HOKKAIDO UNIVERSITY

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5

THE " USHIO MARU "

CRUISE 227
CRUISE 228
CRUISE 229

IN APRIL - MAY 2011

1. Cruise Itinerary

Cruise 227

Departure from Hakodate	Apr.	25,	2011
Arrival at and departure from Shiraoi		25	
Start hydrographic research (US11240)		26	
Finish hydrographic research (US11245)		27	
Arrival at and departure from Muroran		28	
Arrival at Usujiri		28	
Departure from Usujiri		29	
Return to Hakodate		29	

Total coverage 741.4 miles

Cruise 228

Departure from Hakodate	May	7,	2011
Arrival at Usujiri		7	
Departure from Usujiri		8	
Research by bottom long line		8	
Start hydrographic research (US11246)		8	
Arrival at Usujiri		8	
Departure from Usujiri		9	
Start frame trawl net sampling		10	
Finish frame trawl net sampling		11	
Arrival at Usujiri		12	
Departure from Usujiri		14	
Anchorage at Muroran		14	
Departure from Muroran		15	
Finish hydrographic research (US11306)		15	
Return to Hakodate		16	

Total coverage 692.2 miles

Cruise 229

Departure from Hakodate	May	20,	2011
Arrival at and departure from Usujiri		20	
Start hydrographic research (US11307) and frame trawl net sampling		20	
Arrival at Usujiri		23	
Departure from Usujiri		25	
Finish frame trawl net sampling		25	
Start sledge net sampling		25	
Arrival at Muroran		25	
Departure from Muroran		26	
Finish sledge net sampling		26	
Arrival at Usujiri		26	
Departure from Usujiri		27	
Finish hydrographic research (US11358)		27	
Return to Hakodate		28	

Total coverage 745.8 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 SBE9Plus and SBE-19). Dynamic computations were made using a desk-top computer aboard the "Ushio Maru".

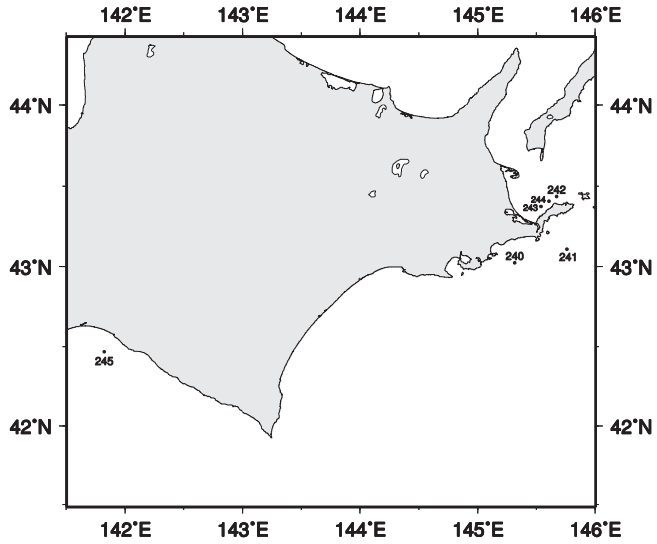

Figure 1. Oceanographic stations (Cruise 227)

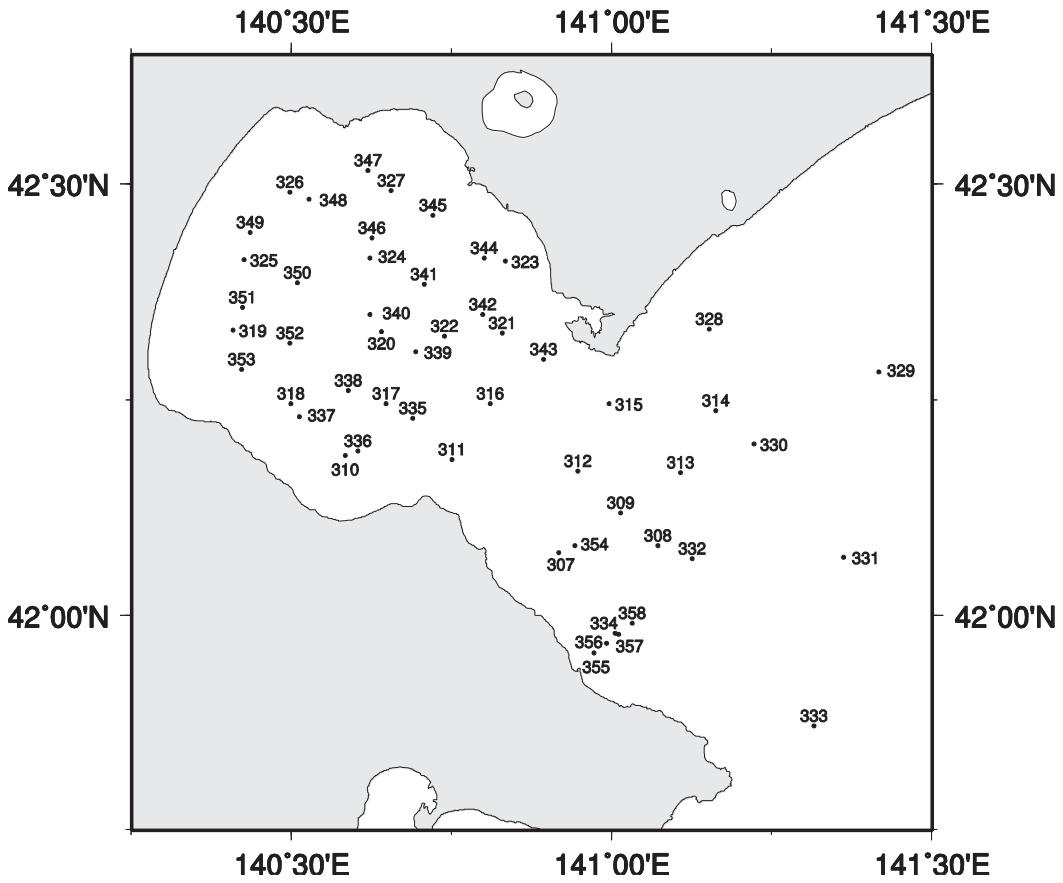

Figure 2. Oceanographic stations (Cruise 229)

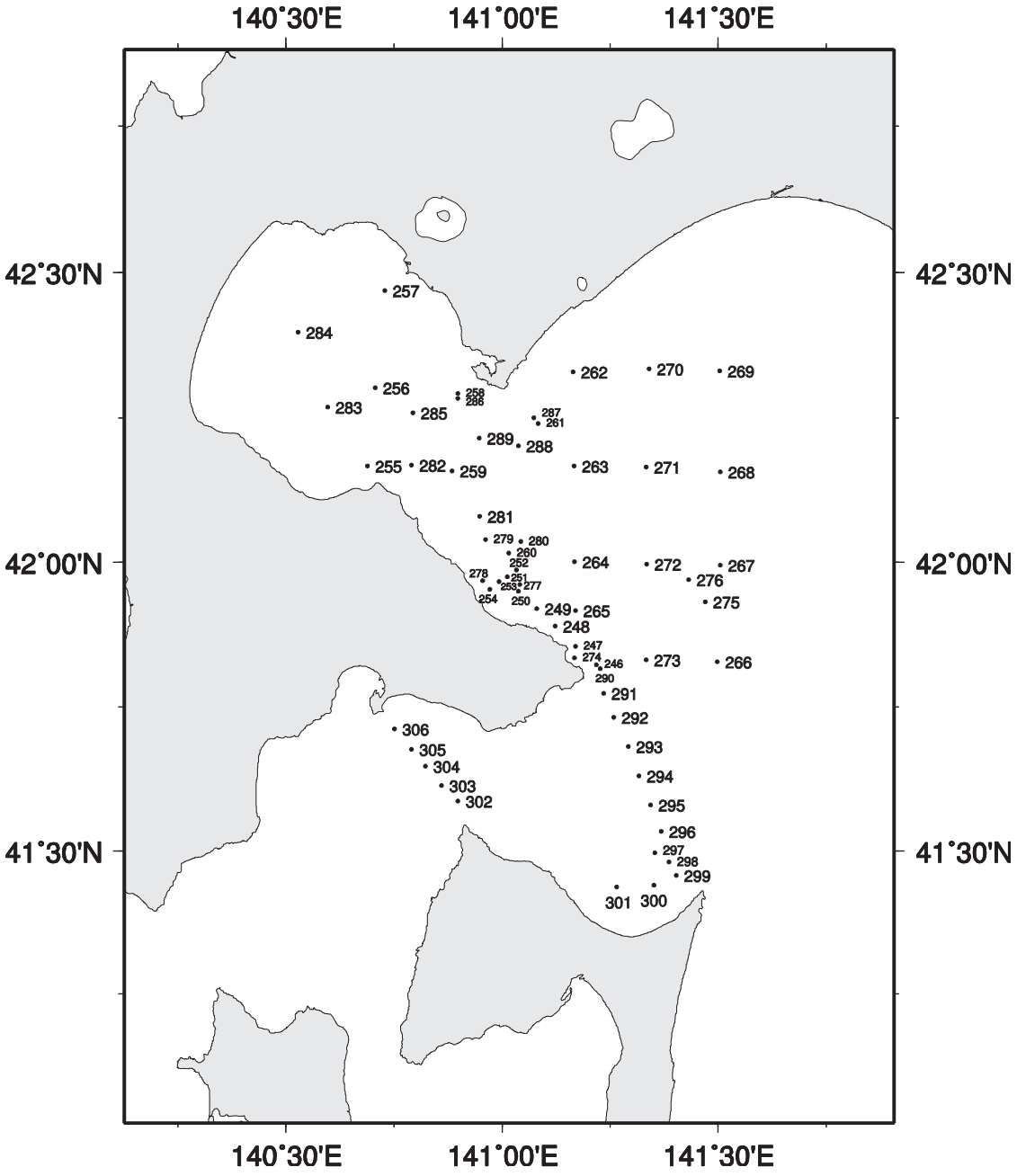

Figure 3. Oceanographic stations (Cruise 228)

