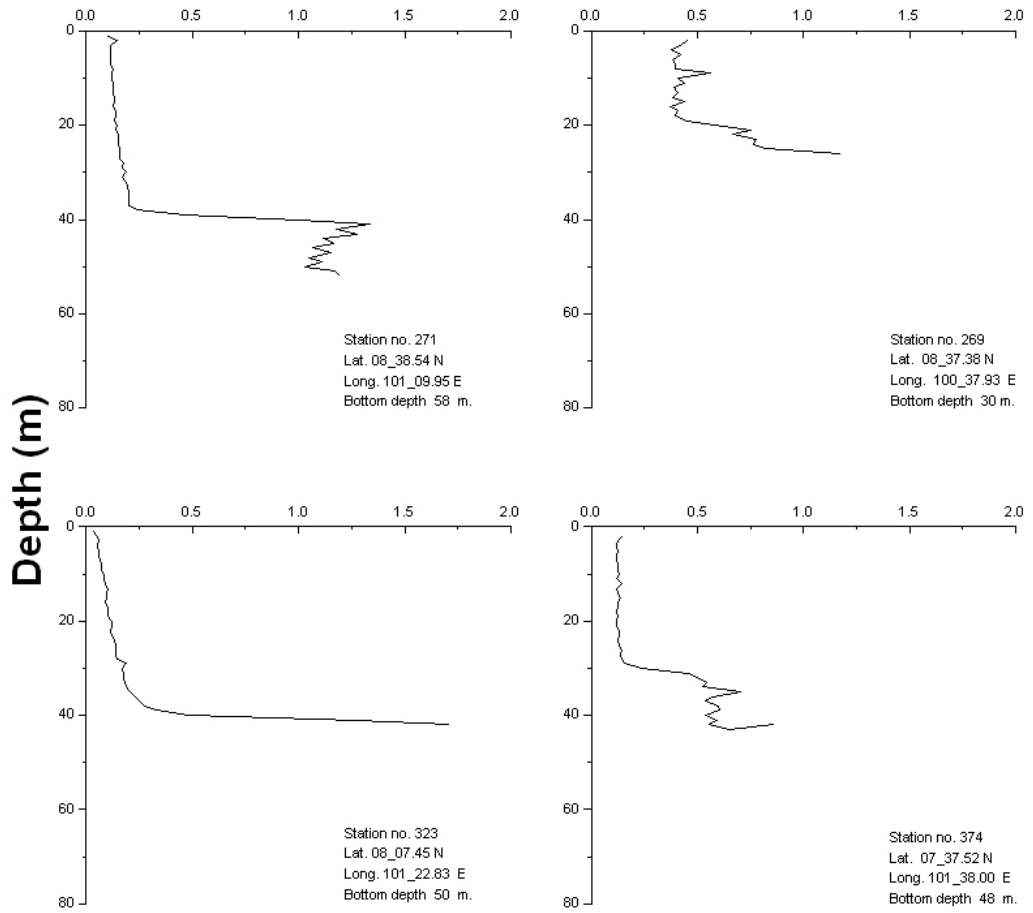
Fluorescence



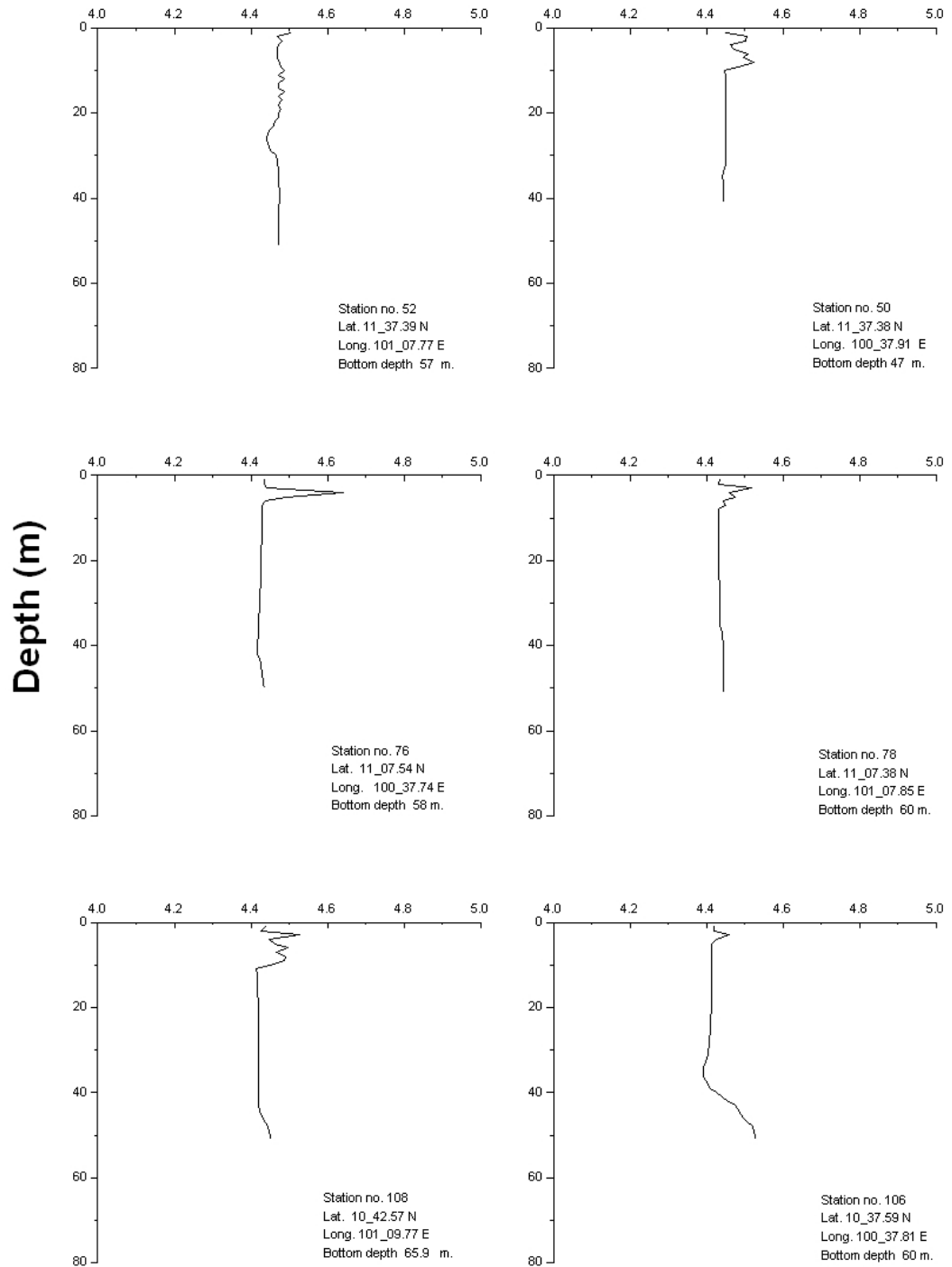
Fluorescence



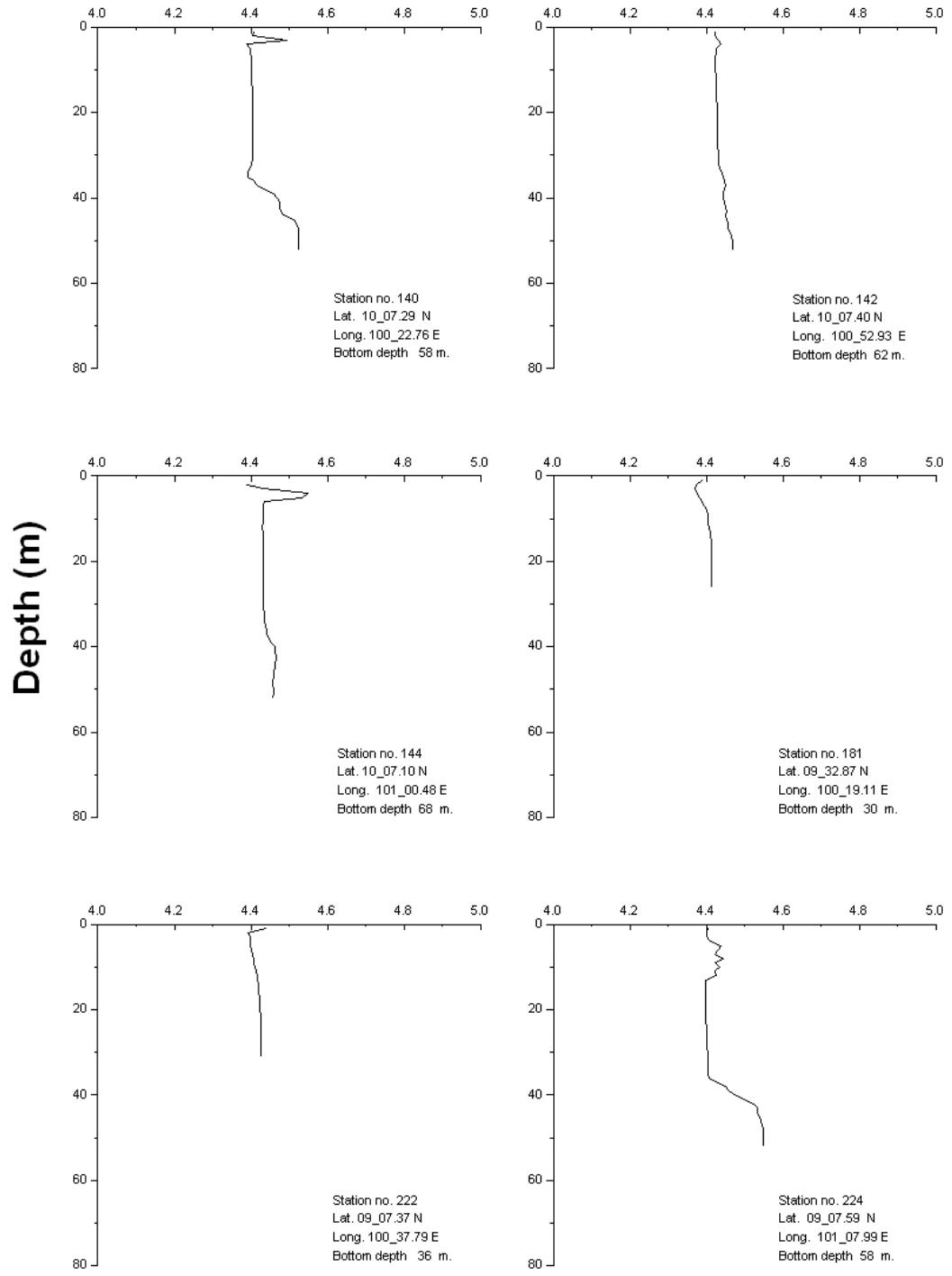
