

OCEANOGRAPHICAL STATION LIST

VOLUME 63

TEMPERATURE AND SALINITY OBSERVATIONS FROM
AUSTRALIAN TUNA FISHING VESSELS IN 1962

DIVISION OF FISHERIES AND OCEANOGRAPHY
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL
RESEARCH ORGANIZATION, AUSTRALIA 1968

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MELBOURNE, 1968

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When citing this station list, abbreviate as follows:
CSIRO Aust. Oceanogr. Stn List 63.

OCEANOGRAPHICAL STATION LIST

VOLUME 63

Temperature and Salinity Observations from Australian Tuna Fishing Vessels in 1962

I. INTRODUCTION

In 1961 a programme for the systematic measurement of seawater temperatures from fishing vessels was begun by CSIRO (CSIRO Aust. 1961; Vaux 1961). The data presented in this volume are the result of such measurements made from fishing vessels during the course of their normal fishing operations on the South Australian and Eastern Australian tuna fishing grounds during 1962.

II. METHODS

Temperature.—Fishermen were issued with surface thermometers and instructions for their use (Vaux 1961). Thermometers were graduated in whole degrees over the range 30–120 degF with an accuracy of ± 0.5 degF. Temperatures were taken in degF and converted to degC (nearest tenth) before listing. Temperatures listed in this volume are considered accurate to about ± 0.5 degC although on some vessels a higher accuracy was probably achieved.

Salinity.—Water samples for subsequent salinity analysis were taken by five vessels. The samples were analysed at Cronulla.

Accuracy of Positions.—For reporting the position of sampling, fishermen used a grid reference system (Kesteven and Williams 1962) consisting of rectangles of approximately 6 x 5 nautical miles (actually 6 x 6 minutes of latitude and longitude). A fisherman's position wrong by one grid rectangle could be in error, therefore, by up to 6 miles. South Australian positions may be in error by twice this amount as vessels operate for longer periods out of sight of land. Errors greater than this are considered to be infrequent. Grid references were converted to latitude and longitude by computer before listing.

REFERENCES

- CSIRO AUST. (1961).—Tuna search programme. Southern Pelagic Project Special Report No. 1 (Mimeogr.) (CSIRO : Cronulla.)
- KESTEVEN, G.L., and WILLIAMS, G.R. (1962).—Fishermen and scientists work together. Aust. Fish. Newsl. 21(5), 21–4.

VAUX, D. (1961).—Measurement of sea water temperatures by fishermen. Aust. Fish. Newsl. 20(11), 19.

III. ACKNOWLEDGEMENTS

Thanks are due to the skippers, owners, and crew of the vessels from which the observations listed in this volume were made.

IV. DATA

The data were subjected to various quality control checks before listing by C.D.C. 3600 Computer. Speeds between successive positions were calculated, and finding of impossible values led to the amendment or rejection of the suspect data. An explanation of the headings used is given at the beginning of the listing.

A.D. Crooks wrote the computer programmes, and D. Vaux had the overall responsibility for the collection, processing, and compilation of the observations.

DATA
TEMPERATURES AND SALINITIES

EXPLANATION OF HEADINGS

VESSEL	A code number is given for each vessel:	
	17 <u>Estelle Star</u>	T7 <u>Tacoma</u>
	T1 <u>Favorite</u>	T8 <u>Catriona B</u>
	T2 <u>Degei</u>	U5 <u>Mirrabooka</u>
	T3 <u>Huon</u>	U6 <u>Vida</u>
	T4 <u>Robyn Julie</u>	U7 <u>Pelamis</u>
	T5 <u>Hermay</u>	W8 <u>Mary Anne Simms</u>
	T6 <u>Two Freddies</u>	W9 <u>Challenge</u>
CRUISE STATION NUMBER	Generally assigned only when a member of CSIRO staff accompanied the cruise	
TIME	For longitude west of 142°30'E., times are given in Central Australian Standard Time, GMT +9½ hr; east of 142°30'E., times are given in Eastern Australian Standard Time, GMT +10 hr	
LATITUDE LONGITUDE	Given in degrees and minutes	
TEMP.	Sea surface temperatures recorded in °C	
SALINITY	Given in parts per thousand	
SAMPLING METHOD	1 indicates surface temperature and salin- ity were taken from seawater sampled in a bucket	

A blank indicates no data available

VESSE-- CRUISE STATION YR. MIN. DAY TIME & LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM,
 DN. AMT, DN. AMT, DN. AMT, DN. AMT.

11	62	1	3	1440	38	15	S	149	15	E	20.0								
11	62	1	4	0500	38	15	S	149	57	E	20.0								
11	62	1	4	0900	37	51	S	149	33	E	18.3								
11	62	1	4	1300	37	33	S	149	57	E	20.0								
11	62	10	23	0600	37	3	S	149	57	E	13.9								
11	62	10	23	0700	36	57	S	150	3	E	15.0								
11	62	10	23	0800	36	45	S	150	15	E	15.6								
11	62	10	23	0845	36	45	S	150	21	E	15.7								
11	62	10	23	0900	36	39	S	150	21	E	15.6								
11	62	10	23	0930	36	39	S	150	21	E	15.0								
11	62	10	23	1000	36	33	S	150	21	E	15.0								
11	62	10	23	1055	36	27	S	150	21	E	15.6								
11	62	10	23	1100	36	27	S	150	21	E	15.6								
11	62	10	23	1140	36	21	S	150	27	E	15.6								
11	62	10	23	1330	36	45	S	150	15	E	15.6								
11	62	10	23	1410	36	51	S	150	15	E	16.1								
11	62	10	23	1500	36	51	S	150	3	E	15.0								
11	62	10	23	1600	36	57	S	150	3	E	15.0								
11	62	10	23	1700	37	3	S	149	57	E	14.6								
11	62	10	26	0400	37	3	S	149	57	E	13.9								
11	62	10	26	0500	36	57	S	150	3	E	13.9								
11	62	10	26	0530	36	51	S	150	9	E	16.1								
11	62	10	26	0600	36	45	S	150	9	E	15.6								
11	62	10	26	0700	36	39	S	150	15	E	13.9								
11	62	10	26	0705	36	27	S	150	15	E	14.0								
11	62	10	26	0715	36	33	S	150	21	E	15.6								
11	62	10	26	0800	36	27	S	150	21	E	15.6								
11	62	10	26	0815	36	27	S	150	21	E	15.6								
11	62	10	26	0900	36	21	S	150	27	E	15.0								
11	62	10	26	0940	36	15	S	150	27	E	15.3								
11	62	10	26	1000	36	15	S	150	27	E	17.3								
11	62	10	26	1100	36	15	S	150	33	E	17.9								
11	62	10	26	1200	36	15	S	150	33	E	16.1								
11	62	10	26	1300	36	21	S	150	33	E	17.2								
11	62	10	26	1315	36	21	S	150	33	E	17.1								
11	62	10	26	1330	36	21	S	150	33	E	18.1								
11	62	10	26	1400	36	15	S	150	33	E	18.3								
11	62	10	26	1515	36	21	S	150	27	E	15.5								
11	62	10	26	1630	36	15	S	150	15	E	15.6								
11	62	10	26	1655	36	15	S	150	15	E	14.9								

VESSEL - CRUISE STATION YR. MTH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER

11	62	10	26	1700	36	15 S	150	15 E	14.4										
11	62	10	27	0545	36	15 S	150	15 E	14.6										
11	62	10	27	0600	36	15 S	150	15 E	14.7										
11	62	10	27	0700	36	9 S	150	15 E	14.7										
11	62	10	27	0800	36	3 S	150	27 E	15.2										
11	62	10	27	0830	36	3 S	150	33 E	15.7										
11	62	10	27	0900	35	57 S	150	39 E	16.1										
11	62	10	27	1000	35	51 S	150	51 E	17.2										
11	62	10	27	1010	35	51 S	150	45 E	17.4										
11	62	10	27	1100	35	39 S	150	39 E	17.2										
11	62	10	27	1125	35	39 S	150	51 E	18.0										
11	62	10	27	1300	35	27 S	151	3 E	18.1										
11	62	10	27	1350	35	15 S	151	3 E	17.8										
11	62	10	27	1400	35	15 S	151	9 E	17.8										
11	62	10	27	1500	35	9 S	151	3 E	18.1										
11	62	10	27	1600	35	27 S	150	51 E	17.8										
11	62	10	27	1700	35	39 S	150	45 E	17.2										
11	62	10	27	1800	35	45 S	150	33 E	16.7										
11	62	10	27	1900	35	57 S	150	21 E	17.2										
11	62	10	28	0530	36	21 S	150	3 E	14.4										
11	62	10	28	0550	36	21 S	150	9 E	14.7										
11	62	10	28	0645	36	21 S	150	15 E	16.1										
11	62	10	28	0700	36	21 S	150	21 E	15.8										
11	62	10	28	0730	36	21 S	150	21 E	16.7										
11	62	10	28	0800	36	21 S	150	15 E	15.6										
11	62	11	2	0700	37	3 S	149	57 E	14.4										
11	62	11	2	0800	36	57 S	150	9 E	16.4										
11	62	11	2	0900	37	3 S	150	27 E	18.8										
11	62	11	2	1000	37	3 S	150	27 E	18.9										
11	62	11	2	1030	37	3 S	150	27 E	18.8										
11	62	11	2	1100	37	3 S	150	21 E	18.3										
11	62	11	2	1200	37	9 S	150	21 E	18.6										
11	62	11	2	1300	37	9 S	150	27 E	18.9										
11	62	11	2	1400	37	9 S	150	27 E	18.9										
11	62	11	2	1500	37	9 S	150	33 E	19.5										
11	62	11	2	1600	37	3 S	150	33 E	19.4										
11	62	11	2	1615	37	3 S	150	33 E	19.4										
11	62	11	2	1620	37	3 S	150	33 E	19.4										
11	62	11	2	1715	37	3 S	150	33 E	19.4										

VESSE- CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SMELL WEA. VIS. BAROM.
 NUMBER

11	62	11	3	0600	37	3	S	150	9	E	16.7
11	62	11	3	0800	37	3	S	150	15	E	17.2
11	62	11	3	0900	37	3	S	150	21	E	18.3
11	62	11	3	1000	37	3	S	150	27	E	18.9
11	62	11	3	1100	36	57	S	150	27	E	18.9
11	62	11	3	1200	36	57	S	150	27	E	18.9
11	62	11	3	1300	36	51	S	150	27	E	18.9
11	62	11	3	1400	36	51	S	150	27	E	18.9
11	62	11	3	1500	36	57	S	150	27	E	18.4
11	62	11	4	1000	36	57	S	150	9	E	15.6
11	62	11	4	1100	36	51	S	150	15	E	16.1
11	62	11	4	1115	36	51	S	150	15	E	17.8
11	62	11	4	1200	36	51	S	150	27	E	18.7
11	62	11	4	1300	36	45	S	150	27	E	18.9
11	62	11	4	1400	36	33	S	150	27	E	18.9
11	62	11	4	1500	36	27	S	150	21	E	17.7
11	62	11	4	1600	36	33	S	150	27	E	18.3
11	62	11	4	1700	36	39	S	150	21	E	18.3
11	62	11	4	1800	36	39	S	150	15	E	18.3
11	62	11	5	0500	36	39	S	150	3	E	16.7
11	62	11	5	0600	36	39	S	150	15	E	16.9
11	62	11	5	0700	36	39	S	150	27	E	18.3
11	62	11	5	0800	36	39	S	150	27	E	17.2
11	62	11	5	0900	36	33	S	150	27	E	18.4
11	62	11	5	0930	36	39	S	150	27	E	18.3
11	62	11	5	1020	36	39	S	150	27	E	16.8
11	62	11	5	1115	36	33	S	150	27	E	18.3
11	62	11	5	1200	36	27	S	150	27	E	18.3
11	62	11	5	1300	36	51	S	150	27	E	16.9
11	62	11	5	1400	36	57	S	150	27	E	18.9
11	62	11	5	1500	37	3	S	150	27	E	19.2
11	62	11	5	1600	37	9	S	150	33	E	18.9
11	62	11	6	0600	37	3	S	150	15	E	15.6
11	62	11	6	0700	37	3	S	150	21	E	17.8
11	62	11	6	0800	37	9	S	150	27	E	17.8
11	62	11	6	0900	37	9	S	150	33	E	18.4
11	62	11	6	1000	37	9	S	150	39	E	17.8
11	62	11	6	1100	37	3	S	150	39	E	18.9
11	62	11	6	1105	37	3	S	150	39	E	18.9
11	62	11	6	1120	37	3	S	150	45	E	19.4

VESSE - CRUISE STATION YR. MM. DAY TIME Δ LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL MEA. VIS. BAROM.
 DN. AMT. DN. AMT. DN. AMT. DN. AMT.

11	62	11	6	1300	36	57 S	150	39 E	21.4
11	62	11	6	1330	36	57 S	150	39 E	20.4
11	62	11	6	1400	36	57 S	150	39 E	19.4
11	62	11	6	1500	37	15 S	150	39 E	18.9
11	62	11	6	1600	37	21 S	150	39 E	19.4
11	62	11	6	1700	37	21 S	150	39 E	19.4
11	62	11	6	1710	37	15 S	150	45 E	20.0
11	62	11	6	1800	37	15 S	150	45 E	19.0
11	62	11	7	0700	37	15 S	150	51 E	18.9
11	62	11	7	0800	37	15 S	150	51 E	18.9
11	62	11	7	0900	37	15 S	150	51 E	18.9
11	62	11	7	1000	37	15 S	150	51 E	18.9
11	62	11	7	1100	37	15 S	150	51 E	18.9
11	62	11	7	1200	37	15 S	150	57 E	18.9
11	62	11	7	1300	37	15 S	151	3 E	18.1
11	62	11	7	1400	37	15 S	150	57 E	18.6
11	62	11	7	1500	37	15 S	150	51 E	17.8
11	62	11	7	1530	37	9 S	150	51 E	18.3
11	62	11	7	1600	37	9 S	150	51 E	17.8
11	62	11	7	1700	37	9 S	150	39 E	17.8
11	62	11	7	1800	37	9 S	150	33 E	17.2
11	62	11	9	0700	37	3 S	150	3 E	16.7
11	62	11	9	0800	36	57 S	150	9 E	17.5
11	62	11	9	0900	36	51 S	150	21 E	17.2
11	62	11	9	1000	36	45 S	150	27 E	18.1
11	62	11	9	1100	36	45 S	150	27 E	17.5
11	62	11	9	1200	36	51 S	150	27 E	18.3
11	62	11	9	1300	37	3 S	150	21 E	17.8
11	62	11	9	1400	37	3 S	150	15 E	16.9
11	62	11	9	1500	37	3 S	150	9 E	17.9
11	62	11	11	1000	37	3 S	150	15 E	16.1
11	62	11	11	1100	36	57 S	150	15 E	16.4
11	62	11	11	1200	36	51 S	150	27 E	17.2
11	62	11	11	1300	36	51 S	150	27 E	17.2
11	62	11	11	1400	36	57 S	150	15 E	16.7
11	62	11	11	1530	37	3 S	149	57 E	17.2
11	62	11	12	1200	36	57 S	150	9 E	16.1
11	62	11	12	1300	36	57 S	150	15 E	17.2
11	62	11	12	1400	36	51 S	150	21 E	17.8
11	62	11	12	1500	36	51 S	150	21 E	18.1

VESSEL CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SHELL SEA WEA. VIS. BAROM.
 DN, AMT. DN, AMT. DN, AMT. DN, AMT.

11	62	11	12	1600	36	51 S	150	21 E	17.2										
11	62	11	12	1700	36	57 S	150	15 E	16.7										
11	62	11	12	1800	36	57 S	150	3 E	15.6										
11	62	11	12	1838	37	3 S	149	57 E	17.2										
11	62	11	13	0600	36	57 S	150	3 E	15.0										
11	62	11	13	0700	36	51 S	150	15 E	16.9										
11	62	11	13	0800	36	51 S	150	21 E	17.2										
11	62	11	13	0900	36	51 S	150	33 E	17.7										
11	62	11	13	1000	36	39 S	150	33 E	17.8										
11	62	11	13	1100	36	33 S	150	33 E	17.8										
11	62	11	13	1200	36	33 S	150	27 E	18.0										
11	62	11	13	1300	36	27 S	150	27 E	18.3										
11	62	11	13	1400	36	27 S	150	21 E	18.3										
11	62	11	13	1445	36	21 S	150	21 E	18.3										
11	62	11	13	1600	36	15 S	150	15 E	18.3										
11	62	11	14	0730	36	15 S	150	15 E	17.2										
11	62	11	14	0830	36	15 S	150	15 E	17.8										
11	62	11	14	0900	36	15 S	150	27 E	18.1										
11	62	11	14	1000	36	15 S	150	27 E	18.1										
11	62	11	14	1050	36	15 S	150	27 E	18.1										
11	62	11	14	1200	36	15 S	150	21 E	18.3										
11	62	11	14	1300	36	21 S	150	27 E	18.3										
11	62	11	14	1400	36	27 S	150	27 E	18.3										
11	62	11	14	1500	36	33 S	150	27 E	18.3										
11	62	11	14	1600	36	45 S	150	21 E	18.3										
11	62	11	14	1700	36	51 S	150	9 E	17.8										
11	62	11	14	1800	37	3 S	150	3 E	16.9										
11	62	11	16	0700	37	3 S	150	9 E	15.6										
11	62	11	16	0800	37	3 S	150	15 E	16.1										
11	62	11	16	0900	37	3 S	150	33 E	17.7										
11	62	11	16	1000	37	3 S	150	33 E	18.3										
11	62	11	16	1100	37	9 S	150	33 E	17.8										
11	62	11	16	1200	37	9 S	150	33 E	18.6										
11	62	11	16	1300	37	9 S	150	27 E	18.9										
11	62	11	16	1400	37	9 S	150	27 E	18.9										
11	62	11	16	1500	37	3 S	150	27 E	18.9										
11	62	11	16	1600	37	3 S	150	27 E	18.5										
11	62	11	16	1700	37	3 S	150	21 E	17.2										
11	62	11	16	1800	37	3 S	150	9 E	16.7										
11	62	11	17	0600	37	3 S	150	3 E	15.6										

VESSEL - CRUISE STATION YR. MTH. DAY TIME & LATITUDE LONGITUDE TEMP. SALINITY WIND. SEA. SHELL. WEA. VIS. BAROM.
 NUMBER

12	62	11	17	0700	37	3	S	150	15	E	16.7
13	62	11	17	0800	37	3	S	150	27	E	17.8
14	62	11	17	0900	37	3	S	150	27	E	18.3
15	62	11	17	1000	37	3	S	150	15	E	17.2
16	62	11	17	1100	37	3	S	150	9	E	16.7
17	62	11	18	0600	37	3	S	150	3	E	15.8
18	62	11	18	0700	37	3	S	150	15	E	16.4
19	62	11	18	0800	37	3	S	150	9	E	16.4
20	62	11	18	0900	37	3	S	150	3	E	16.4
21	62	11	18	1000	37	3	S	149	57	E	17.8
22	62	11	19	0700	37	3	S	150	9	E	14.4
23	62	11	19	0800	37	3	S	150	15	E	17.2
24	62	11	19	0900	37	3	S	150	27	E	18.3
25	62	11	19	1000	36	57	S	150	27	E	18.3
26	62	11	19	1100	36	51	S	150	27	E	17.8
27	62	11	19	1200	36	57	S	150	21	E	17.8
28	62	11	19	1300	37	3	S	150	15	E	18.0
29	62	11	19	1400	37	3	S	150	9	E	14.7
30	62	11	23	0500	36	9	S	150	21	E	17.8
31	62	11	23	0600	36	3	S	150	33	E	17.8
32	62	11	23	0615	36	3	S	150	27	E	18.2
33	62	11	23	0700	35	51	S	150	39	E	18.1
34	62	11	23	0800	35	39	S	150	39	E	18.3
35	62	11	23	0900	35	27	S	150	51	E	19.1
36	62	11	23	1000	35	27	S	150	51	E	18.9
37	62	11	23	1100	35	33	S	150	45	E	19.2
38	62	11	23	1200	35	33	S	150	45	E	19.3
39	62	11	23	1300	35	27	S	150	51	E	19.2
40	62	11	23	1400	35	33	S	150	45	E	18.9
41	62	11	23	1500	35	45	S	150	39	E	18.8
42	62	11	23	1600	35	51	S	150	27	E	17.8
43	62	11	24	0600	35	51	S	150	9	E	16.8
44	62	11	24	0700	35	45	S	150	27	E	17.8
45	62	11	24	0800	35	39	S	150	33	E	18.1
46	62	11	24	0900	35	33	S	150	45	E	19.2
47	62	11	24	1000	35	27	S	150	51	E	17.2
48	62	11	24	1100	35	15	S	150	57	E	17.8
49	62	11	24	1200	35	15	S	150	51	E	17.2
50	62	11	24	1300	35	15	S	150	51	E	16.7
51	62	11	24	1400	35	9	S	150	51	E	16.1

VESSE - CRUISE STATION YR. MTH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER DN. AMT. DN. AMT. DN. AMT. DN. AMT.