Table 1: List of oceanographic stations

Cruise 227

Station	Lat. (N)*	Long (E)*	Date	S.M.T	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US11240	43-01.7	145-18.7	4/26	1208-1211	46	SW -3	SSW -2	SW -5	7.2	2.9	bc	1008.5
US11241	43-06.7	145-45.4	4/26	1515-1519	95	SW -2	South-2	SW -4	5.2	1.4	bc	1008.8
US11242	43-26.4	145-40.2	4/26	1803-1809	29	West-2	SSW-1	West-4	8.0	2.8	bc	1009.8
US11243	43-22.6	145-32.1	4/26	1908-1911	18	SSW-2	SSW-1	SSW-4	6.6	4.3	bc	1010.1
US11244	43-24.6	145-36.2	4/26	1749-1752	25	SW -1	SSW-1	SW -3	6.6	4.4	bc	1010.6
US11245	42-28.2	141-49.2	4/27	1802-1804	38	SSW-1	SE -1	SSW-3	6.5	4.3	r	1007.6

Cruise 228

Station	Lat. (N)*	Long (E)*	Date	S.M.T	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US11246	41-49.5	141-13.0	5/8	0730-0737	165	SW -2	SE -1	SW -4	10.2	5	bc	1004.6
US11247	41-51.4	141-10.1	5/8	0758-0802	107	SW -3	SE -1	SW -5	9.9	5	c	1004.3
US11248	41-53.5	141-07.3	5/8	0825-0830	95	NW -3	SE -1	NW -5	9.4	5.5	c	1004.5
US11249	41-55.3	141-04.7	5/8	1000-1004	110	NNW-2	SE -1	NNW-4	7.7	6.2	c	1005.2
US11250	41-57.1	141-02.2	5/8	1022-1026	104	NW -1	SE -1	NW -2	8	5.4	c	1005.2
US11251	41-58.6	141-00.6	5/8	1045-1049	93	NW -1	SE -1	NW -3	10.3	5.3	c	1005.2
US11252	41-59.3	141-01.9	5/8	1058-1102	100	West-1	SE -1	West-3	9.9	5.3	c	1005.1
US11253	41-58.1	140-59.5	5/8	1116-1120	85	NW -3	SE -1	NW -5	9.5	5.3	bc	1004.7
US11254	41-57.3	140-58.2	5/8	1128-1132	77	West-1	SE -1	West-3	9.5	5.6	bc	1004.8
US11255	42-10.1	140-41.2	5/9	0756-0800	85	SW -3	West-1	SW -5	10.7	5.5	bc	1011.2
US11256	42-18.2	140-42.3	5/9	0903-0907	64	WNW-2	SE -1	WNW-4	10.1	5.6	bc	1011.5
US11257	42-28.2	140-43.6	5/9	1013-1017	59	WSW-1	SE -1	WSW-3	11.4	7.8	bc	1011.6
US11258	42-17.6	140-53.8	5/9	1135-1138	56	Calm	SSE-1	Calm	12.1	7.2	bc	1011
US11259	42-09.6	140-53.0	5/9	1234-1238	77	SSW-1	SE -1	SSW-3	10.3	6.7	bc	1010.5
US11260	42-01.1	141-00.8	5/9	1347-1351	90	South-1	SE -1	South-2	10.9	6.6	bc	1010.6
US11261	42-14.5	141-04.9	5/9	1518-1522	80	West-2	SE -1	West-4	11.5	6.8	o	1009.2
US11262	42-19.8	141-09.8	5/9	1610-1614	72	Calm	SE -1	Calm	9	6.4	o	1009.4
US11263	42-10.1	141-09.9	5/9	1723-1728	123	West-1	SE -1	West-3	8.9	6.2	o	1010
US11264	42-00.2	141-10.0	5/9	1840-1846	136	SW -2	SE -1	SW -4	9.3	6.1	o	1009.6
US11265	41-55.1	141-10.1	5/9	1932-1939	188	SW -1	SSE-1	SW -3	9.7	5.9	o	1009.4
US11266	41-49.8	141-29.8	5/9	2125-2137	363	South-1	SSE-1	Sputh-3	9.1	5.2	r	1007.8
US11267	41-59.8	141-30.2	5/9	2300-2312	497	South-1	SSE-1	South-3	8.4	5.5	o	1006.7
US11268	42-09.5	141-30.2	5/10	0029-0039	569	South-1	SSE-1	South-3	7.8	6.5	r	1003.1
US11269	42-19.9	141-30.1	5/10	0155-0207	448	SE -1	SSE-1	SE -2	7.3	5.6	r	1001.3
US11270	42-20.1	141-20.3	5/10	0308-0318	269	NE -1	SSE-1	NE -2	7	5.6	r	1000.6
US11271	42-10.0	141-19.9	5/10	0440-0450	359	North-1	SSE-1	North-2	7.2	5.7	r	1000.1
US11272	41-59.9	141-20.0	5/10	0610-0621	308	North-2	SE -1	North-3	7.3	6.4	r	1000.1
US11273	41-50.0	141-19.9	5/10	0738-0748	279	NNW-2	SE -1	NNW-3	7.1	6.6	o	1000.9
US11274	41-50.2	141-10.0	5/10	0915-0918	78	North-2	East-1	North-4	8.3	6.1	c	1001
US11275	41-56.0	141-28.1	5/10	2310-2320	372	West-2	East-1	West-4	7.4	6.9	bc	1008.2
US11276	41-58.3	141-25.8	5/11	1043-1055	355	NNE -1	North-1	NNE-2	8.6	7	bc	1011.6
US11277	41-57.8	141-02.4	5/11	1423-1427	105	SE -1	East-1	SE -2	10.2	7.8	bc	1011.1
US11278	41-58.2	140-57.2	5/11	1504-1508	71	SSE-1	East-1	SSE-2	10	7.4	bc	1010.6
US11279	42-02.5	140-57.6	5/11	1554-1558	79	SE -1	East-1	SE -2	8.6	7.3	bc	1010.5
US11280	42-02.3	141-02.5	5/11	1638-1643	97	SE -1	East-1	SE -2	9.2	7.3	bc	1010.5
US11281	42-04.9	140-56.8	5/14	0707-0717	83	NW -3	East-1	NW -5	6.1	5.2	c	995
US11282	42-10.2	140-47.3	5/14	0835-0839	95	NW -1	East-1	NW -3	6.2	5.1	r	996.1
US11283	42-16.2	140-35.7	5/14	0959-1008	92	West-3	East-1	West-5	6.6	5.3	r	996.6
US11284	42-23.9	140-31.6	5/14	1142-1146	96	West-3	SE -1	West-5	8.3	6	bc	997
US11285	42-15.6	140-47.5	5/14	1324-1328	72	WNW-3	SE -1	WNW-5	7.6	5.6	bc	998.1
US11286	42-17.1	140-53.8	5/14	1415-1422	58	WNW-3	SE -1	WNW-5	8.8	5.8	bc	998.8
US11287	42-15.1	141-04.3	5/14	1535-1539	78	WNW-3	ESE-1	WNW-5	7.4	5.8	bc	1000.1
US11288	42-12.2	141-02.2	5/14	1603-1607	80	WNW-3	ESE-1	WNW-6	7.3	6	bc	1000.8
US11289	42-13.0	140-56.7	5/14	1636-1640	70	WNW-4	WNW-1	WNW-6	7	5.6	bc	1001.2
US11290	41-49.1	141-13.5	5/15	0834-0847	178	NW -3	NW -1	NW -5	6.6	5.3	bc	1013.6
US11291	41-46.5	141-14.0	5/15	1012-1025	187	NW -3	NW -1	NW -5	6.9	6.4	bc	1015.5
US11292	41-44.0	141-15.4	5/15	1046-1102	224	NNW-3	NW -1	NNW-5	7.9	7.5	c	1016.1
US11293	41-41.0	141-17.4	5/15	1126-1140	233	West-3	NW -1	West-5	8.6	7.4	bc	1016.1
US11294	41-37.9	141-18.9	5/15	1204-1218	214	West-3	East-1	West-5	9.1	8.1	bc	1016
US11295	41-34.9	141-20.5	5/15	1239-1257	320	West-3	East-1	West-5	9.5	8.8	bc	1016
US11296	41-32.1	141-22.0	5/15	1315-1331	257	West-3	East-1	West-5	10.2	9.1	bc	1016.1
US11297	41-29.9	141-21.1	5/15	1352-1405	222	West-2	East-1	West-4	10.5	9.5	bc	1016
US11298	41-28.9	141-23.1	5/15	14191426	100	West-2	ESE-1	West-3	13.6	9.3	bc	1016.1
US11299	41-27.5	141-24.1	5/15	1439-1446	50	WNW-1	ESE-1	WNW-3	11.6	9	bc	1016.1
US11300	41-26.5	141-21.0	5/15	1504-1511	71	NW -1	ESE-1	NW -3	10.6	9.2	bc	1016.2
US11301	41-26.3	141-15.8	5/15	1541-1549	80	NW -2	NW -1	NW -4	10.7	9.3	bc	1016.2
US11302	41-35.3	140-53.8	5/15	1738-1741	55	SW -3	West-1	SW -5	9.3	9.9	bc	1017.1
US11303	41-36.9	140-51.5	5/15	1800-1804	93	South-2	WSW-1	South-3	9.2	9.8	bc	1016.5
US11304	41-38.9	140-49.3	5/15	1823-1834	306	SSW-1	WSW-1	SSW-3	9.4	9.8	bc	1016.8
US11305	41-40.7	140-47.3	5/15	1851-1900	223	Calm	East-1	Calm	9.7	9.8	c	1017.1
US11306	41-42.8	140-45.0	5/15	1918-1922	85	SW -1	SW -1	SW -2	10	9.7	c	1017.2