Fluorescence



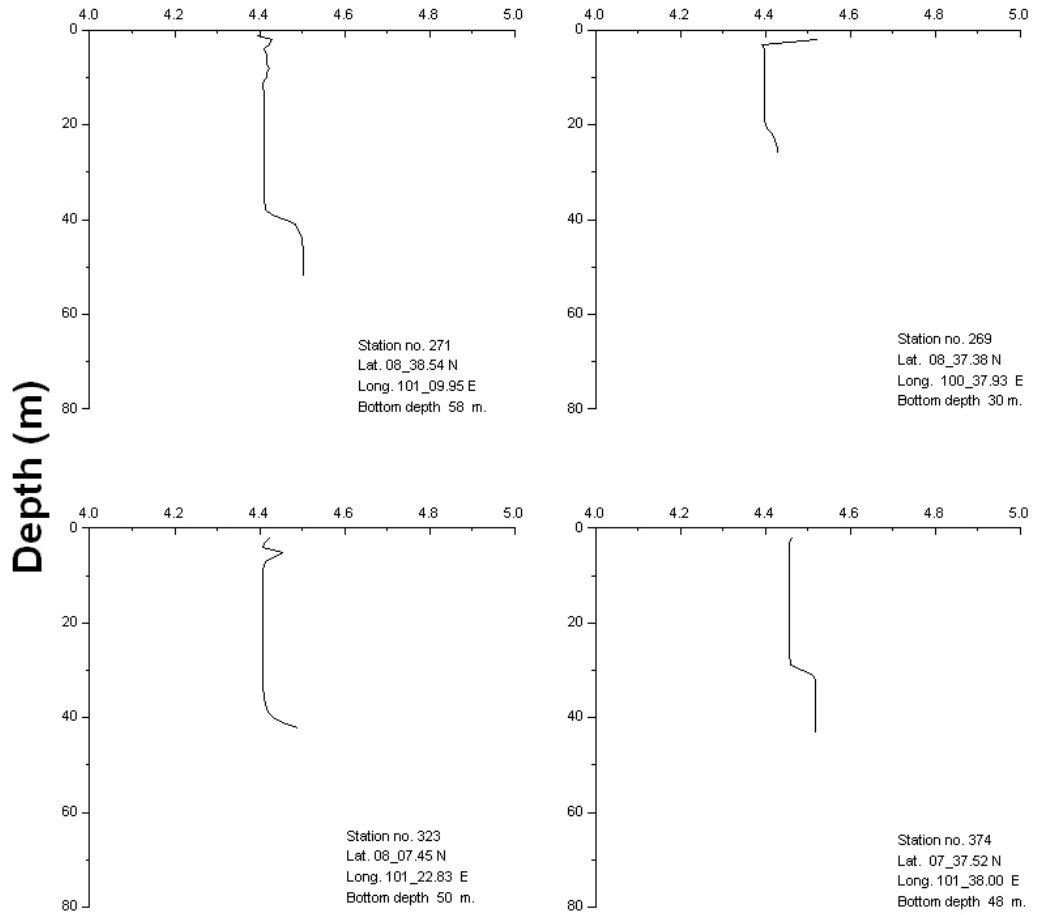
Oxygen (ml/l)



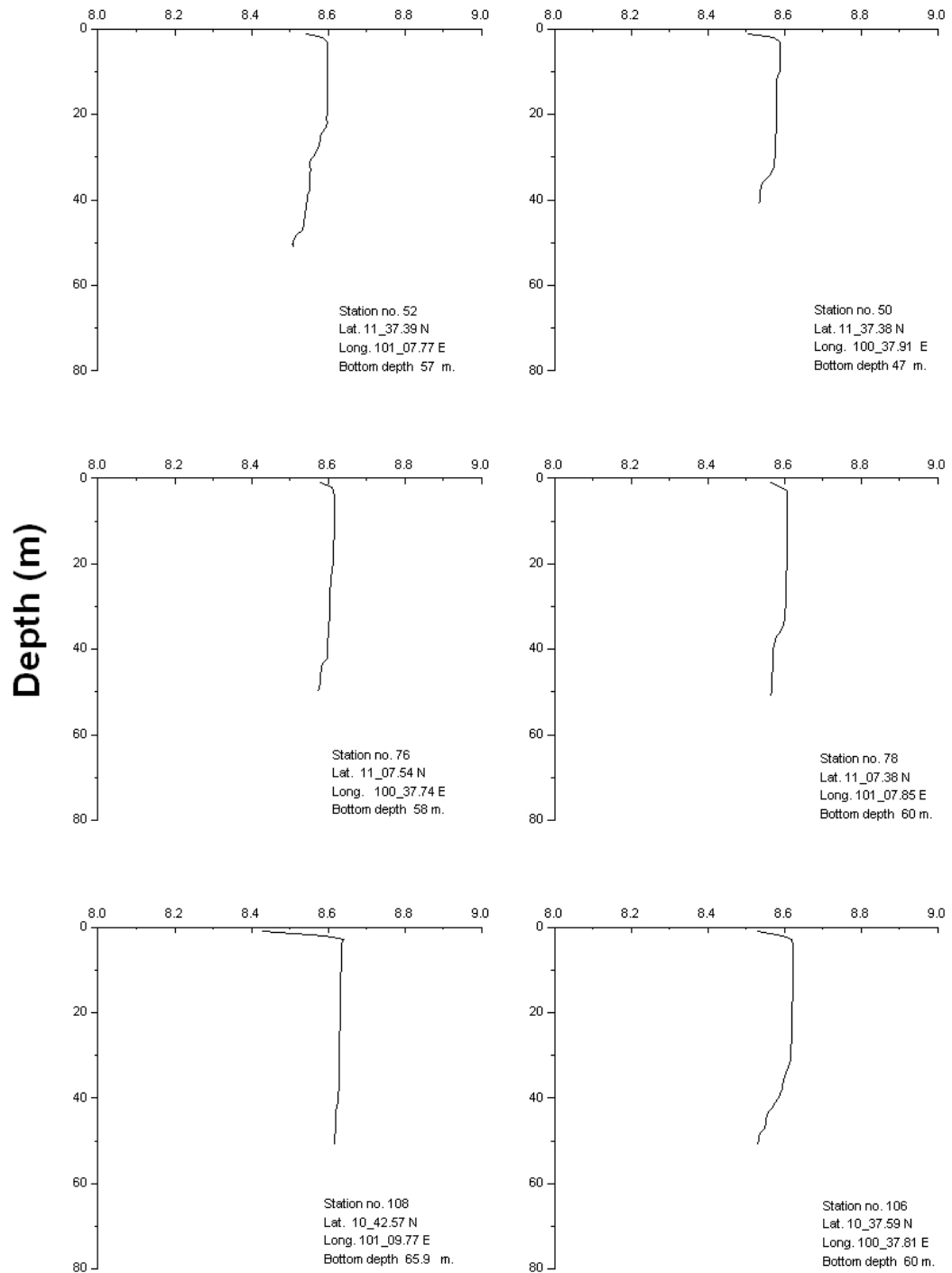
Oxygen (ml/l)



