



HOKKAIDO UNIVERSITY

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THE " USHIO MARU "

CRUISE 252

CRUISE 253

CRUISE 254

IN MARCH 2012

1. Cruise Itinerary

Cruise 252

Cancellation of departure from Hakodate
(for stormy weather)

Cruise 253

Departure from Hakodate	Mar.	4,	2012
Arrival at and departure from Usujiri		4	
Start hydrographic research (US12124)		4	
Arrival at Usujiri		5	
Departure from and arrival at Usujiri		7	
Departure from Usujiri		8	
Sampling by frame trawl net		8	
Finish hydrographic research (US12158)		10	
Return to Hakodate		10	
Total coverage 403.5 miles			

Cruise 254

Departure from Hakodate	Mar.	19,	2012
Hydrographic research (US12159 - US12162)		19	
Return to Hakodate		20	
Total coverage 74.7 miles			

2. Data on Temperature, Salinity and Computed Dynamic Depth Anomaly

Hydrographic work on deck and the data processing were made by the deck officers, crews, research staff and cadets of the “Ushio Maru”. Temperature and salinity were measured by CTD (Seabird SBE-9Plus and SBE-19). Dynamic computations were made using a desk-top computer aboard the “Ushio Maru”.

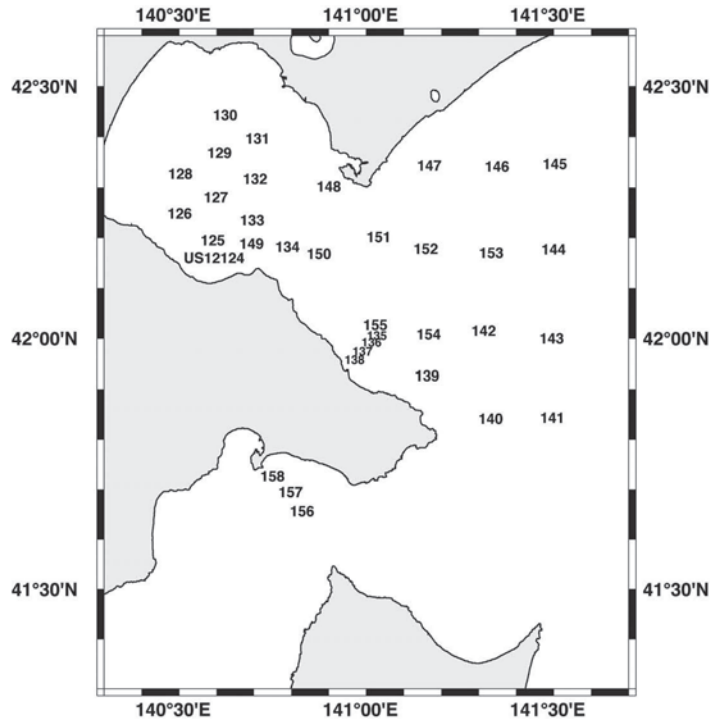


Figure 1. Oceanographic stations (Cruise 253)