Cruise 229

Station	Lat. (N)*	Long (E)*	Date	S.M.T	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US11307	42-04.4	140-55.0	5/20	1443-1447	76	West-2	ESE-1	West-4	14.7	7.4	r	1010.1
US11308	42-04.9	141-04.3	5/20	1534-1538	100	WNW-2	ESE-1	WNW-3	13.7	7.5	o	1009.5
US11309	42-07.2	141-00.8	5/20	1740-1744	87	Calm	ESE-1	Calm	13.4	8.4	o	1009.6
US11310	42-11.2	140-35.0	5/21	0549-0553	81	Calm	East-1	Calm	11.2	9	r	1007
US11311	42-10.9	140-45.0	5/21	0641-0646	96	Calm	East-1	Calm	11.5	8.4	f	1007.3
US11312	42-10.1	140-56.8	5/21	0745-0748	78	Calm	East-1	Calm	11.3	9.3	f	1007.3
US11313	42-10.0	141-06.4	5/21	0840-0844	95	Calm	ESE-1	Calm	10.7	8.6	f	1007.1
US11314	42-14.3	141-09.7	5/21	1115-1119	96	Calm	ESE-1	Calm	11.2	8.7	m	1006.7
US11315	42-14.8	140-59.7	5/21	1204-1207	68	Calm	ESE-1	Calm	11.9	8.5	f	1006.6
US11316	42-14.8	140-48.6	5/21	1300-1303	70	Calm	ESE-1	Calm	12.6	8.9	o	1006.7
US11317	42-14.8	140-38.8	5/21	1349-1353	88	WNW-1	ESE-1	WNW-3	12.4	9.2	o	1006.7
US11318	42-14.8	140-29.9	5/21	1605-1609	82	SW -1	ESE-1	SW -3	12.9	9.5	o	1007.5
US11319	42-19.9	140-24.5	5/22	0554-0556	66	West-1	ESE-1	West-1	10	8.5	o	1011.1
US11320	42-19.8	140-38.4	5/22	0700-0705	82	West-1	ESE-1	West-3	10.8	8.4	o	1011.6
US11321	42-19.7	140-49.7	5/22	0800-0802	47	West-1	SE -1	West-3	10.6	8.8	o	1011.6
US11322	42-19.5	140-44.3	5/22	0830-0833	60	West-1	ESE-1	West-3	10.2	8	o	1011.7
US11323	42-24.7	140-50.0	5/22	1029-1032	40	Calm	SW-1	Calm	11.3	9.2	c	1012.1
US11324	42-24.9	140-37.3	5/22	1132-1135	86	Calm	West-1	Calm	12.7	8.3	c	1012.2
US11325	42-24.8	140-25.5	5/22	1231-1234	70	West-2	West-1	West-3	13.8	9	bc	1011.9
US11326	42-29.5	140-29.8	5/22	1310-1313	68	WSW-2	WSW-1	WSW-4	14.5	8.8	bc	1011.7
US11327	42-29.6	140-39.3	5/22	1357-1400	66	WSW-2	WSW-1	WSW-5	13.2	9	bc	1011.6
US11328	42-20.0	141-09.1	5/23	0525-0527	69	Calm	SW-1	Calm	8.4	7.9	bc	1017.1
US11329	42-17.0	141-25.0	5/23	0644-0652	477	Calm	SW-1	Calm	8.4	8	bc	1017.3
US11330	42-12.0	141-13.3	5/23	0758-0803	152	West-2	SW-1	West-5	9.1	8.5	bc	1018.2
US11331	42-04.1	141-21.7	5/23	0904-0912	346	NW -2	West-1	NW -4	9.7	8.6	bc	1018.4
US11332	42-04.0	141-07.5	5/23	1021-1026	118	NW -2	West-1	NW -4	9.2	8.3	c	1019
US11333	41-52.3	141-18.9	5/23	1149-1157	284	West-1	SE -1	West-2	10	8.9	bc	1019.6
US11334	41-58.8	141-00.3	5/23	1334-1338	91	NW -1	SE -1	NW -2	11.5	9.6	bc	1019.5
US11335	42-13.8	140-41.3	5/25	0849-0854	88	ESE-1	ESE-1	ESE-1	10.5	9.2	c	1019.1
US11336	42-11.5	140-36.2	5/25	0953-0959	82	SSW-1	ESE-1	SSW-1	12.2	9.6	bc	1019.1
US11337	42-13.9	140-30.7	5/25	1058-1103	81	SE -1	East-1	SE -2	13.5	106	bc	1019.5
US11338	42-15.7	140-35.3	5/25	1143-1148	91	SE -1	East-1	SE -3	11.5	9.6	bc	1019.5
US11339	42-18.4	140-41.6	5/25	1317-1321	71	SE -1	East-1	SE -3	10.2	10.2	bc	1019.7
US11340	42-21.0	140-37.3	5/25	1422-1426	84	SE -1	East-1	SE -3	14	9.7	bc	1020
US11341	42-23.1	140-42.4	5/25	1523-1526	61	SE -1	East-1	SE -3	10.6	9.6	bc	1020.1
US11342	42-21.0	140-47.9	5/25	1558-1600	51	SE -1	ESE-1	SE -3	10.8	9.5	bc	1020.1
US11343	42-17.9	140-53.6	5/25	1638-1641	55	SE -1	ESE-1	SE -3	11.8	9.8	bc	1020.1
US11344	42-24.9	140-48.0	5/26	0703-0708	45	Calm	SE -1	Calm	7.7	9.3	f	1024.2
US11345	42-27.9	140-43.2	5/26	0739-0745	59	Calm	SE -1	Calm	7.8	9.7	f	1024.2
US11346	42-26.3	140-37.5	5/26	0817-0823	81	Calm	SE -1	Calm	7.9	9.8	f	1024.2
US11347	42-31.0	140-37.1	5/26	0856-0900	63	Calm	SE -1	Calm	8.3	9.6	f	1024.1
US11348	42-29.0	140-31.6	5/26	0934-0938	75	Calm	SE -1	Calm	8.7	10	f	1024.1
US11349	42-26.7	140-26.1	5/26	1011-1015	68	Calm	SE -1	Calm	8.8	10	f	1024
US11350	42-23.2	140-30.5	5/26	1103-1108	95	Calm	SE -1	Calm	9.1	10	f	1023.6
US11351	42-21.5	140-25.4	5/26	1159-1203	73	Calm	SE -1	Calm	9.6	10.9	f	1023.5
US11352	42-19.0	140-29.8	5/26	1243-1249	92	Calm	SE -1	Calm	9.6	10.5	f	1023.2
US11353	42-17.2	140-25.3	5/26	1333-1337	63	Calm	East-1	Calm	10	11	f	1023.1
US11354	42-04.9	140-56.5	5/26	1644-1649	85	East-1	ESE-1	East-3	9.8	10	f	1022.6
US11355	41-57.4	140-58.3	5/27	1005-1009	80	Calm	East-1	Calm	9.6	9.3	f	1027.1
US11356	41-58.1	140-59.5	5/27	1016-1020	87	Calm	East-1	Calm	9.3	9.5	f	1022.1
US11357	41-58.7	141-00.6	5/27	1028-1032	94	NE -1	ESE-1	NE -3	9.4	9.4	f	1021.9
US11358	41-59.5	141-01.9	5/27	1042-1047	101	NE -1	ESE-1	NE -3	9.4	9.6	f	1021.8

(*): Fixed position by Global Positioning System

Table 2: Oceanographic data

STATION US11240
LATITUDE 43-01.7 N
LONGITUDE 145-18.7 E
DEPTH (m) 46

Press.	Temp.	Salinity	Sigma-T
5	3.241	32.268	25.684
10	2.460	32.354	25.818
20	1.645	32.442	25.948
30	1.423	32.635	26.117
40	1.732	32.775	26.208

STATION US11241
LATITUDE 43-06.7 N
LONGITUDE 145-45.4 E
DEPTH (m) 95

Press.	Temp.	Salinity	Sigma-T
5	1.874	32.580	26.042
10	1.622	32.566	26.049
20	0.935	32.603	26.122
30	0.968	32.684	26.185
40	0.969	32.729	26.222
50	1.114	32.782	26.255
75	0.951	32.957	26.405

STATION US11242
LATITUDE 43-26.4 N
LONGITUDE 145-40.2 E
DEPTH (m) 29

Press.	Temp.	Salinity	Sigma-T
5	2.264	32.341	25.822
10	1.533	32.438	25.952
20	1.387	32.475	25.991

STATION US11243
LATITUDE 43-22.6 N
LONGITUDE 145-32.1 E
DEPTH (m) 18

Press.	Temp.	Salinity	Sigma-T
5	4.075	31.797	25.232
10	2.960	32.148	25.613

STATION US11244
LATITUDE 43-24.6 N
LONGITUDE 145-36.2 E
DEPTH (m) 25

Press.	Temp.	Salinity	Sigma-T
5	4.444	31.853	25.240
10	2.162	32.269	25.772
20	1.578	32.386	25.907

STATION US11245
LATITUDE 42-28.2 N
LONGITUDE 141-49.2 E
DEPTH (m) 38

Press.	Temp.	Salinity	Sigma-T
5	4.218	32.669	25.910
10	3.912	32.664	25.937
20	3.574	32.677	25.980
30	3.546	32.684	25.987

STATION US11246
LATITUDE 41-49.5 N
LONGITUDE 141-13.0 E
DEPTH (m) 165

Press.	Temp.	Salinity	Sigma-T
5	5.296	32.627	25.761
10	5.685	32.835	25.880
20	7.864	33.659	26.241
30	8.130	33.767	26.286
40	8.134	33.793	26.306
50	8.218	33.828	26.321
75	7.215	33.713	26.375
100	4.716	33.474	26.497
125	4.679	33.488	26.512
150	4.681	33.490	26.514