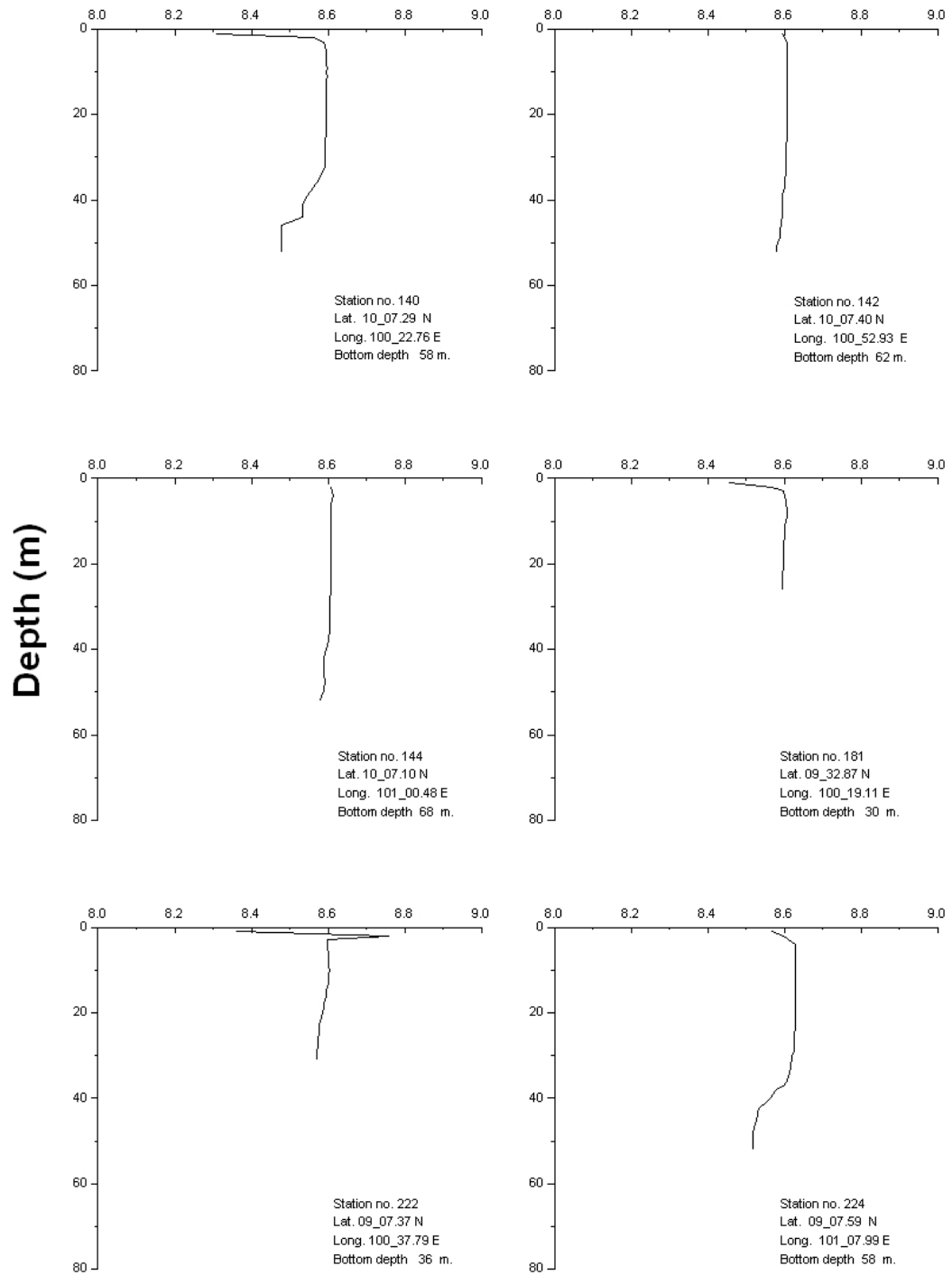
Oxygen (ml/l)