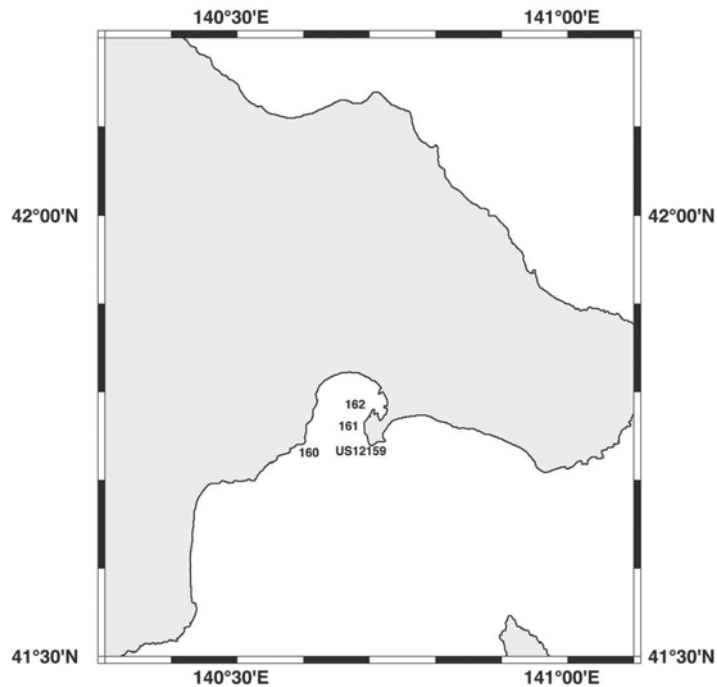


Figure 2. Oceanographic stations (Cruise 254)

Table 1. List of Oceanographic Station

Cruise 252 No data

Cruise 253

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US12124	42-09.0	140-35.6	3/4	1519-1524	66	North-1	NW -1	North-3	-0.9	2.2	bc	1031.6
US12125	42-11.1	140-35.4	3/4	1601-1605	80	North-1	NW -1	North-3	-1.0	2.1	bc	1031.7
US12126	42-14.3	140-30.1	3/4	1730-1734	80	North-1	NW -1	North-4	-1.7	2.1	bc	1031.6
US12127	42-16.2	140-35.9	3/4	1847-1854	91	North-2	NW -1	North-4	-1.7	1.9	bc	1031.7
US12128	42-19.0	140-30.2	3/4	2017-2021	91	NNW-1	NW -1	NNW-3	-2.5	1.3	bc	1031.9
US12129	42-21.5	140-36.5	3/4	2113-2117	88	NNE-1	NW -1	NNE-2	-2.2	2.0	bc	1031.9
US12130	42-26.0	140-37.4	3/4	2207-2214	83	North-1	NW -1	North-2	-2.6	2.0	bc	1032.0
US12131	42-23.2	140-42.6	3/4	2314-2318	61	North-1	NW -1	North-3	-2.3	2.0	c	1031.6
US12132	42-18.4	140-42.2	3/5	0530-0533	65	East-1	ESE-1	East-4	-2.9	1.8	bc	1029.8
US12133	42-13.5	140-41.7	3/5	0733-0737	89	East-2	ESE-1	East-5	-2.9	1.6	bc	1030.1
US12134	42-10.3	140-47.4	3/5	0848-0852	92	East-3	ESE-1	East-5	-2.0	1.3	c	1029.6
US12135	41-59.5	141-01.7	3/5	1043-1047	101	NE -1	East-1	NE -3	-1.9	0.4	o	1028.1
US12136	41-58.7	141-00.6	3/5	1054-1058	95	NE -1	East-1	NE -3	-1.4	0.5	s	1028.1
US12137	41-58.1	140-59.6	3/5	1105-1109	88	NE -1	East-1	NE -2	-1.4	0.6	o	1028.1
US12138	41-57.4	140-58.3	3/5	1117-1121	80	WSW-1	East-1	WSW-2	-2.0	0.6	o	1027.6
US12139	41-55.0	141-09.7	3/8	1028-1037	182	Calm	East-1	Calm	3.7	0.7	bc	1021.1