STATION US11247
LATITUDE 41-51.4 N
LONGITUDE 141-10.1 E
DEPTH (m) 107

Press.	Temp.	Salinity	Sigma-T
5	5.458	32.633	25.747
10	5.276	32.780	25.884
20	6.260	33.198	26.096
30	6.502	33.447	26.262
40	6.937	33.617	26.338
50	7.182	33.700	26.370
75	5.925	33.594	26.451
100	5.724	33.576	26.461

STATION US11248
LATITUDE 41-53.5 N
LONGITUDE 141-07.3 E
DEPTH (m) 95

Press.	Temp.	Salinity	Sigma-T
5	5.795	32.519	25.618
10	5.927	32.805	25.828
20	6.221	33.200	26.103
30	6.292	33.257	26.139
40	7.788	33.764	26.334
50	7.925	33.789	26.334
75	6.595	33.684	26.436

STATION US11249
LATITUDE 41-55.3 N
LONGITUDE 141-04.7 E
DEPTH (m) 110

Press.	Temp.	Salinity	Sigma-T
5	5.834	32.431	25.543
10	6.227	32.772	25.764
20	7.948	33.608	26.188
30	8.220	33.708	26.227
40	6.240	33.404	26.261
50	5.751	33.390	26.311
75	6.377	33.633	26.425
100	3.182	33.375	26.572

STATION US11250
LATITUDE 41-57.1 N
LONGITUDE 141-02.2 E
DEPTH (m) 104

Press.	Temp.	Salinity	Sigma-T
5	5.710	32.446	25.570
10	5.666	32.505	25.622
20	5.692	32.784	25.839
30	5.667	33.122	26.109
40	7.796	33.604	26.207
50	7.782	33.673	26.263
75	3.468	33.276	26.467

STATION US11251
LATITUDE 41-58.6 N
LONGITUDE 141-00.6 E
DEPTH (m) 93

Press.	Temp.	Salinity	Sigma-T
5	5.590	32.619	25.720
10	5.526	32.631	25.738
20	4.679	32.724	25.906
30	5.501	33.084	26.099
40	6.023	33.239	26.158
50	5.704	33.231	26.191
75	3.350	33.357	26.542

STATION US11252
LATITUDE 41-59.3 N
LONGITUDE 141-01.9 E
DEPTH (m) 100

Press.	Temp.	Salinity	Sigma-T
5	5.670	32.576	25.677
10	5.628	32.588	25.692
20	4.901	32.929	26.044
30	5.271	33.043	26.093
40	5.681	33.151	26.130
50	8.032	33.684	26.236
75	3.428	33.365	26.541

STATION US11253
LATITUDE 41-58.1 N
LONGITUDE 140-59.5 E
DEPTH (m) 85

Press.	Temp.	Salinity	Sigma-T
5	5.652	32.622	25.715
10	5.644	32.622	25.717
20	5.251	32.718	25.838
30	5.148	33.034	26.100
40	5.145	33.097	26.151
50	4.917	33.197	26.256
75	3.363	33.330	26.520

STATION US11254
LATITUDE 41-57.3 N
LONGITUDE 140-58.2 E
DEPTH (m) 77

Press.	Temp.	Salinity	Sigma-T
5	5.631	32.561	25.670
10	5.513	32.584	25.702
20	4.767	32.710	25.886
30	4.454	32.791	25.983
40	5.187	33.104	26.151
50	3.742	33.090	26.292

STATION US11255
LATITUDE 42-10.1 N
LONGITUDE 140-41.2 E
DEPTH (m) 85

Press.	Temp.	Salinity	Sigma-T
5	5.754	32.044	25.247
10	5.767	32.468	25.581
20	5.053	32.604	25.770
30	4.608	32.720	25.910
40	4.197	32.840	26.048
50	3.453	33.018	26.263
75	3.303	33.323	26.519

STATION US11256
LATITUDE 42-18.2 N
LONGITUDE 140-42.3 E
DEPTH (m) 64

Press.	Temp.	Salinity	Sigma-T
5	5.712	32.446	25.570
10	5.557	32.459	25.598
20	5.411	32.459	25.615
30	4.933	32.700	25.859
40	4.042	32.847	26.070
50	3.017	33.131	26.392

STATION US11257
LATITUDE 42-28.2 N
LONGITUDE 140-43.6 E
DEPTH (m) 59

Press.	Temp.	Salinity	Sigma-T
5	6.985	31.934	25.007
10	5.865	32.527	25.615
20	5.525	32.574	25.693
30	5.379	32.583	25.716
40	4.593	32.652	25.858
50	3.682	32.945	26.183

STATION US11258
LATITUDE 42-17.6 N
LONGITUDE 140-53.8 E
DEPTH (m) 56

Press.	Temp.	Salinity	Sigma-T
5	6.328	32.310	25.387
10	5.536	32.528	25.655
20	5.330	32.565	25.708
30	4.788	32.683	25.862
40	3.636	32.939	26.182
50	3.268	33.058	26.311

STATION US11259
LATITUDE 42-09.6 N
LONGITUDE 140-53.0 E
DEPTH (m) 77

Press.	Temp.	Salinity	Sigma-T
5	5.933	31.660	24.922
10	5.381	32.327	25.514
20	5.087	32.698	25.841
30	4.285	32.865	26.059
40	3.733	32.934	26.169
50	3.905	33.303	26.446

STATION US11260
LATITUDE 42-01.1 N
LONGITUDE 141-00.8 E
DEPTH (m) 90

Press.	Temp.	Salinity	Sigma-T
5	5.718	32.647	25.728
10	5.545	32.696	25.787
20	5.414	32.745	25.841
30	5.653	32.972	25.992
40	6.144	33.298	26.190
50	7.320	33.731	26.375
75	3.981	33.384	26.503

STATION US11261
LATITUDE 42-14.5 N
LONGITUDE 141-04.9 E
DEPTH (m) 80

Press.	Temp.	Salinity	Sigma-T
5	6.641	31.958	25.070
10	5.506	32.183	25.386
20	3.412	32.919	26.187
30	3.127	33.085	26.345
40	3.187	33.157	26.398
50	3.261	33.226	26.446

STATION US11262
LATITUDE 42-19.8 N
LONGITUDE 141-09.8 E
DEPTH (m) 72

Press.	Temp.	Salinity	Sigma-T
5	5.580	32.370	25.525
10	5.203	32.597	25.748
20	4.203	32.773	25.995
30	3.758	32.897	26.137
40	3.563	32.981	26.222
50	3.191	33.122	26.369

STATION US11263
LATITUDE 42-10.1 N
LONGITUDE 141-09.9 E
DEPTH (m) 123

Press.	Temp.	Salinity	Sigma-T
5	5.500	32.735	25.823
10	5.274	32.751	25.862
20	5.086	32.967	26.054
30	4.884	33.026	26.123
40	4.786	33.050	26.153
50	4.408	33.055	26.197
75	3.201	33.190	26.422
100	3.319	33.294	26.494

STATION US11264
LATITUDE 42-00.2 N
LONGITUDE 141-10.0 E
DEPTH (m) 136

Press.	Temp.	Salinity	Sigma-T
5	5.396	32.731	25.832
10	5.320	32.755	25.860
20	4.668	32.835	25.995
30	4.210	32.850	26.055
40	3.823	32.925	26.153
50	3.812	33.041	26.247
75	3.499	33.281	26.468
100	3.439	33.345	26.525
125	3.454	33.427	26.588

STATION US11265
LATITUDE 41-55.1 N
LONGITUDE 141-10.1 E
DEPTH (m) 188

Press.	Temp.	Salinity	Sigma-T
5	5.343	32.721	25.830
10	4.793	32.727	25.896
20	4.155	32.806	26.025
30	4.205	32.940	26.127
40	4.136	33.037	26.211
50	4.100	33.132	26.290
75	3.923	33.367	26.495
100	4.191	33.433	26.520
125	3.866	33.444	26.562
150	3.041	33.396	26.601
175	2.779	33.421	26.644

STATION US11266
LATITUDE 41-49.8 N
LONGITUDE 141-29.8 E
DEPTH (m) 363

Press.	Temp.	Salinity	Sigma-T
5	7.313	33.325	26.057
10	8.509	33.638	26.127
20	8.539	33.749	26.210
30	8.220	33.762	26.269
40	8.104	33.775	26.297
50	8.002	33.768	26.306
75	7.797	33.798	26.360
100	7.110	33.752	26.420
125	6.709	33.761	26.482
150	5.663	33.669	26.543
175	5.112	33.638	26.583
200	4.320	33.579	26.623
250	3.019	33.492	26.679
300	2.465	33.541	26.766

STATION US11267
LATITUDE 41-59.8 N
LONGITUDE 141-30.2 E
DEPTH (m) 497

Press.	Temp.	Salinity	Sigma-T
5	5.734	32.862	25.896
10	5.276	32.929	26.002
20	7.372	33.496	26.183
30	8.466	33.772	26.240
40	8.519	33.811	26.262
50	8.221	33.819	26.314
75	7.782	33.809	26.371
100	5.126	33.516	26.485
125	5.410	33.597	26.516
150	5.181	33.595	26.541
175	5.155	33.614	26.559
200	4.381	33.537	26.583
250	3.067	33.473	26.660
300	2.486	33.501	26.732

STATION US11268
LATITUDE 42-09.5 N
LONGITUDE 141-30.2 E
DEPTH (m) 569

Press.	Temp.	Salinity	Sigma-T
5	6.576	32.989	25.891
10	5.971	32.986	25.965
20	5.302	33.151	26.175
30	5.623	33.284	26.242
40	5.976	33.432	26.317
50	6.474	33.614	26.397
75	6.779	33.806	26.508
100	5.726	33.691	26.552
125	5.043	33.625	26.580
150	4.605	33.594	26.604
175	3.341	33.452	26.618
200	2.938	33.440	26.645
250	2.697	33.494	26.709
300	2.516	33.553	26.771