12	62	3	15	1600	35	45	S	135	39	E	19.3	35.84						
12	62	3	15	1700	35	51	S	135	39	E	19.6							
12	62	3	15	1815	35	45	S	135	33	E	19.4							
12	62	3	15	1830	35	51	S	135	33	E	19.4							
12	62	3	15	1845	35	45	S	135	27	E	19.5	35.84						
12	62	3	16	0900	35	39	S	135	21	E	19.1							
12	62	3	16	0900	35	45	S	135	21	E	19.0							
12	62	3	16	1220	35	51	S	135	21	E	19.3							
12	62	3	16	1240	35	51	S	135	27	E	19.0							
12	62	3	16	1340	35	51	S	135	33	E	19.3	35.84						
12	62	3	16	1525	35	51	S	135	39	E	19.3							
12	62	3	16	1615	35	57	S	135	45	E	19.3							
12	62	3	16	1630	35	57	S	135	45	E	19.3							
12	62	3	16	1800	35	57	S	135	51	E	19.4	35.86						
12	62	3	17	0700	36	3	S	135	57	E	18.9							
12	62	3	17	1000	35	57	S	135	57	E	18.9	35.84						
12	62	3	17	1200	35	57	S	135	57	E	19.0							
12	62	3	17	1230	35	51	S	135	51	E	19.1							
12	62	3	17	1500	35	51	S	135	45	E	19.1							
12	62	3	17	1800	35	45	S	135	39	E	19.4	35.81						
12	62	3	20	1400	34	51	S	134	39	E	19.2							
12	62	3	20	1600	34	51	S	134	39	E	19.2							
12	62	3	20	1700	34	51	S	134	39	E	18.9							
12	62	3	21	0830	35	3	S	134	3	E	19.6							
12	62	3	21	1045	35	3	S	133	27	E	19.7							
12	62	3	21	1430	35	3	S	133	45	E	18.9							
12	62	3	21	1630	35	3	S	133	57	E	19.4							
12	62	3	22	0830	34	45	S	134	45	E	18.8							
12	62	3	22	1030	34	51	S	134	39	E	18.6							
12	62	3	22	1300	34	57	S	134	39	E	18.9							
12	62	3	22	1600	35	27	S	134	45	E	19.0							
12	62	3	23	0900	35	39	S	135	9	E	18.9							
12	62	3	23	1145	35	51	S	135	27	E	18.6							
12	62	3	23	1330	35	57	S	135	39	E	18.6							
12	62	3	23	1445	36	3	S	135	39	E	18.6							
12	62	3	26	0745	35	51	S	135	33	E	18.9							
12	62	3	26	0800	35	51	S	135	33	E	18.9	35.90						
12	62	3	26	0915	35	57	S	135	39	E	19.0	35.90						
12	62	3	26	1100	36	3	S	135	45	E	19.0	35.86						
12	62	3	26	1230	36	3	S	135	45	E	18.9							

VESSEL- CRUISE STATION YR. MTH. DAY TIME & LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER

12	62	4	25	1030	35	15	S	135	33	E	18.3	35.91						
12	62	4	25	1120	35	15	S	135	33	E	18.3							
12	62	4	25	1145	35	15	S	135	33	E	18.3							
12	62	5	2	1100	35	9	S	135	39	E	17.8							
12	62	5	2	1230	35	15	S	135	33	E	17.9	35.91						
12	62	5	2	1430	35	9	S	135	27	E	17.9	35.91						
12	62	5	3	1300	36	15	S	135	57	E	17.8							
12	62	5	3	1425	36	9	S	135	51	E	17.8							
12	62	5	3	1600	36	3	S	135	45	E	17.8	35.43						
12	62	5	4	1245	36	9	S	135	51	E	17.3							
12	62	5	4	1330	36	15	S	135	57	E	17.3							
12	62	5	4	1500	36	21	S	136	3	E	17.2							
12	62	5	5	0915	36	21	S	136	3	E	17.1							
12	62	5	5	1045	36	21	S	136	9	E	16.9							
12	62	5	5	1200	36	15	S	136	3	E	16.9							
12	62	5	5	1530	36	21	S	136	3	E	16.9							
12	62	5	8	1030	35	51	S	136	3	E	18.1							
12	62	5	8	1445	36	21	S	136	3	E	16.8							
12	62	5	8	1530	36	9	S	135	51	E	16.7							
12	62	5	8	1625	36	9	S	135	51	E	16.9							
12	62	5	13	0935	36	15	S	136	3	E	17.9							
12	62	9	26	0700	36	21	S	150	9	E	13.9							
12	62	9	26	0830	36	15	S	150	15	E	13.9							
12	62	9	26	0915	36	15	S	150	21	E	15.0	35.52						
12	62	9	26	1030	36	9	S	150	27	E	15.0							
12	62	9	26	1245	35	57	S	150	39	E	16.7							
12	62	9	28	0700	35	3	S	150	45	E	13.6							
12	62	9	28	0800	35	3	S	150	57	E	16.9							
12	62	9	28	1000	34	57	S	151	9	E	17.0							
12	62	9	28	1100	34	45	S	151	9	E	17.6							
12	62	9	28	1200	34	39	S	151	9	E	17.4							
12	62	9	30	0930	34	39	S	150	57	E	16.9							
12	62	9	30	1100	34	39	S	151	9	E	17.2							
12	62	9	30	1200	34	39	S	151	15	E	17.2							
12	62	9	30	1300	34	33	S	151	21	E	17.1							
12	62	9	30	1400	34	33	S	151	21	E	16.9							
12	62	9	30	1500	34	39	S	151	15	E	17.2							
12	62	10	1	0900	34	39	S	151	3	E	17.0							
12	62	10	1	1000	34	39	S	151	15	E	17.2							
12	62	10	1	1100	34	45	S	151	9	E	17.2							

VESSE - CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER

12	62	10	1	1200	34	45	S	151	9	E	17.1	
12	62	10	2	0830	34	39	S	150	51	E	16.1	
12	62	10	2	0900	34	39	S	150	57	E	16.8	
12	62	10	2	1000	34	33	S	151	9	E	16.8	
12	62	10	2	1100	34	21	S	151	9	E	16.9	
12	62	10	2	1200	34	15	S	151	15	E	16.9	
12	62	10	2	1300	34	3	S	151	21	E	17.0	35.66
12	62	10	9	0730	33	57	S	151	39	E	16.9	
12	62	10	9	0800	34	3	S	151	33	E	17.2	
12	62	10	9	1000	34	9	S	151	27	E	17.5	
12	62	10	9	1050	34	9	S	151	27	E	18.2	35.62
12	62	10	9	1100	34	15	S	151	27	E	18.3	
12	62	10	9	1200	34	21	S	151	21	E	18.3	
12	62	10	9	1300	34	21	S	151	21	E	18.0	
12	62	10	9	1400	34	27	S	151	15	E	17.2	
12	62	10	9	1500	34	33	S	151	15	E	18.3	
12	62	10	9	1508	34	27	S	151	21	E	18.8	35.59
12	62	10	9	1600	34	39	S	151	15	E	19.2	
12	62	10	11	0700	34	39	S	150	57	E	16.7	
12	62	10	11	0800	34	39	S	151	9	E	17.5	
12	62	10	11	0835	34	39	S	151	15	E	17.8	
12	62	10	11	0845	34	45	S	151	15	E	18.4	35.62
12	62	10	11	0900	34	39	S	151	21	E	18.6	
12	62	10	11	0945	34	45	S	151	21	E	17.7	35.57
12	62	10	11	1000	34	45	S	151	21	E	18.3	
12	62	10	11	1050	34	51	S	151	15	E	18.9	35.66
12	62	10	11	1100	34	51	S	151	21	E	18.9	
12	62	10	11	1200	34	51	S	151	21	E	19.0	
12	62	10	11	1215	34	57	S	151	15	E	19.4	35.71
12	62	10	11	1300	35	3	S	151	15	E	18.4	35.66
12	62	10	11	1400	35	3	S	151	15	E	19.8	
12	62	10	11	1500	35	3	S	151	15	E	18.3	
12	62	10	11	1545	35	3	S	151	15	E	19.4	35.79
12	62	10	11	1550	35	9	S	151	15	E	18.9	
12	62	10	11	1625	35	9	S	151	15	E	19.2	35.70
12	62	10	11	1625	35	9	S	151	15	E	18.9	
12	62	10	11	1615	35	15	S	151	3	E	18.2	
12	62	10	12	0500	35	3	S	150	45	E	15.0	
12	62	10	12	0700	35	9	S	151	3	E	16.1	
12	62	10	12	0800	35	9	S	151	9	E	18.1	35.61

VESSE - CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER DN. AMT. DN. AMT. DN. AMT. DN. AMT. DN. AMT. DN. AMT. DN. AMT.

12	62	10	12	0900	35	3	S	151	15	E	18.7	35.79
12	62	10	12	1000	35	9	S	151	3	E	18.5	
12	62	10	12	1100	35	15	S	151	3	E	18.7	
12	62	10	12	1125	35	15	S	151	9	E	18.1	35.59
12	62	10	12	1200	35	9	S	151	9	E	18.6	
12	62	10	12	1300	35	3	S	151	15	E	17.2	
12	62	10	12	1320	35	3	S	151	15	E	17.7	35.73
12	62	10	12	1500	34	57	S	151	15	E	18.6	
12	62	10	13	0700	35	3	S	150	57	E	16.1	
12	62	10	23	0700	36	51	S	150	15	E	15.6	
12	62	10	23	0800	36	51	S	150	21	E	15.6	
12	62	10	23	0900	36	51	S	150	33	E	15.0	
12	62	10	23	1000	36	45	S	150	33	E	15.3	
12	62	10	23	1100	36	33	S	150	33	E	17.8	
12	62	10	23	1200	36	21	S	150	33	E	18.2	
12	62	10	23	1300	36	15	S	150	33	E	18.1	
12	62	10	23	1400	36	21	S	150	33	E	18.1	
12	62	10	23	1500	36	21	S	150	27	E	15.6	
12	62	10	23	1600	36	21	S	150	15	E	15.6	
12	62	10	24	0630	36	21	S	150	3	E	15.0	
12	62	10	24	0700	36	21	S	150	9	E	15.7	
12	62	10	24	0800	36	15	S	150	15	E	15.0	
12	62	10	24	0900	36	9	S	150	27	E	15.6	
12	62	10	24	1000	36	3	S	150	39	E	16.7	
12	62	10	24	1100	35	51	S	150	45	E	18.3	
12	62	10	24	1200	35	39	S	150	45	E	17.8	
12	62	10	24	1300	35	39	S	150	51	E	17.2	
12	62	10	24	1400	35	33	S	150	51	E	17.1	
12	62	10	24	1500	35	33	S	150	45	E	17.8	
12	62	10	26	0500	35	15	S	150	27	E	15.6	
12	62	10	26	0600	35	15	S	150	39	E	16.8	
12	62	10	26	0700	35	15	S	150	57	E	17.1	
12	62	10	26	0800	35	3	S	151	9	E	17.2	
12	62	10	26	0900	34	57	S	151	9	E	17.2	
12	62	10	26	1000	34	51	S	151	9	E	17.3	
12	62	10	26	1100	34	45	S	151	9	E	18.9	
12	62	10	26	1200	34	39	S	151	9	E	18.9	
12	62	10	26	1300	34	33	S	151	9	E	18.9	
12	62	10	26	1400	34	39	S	151	3	E	17.8	
12	62	10	27	0700	34	39	S	151	9	E	18.3	

VESSE-	CRUISE	STATION	YR.	MTN.	DAY	TIME	2	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	VIS.	BAROM.
		NUMBER										DN.	DN.	DN.	DN.	DN.
12		62	10	27	0800	34	33	S	151	15	E	18.2				
12		62	10	27	0900	34	39	S	151	21	E	19.3				
12		62	10	27	1000	34	45	S	151	21	E	19.4				
12		62	10	27	1100	34	51	S	151	21	E	20.0				
12		62	10	27	1200	34	57	S	151	21	E	18.3				
12		62	10	27	1300	35	3	S	151	21	E	19.2				
12		62	10	27	1400	35	9	S	151	15	E	18.1				
12		62	10	27	1500	35	15	S	151	3	E	17.8				
12		62	10	27	1600	35	27	S	150	57	E	17.8				
12		62	10	27	1700	35	33	S	150	51	E	17.8				
12		62	10	27	1800	35	39	S	150	45	E	17.8				
12		62	10	27	2130	36	15	S	150	21	E	15.0				
12		62	10	28	0600	36	15	S	150	33	E	15.6				
12		62	10	28	0700	36	21	S	150	27	E	15.6				
12		62	10	28	0800	36	27	S	150	21	E	16.1				
12		62	10	28	0900	36	33	S	150	21	E	15.6				
12		62	10	28	1000	36	39	S	150	21	E	15.6				
12		62	11	2	0700	37	3	S	150	9	E	16.1				
12		62	11	2	0800	36	57	S	150	15	E	17.1				
12		62	11	2	0900	36	57	S	150	21	E	18.6				
12		62	11	2	1000	36	51	S	150	27	E	19.2				
12		62	11	2	1100	36	45	S	150	27	E	19.1				
12		62	11	2	1200	37	3	S	150	21	E	18.9				
12		62	11	2	1300	37	9	S	150	27	E	18.9				
12		62	11	2	1400	37	3	S	150	33	E	19.0				
12		62	11	2	1500	36	57	S	150	39	E	19.4				
12		62	11	2	1530	36	51	S	150	33	E	19.4				
12		62	11	2	1700	36	57	S	150	33	E	19.4				
12		62	11	3	0700	36	51	S	150	21	E	18.6				
12		62	11	3	0800	36	45	S	150	27	E	17.8				
12		62	11	3	0900	36	45	S	150	21	E	18.3				
12		62	11	3	1000	36	45	S	150	27	E	18.1				
12		62	11	3	1100	36	51	S	150	27	E	18.3				
12		62	11	3	1200	36	57	S	150	27	E	18.3				
12		62	11	3	1300	37	3	S	150	27	E	18.8				
12		62	11	3	1400	36	57	S	150	27	E	18.3				
12		62	11	3	1500	36	39	S	150	21	E	18.6				
12		62	11	3	1600	36	27	S	150	21	E	18.6				
12		62	11	3	1615	36	27	S	150	21	E	18.6				
12		62	11	3	1730	36	27	S	150	27	E	18.6				

VESSE - CRUISE STATION YR. MTH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER

12	62	11	4	0900	37	3	S	150	9	E	15.3							
12	62	11	4	1000	36	57	S	150	15	E	15.6							
12	62	11	4	1005	36	57	S	150	15	E	17.8							
12	62	11	4	1100	36	57	S	150	21	E	18.2							
12	62	11	4	1200	36	45	S	150	27	E	18.6							
12	62	11	4	1230	36	39	S	150	27	E	15.9							
12	62	11	4	1300	36	39	S	150	27	E	18.6							
12	62	11	4	1400	36	39	S	150	27	E	17.8							
12	62	11	4	1500	36	21	S	150	27	E	17.4							
12	62	11	4	1600	36	27	S	150	27	E	18.1							
12	62	11	4	1700	36	45	S	150	21	E	17.4							
12	62	11	5	0600	36	39	S	150	3	E	17.2							
12	62	11	5	0700	36	39	S	150	15	E	17.5							
12	62	11	5	0800	36	39	S	150	21	E	18.3							
12	62	11	5	0900	36	45	S	150	21	E	16.9							
12	62	11	5	1000	36	45	S	150	21	E	16.9							
12	62	11	5	1100	36	51	S	150	21	E	17.2							
12	62	11	5	1120	36	51	S	150	27	E	17.0							
12	62	11	5	1330	36	51	S	150	27	E	17.1							
12	62	11	5	1400	36	57	S	150	27	E	17.1							
12	62	11	5	1500	37	3	S	150	27	E	17.8							
12	62	11	5	1600	37	9	S	150	27	E	18.9							
12	62	11	6	0800	37	3	S	150	15	E	16.9							
12	62	11	6	0840	37	3	S	150	21	E	17.7							
12	62	11	6	0900	37	3	S	150	21	E	18.3							
12	62	11	6	1000	37	9	S	150	27	E	17.8							
12	62	11	6	1100	37	15	S	150	33	E	17.8							
12	62	11	6	1200	37	15	S	150	39	E	18.9							
12	62	11	6	1330	37	15	S	150	39	E	18.9							
12	62	11	6	1445	37	9	S	150	31	E	19.2							
12	62	11	6	1520	37	9	S	150	51	E	19.2							
12	62	11	6	1545	37	9	S	150	57	E	19.4							
12	62	11	6	1610	37	9	S	150	57	E	19.2							
12	62	11	6	1815	37	15	S	151	3	E	19.1							
12	62	11	6	1900	37	9	S	150	57	E	18.9							
12	62	11	9	0800	37	3	S	150	15	E	17.8							
12	62	11	9	0900	37	3	S	150	27	E	17.8							
12	62	11	9	1000	36	57	S	150	27	E	17.8							
12	62	11	9	1100	36	45	S	150	33	E	17.8							
12	62	11	9	1200	36	51	S	150	27	E	17.8							

VESSEL	CRUISE	STATION	YR.	MIH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN.	DN.	DN.	DN.	DN.	DN.
12		62	11	9	1300	36	57 S	150	27 E	18.3							
12		62	11	9	1400	36	57 S	150	27 E	18.1							
12		62	11	9	1500	37	3 S	150	9 E	17.6							
12		62	11	11	0900	37	3 S	150	9 E	15.0							
12		62	11	11	1000	37	3 S	150	15 E	16.3							
12		62	11	11	1100	37	3 S	150	21 E	17.2							
12		62	11	11	1200	37	9 S	150	27 E	17.2							
12		62	11	11	1300	37	15 S	150	27 E	17.4							
12		62	11	11	1400	37	21 S	150	27 E	17.8							
12		62	11	11	1500	37	27 S	150	27 E	17.8							
12		62	11	12	1000	37	3 S	150	9 E	16.2							
12		62	11	12	1100	36	57 S	150	15 E	17.2							
12		62	11	12	1200	36	51 S	150	27 E	18.3							
12		62	11	12	1300	36	51 S	150	39 E	18.3							
12		62	11	12	1400	36	45 S	150	39 E	18.1							
12		62	11	12	1500	36	51 S	150	33 E	18.0							
12		62	11	12	1600	36	57 S	150	27 E	17.9							
12		62	11	13	0700	36	57 S	150	21 E	17.1							
12		62	11	13	0800	36	51 S	150	27 E	17.8							
12		62	11	13	0900	36	51 S	150	33 E	17.7							
12		62	11	13	1000	36	45 S	150	45 E	17.8							
12		62	11	13	1100	36	39 S	150	45 E	18.1							
12		62	11	13	1200	36	33 S	150	45 E	18.2							
12		62	11	13	1300	36	33 S	150	33 E	18.3							
12		62	11	13	1400	36	27 S	150	27 E	18.4							
12		62	11	13	1500	36	21 S	150	27 E	19.2							
12		62	11	13	1600	36	15 S	150	21 E	18.3							
12		62	11	14	0800	36	15 S	150	21 E	17.8							
12		62	11	14	0900	36	9 S	150	33 E	18.1							
12		62	11	14	1000	36	9 S	150	39 E	18.2							
12		62	11	14	1100	36	15 S	150	33 E	18.3							
12		62	11	14	1200	36	21 S	150	33 E	18.3							
12		62	11	14	1300	36	27 S	150	27 E	18.3							
12		62	11	14	1400	36	39 S	150	27 E	18.1							
12		62	11	14	1500	36	51 S	150	33 E	18.1							
12		62	11	14	1600	36	45 S	150	27 E	18.3							
12		62	11	16	0700	37	3 S	150	9 E	15.8							
12		62	11	16	0800	37	3 S	150	21 E	17.2							
12		62	11	16	0900	37	3 S	150	27 E	18.3							
12		62	11	16	1000	37	9 S	150	33 E	18.3							

VESSE - CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER DN. AMT, DN. AMT, DN. AMT, DN. AMT.