US12140	41-49.9	141-19.9	3/8	1204-1214	280	Calm	ESE-1	Calm	3.3	1.7	bc	1021.0
US12141	41-50.0	141-29.8	3/8	1338-1351	358	East-1	ESE-1	East-2	2.4	1.0	c	1020.5
US12142	42-00.3	141-18.8	3/8	1756-1806	286	North-1	SE -1	North-1	1.2	1.4	o	1020.7
US12143	41-59.4	141-29.7	3/9	0147-0205	462	NNE-2	SE -1	NNE-4	0.6	0.1	c	1021.6
US12144	42-10.0	141-30.0	3/9	0338-0357	553	NNE-2	SE -1	NNE-4	0.3	1.2	c	1021.9
US12145	42-20.2	141-30.2	3/9	0526-0541	430	NNE-2	SE -1	NNE-4	-0.2	0.6	c	1022.6
US12146	42-19.9	141-20.9	3/9	0655-0708	324	NNE-2	East-1	NNE-4	-0.6	0.3	bc	1023.0
US12147	42-20.0	141-10.1	3/9	0819-0823	74	NE -1	East-1	NE -3	0.2	0.5	c	1023.0
US12148	42-17.5	140-54.0	3/9	0948-0952	57	Calm	SE -1	Calm	2.0	1.1	bc	1023.2
US12149	42-10.7	140-41.6	3/9	1145-1149	87	ESE-1	SE -1	ESE-3	1.9	1.9	bc	1022.6
US12150	42-09.5	140-52.4	3/9	1259-1302	77	SE -1	East-1	SE -3	1.1	2.1	bc	1021.7
US12151	42-11.5	141-02.0	3/9	1406-1410	82	SE -1	ESE-1	SE -2	1.1	1.1	bc	1021.6
US12152	42-10.1	141-09.5	3/9	1452-1457	120	SE -1	ESE-1	SE -2	1.2	0.6	bc	1020.6
US12153	42-09.6	141-20.0	3/9	1607-1621	360	ESE-1	ESE-1	ESE-2	0.8	0.7	bc	1021.6
US12154	41-59.9	141-10.0	3/9	1752-1759	138	SE -1	ESE-1	SE -2	0.8	0.7	bc	1022.3
US12155	42-00.7	141-01.2	3/9	1905-1910	95	ESE-1	East-1	ESE-2	0.6	0.4	bc	1022.3
US12156	41-38.8	140-49.7	3/9	2311-2322	310	NE -3	East-1	NE -5	3.4	7.7	o	1021.1
US12157	41-41.1	140-47.9	3/9	2339-2347	217	NE -3	ESE-1	NE -5	3.1	7.7	o	1021.1
US12158	41-43.0	140-45.0	3/10	0006-0010	83	ENE-3	ESE-1	ENE-5	2.9	7.6	o	1021.1