STATION US11269
LATITUDE 42-19.9 N
LONGITUDE 141-30.1 E
DEPTH (m) 448

Press.	Temp.	Salinity	Sigma-T
5	5.750	32.571	25.664
10	4.324	32.688	25.915
20	6.165	33.383	26.254
30	7.250	33.593	26.276
40	6.917	33.574	26.306
50	7.589	33.750	26.352
75	5.947	33.603	26.455
100	5.156	33.557	26.513
125	4.223	33.451	26.531
150	3.591	33.419	26.569
175	3.444	33.434	26.594
200	2.802	33.390	26.617
250	2.449	33.427	26.676
300	2.399	33.504	26.742

STATION US11270
LATITUDE 42-20.1 N
LONGITUDE 141-20.3 E
DEPTH (m) 269

Press.	Temp.	Salinity	Sigma-T
5	5.801	32.633	25.707
10	5.393	32.628	25.751
20	4.347	32.804	26.004
30	4.599	32.886	26.043
40	3.718	32.864	26.114
50	3.504	32.953	26.206
75	3.633	33.343	26.504
100	3.382	33.336	26.522
125	3.829	33.424	26.550
150	3.520	33.422	26.578
175	3.745	33.480	26.603
200	3.197	33.434	26.617
250	2.553	33.425	26.666

STATION US11271
LATITUDE 42-10.0 N
LONGITUDE 141-19.9 E
DEPTH (m) 359

Press.	Temp.	Salinity	Sigma-T
5	5.280	32.635	25.769
10	5.033	32.699	25.848
20	4.083	32.850	26.068
30	4.051	32.954	26.154
40	5.360	33.255	26.251
50	6.038	33.402	26.285
75	6.084	33.643	26.470
100	5.327	33.570	26.504
125	4.229	33.451	26.530
150	4.210	33.497	26.569
175	3.877	33.478	26.588
200	3.391	33.448	26.611
250	2.483	33.435	26.680

STATION US11272
LATITUDE 41-59.9 N
LONGITUDE 141-20.0 E
DEPTH (m) 308

Press.	Temp.	Salinity	Sigma-T
5	5.746	32.855	25.889
10	5.417	32.873	25.941
20	5.040	32.883	25.993
30	4.075	32.870	26.085
40	3.902	32.967	26.179
50	4.332	33.176	26.301
75	4.864	33.479	26.485
100	5.458	33.607	26.517
125	4.737	33.532	26.541
150	4.238	33.490	26.561
175	4.226	33.521	26.587
200	3.718	33.485	26.609
250	2.989	33.468	26.663

STATION US11273
LATITUDE 41-50.0 N
LONGITUDE 141-19.9 E
DEPTH (m) 279

Press.	Temp.	Salinity	Sigma-T
5	7.095	33.240	26.020
10	7.589	33.356	26.042
20	7.928	33.596	26.182
30	8.397	33.812	26.282
40	8.449	33.851	26.304
50	8.425	33.855	26.311
75	7.850	33.807	26.359
100	6.300	33.631	26.433
125	5.009	33.484	26.473
150	5.166	33.581	26.531
175	4.906	33.575	26.556
200	4.474	33.538	26.574
250	2.806	33.439	26.656

STATION US11274
LATITUDE 41-50.2 N
LONGITUDE 141-10.0 E
DEPTH (m) 78

Press.	Temp.	Salinity	Sigma-T
5	6.127	32.538	25.592
10	5.643	32.599	25.698
20	5.186	32.706	25.836
30	4.842	32.856	25.993
40	5.617	33.182	26.163
50	5.808	33.472	26.369

STATION US11275
LATITUDE 41-56.0 N
LONGITUDE 141-28.1 E
DEPTH (m) 372

Press.	Temp.	Salinity	Sigma-T
5	6.729	33.049	25.918
10	8.556	33.664	26.141
20	8.562	33.752	26.209
30	7.857	33.697	26.272
40	7.679	33.704	26.303
50	7.673	33.708	26.307
75	7.685	33.749	26.338
100	7.308	33.775	26.412
125	6.675	33.751	26.479
150	6.000	33.693	26.520
175	5.253	33.601	26.537
200	5.164	33.654	26.589
250	3.248	33.483	26.652

STATION US11276
LATITUDE 41-58.3 N
LONGITUDE 141-25.8 E
DEPTH (m) 355

Press.	Temp.	Salinity	Sigma-T
5	5.951	32.942	25.932
10	5.662	32.826	25.876
20	4.225	32.809	26.021
30	4.361	32.981	26.144
40	5.254	33.188	26.210
50	4.802	33.252	26.311
75	4.286	33.314	26.416
100	4.933	33.503	26.496
125	4.754	33.524	26.532
150	4.260	33.475	26.547
175	4.524	33.544	26.573
200	4.299	33.532	26.587
250	2.851	33.453	26.663
300	2.494	33.510	26.739

STATION US11277
LATITUDE 41-57.8 N
LONGITUDE 141-02.4 E
DEPTH (m) 105

Press.	Temp.	Salinity	Sigma-T
5	5.983	32.466	25.552
10	5.940	32.524	25.604
20	5.725	32.738	25.799
30	4.749	32.798	25.958
40	7.515	33.747	26.360
50	7.384	33.789	26.411
75	3.923	33.392	26.515

STATION US11278
LATITUDE 41-58.2 N
LONGITUDE 140-57.2 E
DEPTH (m) 71

Press.	Temp.	Salinity	Sigma-T
5	7.877	32.158	25.060
10	6.572	32.205	25.273
20	6.366	32.327	25.395
30	5.767	32.486	25.594
40	3.911	33.073	26.262
50	3.459	33.269	26.462

STATION US11279
LATITUDE 42-02.5 N
LONGITUDE 140-57.6 E
DEPTH (m) 79

Press.	Temp.	Salinity	Sigma-T
5	6.087	32.335	25.437
10	5.678	32.496	25.613
20	4.811	32.632	25.819
30	4.432	32.741	25.946
40	4.386	32.957	26.122
50	5.179	33.366	26.360

STATION US11280
LATITUDE 42-02.3 N
LONGITUDE 141-02.5 E
DEPTH (m) 97

Press.	Temp.	Salinity	Sigma-T
5	6.915	32.622	25.557
10	5.597	32.543	25.660
20	4.888	32.673	25.843
30	4.662	32.751	25.930
40	6.509	33.368	26.198
50	7.613	33.710	26.317
75	3.366	33.289	26.486

STATION US11281
LATITUDE 42-04.9 N
LONGITUDE 140-56.8 E
DEPTH (m) 83

Press.	Temp.	Salinity	Sigma-T
5	5.722	32.528	25.633
10	5.711	32.532	25.637
20	5.270	32.684	25.809
30	4.644	32.969	26.104
40	4.731	33.185	26.266
50	4.246	33.308	26.415
75	3.481	33.375	26.544

STATION US11282
LATITUDE 42-10.2 N
LONGITUDE 140-47.3 E
DEPTH (m) 95

Press.	Temp.	Salinity	Sigma-T
5	5.460	32.595	25.717
10	5.412	32.605	25.731
20	4.919	32.777	25.922
30	5.088	32.937	26.030
40	6.755	33.455	26.234
50	5.857	33.438	26.336
75	3.388	33.377	26.555

STATION US11283
LATITUDE 42-16.2 N
LONGITUDE 140-35.7 E
DEPTH (m) 92

Press.	Temp.	Salinity	Sigma-T
5	5.856	32.524	25.614
10	5.840	32.536	25.625
20	5.780	32.542	25.638
30	5.525	32.572	25.691
40	4.207	32.883	26.081
50	3.424	33.031	26.276
75	3.386	33.402	26.575

STATION US11284
LATITUDE 42-23.9 N
LONGITUDE 140-31.6 E
DEPTH (m) 96

Press.	Temp.	Salinity	Sigma-T
5	6.350	32.441	25.487
10	6.319	32.442	25.493
20	6.191	32.461	25.523
30	5.321	32.595	25.733
40	3.768	32.912	26.148
50	3.386	33.072	26.311
75	3.432	33.416	26.581

STATION US11285
LATITUDE 42-15.6 N
LONGITUDE 140-47.5 E
DEPTH (m) 72

Press.	Temp.	Salinity	Sigma-T
5	6.060	32.489	25.562
10	6.043	32.500	25.572
20	5.880	32.503	25.594
30	5.154	32.578	25.738
40	4.410	32.789	25.986
50	3.602	33.156	26.358

STATION US11286
LATITUDE 42-17.1 N
LONGITUDE 140-53.8 E
DEPTH (m) 58

Press.	Temp.	Salinity	Sigma-T
5	6.297	32.430	25.486
10	5.892	32.497	25.589
20	5.477	32.534	25.667
30	4.664	32.747	25.926
40	3.289	33.032	26.288
50	3.153	33.170	26.411

STATION US11287
LATITUDE 42-15.1 N
LONGITUDE 141-04.3 E
DEPTH (m) 78

Press.	Temp.	Salinity	Sigma-T
5	5.975	32.568	25.634
10	5.972	32.573	25.638
20	5.259	32.655	25.788
30	3.996	33.040	26.228
40	3.338	33.076	26.319
50	3.240	33.204	26.430

STATION US11288
LATITUDE 42-12.2 N
LONGITUDE 141-02.2 E
DEPTH (m) 80

Press.	Temp.	Salinity	Sigma-T
5	6.295	32.501	25.542
10	5.924	32.542	25.620
20	5.466	32.683	25.786
30	4.728	32.844	25.996
40	3.757	32.900	26.140
50	4.379	33.236	26.344

STATION US11289
LATITUDE 42-13.0 N
LONGITUDE 140-56.7 E
DEPTH (m) 70

Press.	Temp.	Salinity	Sigma-T
5	5.908	32.582	25.654
10	5.908	32.601	25.668
20	5.829	32.612	25.687
30	4.382	32.883	26.064
40	4.414	32.990	26.145
50	5.415	33.284	26.267