12	62	11	16	1100	37	15	S	150	33	E	18.4
12	62	11	16	1200	37	15	S	150	39	E	18.3
12	62	11	16	1300	37	15	S	150	33	E	18.6
12	62	11	16	1400	37	19	S	150	33	E	18.6
12	62	11	16	1500	37	3	S	150	27	E	18.9
12	62	11	16	1600	37	3	S	150	27	E	18.9
12	62	11	17	0800	37	3	S	150	9	E	17.5
12	62	11	17	0900	36	57	S	150	21	E	17.6
12	62	11	17	1000	37	3	S	150	21	E	17.8
12	62	11	17	1100	37	3	S	150	9	E	16.9
12	62	11	19	0800	37	3	S	150	9	E	14.5
12	62	11	19	0900	37	3	S	150	21	E	17.9
12	62	11	19	1000	37	3	S	150	27	E	18.6
12	62	11	19	1100	37	3	S	150	21	E	17.9
12	62	11	19	1200	37	3	S	150	15	E	15.0
12	62	11	23	0800	35	57	S	150	33	E	18.3
12	62	11	23	0900	35	45	S	150	39	E	18.9
12	62	11	23	1000	35	33	S	150	51	E	19.2
12	62	11	23	1100	35	39	S	150	51	E	19.2
12	62	11	23	1200	35	39	S	150	45	E	19.2
12	62	11	23	1300	35	45	S	150	33	E	19.2
12	62	11	23	1513	36	3	S	150	9	E	16.7
12	62	11	24	0700	36	3	S	150	15	E	17.8
12	62	11	24	0800	35	57	S	150	27	E	18.1
12	62	11	24	0900	35	45	S	150	39	E	19.1
12	62	11	24	1000	35	39	S	150	39	E	19.2
12	62	11	27	1100	35	21	S	150	51	E	18.3
12	62	11	27	1200	35	33	S	150	51	E	18.3
12	62	11	27	1300	35	39	S	150	45	E	18.5
12	62	11	27	1400	35	45	S	150	33	E	19.2
12	62	11	27	1500	35	51	S	150	33	E	18.9
12	62	11	30	0800	37	9	S	150	21	E	16.7
12	62	11	30	0900	37	9	S	150	27	E	17.8
12	62	12	16	0900	36	33	S	150	15	E	19.2
12	62	12	16	1000	36	27	S	150	21	E	19.3
12	62	12	16	1100	36	27	S	150	21	E	19.3
12	62	12	16	1200	36	33	S	150	21	E	19.4
12	62	12	16	1215	36	39	S	150	21	E	19.4
12	62	12	16	1430	36	45	S	150	21	E	19.4

VESSEL - CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BARDOM.
 NUMBER

T5	62	2	10	1400	35	21 S	134	15 E	19.4			
T5	62	2	10	1900	34	51 S	134	39 E	18.9			
T5	62	2	11	0800	34	51 S	134	39 E	18.9			
T5	62	2	11	1200	34	51 S	134	39 E	18.9			
T5	62	2	15	0800	34	51 S	134	39 E	18.9			
T5	62	2	15	1200	34	51 S	134	39 E	18.4			
T5	62	2	24	0800	34	57 S	135	33 E	18.3			
T5	62	2	24	1300	34	51 S	134	39 E	19.4			
T5	62	2	25	1200	34	51 S	134	39 E	19.4			
T5	62	2	28	0600	34	51 S	134	39 E	19.4			
T5	62	2	28	1400	34	51 S	134	39 E	19.4			
T5	62	3	4	1900	34	51 S	134	39 E	18.9			
T5	62	3	5	1930	34	51 S	134	39 E	18.9			
T5	62	3	7	1000	34	51 S	135	3 E	18.9			
T5	62	3	8	1600	34	51 S	134	39 E	20.6			
T5	62	3	12	1500	34	51 S	134	39 E	19.4			
T5	62	3	12	1830	34	51 S	134	39 E	19.4			
T5	62	3	13	1900	34	51 S	134	39 E	19.4			
T5	62	3	14		34	45 S	135	3 E	19.4			
T5	62	3	19	1500	34	51 S	134	39 E	18.9			
T5	62	3	20	1500	34	51 S	134	39 E	19.4			
T5	62	3	24	0800	34	51 S	134	39 E	18.3			
T5	62	3	24	1100	35	21 S	134	39 E	19.4			
T5	62	3	25	1500	35	45 S	135	15 E	19.4			
T5	62	3	25	1600	35	45 S	135	9 E	19.4			
T5	62	3	31	1500	35	39 S	135	9 E	19.4			
T5	62	4	1	1500	34	45 S	135	3 E	20.0			
T5	62	4	6	1500	34	45 S	134	57 E	17.8			
T5	62	4	7	1500	34	39 S	134	57 E	17.8			
T5	62	4	10	1500	34	45 S	135	57 E	17.8			
T5	62	4	18	1500	34	45 S	134	45 E	18.3			
T5	62	4	19	0800	34	45 S	134	45 E	18.3			
T5	62	4	19	1100	34	45 S	135	3 E	18.3			
T5	62	4	19	1600	35	15 S	135	33 E	18.9			
T5	62	4	20	1500	35	15 S	135	33 E	18.9			
T5	62	5	5		35	51 S	135	39 E	18.6			
T5	62	5	6		36	27 S	136	27 E	18.3			
T5	62	5	8		35	15 S	135	33 E	18.3			

VESSE - CRUISE STATION YR. MTH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER

U1	62	2	12	0900	35	39	S	135	45	E	18.1									
U1	62	2	12	1100	35	57	S	135	39	E	19.1									
U1	62	2	12	1300	35	57	S	135	45	E	19.2									
U1	62	2	12	1520	35	57	S	135	45	E	19.2									
U1	62	2	12	1430	35	57	S	135	39	E	19.2									
U1	62	2	12	1440	35	57	S	135	39	E	19.2									
U1	62	2	12	1620	35	57	S	135	33	E	19.3									
U1	62	2	12	2000	35	45	S	135	33	E	19.1									
U1	62	2	15	0800	34	57	S	136	3	E	18.1									
U1	62	2	15	1030	35	21	S	136	3	E	19.3									
U1	62	2	15	1230	35	27	S	136	3	E	19.3									
U1	62	2	15	1730	35	51	S	135	27	E	19.1									
U1	62	2	16	0930	35	51	S	135	21	E	18.3									
U1	62	2	16	0600	35	51	S	135	21	E	18.3									
U1	62	2	16	0700	35	51	S	135	21	E	18.3									
U1	62	2	16	0800	35	51	S	135	21	E	18.3									
U1	62	2	16	0830	35	51	S	135	21	E	18.3									
U1	62	2	16	0845	35	51	S	135	27	E	18.3									
U1	62	2	16	1100	35	45	S	135	27	E	18.5									
U1	62	2	16	1250	35	51	S	135	33	E	18.6									
U1	62	2	16	1540	35	51	S	135	33	E	18.6									
U1	62	3	11	1100	35	51	S	135	39	E	19.2									
U1	62	3	11	1235	36	3	S	135	27	E										
U1	62	3	11	1500	36	3	S	135	27	E	19.7									
U1	62	3	11	1600	36	3	S	135	33	E	19.7									
U1	62	3	15	1130	35	45	S	135	27	E	18.9									
U1	62	3	15	1330	35	51	S	135	15	E	19.7									
U1	62	3	15	1530	35	51	S	135	15	E	19.7									
U1	62	3	15	1710	35	51	S	135	15	E	19.7									
U1	62	3	15	1830	35	51	S	135	15	E	19.4									
U1	62	3	21	0715	36	3	S	135	15	E	19.7									
U1	62	3	22	1000	35	57	S	135	39	E	19.4									
U1	62	3	25	1130	35	51	S	135	27	E	19.2									
U1	62	3	25	1400	35	51	S	135	9	E	19.4									
U1	62	3	25	1540	35	51	S	135	15	E	19.7									
U1	62	3	25	1730	35	51	S	135	21	E	19.7									
U1	62	3	25	1830	35	51	S	135	27	E	20.0									
U1	62	4	1	0700	35	51	S	135	33	E	18.9									
U1	62	4	4		36	3	S	135	45	E	19.7									
U1	62	4	7	0700	35	57	S	135	27	E	19.7									

35.81

VESSEL	CRUISE NUMBER	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND		SEA	SWELL	WEA.	VIS.	BAROM.	
												DN.	AMT.						DN.
U5	62	3	30	0700	K	37	03	S	150	03	E	19.4	23	1					
U5	62	3	30	0930	K	37	03	S	150	03	E	19.4	00	0					
U5	62	3	30	1130	K	37	09	S	150	03	E	20.0	18	0					
U5	62	3	30	1300	K	37	09	S	150	03	E	20.6	14	0					
U5	62	3	30	1500	K	37	09	S	150	03	E	20.6	14	0					
U5	62	3	31	0600	K	37	09	S	150	09	E	20.6	27	1					
U5	62	3	31	0730	K	37	09	S	150	09	E	19.4	23	1					
U5	62	3	31	1200	K	37	09	S	150	09	E	19.4	00	0					
U5	62	3	31	1230	K	37	09	S	150	03	E	20.6	14	1					
U5	62	3	31	1415	K	37	09	S	150	03	E	20.6	14	1					
U5	62	4	2	1245	K	36	51	S	150	09	E	21.4	04	2					
U5	62	4	2		K	36	51	S	150	09	E	21.4	04	1					
U5	62	4	2		K	36	51	S	150	09	E	21.4	36	2					
U5	62	4	6	0630	K	36	51	S	150	09	E	18.3	23						
U5	62	4	6	0805	K	36	51	S	150	09	E	18.3	14						
U5	62	4	6	0940	K	36	57	S	150	09	E	18.9	14						
U5	62	4	6	1105	K	36	57	S	150	09	E	18.9	14						
U5	62	4	6	1235	K	36	57	S	150	09	E	18.9	14						
U5	62	4	7	0705	K	36	57	S	150	09	E	18.6	23						
U5	62	4	7	0740	K	36	57	S	150	09	E	18.6	23						
U5	62	4	7	0945	K	36	57	S	150	09	E	18.3	23						
U5	62	4	11	0715	K	37	15	S	150	03	E	18.3	27	1					
U5	62	4	11	0915	K	37	15	S	150	03	E	18.3	23	1					
U5	62	4	11	1030	K	37	15	S	150	03	E	18.3	23	1					
U5	62	4	11	1230	K	37	15	S	150	03	E	18.3	23	1					
U5	62	4	11	1430	K	37	09	S	150	03	E	20.0	14	1					
U5	62	4	12	0630	K	36	57	S	150	09	E	18.3	23	3					
U5	62	4	13	0800	K	37	21	S	150	03	E	18.3	23	2					
U5	62	4	13	0930	K	37	21	S	150	03	E	18.3	23	2					
U5	62	4	13	1130	K	37	21	S	150	03	E	18.3	23	3					
U5	62	4	13	1330	K	37	21	S	150	03	E	18.3	23	3					
U5	62	4	17	0830	K	37	09	S	150	03	E	19.4	23	2					
U5	62	4	17	1000	K	37	09	S	150	03	E	19.4	23	2					
U5	62	4	17	1145	K	37	09	S	150	09	E	20.0	18	1					
U5	62	4	17	1430	K	36	57	S	150	09	E	19.4	18	1					
U5	62	4	17	1615	K	36	57	S	150	09	E	19.4	18	1					
U5	62	4	17	1715	K	36	57	S	150	09	E	19.4	18	1					
U5	62	4	18	0600	K	36	57	S	150	09	E	19.7	32	1					
U5	62	4	18	0730	K	36	57	S	150	09	E	20.0	27	1					
U5	62	4	18	0900	K	36	57	S	150	09	E	20.0	27	1					

VESSE -	CRUISE	STATION	YR.	MTH.	DAY	TIME	∠	LAITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN. AMT.	DN. AMT.	DN. AMT.			
U5	62	4	18	1115	K 36	57 S	149	57 E	19.7		14	1					
U5	62	4	18	1230	K 36	57 S	149	57 E	19.7		14	1					
U5	62	4	21	0555	K 36	57 S	150	09 E	19.4		18						
U5	62	4	21	0730	K 36	57 S	150	09 E	19.7		18						
U5	62	4	21	1010	K 36	57 S	150	09 E	20.0								
U5	62	4	21	1050	K 36	57 S	150	09 E	20.3								
U5	62	4	21	1220	K 36	57 S	150	09 E	20.6								
U5	62	4	21	1355	K 36	57 S	150	09 E	20.0								
U5	62	4	22	0610	K 36	57 S	149	57 E	19.2								
U5	62	4	22	0740	K 36	57 S	149	57 E	19.2								
U5	62	4	22	0915	K 36	57 S	150	03 E	19.4		36						
U5	62	4	22	1050	K 36	57 S	150	03 E	19.4		04						
U5	62	4	23	0700	K 36	51 S	150	09 E	19.4		32						
U5	62	4	23	0830	K 36	51 S	150	09 E	20.0		36						
U5	62	4	23	1005	K 36	51 S	150	09 E	20.0		04						
U5	62	4	24	0715	K 37	15 S	150	15 E	19.7		23						
U5	62	4	24	0840	K 37	15 S	150	15 E	19.7		23						
U5	62	4	24	1100	K 37	09 S	150	09 E	20.6		04						
U5	62	4	24	1225	K 37	09 S	150	09 E	20.6		04						
U5	62	4	24	1425	K 37	09 S	150	03 E	20.0								
U5	62	4	26	0650	K 36	45 S	150	09 E	20.0								
U5	62	4	26	0820	K 36	45 S	150	09 E	20.0								
U5	62	4	26	0945	K 36	45 S	150	09 E	20.0								
U5	62	4	26	1135	K 36	51 S	150	09 E	20.0		04						
U5	62	4	27	0725	K 37	39 S	150	03 E	18.3								
U5	62	4	27	0900	K 37	39 S	150	03 E	18.6								
U5	62	4	28	0640	K 37	33 S	149	57 E	17.8		36						
U5	62	4	28	0800	K 37	33 S	149	57 E	17.8		36						
U5	62	4	28	0925	K 37	33 S	149	57 E	18.1		36						
U5	62	4	28	1110	K 37	33 S	149	57 E	18.1		04						
U5	62	5	1	0630	K 37	09 S	150	09 E	19.2		23						
U5	62	5	1	0800	K 37	09 S	150	09 E	19.2		23						
U5	62	5	1	1145	K 37	09 S	150	09 E	19.4		23						
U5	62	5	1	1300	K 37	09 S	150	09 E	19.4		18						
U5	62	5	4	0630	K 37	09 S	150	09 E	19.4		27						
U5	62	5	4	0800	K 37	09 S	150	09 E	19.4		23						
U5	62	5	4	0945	K 37	09 S	150	09 E	19.4		23						
U5	62	5	4	1045	K 37	09 S	150	09 E	19.4		23						
U5	62	5	4	1200	K 37	09 S	150	09 E	19.4		23						
U5	62	5	4	1330	K 37	09 S	150	09 E	19.7		23						

VESSEL	CRUISE STATION	YR.	MTH.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SMELL	WEA.	VIS.	BAROM.
	NUMBER								DN. AMT.	DN. AMT.	DN. AMT.	DN. AMT.		
U5	62	5	4	1515	K 37	09 S 150	09 E 19.7		23	1				
U5	62	5	4	1630	K 37	09 S 150	09 E 19.4		18	1				
U5	62	5	5	0630	K 37	09 S 150	09 E 19.4							
U5	62	5	5	0745	K 37	09 S 150	09 E 19.4							
U5	62	5	5	0915	K 37	09 S 150	09 E 19.4							
U5	62	5	5	1045	K 37	09 S 150	09 E 19.4		04					
U5	62	5	5	1200	K 37	09 S 150	09 E 19.4		04					
U5	62	5	5	1400	K 37	09 S 150	09 E 19.4		04	1				
U5	62	5	7	0630	K 37	09 S 150	15 E 18.9		27	2				
U5	62	5	7	0745	K 37	09 S 150	15 E 18.9		27	2				
U5	62	5	7	0900	K 37	09 S 150	15 E 18.9		27	2				
U5	62	5	7	1030	K 37	09 S 150	15 E 18.9		27	2				
U5	62	5	7	1130	K 37	09 S 150	15 E 18.9		27	2				
U5	62	5	7	1300	K 37	09 S 150	15 E 18.9		27	2				
U5	62	5	8	0630	K 36	45 S 149	57 E 18.9		27	1				
U5	62	5	8	0745	K 36	45 S 149	57 E 18.9		27	1				
U5	62	5	8	0930	K 36	51 S 149	57 E 18.9		23	1				
U5	62	5	8	1045	K 36	51 S 149	57 E 18.9		23	1				
U5	62	5	8	1245	K 36	57 S 149	57 E 18.9		23	1				
U5	62	5	8	1400	K 37	03 S 150	03 E 18.9		23	1				
U5	62	5	13	0300	K 37	09 S 150	09 E 18.9		27	1				
U5	62	5	13	0415	K 37	09 S 150	09 E 18.9		27	1				
U5	62	5	13	0530	K 37	09 S 150	09 E 18.9		09	1				
U5	62	5	13	0700	K 37	09 S 150	09 E 18.9		23	1				
U5	62	5	13	0830	K 37	09 S 150	09 E 18.9		23	1				
U5	62	5	13	1015	K 37	09 S 150	09 E 18.9		09	1				
U5	62	5	13	1130	K 37	09 S 150	09 E 18.9		09	1				
U5	62	5	13	1245	K 37	09 S 150	09 E 18.9		09	1				
U5	62	5	13	1400	K 37	09 S 150	09 E 18.9		09	1				
U5	62	5	16	0615	K 37	09 S 150	09 E 18.3		36	1				
U5	62	5	16	0730	K 37	09 S 150	09 E 18.3		36	1				
U5	62	5	16	0830	K 37	09 S 150	09 E 18.3		36	1				
U5	62	5	16	0945	K 37	09 S 150	09 E 18.3		36	1				
U5	62	5	16	1045	K 37	09 S 150	09 E 18.3		36	1				
U5	62	5	16	1245	K 37	09 S 150	09 E 18.3		32	1				
U5	62	5	16	1330	K 37	09 S 150	09 E 18.3		32	1				
U5	62	5	16	1445	K 37	09 S 150	09 E 18.3		32	1				
U5	62	5	17	0530	K 37	09 S 150	03 E 17.8		27	1				
U5	62	5	17	0645	K 37	09 S 150	03 E 17.8		23	1				
U5	62	5	17	0800	K 37	09 S 150	03 E 17.8		23	2				