Cruise 254

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US12159	41-43.7	140-41.2	3/19	1354-1358	71	West-4	WSW-1	West-6	-1.3	7.5	s	1007.0
US12160	41-43.6	140-36.5	3/19	1448-1451	34	West-3	WSW-1	West-5	-2.7	7.2	s	1007.1
US12161	41-45.4	140-40.1	3/19	1522-1525	40	West-3	SSW-1	West-5	-1.9	6.7	s	1007.1
US12162	41-46.9	140-40.7	3/19	1544-1546	20	West-3	SSW-1	West-5	-1.2	6.4	s	1007.1

(*): Fixed position by Global Positioning System

Table 2. Oceanographic data

STATION US12124				STATION US12125				STATION US12126			
LATITUDE		42-09.0	N	LATITUDE		42-11.1	N	LATITUDE		42-14.3	N
LONGITUD		140-35.6	E	LONGITUD		140-35.4	E	LONGITUD		140-30.1	E
DEPTH (m)		66		DEPTH (m)		80		DEPTH (m)		80	
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	2.537	33.292	26.561	5	2.548	33.290	26.559	5	2.415	33.243	26.532
10	2.513	33.290	26.562	10	2.548	33.304	26.570	10	2.347	33.262	26.552
20	2.411	33.286	26.566	20	2.409	33.291	26.571	20	2.349	33.281	26.568
30	2.414	33.287	26.567	30	2.369	33.297	26.579	30	2.340	33.285	26.571
40	2.408	33.288	26.569	40	2.351	33.294	26.578	40	2.348	33.287	26.573
50	2.410	33.291	26.571	50	2.341	33.297	26.581	50	2.357	33.290	26.574
				75	2.641	33.366	26.611	75	2.466	33.334	26.601
STATION US12127				STATION US12128				STATION US12129			
LATITUDE		42-16.2	N	LATITUDE		42-19.0	N	LATITUDE		42-21.5	N
LONGITUD		140-35.9	E	LONGITUD		140-30.2	E	LONGITUD		140-36.5	E
DEPTH (m)		91		DEPTH (m)		91		DEPTH (m)		88	
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	2.318	33.146	26.462	5	2.278	33.180	26.493	5	2.375	33.262	26.550
10	2.329	33.144	26.459	10	2.282	33.182	26.494	10	2.376	33.265	26.552
20	2.294	33.145	26.463	20	2.308	33.248	26.545	20	2.386	33.262	26.549
30	2.284	33.204	26.511	30	2.394	33.303	26.581	30	2.386	33.262	26.549
40	2.424	33.297	26.574	40	2.391	33.304	26.583	40	2.378	33.265	26.552
50	2.391	33.300	26.579	50	2.414	33.311	26.586	50	2.373	33.274	26.560
75	3.218	33.439	26.619	75	2.866	33.404	26.623	75	2.542	33.323	26.586
STATION US12130				STATION US12131				STATION US12132			
LATITUDE		42-26.0	N	LATITUDE		42-23.2	N	LATITUDE		42-18.4	N
LONGITUD		140-37.4	E	LONGITUD		140-42.6	E	LONGITUD		140-42.2	E
DEPTH (m)		83		DEPTH (m)		61		DEPTH (m)		65	
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	2.395	33.272	26.556	5	2.358	33.172	26.479	5	2.070	33.141	26.477
10	2.400	33.267	26.553	10	2.371	33.180	26.485	10	2.076	33.127	26.466
20	2.404	33.265	26.551	20	2.422	33.253	26.539	20	2.190	33.188	26.506
30	2.406	33.265	26.550	30	2.425	33.289	26.568	30	2.324	33.245	26.541
40	2.400	33.272	26.556	40	2.432	33.292	26.570	40	2.423	33.290	26.569
50	2.410	33.279	26.561	50	2.508	33.326	26.590	50	2.519	33.322	26.587
75	3.050	33.410	26.612								
STATION US12133				STATION US12134				STATION US12135			
LATITUDE		42-13.5	N	LATITUDE		42-10.3	N	LATITUDE		41-59.5	N
LONGITUD		140-41.7	E	LONGITUD		140-47.4	E	LONGITUD		141-01.7	E
DEPTH (m)		89		DEPTH (m)		92		DEPTH (m)		101	
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	1.780	33.059	26.433	5	1.741	33.056	26.433	5	0.792	32.829	26.313
10	1.818	33.089	26.454	10	1.744	33.057	26.434	10	0.786	32.738	26.239
20	2.337	33.289	26.575	20	2.206	33.263	26.564	20	0.897	32.777	26.265
30	2.303	33.293	26.581	30	2.247	33.286	26.580	30	1.154	32.809	26.274
40	2.382	33.307	26.586	40	2.354	33.314	26.594	40	1.294	32.833	26.285
50	2.431	33.320	26.592	50	2.413	33.328	26.600	50	1.595	32.880	26.302
75	3.154	33.489	26.665	75	2.532	33.350	26.608	75	1.887	32.928	26.320
								100	2.629	33.272	26.538
STATION US12136				STATION US12137				STATION US12138			
LATITUDE		41-58.7	N	LATITUDE		41-58.1	N	LATITUDE		41-57.4	N
LONGITUD		141-00.6	E	LONGITUD		140-59.6	E	LONGITUD		140-58.3	E
DEPTH (m)		95		DEPTH (m)		88		DEPTH (m)		80	
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	0.904	32.770	26.259	5	0.920	32.767	26.255	5	1.012	32.748	26.234
10	0.912	32.769	26.257	10	0.915	32.769	26.257	10	1.026	32.786	26.264
20	0.936	32.775	26.260	20	1.087	32.803	26.273	20	1.476	32.894	26.322
30	1.189	32.823	26.283	30	1.701	32.914	26.323	30	1.844	32.961	26.350
40	1.426	32.870	26.305	40	1.910	32.948	26.335	40	2.317	33.144	26.460
50	1.845	32.937	26.330	50	2.406	33.037	26.368	50	2.470	33.197	26.491
75	2.424	33.102	26.419	75	2.546	33.172	26.464	75	2.531	33.311	26.577