STATION US11290
LATITUDE 41-49.1 N
LONGITUDE 141-13.5 E
DEPTH (m) 178

Press.	Temp.	Salinity	Sigma-T
5	6.637	32.753	25.697
10	6.642	32.759	25.701
20	6.097	32.918	25.895
30	5.048	32.958	26.051
40	5.395	33.289	26.273
50	4.277	33.188	26.317
75	4.161	33.211	26.347
100	6.210	33.617	26.433
125	4.610	33.444	26.485
150	4.058	33.432	26.533
175	4.054	33.454	26.551

STATION US11291
LATITUDE 41-46.5 N
LONGITUDE 141-14.0 E
DEPTH (m) 187

Press.	Temp.	Salinity	Sigma-T
5	6.758	32.898	25.795
10	6.787	32.974	25.851
20	7.276	33.364	26.092
30	7.334	33.440	26.144
40	6.371	33.367	26.215
50	6.144	33.467	26.324
75	5.749	33.561	26.447
100	4.601	33.448	26.489
125	4.167	33.451	26.537
150	4.127	33.450	26.540
175	4.110	33.450	26.542

STATION US11292
LATITUDE 41-44.0 N
LONGITUDE 141-15.4 E
DEPTH (m) 224

Press.	Temp.	Salinity	Sigma-T
5	8.286	33.691	26.203
10	8.295	33.711	26.218
20	8.271	33.742	26.245
30	8.277	33.751	26.251
40	8.117	33.740	26.267
50	7.987	33.766	26.307
75	7.698	33.795	26.372
100	6.667	33.695	26.435
125	6.738	33.765	26.481
150	5.821	33.667	26.521
175	4.871	33.560	26.548
200	4.305	33.530	26.585

STATION US11293
LATITUDE 41-41.0 N
LONGITUDE 141-17.4 E
DEPTH (m) 233

Press.	Temp.	Salinity	Sigma-T
5	7.726	33.478	26.118
10	7.678	33.478	26.125
20	7.246	33.520	26.219
30	7.799	33.692	26.276
40	8.231	33.802	26.298
50	8.230	33.799	26.297
75	8.095	33.803	26.319
100	7.012	33.767	26.446
125	6.814	33.765	26.471
150	6.310	33.735	26.513
175	4.794	33.572	26.566
200	3.670	33.470	26.602

STATION US11294
LATITUDE 41-37.9 N
LONGITUDE 141-18.9 E
DEPTH (m) 214

Press.	Temp.	Salinity	Sigma-T
5	8.996	33.806	26.184
10	9.047	33.836	26.199
20	9.070	33.854	26.210
30	8.943	33.850	26.227
40	8.818	33.839	26.237
50	8.765	33.849	26.253
75	8.556	33.856	26.291
100	8.343	33.831	26.305
125	8.243	33.824	26.314
150	6.909	33.741	26.439
175	6.337	33.716	26.495
200	4.270	33.543	26.599

STATION US11295
LATITUDE 41-34.9 N
LONGITUDE 141-20.5 E
DEPTH (m) 320

Press.	Temp.	Salinity	Sigma-T
5	9.089	33.821	26.180
10	9.098	33.821	26.179
20	9.062	33.820	26.184
30	9.061	33.820	26.185
40	9.022	33.822	26.193
50	9.016	33.824	26.195
75	8.997	33.827	26.200
100	8.983	33.830	26.205
125	8.977	33.834	26.209
150	8.974	33.838	26.212
175	8.981	33.841	26.213
200	8.988	33.841	26.213
250	8.874	33.888	26.267
300	7.733	34.008	26.534

STATION US11296
LATITUDE 41-32.1 N
LONGITUDE 141-22.0 E
DEPTH (m) 257

Press.	Temp.	Salinity	Sigma-T
5	9.348	33.784	26.110
10	9.297	33.794	26.126
20	9.295	33.795	26.128
30	9.294	33.795	26.128
40	9.261	33.805	26.141
50	9.263	33.805	26.141
75	9.193	33.824	26.167
100	9.088	33.847	26.202
125	8.974	33.868	26.236
150	8.970	33.872	26.239
175	8.930	33.884	26.255
200	8.587	33.939	26.352

STATION US11297
LATITUDE 41-29.9 N
LONGITUDE 141-21.1 E
DEPTH (m) 222

Press.	Temp.	Salinity	Sigma-T
5	9.732	33.723	25.999
10	9.441	33.764	26.079
20	9.390	33.775	26.096
30	9.282	33.800	26.133
40	9.246	33.807	26.145
50	9.221	33.812	26.153
75	9.202	33.817	26.159
100	9.216	33.815	26.156
125	9.191	33.820	26.164
150	9.164	33.827	26.173
175	9.071	33.845	26.202
200	9.027	33.854	26.217

STATION US11298
LATITUDE 41-28.9 N
LONGITUDE 141-23.1 E
DEPTH (m) 100

Press.	Temp.	Salinity	Sigma-T
5	9.516	33.763	26.066
10	9.503	33.764	26.070
20	9.441	33.775	26.088
30	9.430	33.779	26.093
40	9.323	33.796	26.124
50	9.304	33.800	26.130
75	9.207	33.813	26.156

STATION US11299
LATITUDE 41-27.5 N
LONGITUDE 141-24.1 E
DEPTH (m) 50

Press.	Temp.	Salinity	Sigma-T
5	9.325	33.804	26.130
10	9.279	33.803	26.137
20	9.263	33.803	26.139
30	9.250	33.805	26.142
40	9.227	33.806	26.147

STATION US11300
LATITUDE 41-26.5 N
LONGITUDE 141-21.0 E
DEPTH (m) 71

Press.	Temp.	Salinity	Sigma-T
5	9.428	33.776	26.091
10	9.396	33.777	26.097
20	9.366	33.780	26.104
30	9.351	33.783	26.109
40	9.332	33.788	26.116
50	9.311	33.792	26.122

STATION US11301
LATITUDE 41-26.3 N
LONGITUDE 141-15.8 E
DEPTH (m) 80

Press.	Temp.	Salinity	Sigma-T
5	9.584	33.758	26.051
10	9.504	33.757	26.064
20	9.460	33.761	26.074
30	9.435	33.763	26.080
40	9.411	33.768	26.088
50	9.376	33.777	26.100

STATION US11302
LATITUDE 41-35.3 N
LONGITUDE 140-53.8 E
DEPTH (m) 55

Press.	Temp.	Salinity	Sigma-T
5	10.172	33.420	25.690
10	10.172	33.423	25.692
20	10.173	33.426	25.694
30	10.175	33.425	25.693
40	10.175	33.426	25.693
50	10.177	33.426	25.693

STATION US11303
LATITUDE 41-36.9 N
LONGITUDE 140-51.5 E
DEPTH (m) 93

Press.	Temp.	Salinity	Sigma-T
5	10.034	33.523	25.793
10	10.058	33.526	25.791
20	9.969	33.559	25.832
30	9.850	33.638	25.914
40	9.694	33.736	26.016
50	9.665	33.753	26.034
75	9.612	33.781	26.065

STATION US11304
LATITUDE 41-38.9 N
LONGITUDE 140-49.3 E
DEPTH (m) 306

Press.	Temp.	Salinity	Sigma-T
5	9.980	33.636	25.890
10	9.921	33.644	25.907
20	9.699	33.698	25.986
30	9.666	33.744	26.027
40	9.480	33.853	26.142
50	9.389	33.884	26.182
75	8.927	33.996	26.343
100	8.788	34.000	26.368
125	8.669	34.012	26.396
150	8.673	34.017	26.400
175	8.473	34.018	26.431
200	8.351	34.014	26.447
250	8.370	34.014	26.444

STATION US11305
LATITUDE 41-40.7 N
LONGITUDE 140-47.3 E
DEPTH (m) 223

Press.	Temp.	Salinity	Sigma-T
5	10.044	33.642	25.884
10	10.075	33.705	25.928
20	9.777	33.828	26.074
30	9.526	33.867	26.146
40	9.480	33.896	26.176
50	9.397	33.916	26.206
75	9.016	33.956	26.298
100	8.582	33.957	26.367
125	8.427	33.953	26.388
150	8.323	33.953	26.404
175	8.409	33.956	26.392
200	8.070	33.966	26.451

STATION US11306
LATITUDE 41-42.8 N
LONGITUDE 140-45.0 E
DEPTH (m) 85

Press.	Temp.	Salinity	Sigma-T
5	9.361	33.711	26.051
10	9.093	33.749	26.124
20	8.895	33.795	26.191
30	8.713	33.868	26.277
40	8.632	33.896	26.311
50	8.574	33.901	26.324
75	8.196	33.950	26.420

STATION US11307
LATITUDE 42-04.4 N
LONGITUDE 140-55.0 E
DEPTH (m) 76

Press.	Temp.	Salinity	Sigma-T
5	7.657	32.445	25.317
10	6.673	32.498	25.491
20	5.679	32.567	25.669
30	5.013	32.699	25.850
40	4.633	32.812	25.980
50	3.555	33.026	26.259

STATION US11308
LATITUDE 42-04.9 N
LONGITUDE 141-04.3 E
DEPTH (m) 100

Press.	Temp.	Salinity	Sigma-T
5	7.689	32.498	25.354
10	7.143	32.528	25.452
20	6.341	32.588	25.604
30	6.013	32.673	25.713
40	6.039	32.923	25.907
50	7.430	33.587	26.246
75	3.463	33.282	26.472

STATION US11309
LATITUDE 42-07.2 N
LONGITUDE 141-00.8 E
DEPTH (m) 87

Press.	Temp.	Salinity	Sigma-T
5	8.246	32.194	25.035
10	6.262	32.396	25.463
20	5.086	32.651	25.804
30	4.521	32.947	26.100
40	5.729	33.342	26.275
50	4.607	33.323	26.389
75	3.659	33.332	26.493