VESSE-	CRUISE	STATION	YR.	MIH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN. AMT.	DN. AMT.	DN. AMT.			
U5		62	5	17	0915	K 37	09 S	150	03 E	18.3	23						
U5		62	5	17	1030	K 37	09 S	150	03 E	18.3	23	1					
U5		62	5	17	1200	K 37	09 S	150	03 E	18.3	23	1					
U5		62	5	18	0630	K 37	15 S	150	15 E	18.3	23	1					
U5		62	5	18	0830	K 37	15 S	150	09 E	18.3	27	1					
U5		62	5	18	0945	K 37	15 S	150	09 E	18.3	27	1					
U5		62	5	18	1100	K 37	15 S	150	09 E	18.3	32	1					
U5		62	5	18	1230	K 37	15 S	150	09 E	18.3	36	2					
U5		62	5	18	1515	K 37	15 S	150	09 E	18.3	36	1					
U5		62	5	18	1645	K 37	15 S	150	09 E	18.3	27	1					
U5		62	5	18	1800	K 37	15 S	150	09 E	18.3	18	1					
U5		62	5	23	0620	K 37	15 S	150	15 E	17.2	36						
U5		62	5	23	0750	K 37	15 S	150	15 E	16.9	36						
U5		62	5	23	0920	K 37	15 S	150	15 E	17.2	36						
U5		62	5	24	1045	K 36	51 S	150	03 E	17.2	36						
U5		62	5	25	0645	K 37	09 S	150	15 E	16.4	36						
U5		62	5	25	0800	K 37	09 S	150	15 E	16.4	36						
U5		62	5	25	0930	K 37	09 S	150	15 E	16.4	36						
U5		62	5	27	0400	K 37	09 S	150	09 E	16.1	36						
U5		62	5	27	0535	K 37	09 S	150	09 E	16.1	32	1					
U5		62	5	27	0655	K 37	09 S	150	09 E	16.1	32	1					
U5		62	5	27	0950	K 37	09 S	150	09 E	16.1	04						
U5		62	5	28	0220	K 37	03 S	150	09 E	16.1	04						
U5		62	5	28	0420	K 37	03 S	150	09 E	16.1	32						
U5		62	5	28	0555	K 37	03 S	150	09 E	16.1	09						
U5		62	5	28	0715	K 37	03 S	150	09 E	16.1	04						
U5		62	5	29	0440	K 37	03 S	150	09 E	16.7	04						
U5		62	5	29	0610	K 37	03 S	150	09 E	16.7							
U5		62	5	29	0740	K 37	03 S	150	09 E	16.7							
U5		62	5	29	0925	K 37	09 S	150	09 E	16.7							
U5		62	5	29	1040	K 37	09 S	150	09 E	16.7	32						
U5		62	5	31	0725	K 37	03 S	150	09 E	16.9							
U5		62	5	31	0855	K 37	03 S	150	09 E	17.2							
U5		62	5	31	1035	K 37	03 S	150	09 E	17.5							
U5		62	5	31	2025	K 37	03 S	150	09 E	17.2							
U5		62	5	31	2210	K 37	03 S	150	09 E	16.7	23	1					
U5		62	5	31	2340	K 37	03 S	150	09 E	16.7	23	1					
U5		62	6	1	0105	K 37	03 S	150	09 E	16.7	23	1					
U5		62	6	1	0230	K 37	03 S	150	09 E	16.7	27						
U5		62	6	1	0405	K 37	03 S	150	09 E	16.7	32						

VESSE- CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SWELL SEA HEA. VIS. BAROM. DN. AMT. DN. AMT. DN. AMT.

U5	62	6	12	0930	K 37	21	S 150	15	E 15.0	18	1
U5	62	6	12	1130	K 37	21	S 150	15	E 15.0	18	1
U5	62	6	13	0720	K 37	21	S 150	15	E 15.0	23	1
U5	62	6	13	0845	K 37	21	S 150	15	E 15.0	32	1
U5	62	6	13	1040	K 37	21	S 150	15	E 15.0	32	1
U5	62	6	14	0700	K 37	09	S 150	21	E 16.7	27	2
U5	62	6	14	0815	K 37	09	S 150	21	E 16.7	27	1
U5	62	6	14	0930	K 37	09	S 150	21	E 16.7	27	1
U5	62	6	14	1100	K 37	09	S 150	21	E 16.7	27	1
U5	62	6	15	0755	K 37	09	S 150	21	E 16.7	32	2
U5	62	6	15	1015	K 37	09	S 150	21	E 16.7	32	2
U5	62	6	15	1145	K 37	09	S 150	21	E 16.7	32	2
U5	62	6	15	1300	K 37	09	S 150	21	E 16.7	32	2
U5	62	6	16	0720	K 37	09	S 150	21	E 15.8	32	1
U5	62	6	16	0845	K 37	09	S 150	21	E 15.8	32	1
U5	62	6	16	1000	K 37	09	S 150	21	E 15.8	32	1
U5	62	6	16	1145	K 37	09	S 150	21	E 15.8	32	1
U5	62	6	18	0730	K 36	51	S 150	09	E 15.0	36	1
U5	62	6	18	0900	K 36	51	S 150	09	E 15.0	36	1
U5	62	6	18	1030	K 36	51	S 150	09	E 15.0	36	1
U5	62	6	18	1215	K 36	51	S 150	09	E 15.0	36	2
U5	62	6	18	1345	K 36	51	S 150	09	E 15.0	36	3
U5	62	6	19	0630	K 36	51	S 150	09	E 15.8	36	2
U5	62	6	19	0810	K 36	51	S 150	09	E 15.8	36	1
U5	62	6	19	0930	K 36	51	S 150	09	E 15.8	36	1
U5	62	6	19	1100	K 36	51	S 150	09	E 15.8	36	2
U5	62	6	19	1215	K 36	51	S 150	09	E 15.8	36	2
U5	62	6	19	1345	K 36	51	S 150	09	E 15.8	36	3
U5	62	6	20	0645	K 36	51	S 150	09	E 14.4	18	2
U5	62	6	20	0815	K 36	51	S 150	09	E 14.4	18	1
U5	62	6	20	0930	K 36	45	S 150	09	E 14.7	18	1
U5	62	6	20	1045	K 36	45	S 150	09	E 14.7	18	1
U5	62	6	20	1220	K 36	45	S 150	09	E 15.3	18	1
U5	62	6	20	1330	K 36	39	S 150	09	E 15.6	18	1
U5	62	6	21	0730	K 36	57	S 150	09	E 15.0	32	1
U5	62	6	21	0900	K 36	57	S 150	09	E 15.0	32	1
U5	62	6	21	1030	K 36	57	S 150	09	E 15.0	32	1
U5	62	6	21	1145	K 36	57	S 150	09	E 15.0	32	1
U5	62	6	23	0820	K 37	15	S 150	09	E 14.4	27	2
U5	62	6	23	1000	K 37	15	S 150	09	E 14.4	22	2

VESSEL	CRUISE	STATION	YR.	MTN.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER									DN. AMT.	DN. AMT.	DN. AMT.	DN. AMT.			
U5		62	6	23	1145	K	37	15	S	150	09	E	14.4	22	1		
U5		62	6	24	0705	K	37	27	S	150	09	E	14.4	36	1		
U5		62	6	24	0945	K	37	33	S	150	09	E	14.4	27	1		
U5		62	6	24	1145	K	37	33	S	150	15	E	13.9	27	1		
U5		62	6	24	1300	K	37	33	S	150	03	E	14.2	36	1		
U5		62	6	24	1430	K	37	33	S	150	03	E	14.4	36	1		
U5		62	6	25	0730	K	37	39	S	150	03	E	14.2	23	1		
U5		62	6	25	0900	K	37	39	S	150	03	E	13.9	23	2		
U5		62	6	27	1045	K	37	27	S	150	03	E	13.9	23	2		
U5		62	6	27	0900	K	36	57	S	150	09	E	15.0	27	2		
U5		62	6	27	1000	K	36	57	S	150	09	E	15.0	27	2		
U5		62	6	27	1115	K	36	57	S	150	09	E	15.0	27	2		
U5		62	6	27	1245	K	36	57	S	150	09	E	15.8	27	2		
U5		62	6	27	1400	K	36	57	S	150	09	E	15.8	27	2		
U5		62	6	28	0745	K	37	21	S	150	15	E	15.3	36	3		
U5		62	6	28	0900	K	37	21	S	150	15	E	15.3	36	3		
U5		62	6	28	1030	K	37	21	S	150	09	E	14.4	36	3		
U5		62	6	28	1230	K	37	27	S	150	03	E	13.9	36	3		
U5		62	6	28	1400	K	37	27	S	150	03	E	13.9	36	3		
U5		62	6	29	0700	K	37	45	S	149	57	E	13.9	32	1		
U5		62	6	29	0900	K	37	51	S	149	57	E	13.9	36	2		
U5		62	6	29	1030	K	37	51	S	149	57	E	13.9	36	2		
U5		62	6	29	1200	K	37	51	S	149	57	E	13.9	32	2		
U5		62	6	29	1330	K	37	51	S	149	57	E	13.9	32	2		
U5		62	6	29	1445	K	37	51	S	149	57	E	13.9	32	2		
U5		62	6	29	1630	K	37	51	S	149	57	E	13.9	32	2		
U5		62	6	30	0830	K	37	33	S	150	03	E	13.9	23	2		
U5		62	6	30	1000	K	37	27	S	150	03	E	13.9	23	1		
U5		62	6	30	1145	K	37	27	S	150	03	E	13.9	23	1		
U5		62	6	30	1300	K	37	27	S	150	03	E	13.9	23	1		
U5		62	7	2	0645	K	36	51	S	150	09	E	14.4	27	1		
U5		62	7	2	0800	K	36	51	S	150	09	E	14.4	27	1		
U5		62	7	2	0930	K	36	51	S	150	09	E	14.4	27	1		
U5		62	7	2	1100	K	36	51	S	150	09	E	14.4	27	1		
U5		62	7	2	1230	K	36	51	S	150	09	E	14.4	27	1		
U5		62	7	2	1330	K	36	51	S	150	09	E	14.4	27	1		
U5		62	7	3	0700	K	36	51	S	150	09	E	13.9	32	1		
U5		62	7	3	0815	K	36	51	S	150	09	E	13.9	32	1		
U5		62	7	3	0945	K	36	51	S	150	09	E	13.9	32	1		
U5		62	7	3	1100	K	36	51	S	150	09	E	13.9	32	1		

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND		SEA	SWELL	WEA.	VIS.	BAROM.
												DN, AMT,	DN, AMT,					
U5	62	7	3	1245	K	36	51	S	150	09	E	13.9	36	2				
U5	62	7	5	0645	K	36	51	S	150	09	E	14.4	27	1				
U5	62	7	5	0800	K	36	51	S	150	09	E	14.4	27	1				
U5	62	7	5	0915	K	36	51	S	150	09	E	14.4	32	1				
U5	62	7	5	1130	K	36	51	S	150	09	E	14.4	32	1				
U5	62	7	5	1245	K	36	57	S	150	09	E	15.0	04	1				
U5	62	7	5	1430	K	36	57	S	150	09	E	15.0	04	1				
U5	62	7	6	0700	K	36	57	S	150	09	E	14.4	23	1				
U5	62	7	6	0830	K	36	57	S	150	09	E	14.4	18	1				
U5	62	7	6	0950	K	36	51	S	150	09	E	15.0	18	1				
U5	62	7	6	1230	K	36	57	S	150	09	E	15.0	18	1				
U5	62	7	6	1430	K	36	57	S	150	09	E	15.0	18	1				
U5	62	7	7	0700	K	37	09	S	150	21	E	20.3	27	1				
U5	62	7	7	0815	K	37	09	S	150	21	E	20.3	27	1				
U5	62	7	7	1030	K	37	09	S	150	09	E	13.3	32	1				
U5	62	7	7	1145	K	37	09	S	150	09	E	13.3	32	1				
U5	62	7	7	1300	K	37	09	S	150	09	E	13.3	32	1				
U5	62	7	8	0745	K	37	09	S	150	09	E	13.6						
U5	62	7	8	0900	K	37	09	S	150	09	E	13.6						
U5	62	7	8	1045	K	37	09	S	150	09	E	13.6						
U5	62	7	9	0730	K	37	09	S	150	09	E	13.6						
U5	62	7	9	0855	K	37	09	S	150	09	E	13.3						
U5	62	7	9	1035	K	37	09	S	150	09	E	13.9						
U5	62	7	9	1205	K	37	09	S	150	09	E	14.2						
U5	62	7	14	0850	K	37	09	S	150	09	E	14.2	25					
U5	62	7	17	0720	K	37	09	S	150	09	E	14.4						
U5	62	7	17	0850	K	37	09	S	150	09	E	14.4						
U5	62	7	17	1020	K	37	09	S	150	09	E	15.6						
U5	62	7	17	1145	K	37	09	S	150	09	E	15.0	36					
U5	62	7	17	1310	K	37	09	S	150	09	E	15.0	36					
U5	62	7	17	1425	K	37	09	S	150	09	E	15.0	36					
U5	62	7	18	0720	K	36	57	S	150	09	E	14.7						
U5	62	7	18	0900	K	36	57	S	150	09	E	14.7						
U5	62	7	18	1030	K	36	57	S	150	09	E	15.6						
U5	62	7	18	1200	K	36	57	S	150	09	E	15.6						
U5	62	7	18	1325	K	36	57	S	150	09	E	15.3						
U5	62	7	19	0900	K	37	09	S	150	09	E	13.9	23	1				
U5	62	7	19	1015	K	37	09	S	150	09	E	13.9	23	1				
U5	62	7	20	0745	K	37	27	S	150	03	E	13.3	36	1				
U5	62	7	20	0915	K	37	27	S	150	09	E	13.9	36	1				

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	VIS.	BAROM.
		NUMBER								DN. AMT.	DN. AMT.	DN. AMT.	DN. AMT.	DN. AMT.
U5	62	0	10	1400	K	36	51 S	150	03 E	13.9	1			
U5	62	8	10	1515	K	36	51 S	150	15 E	13.9	09			
U5	62	8	11	0700	K	37	09 S	150	09 E	14.4	09			
U5	62	8	11	0830	K	37	09 S	150	09 E	14.4	09			
U5	62	8	11	1000	K	37	09 S	150	09 E	14.4	09			
U5	62	8	11	1110	K	37	09 S	150	09 E	14.4	09			
U5	62	8	11	1245	K	37	09 S	150	09 E	14.4	09			
U5	62	8	15	0845	K	37	03 S	150	03 E	12.8	27			
U5	62	8	17	0645	K	37	03 S	150	03 E	13.3	27			
U5	62	8	17	0815	K	37	03 S	150	03 E	13.3	27			
U5	62	8	17	0930	K	37	03 S	150	03 E	13.3	32			
U5	62	8	17	1045	K	37	03 S	150	03 E	13.6				
U5	62	8	17	1200	K	37	03 S	150	03 E	13.6				
U5	62	8	17	1330	K	37	03 S	150	03 E	13.6				
U5	62	8	17	1500	K	37	03 S	150	03 E	13.6				
U5	62	8	19	0630	K	37	09 S	150	03 E	13.9	36			
U5	62	8	19	0800	K	37	09 S	150	03 E	13.9	36			
U5	62	8	19	0945	K	37	03 S	150	03 E	13.9	36			
U5	62	8	19	1145	K	37	03 S	150	03 E	13.9	36			
U5	62	8	19	1315	K	37	03 S	150	03 E	13.9	36			
U5	62	8	19	1430	K	37	03 S	150	03 E	13.9	36			
U5	62	8	19	1545	K	37	03 S	150	03 E	13.9	36			
U5	62	8	24	0645	K	37	03 S	150	15 E	13.9	32			
U5	62	8	24	0900	K	37	03 S	150	09 E	13.9	32			
U5	62	8	24	1015	K	37	03 S	150	09 E	13.9	32			
U5	62	8	24	1130	K	37	03 S	150	09 E	13.9	32			
U5	62	8	24	1245	K	37	03 S	150	09 E	13.9				
U5	62	8	24	1415	K	36	57 S	150	09 E	13.9	04			
U5	62	8	25	0615	K	36	57 S	150	09 E	13.9	23			
U5	62	8	25	0730	K	36	57 S	150	09 E	13.9	23			
U5	62	8	25	0900	K	36	57 S	150	09 E	13.9	23			
U5	62	8	25	1030	K	36	57 S	150	09 E	13.6	18			
U5	62	8	25	1200	K	36	57 S	150	09 E	13.6	18			
U5	62	8	25	1315	K	36	57 S	150	09 E	13.9	23			
U5	62	8	26	0645	K	36	51 S	150	09 E	13.6	36			
U5	62	8	26	0800	K	36	51 S	150	09 E	13.6	36			
U5	62	8	26	0930	K	36	45 S	150	09 E	13.9	36			
U5	62	8	26	1100	K	36	51 S	150	09 E	13.9	36			
U5	62	8	26	1230	K	36	51 S	150	09 E	13.9	36			
U5	62	8	27	0645	K	36	51 S	150	09 E	13.3	32			

VESSEL CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM. DN. AMT. DN. AMT. DN. AMT.