STATION US12139			
LATITUDE	41-55.0	N	
LONGITUD	141-09.7	E	
DEPTH (m)	182		
Press.	Temp.	Salinity	Sigma-T
5	0.934	32.719	26.216
10	0.897	32.721	26.219
20	0.951	32.742	26.233
30	0.966	32.745	26.234
40	1.029	32.762	26.244
50	1.120	32.787	26.259
75	2.028	32.970	26.343
100	2.392	33.128	26.442
125	2.155	33.185	26.506
150	2.536	33.325	26.588

STATION US12140			
LATITUDE	41-49.9	N	
LONGITUD	141-19.9	E	
DEPTH (m)	280		
Press.	Temp.	Salinity	Sigma-T
5	1.817	32.892	26.296
10	1.723	32.901	26.310
20	1.766	32.938	26.337
30	1.963	32.986	26.361
40	2.083	33.018	26.378
50	2.282	33.036	26.377
75	3.074	33.186	26.431
100	4.995	33.484	26.474
125	4.950	33.486	26.480
150	5.511	33.589	26.497
175	5.797	33.636	26.500
200	5.384	33.581	26.506
250	4.207	33.460	26.540

STATION US12141			
LATITUDE	41-50.0	N	
LONGITUD	141-29.8	E	
DEPTH (m)	358		
Press.	Temp.	Salinity	Sigma-T
5	1.124	32.675	26.169
10	0.567	32.678	26.203
20	0.486	32.682	26.211
30	0.549	32.738	26.253
40	0.862	32.795	26.280
50	1.047	32.835	26.302
75	1.559	32.916	26.334
100	3.085	33.172	26.419
125	4.802	33.477	26.490
150	4.810	33.467	26.481
175	5.318	33.588	26.519
200	6.012	33.718	26.539
250	3.884	33.472	26.583
300	3.464	33.489	26.637

STATION US12142			
LATITUDE	42-00.3	N	
LONGITUD	141-18.8	E	
DEPTH (m)	286		
Press.	Temp.	Salinity	Sigma-T
5	0.869	32.666	26.177
10	0.387	32.673	26.209
20	0.363	32.682	26.217
30	0.423	32.697	26.226
40	1.320	32.852	26.298
50	1.295	32.858	26.305
75	1.224	32.951	26.384
100	2.993	33.141	26.402
125	4.173	33.451	26.536
150	5.022	33.426	26.425
175	4.552	33.469	26.510
200	3.977	33.435	26.544
250	3.529	33.428	26.582

STATION US12143			
LATITUDE	41-59.4	N	
LONGITUD	141-29.7	E	
DEPTH (m)	462		
Press.	Temp.	Salinity	Sigma-T
5	0.660	32.703	26.219
10	0.760	32.800	26.291
20	1.144	32.837	26.297
30	1.212	32.839	26.294
40	1.315	32.864	26.308
50	1.241	32.891	26.334
75	2.742	33.133	26.417
100	4.241	33.388	26.479
125	4.625	33.435	26.476
150	5.478	33.579	26.493
175	5.567	33.598	26.497
200	5.209	33.510	26.471
250	4.692	33.500	26.521
300	3.632	33.431	26.574
400	2.726	33.536	26.741

STATION US12144			
LATITUDE	42-10.0	N	
LONGITUD	141-30.0	E	
DEPTH (m)	553		
Press.	Temp.	Salinity	Sigma-T
5	1.274	32.807	26.265
10	1.273	32.808	26.266
20	1.280	32.809	26.266
30	1.326	32.832	26.282
40	1.489	32.900	26.325
50	1.691	32.939	26.343
75	3.005	33.176	26.428
100	3.357	33.217	26.430
125	3.349	33.227	26.439
150	3.519	33.283	26.468
175	4.090	33.370	26.481
200	4.622	33.514	26.539
250	3.567	33.466	26.609
300	3.061	33.500	26.682
400	2.699	33.627	26.816