STATION US11310
LATITUDE 42-11.2 N
LONGITUDE 140-35.0 E
DEPTH (m) 81

Press.	Temp.	Salinity	Sigma-T
5	8.027	32.227	25.093
10	6.643	32.410	25.426
20	5.812	32.497	25.598
30	4.834	32.716	25.883
40	4.404	32.804	25.998
50	3.666	32.990	26.220
75	3.242	33.306	26.511

STATION US11311
LATITUDE 42-10.9 N
LONGITUDE 140-45.0 E
DEPTH (m) 96

Press.	Temp.	Salinity	Sigma-T
5	8.433	32.207	25.018
10	7.856	32.270	25.151
20	6.464	32.433	25.467
30	5.477	32.574	25.698
40	4.390	32.828	26.019
50	3.947	33.130	26.304
75	3.358	33.378	26.558

STATION US11312
LATITUDE 42-10.1 N
LONGITUDE 140-56.8 E
DEPTH (m) 78

Press.	Temp.	Salinity	Sigma-T
5	8.332	31.811	24.722
10	7.418	32.019	25.015
20	5.436	32.609	25.731
30	5.358	33.218	26.222
40	4.793	33.197	26.269
50	3.306	33.167	26.395

STATION US11313
LATITUDE 42-10.0 N
LONGITUDE 141-06.4 E
DEPTH (m) 95

Press.	Temp.	Salinity	Sigma-T
5	6.741	32.406	25.410
10	5.636	32.555	25.665
20	5.302	32.928	25.998
30	4.503	33.031	26.169
40	4.365	33.126	26.259
50	4.220	33.284	26.399
75	4.239	33.439	26.520

STATION US11314
LATITUDE 42-14.3 N
LONGITUDE 141-09.7 E
DEPTH (m) 96

Press.	Temp.	Salinity	Sigma-T
5	8.790	32.189	24.950
10	7.237	32.390	25.332
20	5.741	32.615	25.700
30	4.169	32.813	26.030
40	4.255	33.069	26.224
50	5.473	33.323	26.291
75	6.735	33.694	26.426

STATION US11315
LATITUDE 42-14.8 N
LONGITUDE 140-59.7 E
DEPTH (m) 68

Press.	Temp.	Salinity	Sigma-T
5	7.403	31.989	24.994
10	6.823	32.367	25.368
20	6.508	32.844	25.786
30	5.028	32.875	25.987
40	5.336	33.069	26.106
50	3.442	32.968	26.224

STATION US11316
LATITUDE 42-14.8 N
LONGITUDE 140-48.6 E
DEPTH (m) 70

Press.	Temp.	Salinity	Sigma-T
5	8.325	31.794	24.710
10	7.174	31.911	24.963
20	5.827	32.379	25.503
30	4.379	32.651	25.879
40	3.672	32.847	26.106
50	4.055	33.097	26.267

STATION US11317
LATITUDE 42-14.8 N
LONGITUDE 140-38.8 E
DEPTH (m) 88

Press.	Temp.	Salinity	Sigma-T
5	8.584	31.718	24.612
10	7.661	31.864	24.860
20	5.924	32.460	25.555
30	4.889	32.721	25.881
40	4.024	32.889	26.105
50	3.693	33.029	26.248
75	3.453	33.355	26.531

STATION US11318
LATITUDE 42-14.8 N
LONGITUDE 140-29.9 E
DEPTH (m) 82

Press.	Temp.	Salinity	Sigma-T
5	8.844	32.040	24.825
10	7.596	32.428	25.312
20	6.248	32.514	25.558
30	5.221	32.611	25.757
40	4.585	32.745	25.932
50	3.404	33.052	26.294
75	3.364	33.372	26.553

STATION US11319
LATITUDE 42-19.9 N
LONGITUDE 140-24.5 E
DEPTH (m) 66

Press.	Temp.	Salinity	Sigma-T
5	8.024	31.865	24.809
10	6.917	32.246	25.261
20	6.275	32.458	25.510
30	5.525	32.554	25.677
40	4.304	32.804	26.008
50	3.249	33.108	26.353

STATION US11320
LATITUDE 42-19.8 N
LONGITUDE 140-38.4 E
DEPTH (m) 82

Press.	Temp.	Salinity	Sigma-T
5	8.537	32.228	25.019
10	7.334	32.344	25.282
20	6.600	32.411	25.432
30	6.064	32.463	25.540
40	5.009	32.660	25.820
50	3.898	33.045	26.241
75	3.508	33.311	26.490

STATION US11321
LATITUDE 42-19.7 N
LONGITUDE 140-49.7 E
DEPTH (m) 47

Press.	Temp.	Salinity	Sigma-T
5	8.878	32.139	24.897
10	6.930	32.325	25.322
20	5.887	32.498	25.590
30	4.872	32.693	25.860
40	4.018	32.923	26.133

STATION US11322
LATITUDE 42-19.5 N
LONGITUDE 140-44.3 E
DEPTH (m) 60

Press.	Temp.	Salinity	Sigma-T
5	8.217	32.318	25.136
10	7.569	32.338	25.245
20	6.440	32.431	25.469
30	5.912	32.499	25.588
40	4.715	32.732	25.908
50	3.365	33.115	26.348

STATION US11323
LATITUDE 42-24.7 N
LONGITUDE 140-50.0 E
DEPTH (m) 40

Press.	Temp.	Salinity	Sigma-T
5	7.685	32.289	25.190
10	7.004	32.353	25.333
20	5.967	32.424	25.522
30	4.692	32.623	25.824

STATION US11324
LATITUDE 42-24.9 N
LONGITUDE 140-37.3 E
DEPTH (m) 86

Press.	Temp.	Salinity	Sigma-T
5	7.401	32.284	25.226
10	7.069	32.438	25.391
20	6.321	32.500	25.538
30	5.383	32.578	25.712
40	4.718	32.789	25.954
50	3.816	33.077	26.275
75	3.333	33.315	26.510

STATION US11325
LATITUDE 42-24.8 N
LONGITUDE 140-25.5 E
DEPTH (m) 70

Press.	Temp.	Salinity	Sigma-T
5	8.662	32.131	24.924
10	7.916	32.207	25.093
20	6.212	32.466	25.524
30	4.728	32.686	25.871
40	3.542	33.000	26.240
50	3.225	33.125	26.368

STATION US11326
LATITUDE 42-29.5 N
LONGITUDE 140-29.8 E
DEPTH (m) 68

Press.	Temp.	Salinity	Sigma-T
5	8.867	32.296	25.022
10	7.600	32.323	25.229
20	6.299	32.500	25.541
30	5.475	32.563	25.690
40	4.186	32.891	26.090
50	3.299	33.133	26.368

STATION US11327
LATITUDE 42-29.6 N
LONGITUDE 140-39.3 E
DEPTH (m) 66

Press.	Temp.	Salinity	Sigma-T
5	8.528	32.285	25.064
10	6.630	32.444	25.454
20	5.952	32.492	25.577
30	5.487	32.552	25.679
40	4.232	32.815	26.025
50	3.724	32.988	26.213

STATION US11328
LATITUDE 42-20.0 N
LONGITUDE 141-09.1 E
DEPTH (m) 69

Press.	Temp.	Salinity	Sigma-T
5	7.389	32.019	25.019
10	7.083	32.361	25.329
20	5.325	32.683	25.802
30	5.525	32.984	26.017
40	4.578	32.865	26.028
50	4.625	33.021	26.147

STATION US11329
LATITUDE 42-17.0 N
LONGITUDE 141-25.0 E
DEPTH (m) 477

Press.	Temp.	Salinity	Sigma-T
5	8.068	32.068	24.962
10	7.167	32.923	25.760
20	6.757	32.998	25.875
30	5.929	32.977	25.963
40	5.406	33.173	26.180
50	6.121	33.415	26.285
75	5.722	33.506	26.406
100	5.613	33.580	26.478
125	6.047	33.694	26.515
150	4.912	33.550	26.536
175	3.997	33.465	26.566
200	4.010	33.486	26.581

STATION US11330
LATITUDE 42-12.0 N
LONGITUDE 141-13.3 E
DEPTH (m) 152

Press.	Temp.	Salinity	Sigma-T
5	8.561	31.906	24.763
10	8.099	32.311	25.148
20	5.183	32.823	25.929
30	4.970	32.954	26.057
40	6.463	33.379	26.213
50	7.369	33.563	26.236
75	7.473	33.756	26.373

STATION US11331
LATITUDE 42-04.1 N
LONGITUDE 141-21.7 E
DEPTH (m) 346

Press.	Temp.	Salinity	Sigma-T
5	8.797	33.378	25.880
10	8.579	33.346	25.889
20	8.727	33.450	25.947
30	8.353	33.482	26.029
40	7.124	33.413	26.152
50	6.040	33.346	26.241
75	4.683	33.413	26.452
100	4.956	33.508	26.498
125	4.872	33.520	26.516
150	4.306	33.475	26.541
175	3.580	33.418	26.569

STATION US11332
LATITUDE 42-04.0 N
LONGITUDE 141-07.5 E
DEPTH (m) 118

Press.	Temp.	Salinity	Sigma-T
5	8.584	32.273	25.047
10	8.493	32.279	25.065
20	5.571	32.610	25.715
30	5.095	32.830	25.945
40	6.655	33.430	26.228
50	4.217	33.216	26.345
75	3.450	33.314	26.499

STATION US11333
LATITUDE 41-52.3 N
LONGITUDE 141-18.9 E
DEPTH (m) 284

Press.	Temp.	Salinity	Sigma-T
5	9.136	33.404	25.847
10	9.185	33.389	25.828
20	8.876	33.629	26.064
30	8.412	33.686	26.180
40	8.305	33.753	26.249
50	8.407	33.822	26.287
75	7.959	33.808	26.343
100	7.102	33.766	26.432
125	6.367	33.730	26.503
150	4.827	33.558	26.552
175	3.112	33.401	26.599
200	2.809	33.440	26.656