U5	62	9	4	1245	K	36	57	S	150	09	E	13.6	04	1			
U5	62	9	6	0645	K	36	51	S	150	09	E	13.3	32	1			
U5	62	9	6	0815	K	36	51	S	150	09	E	13.3	32	1			
U5	62	9	6	0945	K	36	45	S	150	03	E	13.3	36	1			
U5	62	9	6	1130	K	36	45	S	150	03	E	13.3	36	1			
U5	62	9	7	0730	K	37	09	S	150	21	E	13.6	32	1			
U5	62	9	7	1015	K	37	09	S	150	21	E	13.9	36	2			
U5	62	9	7	1130	K	37	09	S	150	21	E	14.2	36	2			
U5	62	9	9	0725	K	37	09	S	150	21	E	13.6	23				
U5	62	9	9	0845	K	37	09	S	150	21	E	13.9	23				
U5	62	9	9	1015	K	37	09	S	150	21	E	13.9					
U5	62	9	9	1145	K	37	09	S	150	21	E	14.4					
U5	62	9	10	0610	K	37	09	S	150	09	E	13.3	36	1			
U5	62	9	10	0815	K	37	09	S	150	09	E	13.3	36	1			
U5	62	9	12	0630	K	37	03	S	150	09	E	13.6					
U5	62	9	12	0745	K	37	03	S	150	09	E	13.3	32	1			
U5	62	9	12	0915	K	37	03	S	150	09	E	13.3	32	1			
U5	62	9	12	1035	K	37	03	S	150	09	E	13.9	29	1			
U5	62	9	13	0700	K	37	09	S	150	15	E	13.9					
U5	62	9	13	0830	K	37	09	S	150	15	E	13.9	27	1			
U5	62	9	13	0945	K	37	09	S	150	15	E	13.9	23	3			
U5	62	9	13	0700	K	37	09	S	150	21	E	13.3	27	1			
U5	62	9	14	0830	K	37	09	S	150	21	E	13.6	23	1			
U5	62	9	14	1000	K	37	09	S	150	21	E	13.9	23	1			
U5	62	9	14	1130	K	37	09	S	150	21	E	13.9	18	2			
U5	62	9	14	1315	K	37	09	S	150	21	E	13.9	18	2			
U5	62	9	19	0745	K	37	15	S	150	15	E	13.9	18	1			
U5	62	9	19	0900	K	37	15	S	150	15	E	13.9	23	3			
U5	62	9	19	1115	K	37	15	S	150	09	E	13.6	23	2			
U5	62	9	19	1230	K	37	15	S	150	09	E	13.6	23	3			
U5	62	9	22	0930	K	37	09	S	150	09	E	13.9	23	1			
U5	62	9	22	1115	K	37	09	S	150	09	E	14.4	09	1			
U5	62	9	22	1230	K	37	09	S	150	09	E	14.4	09	1			
U5	62	9	22	1400	K	37	09	S	150	09	E	14.4	04	1			
U5	62	9	23	0540	K	37	09	S	150	09	E	13.9	36	1			
U5	62	9	23	0715	K	37	09	S	150	03	E	13.9	36	1			
U5	62	9	23	0845	K	37	09	S	150	03	E	13.9	36	2			
U5	62	9	25	0645	K	37	09	S	150	03	E	13.9	23	3			
U5	62	9	25	0830	K	37	09	S	150	03	E	13.9	23	3			

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND		SEA	SHELL	WEA.	VIS.	BAROM.
												DN.	AMT.					
U5			62	9	26	0815	K 37	09 S	150	03 E	13.1	27	1					
U5			62	9	26	0945	K 37	09 S	150	03 E	13.3	27	1					
U5			62	9	26	1130	K 37	09 S	150	03 E	13.6	27	1					
U5			62	9	26	1245	K 37	09 S	150	03 E	13.9	14	1					
U5			62	9	26	1430	K 37	09 S	150	03 E	13.9	14	1					
U5			62	9	27	0615	K 37	09 S	150	09 E	13.9	36	1					
U5			62	9	27	0745	K 37	09 S	150	09 E	13.9	36	1					
U5			62	9	27	0900	K 37	09 S	150	09 E	13.6	36	2					
U5			62	9	27	1045	K 37	09 S	150	03 E	13.9	36	4					
U5			62	9	28	0545	K 37	03 S	150	03 E	13.3	36	1					
U5			62	9	28	0715	K 37	03 S	150	03 E	13.6	36	1					
U5			62	9	28	0900	K 37	03 S	150	03 E	13.6	36	1					
U5			62	9	28	1000	K 37	03 S	150	03 E	13.6	27	2					
U5			62	9	28	1130	K 37	03 S	150	03 E	13.6	27	2					
U5			62	9	28	1245	K 37	03 S	150	03 E	13.6	27	1					
U5			62	9	30	0545	K 37	03 S	150	03 E	14.4	23	1					
U5			62	9	30	0715	K 37	03 S	150	03 E	14.4	23	1					
U5			62	9	30	0845	K 37	03 S	150	03 E	14.4	23	2					
U5			62	10	9	0600	K 37	09 S	150	09 E	13.9	36	1					
U5			62	10	9	0745	K 37	09 S	150	09 E	13.9	36	2					
U5			62	10	9	0915	K 37	09 S	150	09 E	13.9	27	3					
U5			62	10	10	0745	K 37	09 S	150	09 E	13.3	23	2					
U5			62	10	10	0915	K 37	09 S	150	09 E	13.3	23	3					
U5			62	10	10	1045	K 37	09 S	150	09 E	13.3	23	3					
U5			62	10	11	0615	K 37	09 S	150	09 E	13.6	23	1					
U5			62	10	11	0730	K 37	09 S	150	09 E	13.9	23	1					
U5			62	10	11	0900	K 37	09 S	150	09 E	13.9	23	1					
U5			62	10	11	1045	K 37	09 S	150	09 E	13.9	14	1					
U5			62	10	11	1215	K 37	09 S	150	09 E	14.2	14	1					
U5			62	10	12	0630	K 37	09 S	150	09 E	13.3	36	1					
U5			62	10	12	0900	K 37	09 S	150	09 E	13.3	36	2					
U5			62	10	12	1000	K 37	09 S	150	09 E	13.3	36	2					
U5			62	10	12	1100	K 37	09 S	150	09 E	13.3	36	2					
U5			62	10	12	1245	K 37	09 S	150	09 E	13.3	04	1					
U5			62	10	15	0700	K 36	57 S	150	09 E	14.4	36	1					
U5			62	10	15	0845	K 36	57 S	150	09 E	14.4	36	1					
U5			62	10	15	1045	K 36	57 S	150	09 E	14.7	04	2					
U5			62	10	15	1230	K 36	57 S	150	09 E	14.7	04	2					
U5			62	10	16	0645	K 37	09 S	150	09 E	14.4	36	1					
U5			62	10	16	0800	K 37	09 S	150	09 E	14.4	36	1					

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND		SEA	SWELL	WEA.	VIS.	BARDM.	
												DN.	AMT.						DN.
U5			62	10	16	0900	K 37	09 S 150	09 E 14.4			36	1						
U5			62	10	16	1030	K 37	15 S 150	09 E 14.4			36	1						
U5			62	10	19	0630	K 37	09 S 150	15 E 14.4			04	1						
U5			62	10	19	0745	K 37	09 S 150	15 E 14.4			04	1						
U5			62	10	19	0915	K 37	09 S 150	15 E 14.7			04	2						
U5			62	10	19	1030	K 37	09 S 150	15 E 14.7			04	2						
U5			62	10	19	1215	K 37	15 S 150	15 E 15.0			04	2						
U5			62	10	23	0600	K 37	09 S 150	09 E 14.4			23	1						
U5			62	10	23	0800	K 37	09 S 150	09 E 14.4			23	1						
U5			62	10	23	0915	K 37	09 S 150	09 E 14.4			23	1						
U5			62	10	23	1030	K 37	09 S 150	09 E 14.4			23	1						
U5			62	10	23	1200	K 37	15 S 150	09 E 15.6			09	1						
U5			62	10	23	1330	K 37	15 S 150	09 E 15.6			09	1						
U5			62	10	24	0700	K 37	15 S 150	21 E 14.4			32	1						
U5			62	10	24	0830	K 37	15 S 150	21 E 14.2			32	1						
U5			62	10	24	1000	K 37	15 S 150	21 E 14.2			36	1						
U5			62	10	24	1145	K 37	15 S 150	09 E 13.3			04	2						
U5			62	10	26	0700	K 37	21 S 150	09 E 13.9			36	1						
U5			62	10	26	0830	K 37	21 S 150	09 E 14.4			36	1						
U5			62	10	26	1000	K 37	21 S 150	09 E 14.4			36	1						
U5			62	10	26	1130	K 37	21 S 150	09 E 14.4			36	1						
U5			62	10	26	1330	K 37	21 S 150	09 E 14.4			36	1						
U5			62	10	27	0700	K 37	21 S 150	09 E 14.7			36	1						
U5			62	10	27	0815	K 37	21 S 150	09 E 14.7			36	2						
U5			62	10	27	0945	K 37	21 S 150	09 E 15.0			36	2						
U5			62	10	27	1030	K 37	21 S 150	03 E 14.4			36	2						
U5			62	11	2	0730	K 37	21 S 150	09 E 14.7			23	1						
U5			62	11	2	0900	K 37	21 S 150	09 E 15.0			23	1						
U5			62	11	2	1030	K 37	21 S 150	15 E 16.7			18	1						
U5			62	11	2	1145	K 37	21 S 150	15 E 16.7			18	1						
U5			62	11	2	1300	K 37	21 S 150	15 E 16.7			18	3						
U5			62	11	3	0615	K 37	09 S 150	09 E 15.0			23	2						
U5			62	11	3	0730	K 37	09 S 150	09 E 15.0			23	2						
U5			62	11	3	0915	K 37	09 S 150	09 E 14.4			23	2						
U5			62	11	3	1045	K 37	09 S 150	09 E 15.3			23	1						
U5			62	11	3	1215	K 37	09 S 150	09 E 15.3			23	2						
U5			62	11	5	0630	K 37	21 S 150	15 E 16.7			23	1						
U5			62	11	5	0745	K 37	21 S 150	15 E 17.2			23	1						
U5			62	11	5	0915	K 37	21 S 150	15 E 17.5			23	1						
U5			62	11	5	1030	K 37	21 S 150	15 E 17.8			23	1						

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER									DN, AMT,	DN, AMT,	DN, AMT,	DN, AMT,			
U5	62	11	5	1145	K 37	21	S	150	15	E	17.8	23	1				
U5	62	11	6	0700	K 37	15	S	150	09	E	15.0	23	1				
U5	62	11	6	0830	K 37	15	S	150	09	E	15.6	23	1				
U5	62	11	6	1000	K 37	15	S	150	09	E	16.1	23	1				
U5	62	11	6	1115	K 37	15	S	150	09	E	16.7						
U5	62	11	12	0700	K 37	15	S	150	09	E	16.9	32	1				
U5	62	11	12	0830	K 37	15	S	150	09	E	17.5	32	1				
U5	62	11	12	0945	K 37	15	S	150	09	E	17.8	18	1				
U5	62	11	12	1045	K 37	15	S	150	03	E	16.7	18	2				
U5	62	11	12	1300	K 37	15	S	150	03	E	16.1	18	3				
U5	62	11	13	0645	K 36	39	S	150	09	E	17.2	18	1				
U5	62	11	13	0715	K 36	39	S	150	15	E	17.8	18	1				
U5	62	11	13	1045	K 36	45	S	150	03	E	17.8	04	1				
U5	62	11	13	1300	K 36	51	S	150	09	E	18.3	04	1				
U5	62	11	14	0615	K 37	09	S	150	15	E	17.2	36	1				
U5	62	11	14	0845	K 37	09	S	150	15	E	17.8	36	1				
U5	62	11	14	1030	K 37	03	S	150	09	E	17.8	36	1				
U5	62	11	14	1230	K 37	03	S	150	09	E	17.2	04	2				
U5	62	11	16	0715	K 37	21	S	150	09	E	15.0	23	2				
U5	62	11	16	0845	K 37	21	S	150	09	E	15.0	23	2				
U5	62	11	16	1030	K 37	21	S	150	15	E	17.2	18	2				
U5	62	11	16	1200	K 37	15	S	150	15	E	16.7	18	1				
U5	62	11	17	0630	K 37	27	S	150	09	E	15.0	36	1				
U5	62	11	17	0800	K 37	27	S	150	09	E	15.0	36	2				
U5	62	11	17	0930	K 37	27	S	150	09	E	15.0	36	3				
U5	62	11	19	0700	K 37	21	S	150	09	E	15.0	36	1				
U5	62	11	19	0830	K 37	21	S	150	09	E	15.0	36	1				
U5	62	11	19	1000	K 37	21	S	150	09	E	15.0	04	1				
U5	62	11	19	1145	K 37	21	S	150	09	E	15.0	04	3				
U5	62	11	22	0715	K 37	21	S	150	09	E	15.0	23	2				
U5	62	11	22	0845	K 37	21	S	150	09	E	15.0	23	2				
U5	62	11	23	0700	K 37	21	S	150	09	E	15.0	36	2				
U5	62	11	23	0815	K 37	21	S	150	09	E	15.0	36	2				
U5	62	11	23	1030	K 37	21	S	150	09	E	15.0	36	2				
U5	62	11	23	1200	K 37	21	S	150	09	E	15.0	36	2				
U5	62	11	26	0700	K 37	21	S	150	09	E	15.0	36	3				
U5	62	11	26	0830	K 37	21	S	150	09	E	15.0	36	3				
U5	62	11	26	1000	K 37	21	S	150	09	E	15.0	36	3				
U5	62	11	26	1400	K 37	21	S	150	03	E	15.6	36	3				
U5	62	11	27	0630	K 37	21	S	150	09	E	15.0	18	2				

VESSE-	CRUISE	STATION	YR.	MM.	DAY	TIME	✓	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN, AMT,	DN, AMT,	DN, AMT,			
U5		62	11	27	0800	K 37	21	S	150	09	E	15.0	18	2			
U5		62	11	27	1000	K 37	21	S	150	03	E	15.6	18	3			
U5		62	11	28	0645	K 37	27	S	150	09	E	15.6	18	2			
U5		62	11	28	0845	K 37	27	S	150	09	E	15.6	18	2			
U5		62	11	28	1145	K 37	33	S	150	03	E	15.3	18	2			
U5		62	11	28	1330	K 37	33	S	150	03	E	15.3	18	2			
U5		62	11	28	1445	K 37	33	S	150	03	E	15.3	18	2			
U5		62	11	29	0630	K 37	39	S	150	03	E	15.3	18	2			
U5		62	11	29	0700	K 37	39	S	150	03	E	15.6	23	1			
U5		62	11	29	0830	K 37	39	S	150	03	E	15.8	18	1			
U5		62	11	30	0730	K 37	27	S	150	15	E	17.8	04	2			
U5		62	12	4	0630	K 37	39	S	150	03	E	16.1	18	1			
U5		62	12	4	0745	K 37	45	S	149	57	E	16.1	18	1			
U5		62	12	4	1000	K 37	45	S	149	57	E	16.1	18	1			
U5		62	12	4	1130	K 37	45	S	149	57	E	16.1	18	1			
U5		62	12	4	1300	K 37	45	S	149	57	E	17.8	18	1			
U5		62	12	9	0845	K 37	21	S	150	03	E	18.1	23	2			
U5		62	12	9	1015	K 37	21	S	150	03	E	18.1	23	2			
U5		62	12	10	0615	K 37	15	S	150	09	E	18.1	00	0			
U5		62	12	10	0730	K 37	15	S	150	09	E	18.1	00	0			
U5		62	12	10	0900	K 37	15	S	150	09	E	18.3	00	0			
U5		62	12	10	1030	K 37	15	S	150	09	E	18.3	00	0			
U5		62	12	13	0600	K 37	09	S	150	09	E	17.8	23	2			
U5		62	12	13	0800	K 37	09	S	150	15	E	18.1	27	1			
U5		62	12	13	1000	K 37	09	S	150	09	E	17.8	00	0			
U5		62	12	13	1200	K 37	09	S	150	03	E	17.8	18	2			
U5		62	12	14	0600	K 37	39	S	150	03	E	16.7	09	2			
U5		62	12	14	0730	K 37	39	S	150	03	E	16.7	09	2			
U5		62	12	14	0930	K 37	39	S	150	03	E	17.2	09	2			
U5		62	12	14	1030	K 37	39	S	150	03	E	17.2	09	2			
U5		62	12	14	1215	K 37	39	S	150	03	E	17.2	09	2			
U5		62	12	14	1400	K 37	39	S	150	03	E	17.2	09	2			
U5		62	12	17	0630	K 36	51	S	150	09	E	18.6	18	1			
U5		62	12	17	0815	K 36	51	S	150	09	E	18.9	18	1			
U5		62	12	17	1000	K 36	57	S	150	15	E	19.4	18	1			
U5		62	12	17	1130	K 36	57	S	150	15	E	20.0	09	1			
U5		62	12	17	1300	K 37	03	S	150	15	E	20.0	09	1			
U5		62	12	18	0530	K 37	39	S	149	57	E	18.3	04	2			
U5		62	12	18	0645	K 37	39	S	149	57	E	18.3	36	2			
U5		62	12	18	0815	K 37	45	S	149	57	E	16.7	36	1			

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA.	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN.	DN.	DN.	DN.	DN.	DN.
U5		62	12	18	0930	K	37	45 S	149 57 E	16.7		36					1
U5		62	12	18	1100	K	37	45 S	149 57 E	16.7		23					1
U5		62	12	18	1230	K	37	45 S	149 57 E	16.7		23					1
U5		62	12	18	1515	K	37	33 S	149 45 E	16.1		23					1
U5		62	12	19	0600	K	37	45 S	149 57 E	16.1		23					2
U5		62	12	19	0830	K	37	45 S	149 57 E	16.1		23					3

VESSE- CRUISE STATION YR. MTH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
NUMBER

U7	62	4	5	0615	37	J S 149	57 E 15.6
U7	62	4	5	1307	36	57 S 150	27 E 18.9
U7	62	4	5	1347	36	51 S 150	27 E 19.4
U7	62	4	5	1430	36	51 S 150	27 E 18.9
U7	62	11	2	0745	37	J S 150	3 E 15.8
U7	62	11	2	1105	37	J S 150	15 E 19.4
U7	62	11	2	1203	36	57 S 150	21 E 19.7
U7	62	11	2	1207	37	J S 150	27 E 19.9
U7	62	11	2	1330	36	51 S 150	21 E 20.0
U7	62	11	3	0747	37	J S 149	57 E 16.7
U7	62	11	3	1047	36	57 S 150	15 E 18.3
U7	62	11	3	1120	36	57 S 150	21 E 18.5
U7	62	11	3	1200	36	57 S 150	21 E 18.6
U7	62	11	3	1220	37	J S 150	27 E 18.9
U7	62	11	3	1245	37	J S 150	27 E 18.9
U7	62	11	3	1305	37	J S 150	27 E 18.9
U7	62	11	4	0617	37	J S 149	57 E 15.6
U7	62	11	4	1230	36	57 S 150	27 E 18.6
U7	62	11	4	1305	36	51 S 150	27 E 18.8
U7	62	11	4	1353	36	51 S 150	27 E 18.9
U7	62	11	4	1435	36	57 S 150	21 E 18.9
U7	62	11	6	0645	37	J S 149	57 E 15.6
U7	62	11	16	1015	37	J S 150	33 E 17.2
U7	62	11	16	1500	37	J S 150	27 E 18.9
U7	62	11	16	1635	37	J S 150	33 E 18.9
U7	62	12	4	1012	37	J S 150	27 E 18.9
U7	62	12	10	0935	37	J S 150	21 E 18.3
U7	62	12	13	1335	36	57 S 150	27 E 18.9
U7	62	12	14	0900	36	57 S 150	21 E 17.8
U7	62	12	14	1015	36	45 S 150	21 E 18.9
U7	62	12	15	1000	36	57 S 150	21 E 17.8
U7	62	12	15	1100	36	51 S 150	27 E 17.8
U7	62	12	15	1115	36	45 S 150	27 E 18.3
U7	62	12	15	1300	36	51 S 150	27 E 18.9
U7	62	12	15	1400	36	51 S 150	21 E 18.9
U7	62	12	20	0900	37	J S 150	15 E 18.9
U7	62	12	20	1000	37	J S 150	15 E 20.0
U7	62	12	20	1100	37	J S 150	21 E 20.0
U7	62	12	20	1230	36	57 S 150	21 E 20.0

VESSE- CRUISE STATION YR. MTH, DAY TIME & LATITUDE LONGITUDE TEMP. SALINITY WIND SWELL SEA WEA. VIS. BAROM.
 NUMBER

VESSE- NUMBER	CRUISE STATION	YR.	MTH,	DAY	TIME	& LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SWELL	SEA	WEA.	VIS.	BAROM.
U8	62	4	8	0900	35	51 S	135	39 E	18.1						
U8	62	4	8	1300	35	33 S	135	57 E	18.2						
U8	62	4	17	0800	35	57 S	135	39 E	17.8						
U8	62	4	17	1300	35	57 S	135	39 E	18.1						
U8	62	4	19	0700	35	15 S	135	33 E	17.8						
U8	62	4	19	1500	35	15 S	135	33 E	17.8						
U8	62	4	19	1800	35	15 S	135	33 E	17.8						
U8	62	4	24	0600	35	15 S	135	33 E	18.3						
U8	62	4	24	1000	35	15 S	135	33 E	18.6						
U8	62	4	24	1100	35	15 S	135	33 E	18.6						
U8	62	4	24	1500	35	15 S	135	33 E	18.6						
U8	62	4	25	0900	35	15 S	135	33 E	18.6						
U8	62	5	3	0100	35	15 S	135	33 E	16.7						
U8	62	5	3	1200	35	15 S	135	33 E	17.8						
U8	62	5	3	1730	35	15 S	135	33 E	17.8						
U9	62	5	4	0500	35	21 S	136	3 E	17.9						
U8	62	5	4	0845	35	15 S	135	33 E	17.8						
U8	62	5	4	0930	35	15 S	135	33 E	17.8						
U8	62	5	9	1200	35	15 S	135	33 E	17.8						
U8	62	5	9	1500	35	15 S	135	33 E	17.8						
U8	62	5	9	1600	35	15 S	135	33 E	17.8						