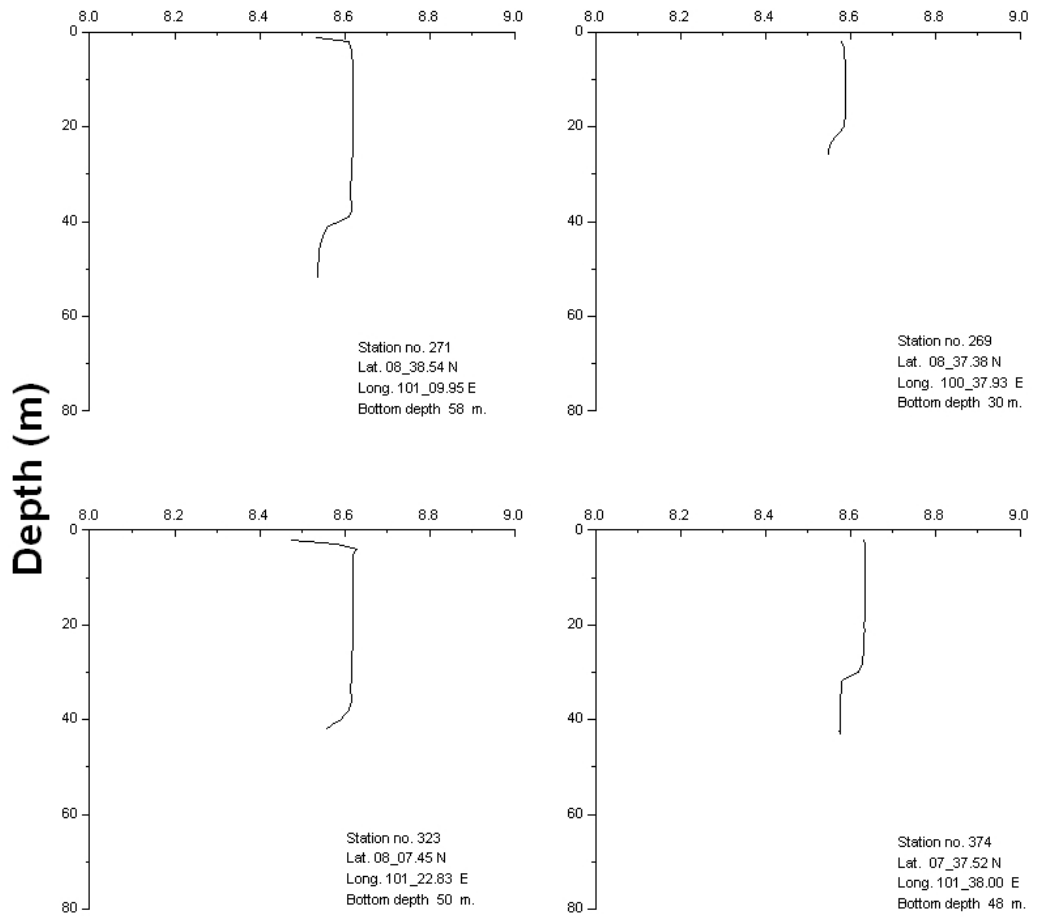
pH



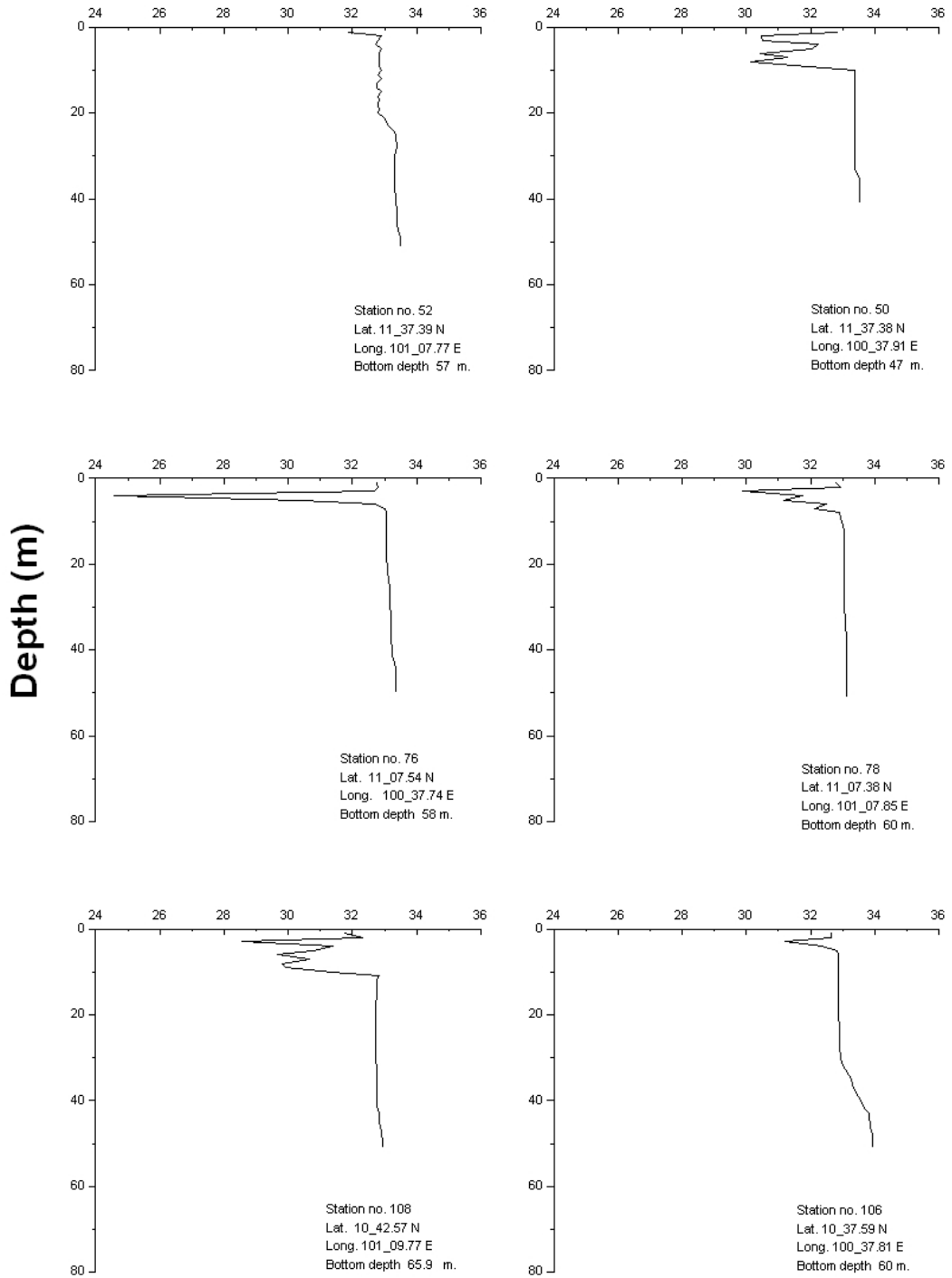
pH



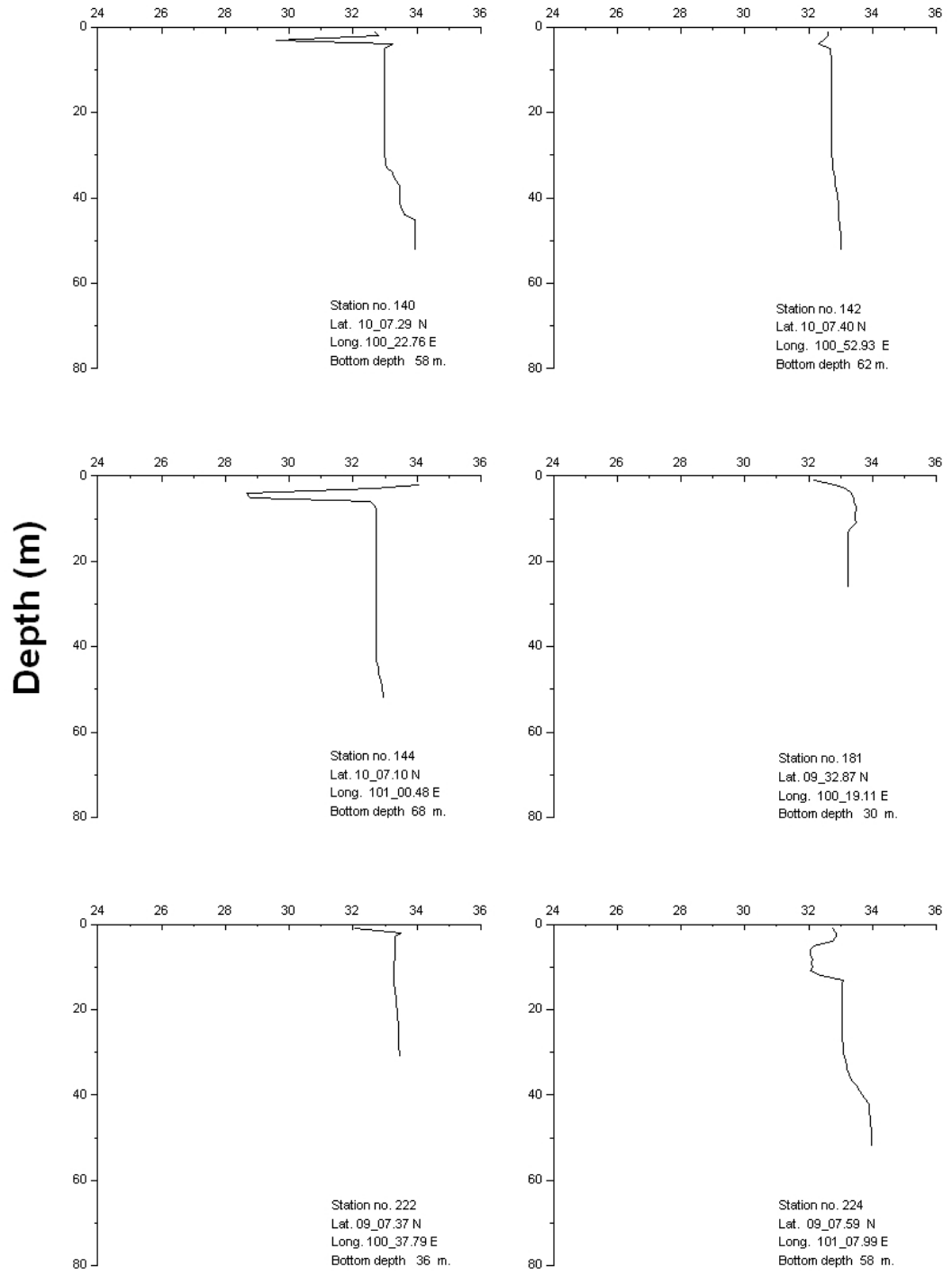
pH



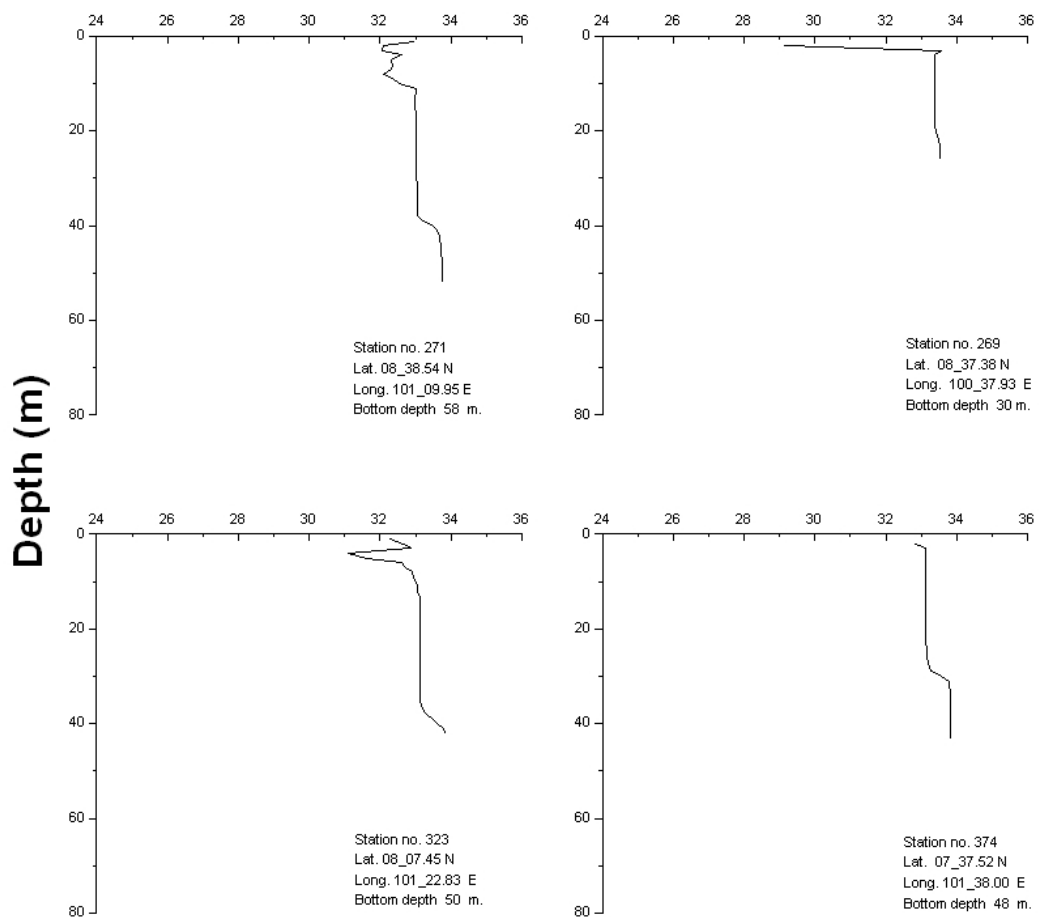
Salinity (PSU)