STATION US11334
LATITUDE 41-58.8 N
LONGITUDE 141-00.3 E
DEPTH (m) 91

Press.	Temp.	Salinity	Sigma-T
5	9.528	31.835	24.558
10	7.709	31.945	24.917
20	6.690	32.187	25.244
30	6.184	32.514	25.566
40	4.778	32.724	25.895
50	3.746	32.984	26.207

STATION US11335
LATITUDE 42-13.8 N
LONGITUDE 140-41.3 E
DEPTH (m) 88

Press.	Temp.	Salinity	Sigma-T
5	9.569	31.918	24.617
10	8.229	32.226	25.062
20	6.036	32.311	25.424
30	5.075	32.664	25.815
40	4.422	32.923	26.091
50	4.671	33.213	26.295
75	3.490	33.287	26.473

STATION US11336
LATITUDE 42-11.5 N
LONGITUDE 140-36.2 E
DEPTH (m) 82

Press.	Temp.	Salinity	Sigma-T
5	9.111	31.977	24.735
10	7.710	32.264	25.167
20	5.820	32.458	25.566
30	4.727	32.741	25.915
40	4.881	33.220	26.278
50	3.153	33.159	26.402
75	3.352	33.373	26.555

STATION US11337
LATITUDE 42-13.9 N
LONGITUDE 140-30.7 E
DEPTH (m) 81

Press.	Temp.	Salinity	Sigma-T
5	9.403	32.045	24.742
10	8.149	32.306	25.137
20	6.326	32.350	25.418
30	5.548	32.640	25.742
40	4.388	32.884	26.064
50	3.703	33.047	26.262
75	3.293	33.337	26.531

STATION US11338
LATITUDE 42-15.7 N
LONGITUDE 140-35.3 E
DEPTH (m) 91

Press.	Temp.	Salinity	Sigma-T
5	9.375	32.037	24.740
10	7.713	32.335	25.223
20	6.501	32.421	25.453
30	5.148	32.568	25.731
40	4.442	32.910	26.079
50	3.705	33.056	26.269
75	3.332	33.363	26.549

STATION US11339
LATITUDE 42-18.4 N
LONGITUDE 140-41.6 E
DEPTH (m) 71

Press.	Temp.	Salinity	Sigma-T
5	8.360	32.266	25.075
10	7.740	32.342	25.224
20	6.347	32.455	25.499
30	6.048	32.495	25.568
40	5.175	32.639	25.784
50	4.027	32.910	26.122

STATION US11340
LATITUDE 42-21.0 N
LONGITUDE 140-37.3 E
DEPTH (m) 84

Press.	Temp.	Salinity	Sigma-T
5	9.890	32.149	24.745
10	9.031	32.230	24.945
20	6.867	32.406	25.394
30	6.004	32.522	25.595
40	4.438	32.761	25.961
50	3.490	33.047	26.282
75	3.426	33.384	26.557

STATION US11341
LATITUDE 42-23.1 N
LONGITUDE 140-42.4 E
DEPTH (m) 61

Press.	Temp.	Salinity	Sigma-T
5	9.405	32.231	24.887
10	9.304	32.230	24.902
20	6.160	32.425	25.498
30	5.986	32.535	25.607
40	4.902	32.675	25.843
50	3.993	32.915	26.128

STATION US11342
LATITUDE 42-21.0 N
LONGITUDE 140-47.9 E
DEPTH (m) 51

Press.	Temp.	Salinity	Sigma-T
5	9.388	32.301	24.944
10	8.809	32.237	24.984
20	6.494	32.429	25.460
30	4.954	32.697	25.855
40	4.228	32.975	26.152

STATION US11343
LATITUDE 42-17.9 N
LONGITUDE 140-53.6 E
DEPTH (m) 55

Press.	Temp.	Salinity	Sigma-T
5	9.449	31.414	24.242
10	8.127	31.847	24.780
20	7.766	32.227	25.130
30	5.946	32.491	25.577
40	4.691	32.714	25.897
50	4.415	32.990	26.145

STATION US11344
LATITUDE 42-24.9 N
LONGITUDE 140-48.0 E
DEPTH (m) 45

Press.	Temp.	Salinity	Sigma-T
5	9.546	32.205	24.844
10	8.674	32.292	25.048
20	6.299	32.444	25.497
30	5.553	32.715	25.801
40	4.296	32.827	26.028

STATION US11345
LATITUDE 42-27.9 N
LONGITUDE 140-43.2 E
DEPTH (m) 59

Press.	Temp.	Salinity	Sigma-T
5	9.493	32.168	24.823
10	8.715	32.184	24.957
20	6.360	32.323	25.393
30	5.462	32.564	25.692
40	4.449	32.806	25.995
50	4.369	33.026	26.179

STATION US11346
LATITUDE 42-26.3 N
LONGITUDE 140-37.5 E
DEPTH (m) 81

Press.	Temp.	Salinity	Sigma-T
5	9.839	32.068	24.690
10	8.352	32.208	25.031
20	6.393	32.432	25.475
30	5.725	32.527	25.632
40	4.802	32.693	25.868
50	3.596	33.023	26.253
75	3.352	33.339	26.527

STATION US11347
LATITUDE 42-31.0 N
LONGITUDE 140-37.1 E
DEPTH (m) 63

Press.	Temp.	Salinity	Sigma-T
5	9.499	32.038	24.721
10	8.849	32.156	24.915
20	6.204	32.467	25.526
30	5.768	32.524	25.625
40	4.915	32.678	25.844
50	4.000	32.911	26.124

STATION US11348
LATITUDE 42-29.0 N
LONGITUDE 140-31.6 E
DEPTH (m) 75

Press.	Temp.	Salinity	Sigma-T
5	9.545	32.144	24.796
10	8.957	32.204	24.936
20	6.473	32.481	25.504
30	5.744	32.557	25.654
40	4.470	32.766	25.961
50	3.812	33.022	26.231

STATION US11349
LATITUDE 42-26.7 N
LONGITUDE 140-26.1 E
DEPTH (m) 68

Press.	Temp.	Salinity	Sigma-T
5	9.860	32.031	24.658
10	8.243	32.272	25.097
20	6.325	32.467	25.511
30	5.835	32.521	25.614
40	4.602	32.768	25.949
50	3.854	32.936	26.159

STATION US11350
LATITUDE 42-23.2 N
LONGITUDE 140-30.5 E
DEPTH (m) 95

Press.	Temp.	Salinity	Sigma-T
5	10.064	32.137	24.706
10	9.259	32.221	24.902
20	6.774	32.382	25.386
30	5.260	32.583	25.730
40	3.770	32.938	26.169
50	3.207	33.134	26.377
75	3.388	33.401	26.574

STATION US11351
LATITUDE 42-21.5 N
LONGITUDE 140-25.4 E
DEPTH (m) 73

Press.	Temp.	Salinity	Sigma-T
5	10.547	31.700	24.285
10	8.441	32.247	25.048
20	6.535	32.410	25.439
30	5.443	32.555	25.687
40	4.586	32.746	25.933
50	3.907	32.989	26.196

STATION US11352
LATITUDE 42-19.0 N
LONGITUDE 140-29.8 E
DEPTH (m) 92

Press.	Temp.	Salinity	Sigma-T
5	9.592	32.065	24.727
10	9.045	32.182	24.905
20	6.734	32.369	25.382
30	5.517	32.575	25.694
40	4.749	32.704	25.883
50	3.713	32.964	26.195
75	3.270	33.309	26.511

STATION US11353
LATITUDE 42-17.2 N
LONGITUDE 140-25.3 E
DEPTH (m) 63

Press.	Temp.	Salinity	Sigma-T
5	10.911	31.870	24.355
10	8.048	32.287	25.137
20	6.102	32.422	25.503
30	5.197	32.614	25.762
40	4.557	32.752	25.941
50	3.622	33.008	26.239

STATION US11354
LATITUDE 42-04.9 N
LONGITUDE 140-56.5 E
DEPTH (m) 85

Press.	Temp.	Salinity	Sigma-T
5	9.511	32.003	24.691
10	7.432	32.617	25.483
20	5.018	32.722	25.867
30	4.579	32.902	26.058
40	4.530	33.004	26.144
50	4.013	33.153	26.316
75	3.425	33.374	26.549

STATION US11355
LATITUDE 41-57.4 N
LONGITUDE 140-58.3 E
DEPTH (m) 80

Press.	Temp.	Salinity	Sigma-T
5	8.222	31.991	24.879
10	6.890	32.273	25.286
20	5.594	32.550	25.666
30	4.997	32.824	25.951
40	5.130	33.017	26.088
50	4.063	33.015	26.201
75	3.369	33.214	26.426

STATION US11356
LATITUDE 41-58.1 N
LONGITUDE 140-59.5 E
DEPTH (m) 87

Press.	Temp.	Salinity	Sigma-T
5	8.734	31.955	24.775
10	6.539	32.323	25.371
20	5.237	32.688	25.816
30	5.758	32.990	25.994
40	4.570	32.986	26.126
50	5.216	33.235	26.252
75	3.354	33.297	26.494

STATION US11357
LATITUDE 41-58.7 N
LONGITUDE 141-00.6 E
DEPTH (m) 94

Press.	Temp.	Salinity	Sigma-T
5	10.007	31.817	24.466
10	8.438	32.052	24.895
20	5.695	32.619	25.708
30	5.363	32.819	25.905
40	5.219	33.015	26.077
50	4.416	33.040	26.185
75	3.641	33.224	26.408

STATION US11358
LATITUDE 41-59.5 N
LONGITUDE 141-01.9 E
DEPTH (m) 101

Press.	Temp.	Salinity	Sigma-T
5	9.368	32.305	24.951
10	7.889	32.487	25.316
20	5.669	32.860	25.902
30	5.721	33.021	26.023
40	4.452	33.018	26.164
50	4.127	33.090	26.254
75	4.992	33.379	26.391