35.75

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	VIS.	BAROM.
		NUMBER					LONGITUDE	TEMP.	SALINITY	DN. AMT.	DN. AMT.	DN. AMT.	DN. AMT.
W2		62	2	25	0800	35	39 S 135	3 E 18.9					
W2		62	2	25	1000	35	45 S 135	9 E 19.4					
W2		62	2	25	1200	35	45 S 135	9 E 19.7					
W2		62	2	25	1500	35	51 S 135	21 E 18.9					
W2		62	2	25	1700	35	39 S 135	39 E 18.9					
W2		62	2	26	0400	35	21 S 136	9 E 18.9					
W2		62	2	26	0730	35	21 S 136	9 E 18.9					
W2		62	2	26	1320	34	45 S 135	51 E 22.8					
W2		62	2	26	1830	34	45 S 135	51 E 22.8					
W2		62	2	26	2400	34	57 S 135	51 E 22.8					
W2		62	2	27	0300	34	45 S 135	51 E 22.8					
W2		62	2	27	0900	34	45 S 135	51 E 22.8					
W2		62	2	27	1830	34	45 S 135	51 E 22.8					
W2		62	2	27	2400	34	57 S 134	39 E 19.4					
W2		62	2	28	0600	34	45 S 134	33 E 19.3					
W2		62	2	28	0800	34	45 S 134	33 E 19.4					
W2		62	2	28	1000	34	57 S 134	39 E 19.4					
W2		62	2	28	1200	35	21 S 134	39 E 19.4					
W2		62	2	28	1400	35	33 S 134	45 E 19.4					
W2		62	2	28	1600	35	15 S 134	45 E 19.4					
W2		62	2	28	1915	34	39 S 134	45 E 18.9					
W2		62	3	1	0900	34	39 S 134	45 E 18.9					
W2		62	3	3	0830	34	39 S 134	45 E 18.9					
W2		62	3	3	1100	34	45 S 134	39 E 19.2					
W2		62	3	3	1300	34	45 S 134	39 E 19.3					
W2		62	3	3	1500	34	45 S 134	39 E 19.4					
W2		62	3	3	1830	34	45 S 134	39 E 19.2					
W2		62	3	3	2400	34	57 S 135	39 E 18.6					
W2		62	3	6	0600	35	27 S 134	57 E 19.2					
W2		62	3	6	0900	35	33 S 135	3 E 19.3					
W2		62	3	6	1200	35	33 S 134	39 E 19.4					
W2		62	3	6	1500	35	33 S 134	39 E 19.3					
W2		62	3	6	1700	35	33 S 134	39 E 19.3					
W2		62	3	6	1900	35	33 S 134	39 E 19.3					
W2		62	3	8	2130	34	39 S 135	51 E 20.8					
W2		62	3	8	2400	35	3 S 135	57 E 18.3					
W2		62	3	9	0630	35	39 S 134	57 E 19.3					
W2		62	3	9	0900	35	45 S 134	51 E 19.3					
W2		62	3	9	1200	35	39 S 134	39 E 19.3					
W2		62	3	9	1500	35	33 S 134	27 E 18.9					

VESSEL	CRUISE STATION NUMBER	YR.	MTH.	DAY	TIME	LONGITUDE	LATITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
W2		62	3	17	0630	35 21 S	136	3 E	18.9						
W2		62	3	17	1200	34 45 S	135	51 E	21.1						
W2		62	3	21	0600	35 45 S	135	51 E	18.9						
W2		62	3	21	0900	35 57 S	135	39 E	18.9						
W2		62	3	21	1100	36 3 S	135	39 E	19.4						
W2		62	3	21	1300	36 3 S	135	45 E	18.9						
W2		62	3	21	1500	36 15 S	135	51 E	18.9						
W2		62	3	21	1700	36 15 S	135	51 E	18.9						
W2		62	3	21	1900	36 3 S	135	57 E	18.9						
W2		62	3	21	2400	35 21 S	136	3 E	18.8						
W2		62	3	22	0500	35 21 S	136	9 E	18.5						
W2		62	3	22	0630	35 21 S	136	9 E	18.5						
W2		62	3	22	0900	35 21 S	136	9 E	18.4						
W2		62	3	22	1200	35 33 S	135	45 E	18.9						
W2		62	3	22	1500	35 51 S	135	27 E	19.4						
W2		62	3	22	1700	35 45 S	135	15 E	19.4						
W2		62	3	22	1900	35 51 S	135	15 E	19.3						
W2		62	3	23	0700	35 45 S	135	3 E	19.2						
W2		62	3	23	0900	35 57 S	135	3 E	18.9						
W2		62	3	23	1100	35 51 S	134	45 E	19.0						
W2		62	3	23	1300	35 51 S	134	51 E	19.0						
W2		62	3	23	1500	35 51 S	134	45 E	19.2						
W2		62	3	23	1700	35 51 S	134	51 E	19.2						
W2		62	3	23	1800	35 51 S	134	57 E	18.9						
W2		62	3	23	2000	35 57 S	135	9 E	19.0						
W2		62	3	23	2400	35 15 S	135	45 E	18.6						
W2		62	3	25	2030	35 21 S	136	3 E	18.3						
W2		62	3	26	0500	35 21 S	136	3 E	18.3						
W2		62	3	26	0600	35 21 S	136	3 E	18.6						
W2		62	3	26	1230	35 51 S	134	57 E	18.9						
W2		62	3	26	1430	35 57 S	135	9 E	18.9						
W2		62	3	26	1600	36 9 S	135	27 E	19.1						
W2		62	3	26	1800	36 15 S	135	39 E	18.9						
W2		62	3	26	1900	36 15 S	135	39 E	18.9						
W2		62	3	27	0630	36 15 S	135	33 E	18.9						
W2		62	3	27	0800	36 21 S	135	39 E	18.9						
W2		62	3	27	1000	36 21 S	135	33 E	18.9						
W2		62	3	27	1200	36 9 S	135	21 E	18.9						
W2		62	3	27	1400	36 3 S	135	21 E	18.9						
W2		62	3	27	1600	35 57 S	135	9 E	18.9						

VESSEL CRUISE STATION YR. MTH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL MEA. VIS, BAROM.
 DN. AMT. DN. AMT. DN. AMT.

H2	62	3	27	1800	35	45 S	135	9 E	18.9			
H2	62	3	27	2230	35	21 S	136	9 E	18.3			
H2	62	3	27	2400	35	21 S	136	9 E	18.3			
H2	62	3	28	0030	35	21 S	136	9 E	18.3			
H2	62	4	1	0600	36	9 S	135	45 E	18.9			
H2	62	4	1	0800	36	9 S	135	39 E	18.9			
H2	62	4	1	1000	36	3 S	135	33 E	18.9			
H2	62	4	1	1200	36	9 S	135	33 E	18.9			
H2	62	4	1	1400	36	21 S	135	39 E	19.4			
H2	62	4	1	1600	36	21 S	135	27 E	19.4			
H2	62	4	1	1800	36	21 S	135	39 E	18.9			
H2	62	4	1	1845	36	21 S	135	27 E	18.9			
H2	62	4	2	0700	36	21 S	135	21 E	18.6			
H2	62	4	2	0900	36	27 S	135	21 E	18.9			
H2	62	4	2	1100	36	21 S	135	27 E	18.9			
H2	62	4	2	1300	36	15 S	135	15 E	18.9			
H2	62	4	2	1500	36	9 S	135	13 E	18.9			
H2	62	4	2	1700	36	15 S	135	33 E	18.9			
H2	62	4	2	1900	36	9 S	135	33 E	18.9			
H2	62	4	3	0700	36	9 S	135	45 E	18.6			
H2	62	4	3	0900	36	3 S	135	39 E	18.6			
H2	62	4	3	1100	35	51 S	135	33 E	18.6			
H2	62	4	3	1700	35	9 S	135	57 E	18.6			
H2	62	4	3	2030	34	45 S	135	51 E	20.3			
H2	62	4	5	0830	34	45 S	135	51 E	20.8			
H2	62	4	5	2400	35	3 S	136	3 E	17.8			
H2	62	4	7	1930	35	21 S	136	3 E	18.3			
H2	62	4	7	2230	35	21 S	136	3 E	18.6			
H2	62	4	8	0145	35	21 S	136	3 E	18.3			
H2	62	4	8	0700	36	3 S	135	45 E	18.6			
H2	62	4	8	0900	36	3 S	135	45 E	18.6			
H2	62	4	8	1100	36	9 S	135	45 E	18.6			
H2	62	4	8	1300	36	21 S	135	27 E	18.3			
H2	62	4	8	1500	36	9 S	135	15 E	18.3			
H2	62	4	8	1700	35	57 S	135	15 E	18.3			
H2	62	4	9	0730	35	51 S	135	27 E	18.4			
H2	62	4	9	0920	36	3 S	135	33 E	18.6			
H2	62	4	9	1000	36	21 S	135	51 E	18.6			
H2	62	4	9	1100	36	27 S	136	9 E	17.4			
H2	62	4	9	1200	36	39 S	136	21 E	17.4			

VESSEL	CHUISE	STATION	YR.	MTH.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER				∠	LATITUDE			DN. AMT.	DN. AMT.	DN. AMT.			
W2		62	4	9	1400	36	27 S 135	57 E 18.5							
W2		62	4	9	1600	36	15 S 135	45 E 18.5							
W2		62	4	9	1800	36	3 S 135	33 E 18.5							
W2		62	4	9	2400	35	27 S 135	45 E 18.2							
W2		62	4	15	0900	34	45 S 135	51 E 17.8							
W2		62	4	15	1200	34	51 S 136	27 E 18.9							
W2		62	4	15	1500	36	27 S 135	57 E 18.6							
W2		62	4	15	1800	35	15 S 136	15 E 17.9							
W2		62	4	15	2000	35	21 S 136	9 E 17.7							
W2		62	4	15	2400	35	39 S 136	27 E 17.8							
W2		62	4	16	0800	35	45 S 136	33 E 17.2							
W2		62	4	16	1000	35	51 S 136	27 E 17.5							
W2		62	4	16	1200	36	3 S 136	21 E 18.1							
W2		62	4	16	1500	36	15 S 136	15 E 18.1							
W2		62	4	16	1700	36	9 S 136	9 E 18.0							
W2		62	4	16	1900	35	57 S 136	21 E 17.9							
W2		62	4	16	2100	35	45 S 136	33 E 17.2							
W2		62	4	17	0600	35	45 S 136	33 E 17.2							
W2		62	4	17	0900	35	57 S 136	21 E 17.8							
W2		62	4	17	1100	36	9 S 136	15 E 17.8							
W2		62	4	17	1300	36	21 S 136	3 E 18.6							
W2		62	4	17	1500	36	27 S 135	57 E 19.4							
W2		62	4	17	1700	36	15 S 135	45 E 18.3							
W2		62	4	17	1900	36	3 S 135	51 E 18.9							
W2		62	4	17	2400	35	27 S 136	9 E 19.1							
W2		62	4	18	0500	35	27 S 136	9 E 17.8							
W2		62	4	18	0900	35	33 S 135	45 E 18.3							
W2		62	4	18	1100	35	39 S 135	33 E 18.3							
W2		62	4	18	1300	35	51 S 135	21 E 18.3							
W2		62	4	18	1500	36	3 S 135	9 E 18.3							
W2		62	4	18	1700	35	39 S 135	9 E 18.3							
W2		62	4	18	2400	35	27 S 136	57 E 17.6							
W2		62	4	19	1200	35	27 S 136	9 E 17.8							
W2		62	4	19	1400	35	15 S 135	39 E 18.2							
W2		62	5	3	0900	36	3 S 135	45 E 18.6							
W2		62	5	3	1100	36	9 S 135	39 E 17.2							
W2		62	5	3	1300	36	9 S 135	45 E 17.5							
W2		62	5	3	1500	36	9 S 135	45 E 17.5							
W2		62	5	4	1800	36	9 S 135	45 E 17.5							
W2		62	5	4	1800	36	15 S 135	45 E 17.5							
W2		62	5	4	0730	36	15 S 135	45 E 17.5							

VESSE - CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 DN. AMT. DN. AMT. DN. AMT.

W2	62	5	4	0900	36	15	S	135	45	E	17.5
W2	62	5	4	1100	36	15	S	135	45	E	17.5
W2	62	5	4	1300	36	15	S	135	45	E	17.5
W2	62	5	4	1500	35	51	S	135	51	E	18.6
W2	62	5	4	1800	35	27	S	135	51	E	18.6
W2	62	5	4	2100	35	15	S	135	57	E	18.1
W2	62	5	4	2400	34	57	S	136	3	E	17.9
W2	62	5	5	1830	34	51	S	136	3	E	17.2
W2	62	5	6	0830	34	45	S	135	51	E	17.2
W2	62	5	7	1300	34	45	S	135	51	E	17.2
W2	62	5	7	1900	35	15	S	136	9	E	17.8
W2	62	5	7	2400	35	15	S	136	9	E	17.8
W2	62	5	9	0500	35	15	S	136	9	E	18.3
W2	62	5	9	0800	35	15	S	136	9	E	18.3
W2	62	5	9	1130	34	51	S	136	3	E	17.8
W2	62	5	9	1740	34	51	S	136	3	E	17.2
W2	62	5	9	2000	34	45	S	135	57	E	17.2
W2	62	5	9	2400	34	45	S	135	57	E	17.2
W2	62	5	10	0500	34	45	S	135	57	E	17.2
W2	62	5	11	0500	34	45	S	135	57	E	17.2
W2	62	5	12	1930	34	45	S	135	51	E	17.2
W2	62	5	12	2400	35	9	S	135	57	E	17.8
W2	62	5	13	0300	35	39	S	135	51	E	17.8
W2	62	5	13	0600	36	3	S	135	45	E	17.9
W2	62	5	13	0900	36	9	S	135	39	E	18.0
W2	62	5	13	1100	35	57	S	135	39	E	18.1
W2	62	5	13	1300	35	51	S	135	45	E	18.3
W2	62	5	13	1500	35	45	S	135	51	E	18.3
W2	62	8	5	1015	34	9	S	151	27	E	17.2
W2	62	8	5	1130	34	9	S	151	33	E	17.7
W2	62	8	5	2115	35	3	S	150	45	E	14.2
W2	62	8	9	0900	35	3	S	150	45	E	14.7
W2	62	8	9	1100	35	15	S	150	57	E	16.8
W2	62	8	9	1300	35	9	S	151	9	E	17.2
W2	62	8	9	1500	34	51	S	151	9	E	17.2
W2	62	8	10	0430	35	3	S	150	45	E	13.9
W2	62	8	10	0600	35	9	S	150	57	E	16.1
W2	62	8	10	0730	35	3	S	150	45	E	14.4
W2	62	8	17	0430	35	3	S	150	45	E	15.0
W2	62	8	17	0730	35	21	S	150	51	E	16.7

VESSE -	CRUISE	STATION	YR.	MTH.	DAY	TIME	∠	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN.	AMT.	DN.	AMT.	DN.	AMT.
W2		62	8	17	1030	35	45	S	150	57	E	16.4					
W2		62	8	17	1200	35	45	S	150	45	E	13.9					
W2		62	8	17	1530	36	15	S	150	21	E	14.2					
W2		62	8	17	1630	36	15	S	150	15	E	14.2					
W2		62	8	18	0900	36	15	S	150	9	E	13.6					
W2		62	8	18	0945	36	15	S	150	15	E	14.4					
W2		62	8	18	1000	36	33	S	150	21	E	15.0					
W2		62	8	18	1300	36	33	S	150	21	E	15.0					
W2		62	8	18	1700	37	3	S	149	57	E	12.5					
W2		62	8	19	0800	37	3	S	149	57	E	12.2					
W2		62	8	19	0930	37	9	S	150	3	E	12.8					
W2		62	8	19	1030	37	15	S	150	3	E	12.2					
W2		62	8	19	1100	37	9	S	150	15	E	13.3					
W2		62	8	19	1300	37	3	S	150	27	E	13.3					
W2		62	8	19	1600	37	9	S	150	3	E	12.2					
W2		62	8	23	1330	37	3	S	149	57	E	12.8					
W2		62	8	23	1530	36	45	S	150	3	E	13.1					
W2		62	8	23	1815	36	15	S	150	9	E	15.6					
W2		62	8	23	2400	35	33	S	150	33	E	14.4					
W2		62	8	24	0600	35	3	S	150	51	E	14.4					
W2		62	8	24	0900	34	51	S	151	9	E	16.1					
W2		62	8	24	1100	34	39	S	151	9	E	16.4					
W2		62	8	24	1300	34	39	S	151	3	E	16.1					
W2		62	8	24	1500	34	33	S	151	9	E	16.4					
W2		62	8	24	1800	34	39	S	150	45	E	14.9					
W2		62	8	25	0700	34	39	S	150	45	E	15.0					
W2		62	8	25	0930	34	51	S	151	9	E	16.1					
W2		62	8	25	1045	34	57	S	151	21	E	16.1					
W2		62	8	25	1445	34	39	S	150	45	E	15.0					
W2		62	8	30	0745	34	39	S	150	51	E	15.0					
W2		62	8	30	1000	34	39	S	151	3	E	16.1					
W2		62	8	30	1700	34	9	S	151	27	E	16.4					
W2		62	8	30	2015	33	51	S	151	15	E	15.0					
W2		62	9	1	0630	33	51	S	151	15	E	14.7					
W2		62	9	1	0730	33	51	S	151	21	E	16.1					
W2		62	9	1	0830	33	57	S	151	27	E	16.1					
W2		62	9	1	0930	34	3	S	151	33	E	16.9					
W2		62	9	1	1100	34	9	S	151	39	E	17.2					
W2		62	9	1	1200	34	3	S	151	39	E	17.2					
W2		62	9	1	1545	33	51	S	151	15	E	15.3					

VESSE- CRUISE STATION YR. MTH. DAY TIME L LAITUDE LONGITUDE TEMP. SALINITY WIND SWELL SEA MEA. VIS. BAROM.
 DN, AMT. DN, AMT. DN, AMT. DN, AMT.