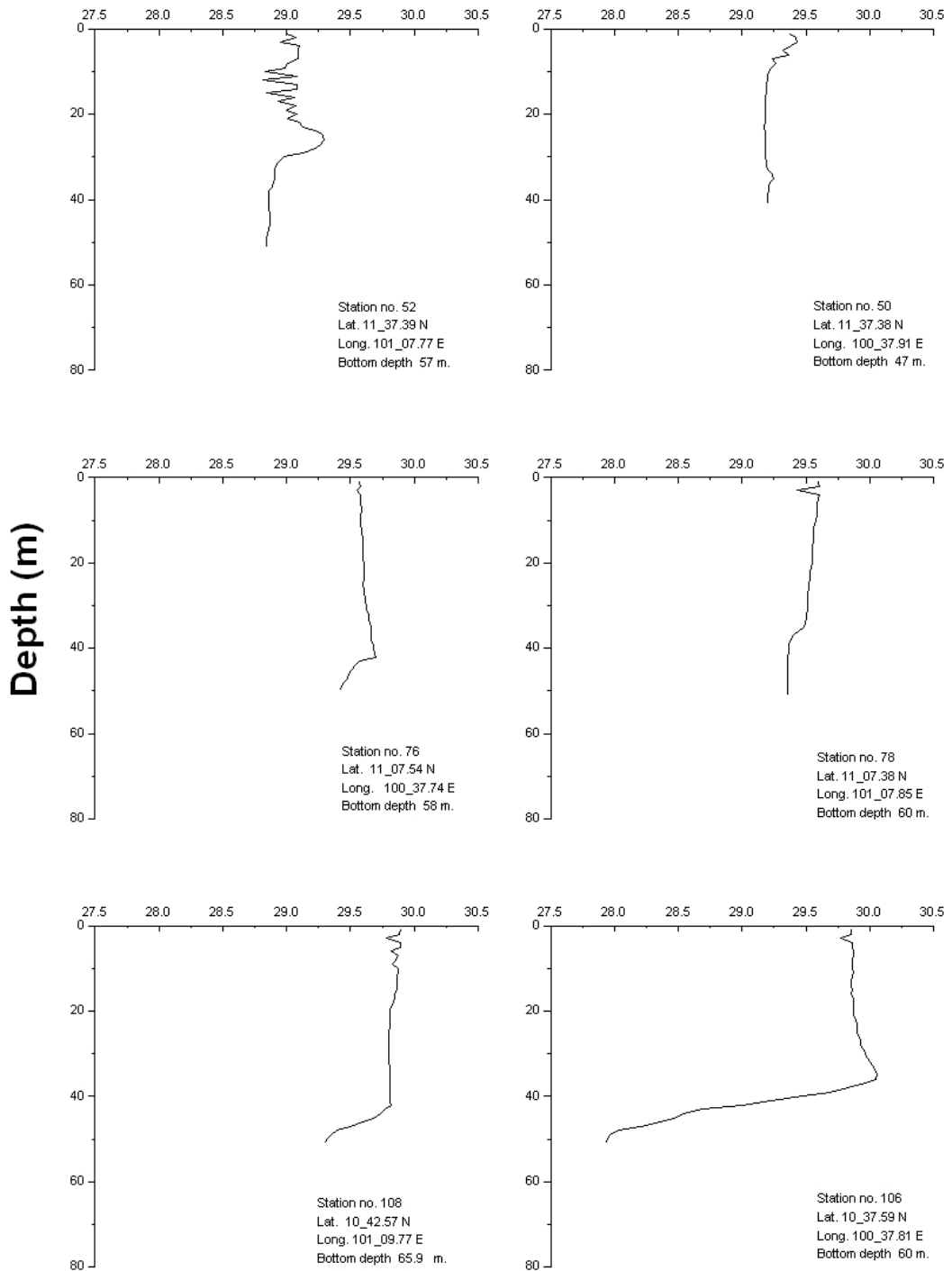
Salinity (PSU)



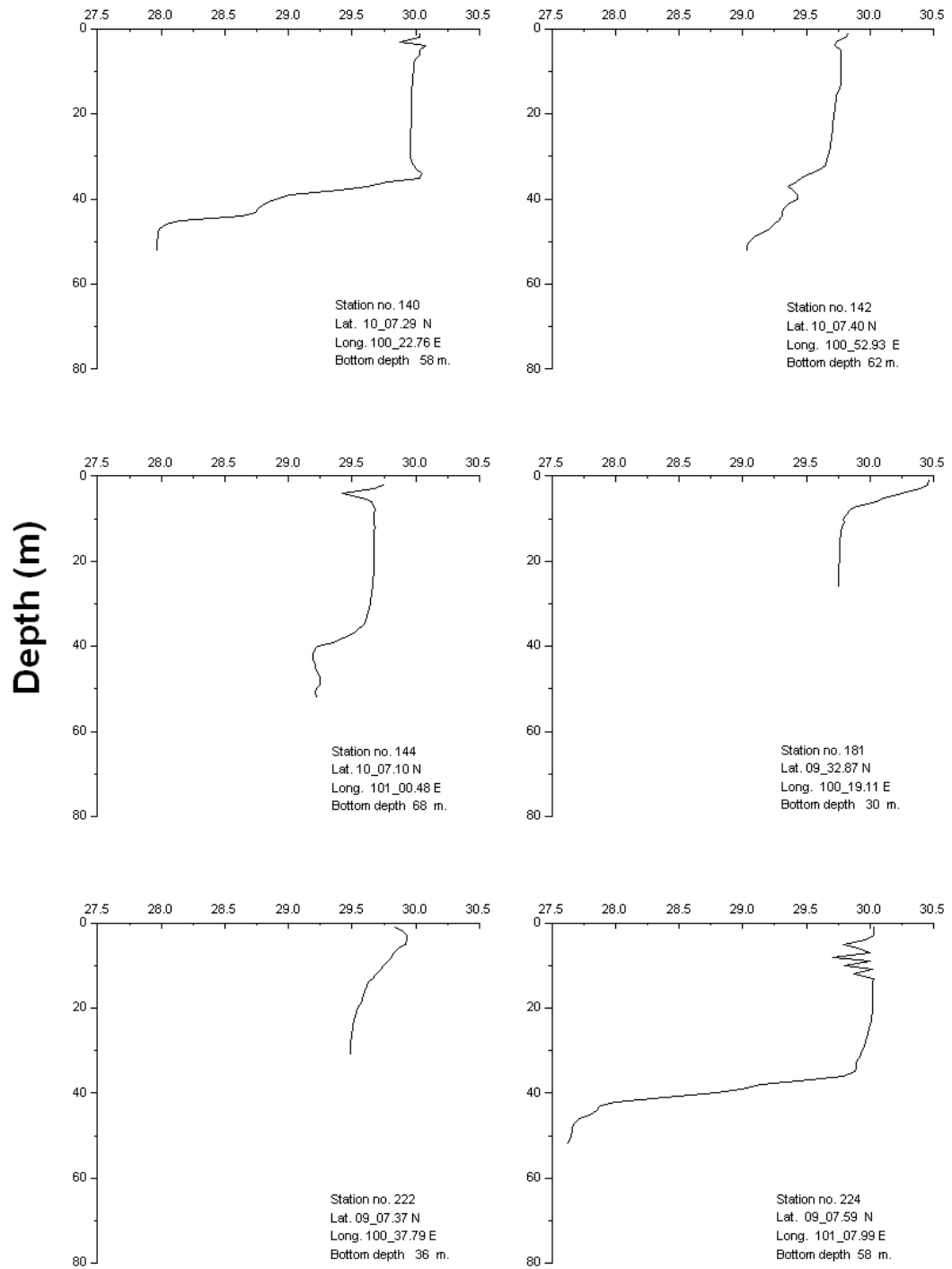
Salinity (PSU)