STATION US12145			
LATITUDE	42-20.2	N	
LONGITUD	141-30.2	E	
DEPTH (m)	430		
Press.	Temp.	Salinity	Sigma-T
5	0.486	32.694	26.220
10	0.481	32.692	26.219
20	0.480	32.693	26.220
30	0.700	32.742	26.247
40	0.734	32.792	26.286
50	1.447	32.959	26.376
75	2.100	33.015	26.374
100	3.046	33.163	26.415
125	2.587	33.121	26.420
150	4.629	33.453	26.490
175	5.243	33.559	26.505
200	4.619	33.459	26.495
250	4.531	33.514	26.549
300	3.492	33.420	26.579
400	2.704	33.592	26.787

STATION US12146			
LATITUDE	42-19.9	N	
LONGITUD	141-20.9	E	
DEPTH (m)	324		
Press.	Temp.	Salinity	Sigma-T
5	0.547	32.697	26.219
10	0.537	32.669	26.198
20	0.536	32.668	26.197
30	0.532	32.670	26.199
40	0.529	32.672	26.200
50	0.469	32.677	26.207
75	0.804	32.809	26.296
100	1.654	32.928	26.337
125	2.397	33.068	26.393
150	4.887	33.488	26.489
175	3.715	33.312	26.471
200	4.799	33.498	26.507
250	4.158	33.437	26.527

STATION US12147			
LATITUDE	42-20.0	N	
LONGITUD	141-10.1	E	
DEPTH (m)	74		
Press.	Temp.	Salinity	Sigma-T
5	0.995	32.696	26.193
10	0.977	32.696	26.195
20	0.925	32.703	26.203
30	1.065	32.755	26.237
40	1.103	32.811	26.279
50	1.374	32.884	26.321

STATION US12148			
LATITUDE	42-17.5	N	
LONGITUD	140-54.0	E	
DEPTH (m)	57		
Press.	Temp.	Salinity	Sigma-T
5	1.264	32.785	26.248
10	1.211	32.782	26.249
20	1.092	32.777	26.252
30	1.121	32.795	26.265
40	1.158	32.799	26.266
50	1.563	32.892	26.314

STATION US12149			
LATITUDE	42-10.7	N	
LONGITUD	140-41.6	E	
DEPTH (m)	87		
Press.	Temp.	Salinity	Sigma-T
5	2.213	33.003	26.356
10	2.191	33.118	26.450
20	2.306	33.175	26.486
30	2.322	33.179	26.488
40	2.338	33.184	26.491
50	2.397	33.282	26.564
75	3.375	33.506	26.659

STATION US12150			
LATITUDE	42-09.5	N	
LONGITUD	140-52.4	E	
DEPTH (m)	77		
Press.	Temp.	Salinity	Sigma-T
5	2.268	32.997	26.347
10	2.127	33.025	26.380
20	2.178	33.098	26.435
30	2.291	33.188	26.498
40	2.336	33.271	26.561
50	2.504	33.330	26.594

STATION US12151			
LATITUDE 42-11.5 N			
LONGITUD 141-02.0 E			
DEPTH (m) 82			
Press.	Temp.	Salinity	Sigma-T
5	1.407	32.723	26.189
10	1.063	32.722	26.210
20	1.240	32.794	26.256
30	1.152	32.787	26.257
40	1.164	32.800	26.266
50	1.531	32.896	26.320

STATION US12152			
LATITUDE 42-10.1 N			
LONGITUD 141-09.5 E			
DEPTH (m) 120			
Press.	Temp.	Salinity	Sigma-T
5	1.003	32.666	26.169
10	0.588	32.658	26.186
20	0.405	32.663	26.200
30	0.381	32.669	26.206
40	0.383	32.688	26.221
50	0.789	32.768	26.263
75	1.300	32.886	26.327
100	2.341	33.039	26.375

STATION US12153			
LATITUDE 42-09.6 N			
LONGITUD 141-20.0 E			
DEPTH (m) 360			
Press.	Temp.	Salinity	Sigma-T
5	1.029	32.668	26.168
10	1.015	32.665	26.167
20	0.725	32.661	26.181
30	0.648	32.681	26.201
40	0.493	32.682	26.211
50	0.438	32.687	26.217
75	0.561	32.757	26.267
100	0.814	32.858	26.335
125	1.383	32.962	26.382
150	2.796	33.195	26.462
175	4.096	33.375	26.484
200	4.989	33.504	26.491
250	4.461	33.445	26.501
300	3.618	33.433	26.578