W2	62	9	2	0645	33	51 S	151	15 E	15.6
W2	62	9	2	0900	33	45 S	151	33 E	16.4
W2	62	9	2	1100	33	45 S	151	51 E	18.3
W2	62	9	2	1200	33	45 S	152	3 E	17.2
W2	62	9	2	1300	33	45 S	152	15 E	17.2
W2	62	9	2	1500	33	51 S	152	9 E	18.3
W2	62	9	2	1600	34	3 S	151	51 E	16.1
W2	62	9	2	1800	34	15 S	151	33 E	16.1
W2	62	9	2	2200	34	39 S	150	51 E	15.6
W2	62	9	4	0715	34	39 S	150	51 E	15.0
W2	62	9	4	0900	34	45 S	151	9 E	16.1
W2	62	9	4	1030	34	45 S	151	15 E	16.1
W2	62	9	4	1130	34	57 S	151	3 E	15.6
W2	62	9	4	1400	35	3 S	151	15 E	16.2
W2	62	9	4	1500	35	9 S	151	3 E	15.8
W2	62	9	4	1645	35	3 S	150	45 E	14.4
W2	62	9	6	0700	35	3 S	150	45 E	14.2
W2	62	9	6	0900	35	9 S	151	3 E	15.9
W2	62	9	6	1100	34	51 S	151	9 E	16.1
W2	62	9	6	1200	34	39 S	151	9 E	16.1
W2	62	9	6	1400	34	39 S	151	9 E	16.1
W2	62	9	6	1600	34	39 S	150	51 E	15.0
W2	62	9	9	0730	34	39 S	150	51 E	15.6
W2	62	9	9	0900	34	51 S	151	3 E	15.7
W2	62	9	9	1000	34	51 S	151	9 E	15.3
W2	62	9	9	1100	34	51 S	151	15 E	16.1
W2	62	9	9	1200	34	57 S	151	15 E	16.4
W2	62	9	9	1300	34	57 S	151	21 E	16.7
W2	62	9	9	1400	34	57 S	151	15 E	16.9
W2	62	9	9	1500	34	57 S	151	15 E	16.1
W2	62	9	9	1600	34	51 S	151	21 E	16.1
W2	62	9	9	1700	34	51 S	151	9 E	15.6
W2	62	9	10	0600	34	39 S	150	51 E	15.0
W2	62	9	10	0800	34	33 S	151	15 E	16.6
W2	62	9	10	0930	34	33 S	151	21 E	17.7
W2	62	9	10	1030	34	27 S	151	21 E	17.5
W2	62	9	10	1130	34	33 S	151	21 E	16.7
W2	62	9	10	1200	34	45 S	151	15 E	16.4
W2	62	9	10	1300	34	57 S	151	21 E	16.3
W2	62	9	10	1400	34	57 S	151	15 E	15.6

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN.	DN.	DN.	DN.	DN.	DN.
W2	62	9	27	0900	35	3	S	151	3	E	17.7						
W2	62	9	27	1000	35	3	S	151	15	E	17.2						
W2	62	9	27	1100	34	57	S	151	21	E	17.2						
W2	62	9	27	1200	34	51	S	151	15	E	17.5						
W2	62	9	27	1300	34	57	S	151	15	E	17.5						
W2	62	9	27	1400	35	3	S	150	51	E	15.6						
W2	62	9	27	1500	35	3	S	150	45	E	15.6						
W2	62	9	28	0715	35	3	S	150	45	E	15.6						
W2	62	9	28	0900	35	3	S	150	51	E	17.2						
W2	62	9	28	1000	34	57	S	151	3	E	17.2						
W2	62	9	28	1100	34	51	S	151	9	E	17.8						
W2	62	9	28	1200	34	45	S	151	3	E	17.8						
W2	62	9	28	1300	34	45	S	150	57	E	17.8						
W2	62	9	28	1400	34	39	S	150	57	E	17.5						
W2	62	9	28	1500	34	39	S	150	51	E	16.1						
W2	62	9	30	0815	34	39	S	150	51	E	15.6						
W2	62	9	30	1100	34	45	S	151	3	E	17.2						
W2	62	9	30	1200	34	57	S	151	9	E	16.4						
W2	62	9	30	1300	34	51	S	151	15	E	17.3						
W2	62	9	30	1400	34	51	S	151	21	E	17.2						
W2	62	9	30	1500	34	51	S	151	15	E	17.2						
W2	62	9	30	1600	34	45	S	151	9	E	17.2						
W2	62	9	30	1845	34	39	S	150	51	E	16.7						
W2	62	10	4	0630	34	39	S	150	51	E	16.1						
W2	62	10	4	0800	34	45	S	151	3	E	16.5						
W2	62	10	4	0900	34	45	S	151	9	E	17.1						
W2	62	10	4	1000	34	45	S	151	9	E	16.9						
W2	62	10	4	1200	34	39	S	150	51	E	16.1						
W2	62	10	6	0630	34	39	S	150	51	E	15.6						
W2	62	10	6	0800	34	45	S	150	57	E	17.1						
W2	62	10	6	0900	34	45	S	151	9	E	17.2						
W2	62	10	6	1000	34	51	S	151	9	E	17.2						
W2	62	10	6	1100	34	57	S	151	9	E	16.1						
W2	62	10	6	1200	34	57	S	151	9	E	16.7						
W2	62	10	6	1300	34	51	S	150	57	E	16.7						
W2	62	10	6	1430	34	39	S	150	51	E	16.1						
W2	62	10	8	0820	34	39	S	150	51	E	14.4						
W2	62	10	8	1000	34	45	S	151	3	E	17.2						
W2	62	10	8	1100	34	51	S	151	3	E	17.3						
W2	62	10	8	1200	34	57	S	151	9	E	17.2						

VESSE - CRUISE STATION YR. MTH. DAY TIME	LONGITUDE	TEMP.	SALINITY	WIND DN. AMT.	SEA SWELL	WEA. VIS. BAROM.
W2 62 10 13 0900	35 15 S 150	39 E 15.0				
W2 62 10 13 1000	35 15 S 150	51 E 15.8				
W2 62 10 13 1100	35 15 S 151	9 E 16.7				
W2 62 10 13 1200	35 9 S 151	9 E 16.3				
W2 62 10 13 1300	35 3 S 151	9 E 17.2				
W2 62 10 13 1400	35 3 S 151	9 E 17.1				
W2 62 10 13 1500	35 3 S 151	9 E 16.1				
W2 62 10 13 1600	35 9 S 151	9 E 15.4				
W2 62 10 13 1800	35 15 S 150	27 E 15.6				
W2 62 10 14 0815	35 15 S 150	27 E 15.0				
W2 62 10 14 1000	35 33 S 150	51 E 14.4				
W2 62 10 14 1040	35 33 S 150	51 E 15.0				
W2 62 10 14 1245	35 15 S 150	27 E 15.0				
W2 62 10 16 0700	35 15 S 150	27 E 14.7				
W2 62 10 16 0800	35 27 S 150	39 E 14.3				
W2 62 10 16 0900	35 33 S 150	45 E 16.1				
W2 62 10 16 1000	35 39 S 150	57 E 15.2				
W2 62 10 16 1100	35 45 S 151	3 E 18.3				
W2 62 10 16 1200	35 57 S 150	45 E 18.1				
W2 62 10 16 1300	36 3 S 150	39 E 17.8				
W2 62 10 16 1400	36 9 S 150	33 E 17.8				
W2 62 10 16 1500	36 15 S 150	27 E 16.7				
W2 62 10 16 1600	36 15 S 150	27 E 16.9				
W2 62 10 16 1700	36 21 S 150	27 E 16.9				
W2 62 10 16 1845	36 15 S 150	15 E 14.6				
W2 62 10 17 0645	36 15 S 150	15 E 15.0				
W2 62 10 17 0800	36 21 S 150	27 E 16.6				
W2 62 10 17 0900	36 21 S 150	33 E 16.4				
W2 62 10 17 1000	36 27 S 150	21 E 16.7				
W2 62 10 17 1100	36 33 S 150	21 E 16.8				
W2 62 10 17 1200	36 39 S 150	21 E 16.8				
W2 62 10 17 1300	36 45 S 150	21 E 15.6				
W2 62 10 17 1400	36 45 S 150	27 E 15.6				
W2 62 10 17 1500	36 51 S 150	21 E 15.6				
W2 62 10 17 1600	36 57 S 150	9 E 15.6				
W2 62 10 19 0230	37 3 S 149	57 E 14.4				
W2 62 10 19 0700	36 33 S 150	21 E 16.3				
W2 62 10 19 0800	36 27 S 150	21 E 16.3				
W2 62 10 19 0900	36 21 S 150	21 E 16.7				
W2 62 10 19 1000	36 15 S 150	27 E 16.9				

VESSE- CRUISE STATION Y.Y. M.H. DAY TIME Z LAITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER

W2	62	10	19	1100	36	9	S	150	27	E	17.7
W2	62	10	19	1200	35	57	S	150	33	E	17.9
W2	62	10	19	1300	35	45	S	150	39	E	17.8
W2	62	10	19	1400	35	39	S	150	45	E	17.8
W2	62	10	19	1500	35	33	S	150	51	E	17.9
W2	62	10	20	0630	35	15	S	150	27	E	15.8
W2	62	10	20	0800	35	15	S	150	39	E	17.2
W2	62	10	20	0900	35	15	S	150	57	E	19.3
W2	62	10	20	1000	35	15	S	151	3	E	19.6
W2	62	10	20	1100	35	15	S	151	3	E	19.7
W2	62	10	20	1200	35	21	S	150	57	E	19.4
W2	62	10	20	1300	35	21	S	150	51	E	17.9
W2	62	10	20	1400	35	39	S	150	39	E	17.2
W2	62	10	23	0530	35	15	S	150	27	E	16.1
W2	62	10	23	0700	35	15	S	150	39	E	17.5
W2	62	10	23	0800	35	9	S	151	3	E	17.5
W2	62	10	23	0900	35	3	S	151	9	E	17.7
W2	62	10	23	1000	34	57	S	151	9	E	17.8
W2	62	10	23	1100	34	45	S	151	9	E	17.8
W2	62	10	23	1200	34	39	S	151	9	E	17.8
W2	62	10	23	1300	34	33	S	151	9	E	17.8
W2	62	10	23	1400	34	33	S	151	9	E	18.9
W2	62	10	23	1500	34	33	S	151	3	E	18.9
W2	62	10	23	1700	34	39	S	150	51	E	16.7
W2	62	10	26	0615	34	39	S	150	51	E	15.6
W2	62	10	26	0900	34	31	S	151	9	E	18.3
W2	62	10	26	1000	34	45	S	151	15	E	18.9
W2	62	10	26	1100	34	39	S	151	9	E	20.0
W2	62	10	26	1200	34	33	S	151	9	E	18.9
W2	62	10	26	1345	34	39	S	150	51	E	16.7
W2	62	10	27	0600	34	39	S	150	51	E	16.1
W2	62	10	27	0800	34	45	S	151	9	E	18.9
W2	62	10	27	0900	34	51	S	151	9	E	19.4
W2	62	10	27	1000	34	51	S	151	9	E	19.2
W2	62	10	27	1100	34	51	S	151	9	E	19.8
W2	62	10	27	1200	34	51	S	151	9	E	20.0
W2	62	10	27	1300	34	57	S	151	9	E	18.5
W2	62	10	27	1400	35	3	S	151	9	E	17.2
W2	62	10	27	1500	35	9	S	151	3	E	17.8
W2	62	10	27	1600	35	21	S	150	57	E	17.8

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	◊	LAITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN.	DN.	DN.	AMT.	DN.	AMT.
W2	62	10	27	1700	35	27	S	150	51	E	17.8						
W2	62	10	27	1800	35	39	S	150	45	E	17.8						
W2	62	10	27	1900	35	51	S	150	33	E	17.2						
W2	62	10	27	2100	36	9	S	150	27	E	15.8						
W2	62	10	27	2330	36	15	S	150	15	E	15.3						
W2	62	10	28	0545	36	15	S	150	15	E	15.4						
W2	62	10	28	0700	36	15	S	150	21	E	16.1						
W2	62	10	28	0800	36	9	S	150	27	E	16.1						
W2	62	10	28	0900	36	9	S	150	27	E	16.1						
W2	62	10	28	1130	36	21	S	150	3	E	15.0						
W2	62	10	31	0800	36	21	S	150	3	E	16.1						
W2	62	10	31	0900	36	21	S	150	15	E	16.7						
W2	62	10	31	1000	36	15	S	150	27	E	16.7						
W2	62	10	31	1100	36	9	S	150	27	E	17.2						
W2	62	10	31	1200	36	15	S	150	27	E	17.1						
W2	62	10	31	1300	36	21	S	150	21	E	16.9						
W2	62	10	31	1400	36	27	S	150	21	E	17.1						
W2	62	10	31	1500	36	33	S	150	21	E	17.2						
W2	62	10	31	1600	36	45	S	150	15	E	17.5						
W2	62	10	31	1930	37	3	S	149	57	E	14.7						
W2	62	11	3	0515	37	3	S	149	57	E	15.0						
W2	62	11	3	0800	36	51	S	150	21	E	18.3						
W2	62	11	3	0900	36	45	S	150	27	E	18.4						
W2	62	11	3	1000	36	51	S	150	27	E	18.3						
W2	62	11	3	1100	36	51	S	150	27	E	18.4						
W2	62	11	3	1200	36	57	S	150	21	E	18.6						
W2	62	11	3	1300	36	51	S	150	21	E	18.6						
W2	62	11	3	1400	36	45	S	150	21	E	18.9						
W2	62	11	3	1600	36	33	S	150	27	E	18.9						
W2	62	11	3	1700	36	33	S	150	27	E	18.8						
W2	62	11	3	1800	36	33	S	150	27	E	18.3						
W2	62	11	3	1945	36	15	S	150	15	E	16.7						
W2	62	11	4	0700	36	21	S	150	3	E	16.7						
W2	62	11	4	0900	36	21	S	150	15	E	17.8						
W2	62	11	4	1000	36	21	S	150	21	E	18.3						
W2	62	11	4	1100	36	27	S	150	27	E	17.8						
W2	62	11	4	1200	36	27	S	150	33	E	18.1						
W2	62	11	4	1300	36	21	S	150	33	E	17.8						
W2	62	11	4	1500	36	21	S	150	15	E	18.3						
W2	62	11	4	1600	36	33	S	150	21	E	18.4						

VESSE-	CRUISE	STATION	YR.	MIN.	DAY	TIME	LA	TI	TU	D	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.	
		NUMBER												DN. AMT.	DN. AMT.	DN. AMT.				
W3	1	1	62	9	11	0600	K	34	21	S	151	15	E	17.3						35.57
W3	1	2	62	9	11	0800	K	34	27	S	151	15	E	17.2						35.59
W3	1	3	62	9	11	1000	K	34	33	S	151	09	E	17.3						35.55
W3	1	4	62	9	11	1200	K	34	33	S	151	09	E	17.2						35.53
W3	1	5	62	9	11	1400	K	34	33	S	151	03	E	15.8						35.48
W3	1	6	62	9	11	1500	K	34	33	S	151	03	E	16.1						35.50

VESSEL - CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND DN. AMT. SEA SWELL WEA. VIS. BAROM.
 NUMBER DN. AMT. DN. AMT. DN. AMT.

W4	62	8	18	37	15	S	150	3	F	13.3
W4	62	8	19	37	15	S	150	3	F	13.3
W4	62	8	20	37	21	S	150	3	F	12.8

VESSEL CRUISE STATION YR. MTH. DAY TIME Z LATITUDE LONGITUDE TEMP. SALINITY WIND SWELL SEA VIS. RARUM.
 NUMBER DN. AMT. DN. AMT. DN. AMT. DN. AMT.

WB	62	2	26		35	45	S	135	45	E	18.9								
WB	62	2	27		34	45	S	134	39	E	18.9								
WB	62	3	4		34	45	S	134	39	E	18.9								
WB	62	3	8	1730	35	39	S	135	33	E	19.2								
WB	62	3	8		35	39	S	135	33	E	18.9								
WB	62	3	9	1730	35	39	S	135	33	E	19.2								
WB	62	3	13		35	3	S	134	39	F	19.2								
WB	62	3	15		35	39	S	135	33	E	19.2								
WB	62	3	21		35	45	S	135	39	E	19.2								
WB	62	3	22		35	45	S	135	39	E	19.2								
WB	62	3	25		35	45	S	135	39	E	19.2								
WB	62	3	26		35	45	S	135	39	E	19.2								
WB	62	4	1		35	57	S	135	51	E	19.2								
WB	62	4	17		35	45	S	135	45	F	19.2								
WB	62	4	20		35	45	S	135	45	E	19.2								
WB	62	5	3		35	45	S	136	3	E	19.2								

VESSE- CRUISE STATION YR. MH. DAY TIME L LAITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER

M9	62	2	24	1100	34	51 S	134	45 E	18.9
M9	62	3	4	1200	35	33 S	134	57 E	18.9
M9	62	3	5	1615	35	15 S	134	45 E	18.6
M9	62	3	5		34	51 S	134	51 E	17.8
M9	62	3	6	0700	35	33 S	135	3 E	18.3
M9	62	3	6	1600	35	27 S	135	15 E	18.6
M9	62	3	6	1645	35	27 S	135	21 E	18.6
M9	62	3	10	1200	35	15 S	135	3 E	18.6
M9	62	3	10	1600	35	15 S	134	51 E	18.9
M9	62	3	16	1030	35	57 S	135	45 E	19.2
M9	62	3	16	1400	35	57 S	135	51 E	19.2
M9	62	3	26	1200	36	15 S	135	51 E	19.4
M9	62	3	26	1430	36	21 S	135	51 E	18.6
M9	62	3	31	0800	35	57 S	135	39 E	19.2
M9	62	4	1	0700	36	15 S	135	57 E	18.9
M9	62	4	1	1000	36	21 S	135	45 E	18.9
M9	62	4	1	1200	36	21 S	135	45 E	18.9
M9	62	4	2	0545	36	39 S	135	51 E	18.9
M9	62	4	7	0845	36	3 S	135	57 E	18.9
M9	62	4	7	1200	36	21 S	135	33 E	18.6
M9	62	4	7	1615	36	27 S	135	33 E	18.9
M9	62	4	8	0630	36	15 S	135	27 E	18.9
M9	62	4	8	0930	36	15 S	135	33 E	18.9
M9	62	4	8	1430	36	15 S	135	39 E	18.9
M9	62	4	16	0700	36	9 S	136	3 E	18.3
M9	62	4	16	1030	36	9 S	136	3 E	18.3
M9	62	4	16	1500	36	9 S	135	57 E	18.3
M9	62	4	18	1145	36	9 S	136	3 E	18.1
M9	62	4	18	1530	36	3 S	136	33 E	18.1
M9	62	4	19	0700	36	3 S	136	39 E	18.1
M9	62	4	20	1430	35	51 S	135	39 E	18.3
M9	62	4	20	1630	35	51 S	135	39 E	18.3
M9	62	5	5	1500	35	33 S	136	3 E	17.8

VESSE-	CRUISE	STATION	YR.	MIN.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SMELL	WEA.	VIS.	BARCH.
		NUMBER					°			DN.	AMT.	DN.	AMT.	DN.	AMT.
X1	1	1	62	11	22	2000	33	58	S	151	18	E	19.7		
X1	1	1	62	11	22	2400	34	28	S	151	10	E	20.3		
X1	1	1	62	11	23	0400	35	05	S	150	58	E	20.6		
X1	1	1	62	11	23	0800	35	40	S	150	40	E	19.2		
X1	1	1	62	11	23	1200	36	17	S	150	22	E	18.6		
X1	1	1	62	11	23	1600	36	49	S	150	15	E	17.8		
X1	1	1	62	11	23	2000	37	23	S	150	07	E	15.6		
X1	1	1	62	11	23	2400	37	55	S	150	01	E	15.6		
X1	1	1	62	11	24	0400	38	28	S	149	50	E	16.7		
X1	1	1	62	11	24	0800	38	47	S	149	44	E	15.6		
X1	1	1	62	11	24	1200	39	06	S	149	37	E	15.3		
X1	1	1	62	11	24	1600	39	24	S	149	30	E	15.0		
X1	1	1	62	11	24	2000	39	45	S	149	23	E	15.3		
X1	1	1	62	11	24	2400	40	05	S	149	16	E	15.0		
X1	1	1	62	11	25	0400	40	20	S	149	11	E	14.4		
X1	1	1	62	11	25	0800	40	39	S	149	04	E	13.6		
X1	1	1	62	11	25	1200	41	08	S	148	52	E	13.3		
X1	1	1	62	11	25	1600	41	36	S	148	33	E	13.1		
X1	1	1	62	11	25	2000	42	11	S	148	29	E	12.8		
X1	1	1	62	11	25	2400	42	45	S	148	16	E	12.8		
X1	1	1	62	11	26	0400	43	11	S	147	56	E	12.8		
X1	1	1	62	11	26	0800	43	00	S	147	23	E	12.8		
X1	2	1	62	11	29	2000	43	16	S	148	02	E	13.3		
X1	2	1	62	11	29	2400	42	43	S	148	12	E	13.6		
X1	2	1	62	11	30	0400	42	12	S	148	29	E	13.6		
X1	2	1	62	11	30	0800	41	40	S	148	42	E	14.2		
X1	2	1	62	11	30	1200	41	07	S	148	33	E	15.0		
X1	2	1	62	11	30	1600	40	33	S	149	05	E	16.4		
X1	2	1	62	11	30	2000	40	02	S	149	16	E	16.7		
X1	2	1	62	11	30	2400	39	31	S	149	26	E	16.1		
X1	2	1	62	12	1	0400	39	10	S	149	33	E	17.5		
X1	2	1	62	12	1	0800	38	51	S	149	44	E	17.8		
X1	2	1	62	12	1	1200	38	34	S	149	51	E	17.5		
X1	2	1	62	12	1	1600	38	17	S	149	54	E	17.8		
X1	2	1	62	12	1	2000	37	57	S	150	00	E	17.5		
X1	2	1	62	12	1	2400	37	44	S	150	08	E	16.7		
X1	2	1	62	12	2	0400	37	24	S	150	11	E	16.9		
X1	2	1	62	12	2	0800	37	04	S	150	12	E	17.2		
X1	2	1	62	12	2	1200	36	42	S	150	05	E	16.9		
X1	2	1	62	12	2	1600	36	16	S	150	11	E	17.8		