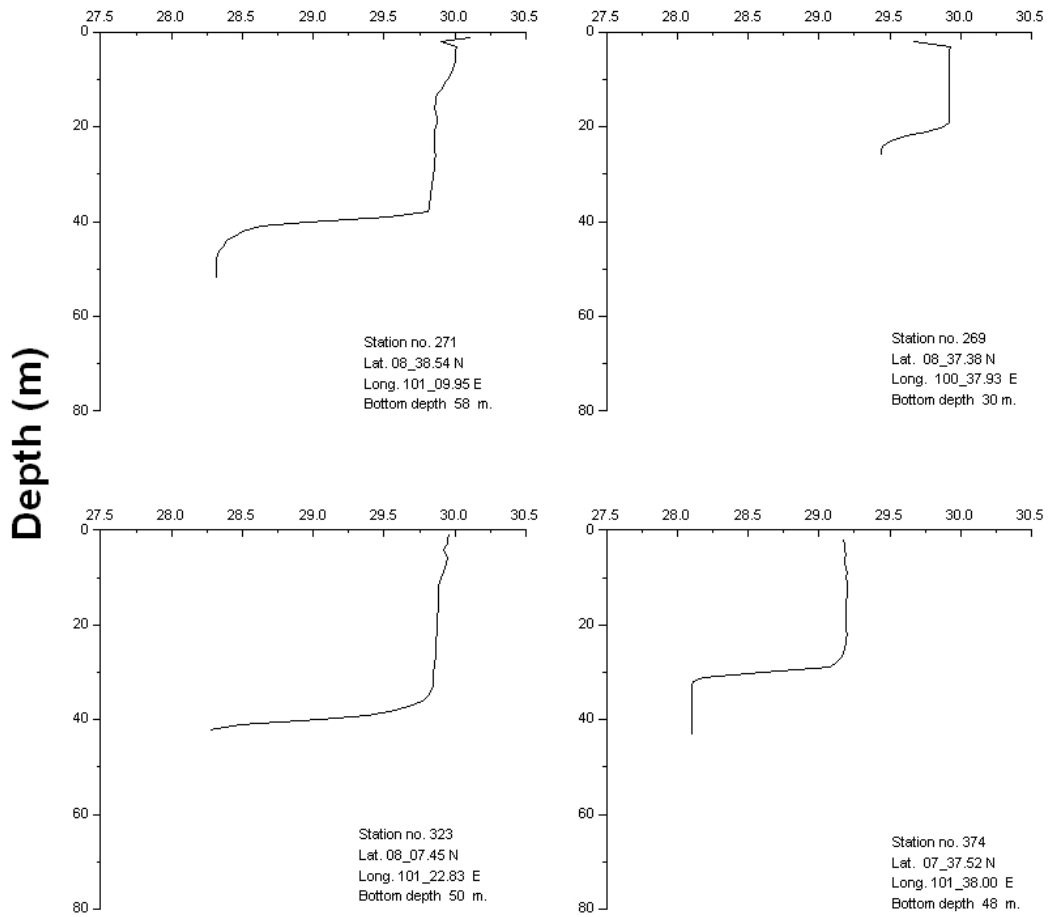
Temperature (°C)



Temperature (°C)

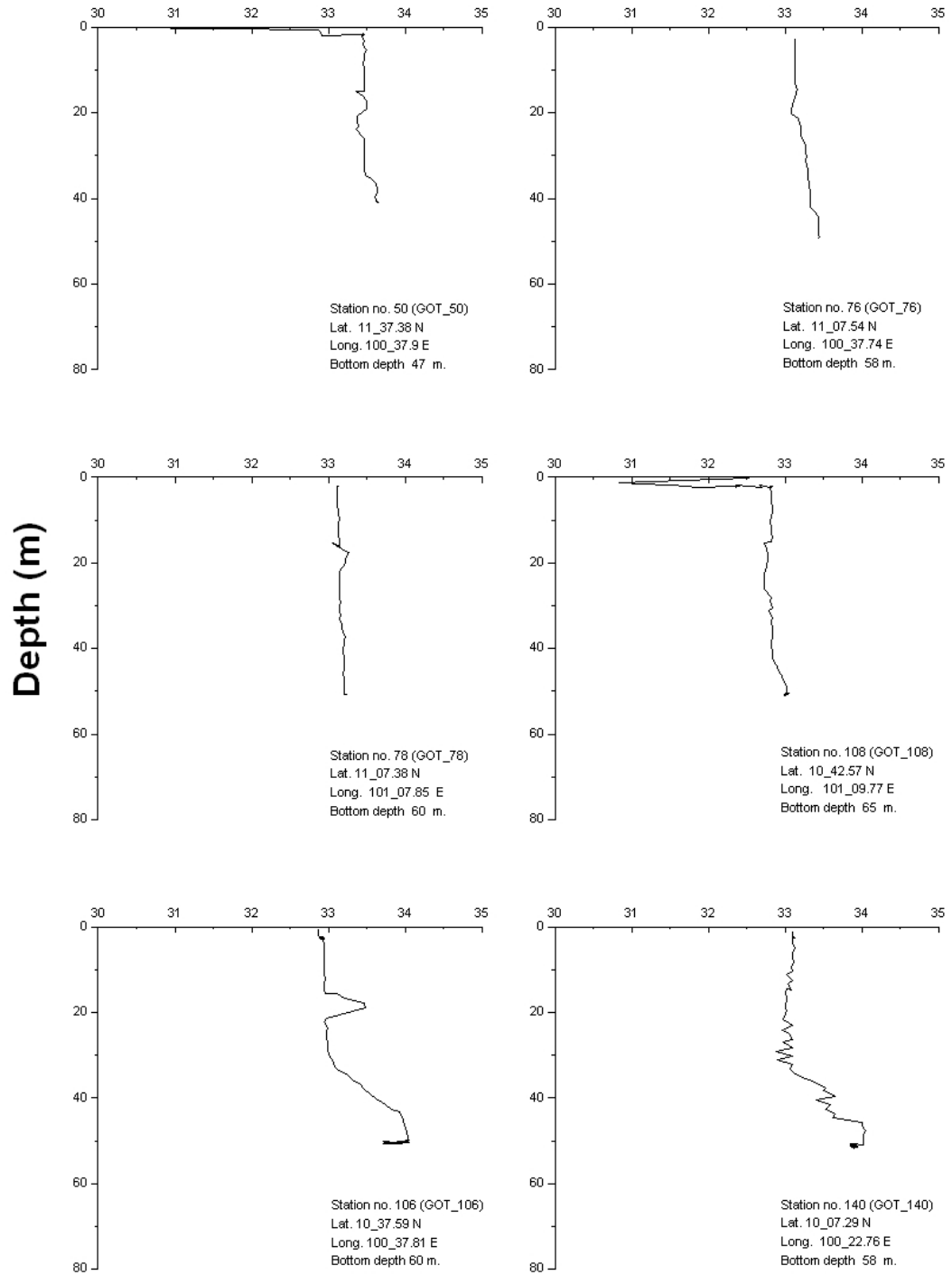


Temperature (°C)