STATION US12154			
LATITUDE 41-59.9 N			
LONGITUD 141-10.0 E			
DEPTH (m) 138			
Press.	Temp.	Salinity	Sigma-T
5	0.975	32.706	26.203
10	0.959	32.705	26.203
20	0.760	32.702	26.212
30	0.895	32.745	26.239
40	1.086	32.775	26.251
50	1.256	32.825	26.281
75	1.648	32.914	26.326
100	2.567	33.063	26.376
125	2.715	33.080	26.377

STATION US12155			
LATITUDE 42-00.7 N			
LONGITUD 141-01.2 E			
DEPTH (m) 95			
Press.	Temp.	Salinity	Sigma-T
5	0.894	32.847	26.321
10	0.796	32.669	26.183
20	0.620	32.695	26.214
30	0.690	32.716	26.227
40	1.003	32.781	26.261
50	1.514	32.884	26.311
75	2.120	33.004	26.364

STATION US12156			
LATITUDE 41-38.8 N			
LONGITUD 140-49.7 E			
DEPTH (m) 310			
Press.	Temp.	Salinity	Sigma-T
5	8.061	34.040	26.511
10	8.050	34.042	26.514
20	7.938	34.051	26.538
30	7.750	34.047	26.562
40	7.614	34.048	26.583
50	7.553	34.056	26.598
75	7.536	34.053	26.597
100	7.539	34.054	26.598
125	7.552	34.053	26.595
150	7.428	34.051	26.611
175	7.372	34.054	26.622
200	7.303	34.049	26.628
250	7.249	34.046	26.633

STATION US12157			
LATITUDE 41-41.1 N			
LONGITUD 140-47.9 E			
DEPTH (m) 217			
Press.	Temp.	Salinity	Sigma-T
5	7.966	34.034	26.520
10	7.965	34.034	26.520
20	7.961	34.034	26.521
30	7.960	34.034	26.521
40	7.947	34.035	26.524
50	7.920	34.034	26.527
75	7.922	34.033	26.526
100	7.870	34.034	26.534
125	7.846	34.035	26.539
150	7.664	34.052	26.579
175	7.237	34.039	26.629
200	6.933	34.057	26.685

STATION US12158			
LATITUDE 41-43.0 N			
LONGITUD 140-45.0 E			
DEPTH (m) 83			
Press.	Temp.	Salinity	Sigma-T
5	7.477	34.040	26.596
10	7.495	34.040	26.593
20	7.501	34.039	26.592
30	7.499	34.038	26.591
40	7.389	34.043	26.611
50	7.309	34.049	26.627
75	6.970	34.053	26.677

STATION US12159			
LATITUDE 41-43.7 N			
LONGITUD 140-41.2 E			
DEPTH (m) 71			
Press.	Temp.	Salinity	Sigma-T
5	7.803	34.021	26.534
10	7.812	34.025	26.536
20	7.825	34.030	26.538
30	7.814	34.037	26.545
40	7.764	34.038	26.553
50	7.686	34.041	26.566

STATION US12160			
LATITUDE 41-43.6 N			
LONGITUD 140-36.5 E			
DEPTH (m) 34			
Press.	Temp.	Salinity	Sigma-T
5	7.457	34.011	26.576
10	7.481	34.018	26.578
20	7.496	34.022	26.579
30	7.532	34.038	26.587

STATION US12161			
LATITUDE 41-45.4 N			
LONGITUD 140-40.1 E			
DEPTH (m) 40			
Press.	Temp.	Salinity	Sigma-T
5	7.475	33.889	26.477
10	7.485	33.809	26.413
20	7.476	33.892	26.480
30	7.423	34.023	26.590

STATION US12162			
LATITUDE 41-46.9 N			
LONGITUD 140-40.7 E			
DEPTH (m) 20			
Press.	Temp.	Salinity	Sigma-T
5	6.289	33.419	26.267
10	6.298	33.529	26.353