VESSE- CRUISE STATION YR. MH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
NUMBER

X1	2	62	12	2	2000	35	47	S	150	24	E	18.1
X1	2	62	12	2	2400	35	24	S	150	36	E	16.7
X1	2	62	12	3	0400	35	03	S	150	56	E	16.9
X1	2	62	12	3	0800	34	34	S	150	55	E	19.4
X1	2	62	12	3	1200	34	08	S	151	11	E	20.0
X1	3	62	12	8	0400	34	15	S	151	16	E	20.0
X1	3	62	12	8	0800	34	49	S	151	07	E	20.0
X1	3	62	12	8	1200	35	19	S	150	52	E	20.0
X1	3	62	12	8	1600	35	48	S	150	36	E	18.9
X1	3	62	12	8	2000	36	20	S	150	17	E	18.9
X1	3	62	12	8	2400	36	55	S	150	11	E	18.9
X1	3	62	12	9	0400	37	30	S	150	07	E	18.3
X1	3	62	12	9	0800	37	50	S	150	00	E	18.9
X1	3	62	12	9	1200	38	10	S	149	53	E	16.9
X1	3	62	12	9	1600	38	28	S	149	45	E	17.2
X1	3	62	12	9	2000	38	41	S	149	33	E	17.2
X1	3	62	12	9	2400	39	00	S	149	17	E	15.0
X1	3	62	12	10	0400	39	22	S	148	59	E	15.0
X1	3	62	12	10	0800	39	55	S	148	38	E	15.0
X1	3	62	12	10	1200	40	28	S	148	40	E	13.9
X1	3	62	12	10	1600	40	58	S	148	33	E	14.4
X1	3	62	12	10	2000	41	33	S	148	34	E	14.4
X1	3	62	12	10	2400	42	10	S	148	30	E	14.4
X1	3	62	12	11	0400	42	43	S	148	18	E	13.9
X1	3	62	12	11	0800	43	15	S	148	02	E	13.9
X1	3	62	12	11	1200	43	03	S	147	24	E	15.6
X1	4	62	12	14	1600	43	04	S	147	25	E	16.1
X1	4	62	12	14	2000	43	12	S	148	04	E	13.3
X1	4	62	12	14	2400	42	41	S	148	17	E	13.9
X1	4	62	12	15	0400	42	09	S	148	30	E	13.9
X1	4	62	12	15	0800	41	35	S	148	42	E	15.0
X1	4	62	12	15	1200	41	06	S	148	50	E	16.1
X1	4	62	12	15	1600	40	42	S	149	00	E	17.2
X1	4	62	12	15	2000	40	22	S	149	08	E	17.2
X1	4	62	12	15	2400	40	04	S	149	14	E	17.8
X1	4	62	12	16	0400	39	45	S	149	21	E	17.8
X1	4	62	12	16	0800	39	30	S	149	25	E	17.2
X1	4	62	12	16	1200	39	13	S	149	32	E	17.5
X1	4	62	12	16	1600	38	49	S	149	42	E	17.2
X1	4	62	12	16	2000	38	22	S	149	51	E	17.8

VESSE-- CRUISE STATION YR. MTH. DAY TIME \angle LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
NUMBER

X1	4	62	12	16	2400	37	57	S	150	05	E	17.8
X1	4	62	12	17	0400	37	17	S	150	07	E	18.9
X1	4	62	12	17	0800	36	45	S	150	02	E	18.1
X1	4	62	12	17	1200	36	15	S	150	10	E	20.0
X1	4	62	12	17	1600	35	45	S	150	17	E	20.0
X1	4	62	12	17	2000	35	20	S	150	37	E	20.0
X1	4	62	12	17	2400	34	58	S	150	53	E	19.4
X1	4	62	12	18	0400	34	32	S	150	57	E	19.4
X1	4	62	12	18	0800	34	07	S	151	12	E	20.0
X1	5	62	12	21	2000	34	00	S	151	17	E	20.6
X1	5	62	12	21	2400	34	36	S	151	08	E	20.6
X1	5	62	12	22	0400	35	15	S	150	57	E	20.6
X1	5	62	12	22	0800	35	45	S	150	38	E	20.3
X1	5	62	12	22	1200	36	19	S	150	19	E	20.6
X1	5	62	12	22	1600	36	56	S	150	16	E	20.6
X1	5	62	12	22	2000	37	39	S	150	08	E	19.4
X1	5	62	12	22	2400	38	12	S	149	56	E	18.9
X1	5	62	12	23	0400	38	43	S	149	46	E	18.3
X1	5	62	12	23	0800	39	23	S	149	30	E	18.3
X1	5	62	12	23	1200	40	01	S	149	12	E	17.8
X1	5	62	12	23	1600	40	35	S	148	58	E	17.2
X1	5	62	12	23	2000	41	10	S	148	44	E	16.7
X1	5	62	12	23	2400	41	43	S	148	42	E	15.6
X1	5	62	12	24	0400	42	11	S	148	30	E	15.0
X1	5	62	12	24	0800	42	36	S	148	18	E	15.0
X1	5	62	12	24	1200	43	03	S	148	05	E	14.4
X1	6	62	12	28	1600	43	16	S	147	48	E	14.4
X1	6	62	12	28	2000	43	08	S	147	34	E	16.1
X1	6	62	12	28	2400	43	08	S	148	07	E	14.7
X1	6	62	12	28	2800	42	44	S	148	16	E	15.0
X1	6	62	12	29	0400	42	17	S	148	31	E	15.0
X1	6	62	12	29	0800	41	45	S	148	27	E	15.0
X1	6	62	12	29	1200	41	09	S	148	28	E	16.7

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	LA	TI	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN.	DN.	DN.	DN.	DN.	DN.
X3		62	11	5	1000	36	27	S	150	21	E	18.8					
X3		62	11	5	1100	36	33	S	150	21	E	18.9					
X3		62	11	5	1200	36	39	S	150	27	E	18.6					
X3		62	11	5	1300	36	45	S	150	21	E	18.9					
X3		62	11	5	1400	36	45	S	150	21	E	19.2					
X3		62	11	5	1500	36	51	S	150	21	E	18.9					
X3		62	11	5	1600	36	57	S	150	15	E	17.8					
X3		62	11	5	1700	37	3	S	150	9	E	17.2					
X3		62	11	6	0500	37	3	S	149	57	E	17.2					
X3		62	11	6	0600	37	3	S	150	9	E	16.7					
X3		62	11	6	0700	36	57	S	150	15	E	17.2					
X3		62	11	6	0800	36	57	S	150	21	E	18.3					
X3		62	11	6	0900	36	51	S	150	27	E	18.6					
X3		62	11	6	1000	36	45	S	150	21	E	17.8					
X3		62	11	6	1100	36	39	S	150	21	E	19.4					
X3		62	11	6	1200	36	33	S	150	21	E	19.4					
X3		62	11	6	1300	36	27	S	150	15	E	19.4					
X3		62	11	6	1400	36	21	S	150	9	E	19.2					
X3		62	11	7	0600	36	27	S	150	9	E	17.5					
X3		62	11	7	0700	36	27	S	150	15	E	18.6					
X3		62	11	7	0800	36	27	S	150	21	E	17.3					
X3		62	11	7	0900	36	33	S	150	21	E	18.3					
X3		62	11	7	1000	36	39	S	150	21	E	18.6					
X3		62	11	7	1100	36	39	S	150	21	E	18.6					
X3		62	11	7	1200	36	33	S	150	21	E	18.6					
X3		62	11	7	1300	36	27	S	150	15	E	17.8					
X3		62	11	7	1400	36	27	S	150	9	E	17.8					
X3		62	11	12	0700	36	21	S	150	9	E	16.4					
X3		62	11	12	0800	36	21	S	150	15	E	17.2					
X3		62	11	12	0900	36	21	S	150	21	E	17.8					
X3		62	11	12	1000	36	21	S	150	27	E	18.3					
X3		62	11	12	1100	36	15	S	150	27	E	18.6					
X3		62	11	12	1200	36	21	S	150	27	E	18.6					
X3		62	11	12	1300	36	27	S	150	33	E	19.2					
X3		62	11	12	1400	36	27	S	150	27	E	19.2					
X3		62	11	12	1500	36	27	S	150	21	E	18.6					
X3		62	11	12	1600	36	21	S	150	15	E	17.8					
X3		62	11	13	0800	36	21	S	150	9	E	16.9					
X3		62	11	13	0900	36	21	S	150	15	E	18.1					
X3		62	11	13	1000	36	21	S	150	21	E	18.3					

VESSE-	CRUISE	STATION	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER										DN. AMT.	DN. AMT.	DN. AMT.			
X3		62	12	13	1700		36	27 S	150	15 E	19.4						
X3		62	12	13	1800		36	21 S	150	15 E	19.2						
X3		62	12	14	0700		36	21 S	150	9 E	18.3						
X3		62	12	14	0800		36	21 S	150	9 E	18.9						
X3		62	12	14	0900		36	21 S	150	15 E	19.4						
X3		62	12	14	1000		36	21 S	150	21 E	18.9						
X3		62	12	14	1100		36	27 S	150	21 E	19.4						
X3		62	12	14	1200		36	27 S	150	15 E	19.7						
X3		62	12	14	1400		36	27 S	150	21 E	19.4						
X3		62	12	14	1500		36	27 S	150	15 E	19.4						
X3		62	12	15	0800		36	21 S	150	3 E	18.9						
X3		62	12	15	0900		36	21 S	150	9 E	19.4						
X3		62	12	15	1000		36	27 S	150	15 E	19.7						
X3		62	12	15	1100		36	21 S	150	21 E	20.0						
X3		62	12	15	1200		36	21 S	150	21 E	20.0						
X3		62	12	15	1300		36	21 S	150	21 E	20.0						
X3		62	12	15	1400		36	21 S	150	21 E	20.0						
X3		62	12	15	1500		36	21 S	150	15 E	19.4						
X3		62	12	17	0730		36	21 S	150	3 E	18.3						
X3		62	12	17	0830		36	21 S	150	9 E	19.4						
X3		62	12	17	1000		36	27 S	150	15 E	19.7						
X3		62	12	17	1100		36	33 S	150	21 E	20.0						
X3		62	12	17	1200		36	27 S	150	21 E	20.3						
X3		62	12	17	1300		36	27 S	150	21 E	20.3						
X3		62	12	17	1400		36	21 S	150	21 E	20.3						
X3		62	12	17	1500		36	21 S	150	21 E	20.6						
X3		62	12	17	1600		36	21 S	150	21 E	20.3						
X3		62	12	17	1700		36	21 S	150	21 E	20.4						
X3		62	12	17	1830		36	21 S	150	21 E	20.3						
X3		62	12	17	1930		36	21 S	150	15 E	19.7						
X3		62	12	20	0600		36	21 S	150	3 E	18.6						
X3		62	12	20	0700		36	21 S	150	9 E	19.2						
X3		62	12	20	0800		36	27 S	150	15 E	20.0						
X3		62	12	20	0900		36	27 S	150	15 E	20.0						
X3		62	12	20	1000		36	33 S	150	15 E	20.0						
X3		62	12	20	1100		36	39 S	150	15 E	20.0						
X3		62	12	20	1200		36	45 S	150	15 E	20.0						
X3		62	12	20	1300		36	39 S	150	15 E	20.0						
X3		62	12	20	1400		36	33 S	150	15 E	20.0						
X3		62	12	20	1500		36	27 S	150	15 E	20.0						

VESSE- CRUISE STATION YR. MTH. DAY TIME & LATITUDE LONGITUDE TEMP. SALINITY WIND SEA SWELL WEA. VIS. BAROM.
 NUMBER DN. AMT. DN. AMT. DN. AMT. DN. AMT.

X3	62	12	20	1600	36	27	S	150	9	E	19.2
X3	62	12	20	1700	36	21	S	150	9	E	19.2
X3	62	12	20	1730	36	21	S	150	3	E	18.6

OCEANOGRAPHICAL STATION LISTS

1. Hydrological and planktological observations by F.R.V. *Warreen* in south-eastern Australian waters, 1938-39
2. Hydrological and planktological observations by F.R.V. *Warreen* in south-eastern Australian waters, 1940-42
3. Hydrological and plantological observations by F.R.V. *Warreen* in south-western Australian waters, 1947-50
4. Onshore hydrological investigations in eastern Australia, 1942-50
5. Estuarine hydrological investigations in eastern Australia, 1940-50. Queensland: Nerang and Coomera Rivers, Moreton Bay and Brisbane River, Logan River, Dunwich Oyster Lease; New South Wales: Richmond River, Clarence River, Macleay River, Hastings River, Manning River, Port Stephens, Tilligerry Creek, Hawkesbury River
6. Estuarine hydrological investigations in eastern Australia, 1940-50. New South Wales: Middle Harbour and Port Jackson, Georges River-Botany Bay
7. Estuarine hydrological investigations in eastern Australia, 1940-50. New South Wales: Port Hacking, Lake Illawarra, Shoalhaven River, Jervis Bay, Clyde River, Moruya River, Tuross River, Wagonga Inlet; Victoria: Port Phillip; Tasmania: Tamar River, Derwent River, Huon River, D'Entrecasteaux Channel, Pittwater, Lake Dobson (freshwater), Penna Dam (freshwater)
8. Hydrological investigations in south-western Australia, 1944-50
9. Records of twenty-four hourly hydrological observations at selected stations in eastern Australian estuarine systems, 1942-50. Queensland: Logan River; New South Wales: Richmond River, Clarence River, Macleay River, Hastings River, Manning River, Port Stephens, Hawkesbury River, Georges River, Port Hacking, Clyde River, Tuross River; Tasmania: Tamar River, Derwent River
10. Records of twenty-four hourly hydrological observations at Shell Point, Georges River, New South Wales, 1942-50
11. Analyses of bottom deposits in eastern Australia, 1946-50
12. Estuarine hydrological investigations in eastern and south-western Australia, 1951
13. Analysis of bottom deposits in eastern and south-western Australia, 1951 and records of twenty-four hourly hydrological observations at selected stations in eastern Australian estuarine systems, 1951
14. Onshore hydrological investigations in eastern and south-western Australia, 1951
15. Estuarine hydrological investigations in eastern and south-western Australia, 1952
16. Analysis of bottom deposits in eastern and south-western Australia, 1952 and records of twenty-four hourly hydrological observations at selected stations in eastern Australian estuarine systems, 1952
17. Onshore hydrological investigations in eastern and south-western Australia, 1952
18. Onshore hydrological investigations in eastern and south-western Australia, 1953
19. *Onshore planktological investigations in eastern Australia, 1945-54*
20. Surface sampling in the Tasman Sea, 1953
21. Estuarine hydrological investigations in eastern and south-western Australia, 1953
22. Further onshore planktological investigations in eastern Australia, 1945-54
23. Planktological investigations made by F.R.V. *Derwent Hunter* in eastern Australian waters, 1952-54
24. Onshore hydrological investigations in eastern and south-western Australia, 1954
25. Surface sampling in the Tasman Sea, 1954
26. Estuarine hydrological investigations in eastern and south-western Australia, 1954
27. Onshore and oceanic hydrological investigations in eastern and south-western Australia, 1955
28. Surface sampling in the Tasman and Coral Seas, 1955
29. Estuarine hydrological investigations in eastern and south-western Australia, 1955
30. Onshore and oceanic hydrological investigations in eastern and south-western Australia, 1956
31. Surface sampling in the Tasman and Coral Seas and the south-eastern Indian Ocean, 1956
32. Estuarine hydrological investigations in eastern and south-western Australia, 1956
33. Coastal hydrological investigations in eastern and south-western Australia, 1957
34. Coastal hydrological investigations at Port Hacking, New South Wales, 1957
35. Coastal hydrological investigations at Eden, New South Wales, 1957

OCEANOGRAPHICAL STATION LISTS

(Continued)

36. Surface sampling in the Tasman and Coral Seas, 1957
37. Hydrological investigations from F.R.V. *Derwent Hunter*, 1957
38. Coastal hydrological investigations in the New South Wales tuna fishing area, 1958
39. Surface sampling in the Coral and Tasman Seas, 1958
40. Coastal hydrological investigations in south-eastern Australia, 1958
41. Oceanic investigations in eastern Australian waters, F.R.V. *Derwent Hunter*, 1958
42. Coastal investigations at Port Hacking, New South Wales, 1958
43. Oceanic investigations in eastern Australia, H.M.A. Ships *Queenborough*, *Quickmatch*, and *Warrego*, 1958
44. Oceanic observations in Antarctic waters, M.V. *Magga Dan*, 1959
45. Coastal hydrological investigations in eastern Australia, 1959
46. Coastal hydrological investigations in the New South Wales tuna fishing area, 1959
47. Coastal investigations at Port Hacking, New South Wales, 1959
48. Oceanic investigations in eastern Australian waters, F.R.V. *Derwent Hunter*, 1959
49. Coastal hydrological sampling Rottneest Island, W.A., and Port Moresby, Papua, during the I.G.Y. (1957-58), and surface sampling in the Tasman and Coral Seas, 1959
50. Surface sampling in the Coral and Tasman Seas, 1960
51. Coastal hydrological investigations in eastern Australia, 1960
52. Coastal investigations at Port Hacking, New South Wales, 1960
53. Coastal hydrological investigations in the New South Wales tuna fishing area, 1960
54. Investigations by F.R.V. *Derwent Hunter* on the eastern Australian tuna grounds in 1961
55. Investigations by F.R.V. *Weerutta* on the South Australian tuna grounds in 1961
56. Investigations by F.R.V. *Marelda* on the eastern Australian tuna grounds in 1961
57. Investigations by F.V. *Estelle Star* in Western Australian waters in 1961
58. Temperature observations from Australian tuna fishing vessels in 1961
59. Investigations by F.R.V. *Derwent Hunter* on the eastern Australian tuna grounds in 1962
60. Investigations by F.R.V. *Investigator* on the South Australian tuna grounds in 1962
61. Investigations by F.R.V. *Marelda* on the eastern Australian tuna grounds in 1962
62. Investigations by F.V. *Estelle Star* in Western Australian waters in 1962
63. Temperature and salinity observations from Australian tuna fishing vessels in 1962