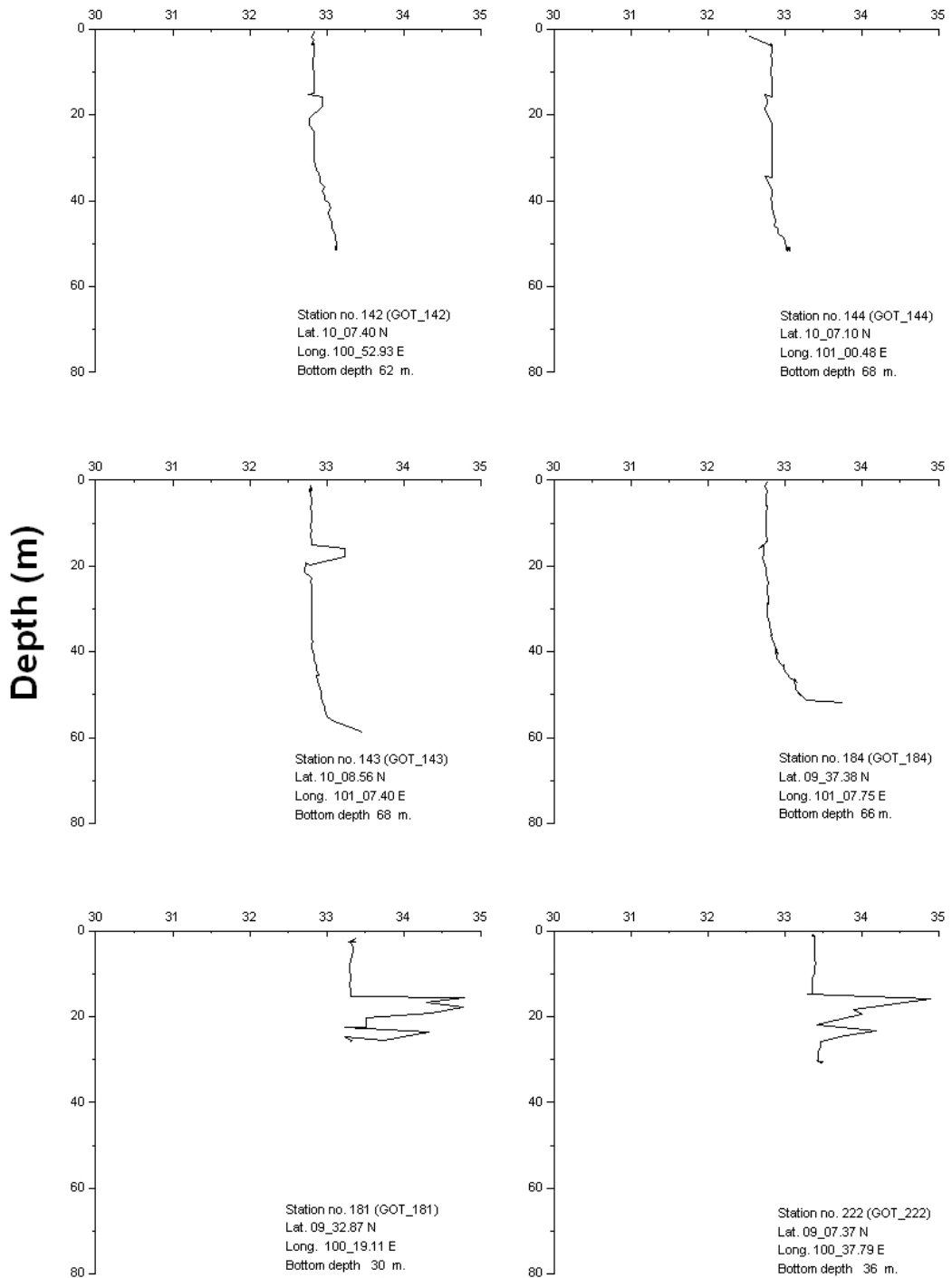


Appendix II

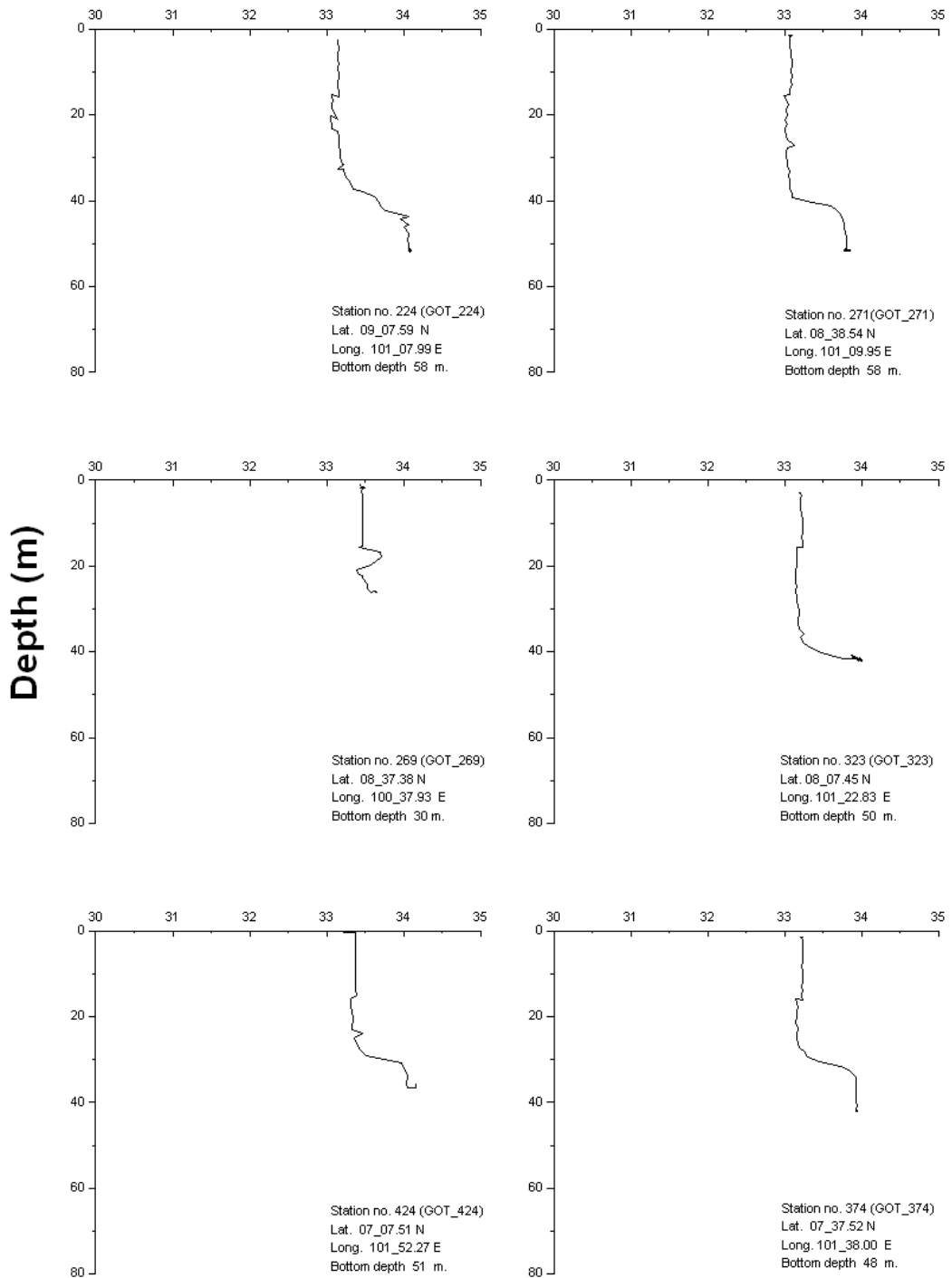
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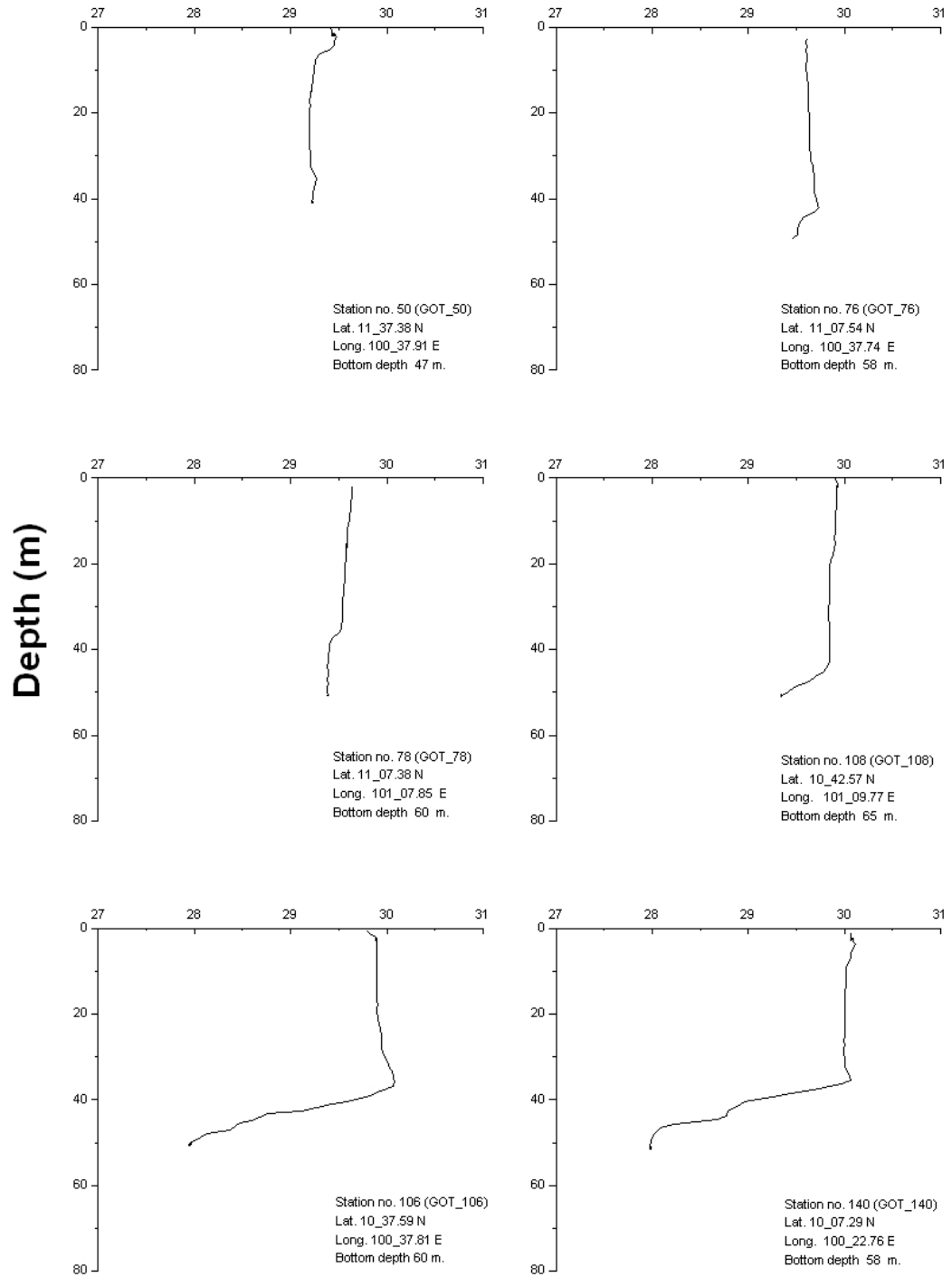
Salinity (PSU)



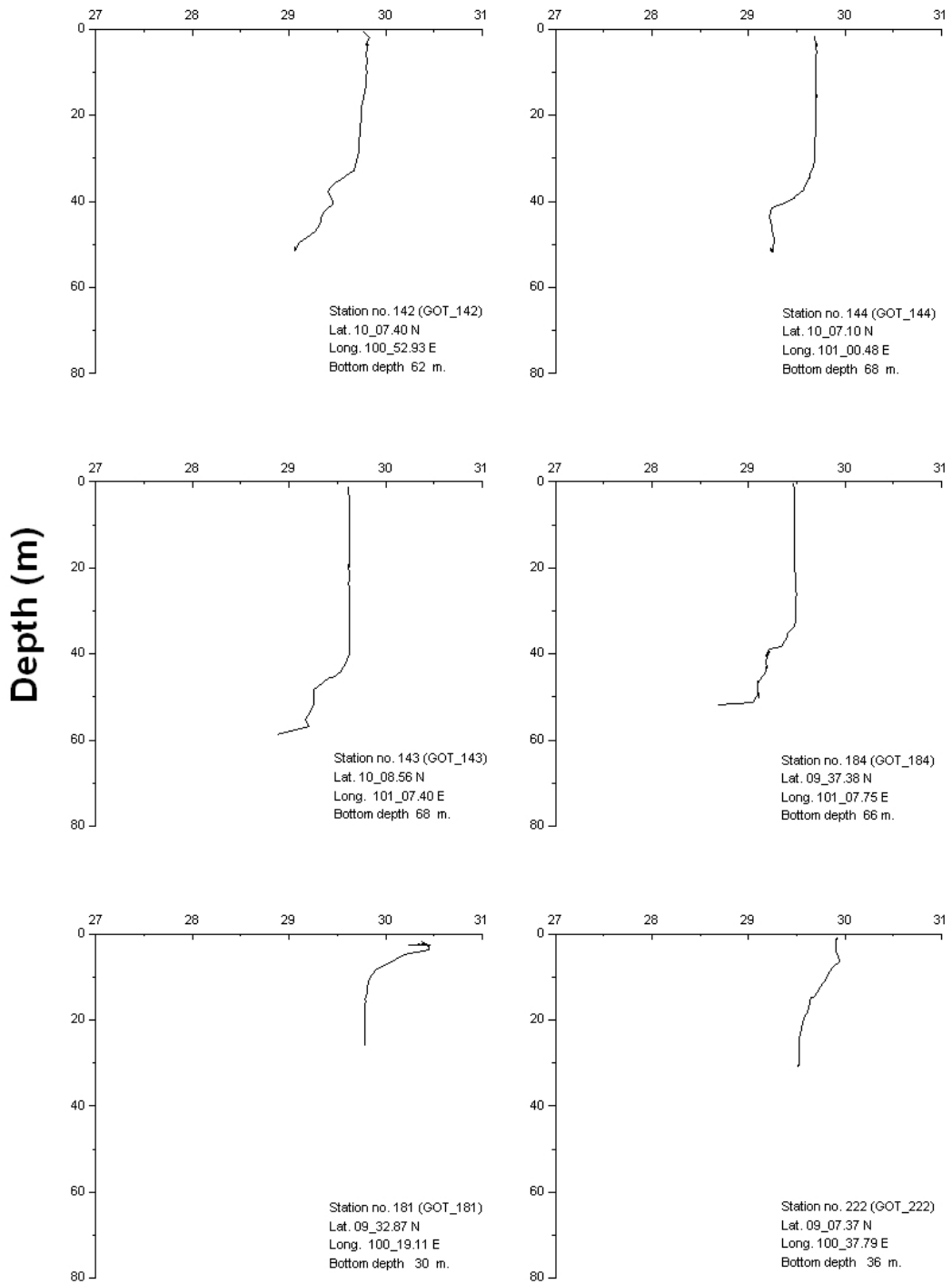
Salinity (PSU)



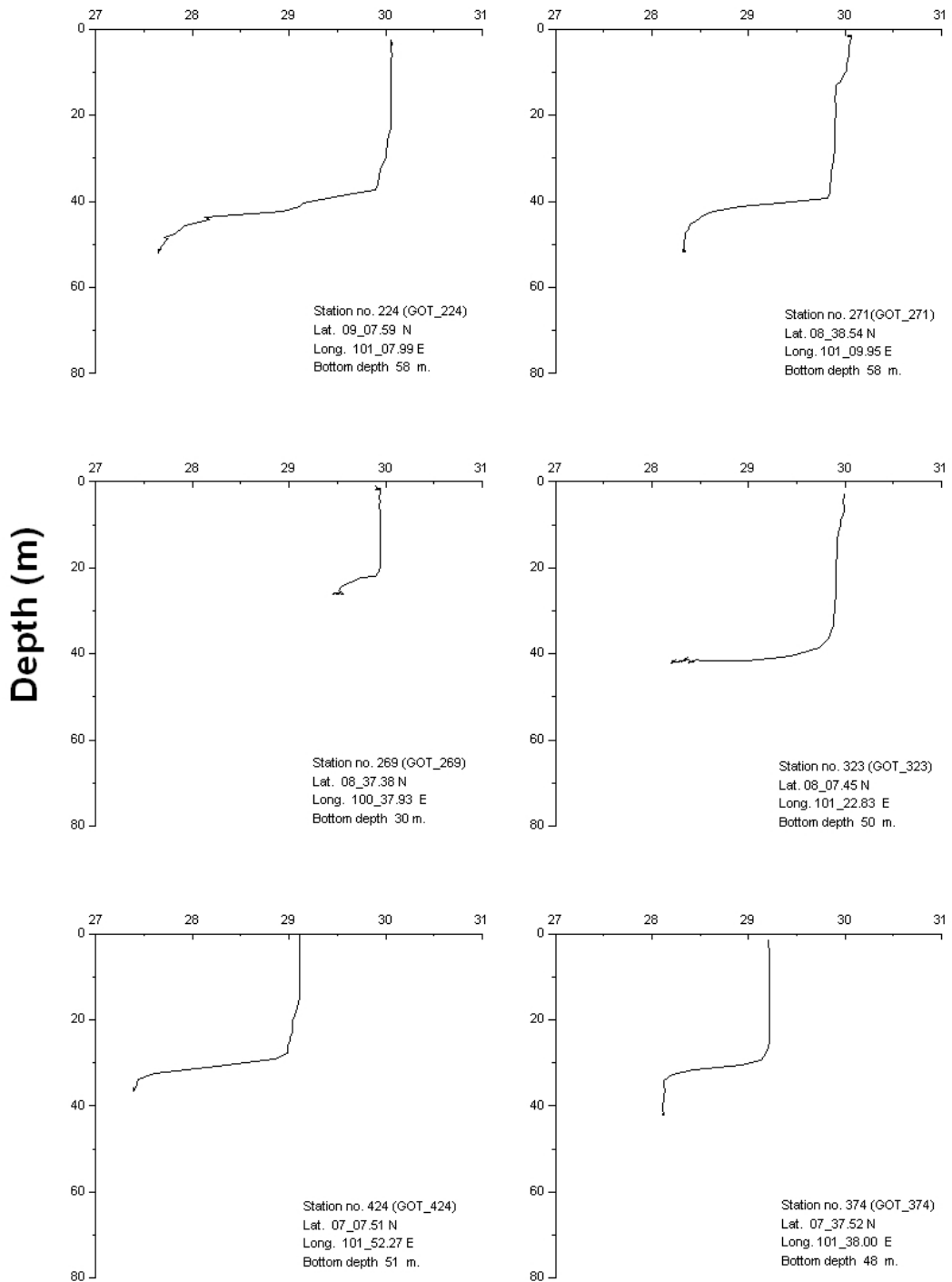
Temperature (°C)



Temperature (°C)



Temperature (°C)



Appendix III