

data report

Physical and Chemical Data

CalCOFI Cruise 6601
12 January - 7 February

CalCOFI Cruise 6602
15 February - 6 March

CalCOFI Cruise 6604
26 March - 3 May

CalCOFI Cruise 6605
5-29 May

Special Cruise 6605
11-14 May

and

CalCOFI Cruise 6606
12 June - 1 July

SIO Reference 68-3

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CalCOFI Cruise 6601
12 January - 7 February

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Special Cruise 6605
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and

CalCOFI Cruise 6606
12 June - 1 July

Sponsored by
Marine Research Committee

SIO Reference 68-3

Approved for distribution:

W. A. Nierenberg
W. A. Nierenberg, Director

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INTRODUCTION

The data in this report were collected on Cruises 6601, 6602, 6604, 6605 and 6606 of the California Cooperative Fisheries Investigations (CalCOFI) program by the RV David Starr Jordan of the Bureau of Commercial Fisheries, the RV Alaska of the California Fish and Game Department and the RV Alexander Agassiz of the Scripps Institution of Oceanography. The RV Alexander Agassiz participated in Cruises 6601, 6602, 6604 and Special Cruise 6605; RV David Starr Jordan, in 6601, 6605 and 6606; and the RV Alaska, in 6604 only. The first two figures in this cruise-numbering system represent the year of the cruise; the last two figures, the month. The cruises preceding this one in the series are 6504 and 6505 (El Golfo II), both of which appear in Scripps Institution report, SIO Ref. 67-16; and 6507 and 6509, which appear in SIO Ref. 67-17.

These data were collected in part by personnel of and processed completely by the Data Collection and Processing Group (DCPG, MLR), Scripps Institution of Oceanography.

TABULATED DATA

On Cruises 6601 and 6604 the Nansen-bottle-cast data are tabulated at observed depths; the values at standard depths are computer interpolations according to a modified Rattray technique^{1/}, except that some property values at standard depths have been determined from consideration of other information such as bathythermograph traces and adjacent stations. These property values were entered in the "observed" columns to prevent instabilities or to indicate features not covered by the hydrographic cast. The values are indicated by notations (see FOOTNOTES).

On Cruises 6602, 6605 and 6606 only 10-meter temperature and salinity values were collected.

For the few Nansen-bottle casts made by the Agassiz on Special Cruise 6605, the property values at standard depths were read from property curves before the computations were made.

The Salinity-Temperature-Depth Recorder was not used on any of the cruises in this report.

^{1/}Rattray, Maurice (1962). Interpolation errors and oceanographic sampling. Deep-Sea Res. 9: 25-37.

The data tabulated are of the same type as have previously appeared in these reports; the column headings from the computer are explained as follows:

Z	Depth in meters	
T	Temperature	°C
S	Salinity	‰
OXY	Oxygen	ml/L
PHO	Phosphate	µg at/L
SIL	Silicate	µg at/L
NIT	Nitrite	µg at/L
D*T	δ_T	cl/ton
SIG*T	σ_t	g/L
DD	ΔD	dyn. m

STANDARD PROCEDURES

The observed data have been plotted and then evaluated using the method described by Klein.^{2/} This involves consideration of their variation as functions of density or depth and their relation to each other and comparison with concurrent bathythermograph observations and with previous or adjacent observations. The 125-meter level was introduced into the integration to obtain greater accuracy in the determination of ΔD .

To indicate degree of accuracy, temperatures are recorded in tenths of a degree when obtained by bucket thermometer, thermograph, or bathythermograph, while temperatures from reversing thermometers are recorded in hundredths of a degree. The salinity values obtained by salinometer are recorded to three decimal places, provided they meet accepted standards. The values recorded "have a reproducibility of $\pm 0.004\%$ salinity at the 95 per cent probability level, and a probable accuracy of $\pm 0.01\%$ salinity or better at the same level of probability."^{3/} The values are recorded to two decimal places when only one determination per sample was obtained, or where there is doubt concerning the accuracy of a particular sample, or of all samples on a station. The accuracy of all samples obtained by salinometer and recorded to two decimal places is believed to be equal to or better than those obtained by manual titration.

^{2/}Klein, Hans T. A new technique for processing physical oceanographic data. MS.

^{3/}Quotation from Department of Oceanography, University of Washington, Tech. Rep. No. 66, UW Ref. 60-18, October 1960.

A hyphen is used to indicate a missing observed value. The time is the time of messenger release. When more than one bottle cast was made on station, messenger times and wire angles are given in order of increasing depth, and a significant change in position during a multiple cast is listed similarly. Multiple casts are indicated by a letter following all observed depths of each cast except the cast originating at the surface. Footnotes corresponding to each letter explain the type of cast.

On stations where more than one cast was lowered, slight discrepancies in the property values may be noted. These may be caused by changes in geographical position, real changes with time, slight errors in measurement or a combination of these factors. Values at standard depths in the area of these discrepancies may be determined from reconciliation of the plotted observed values and entered in the "observed" columns with notations.

FOOTNOTES

In addition to footnotes, three special notations are used without footnotes because their meaning is always the same.

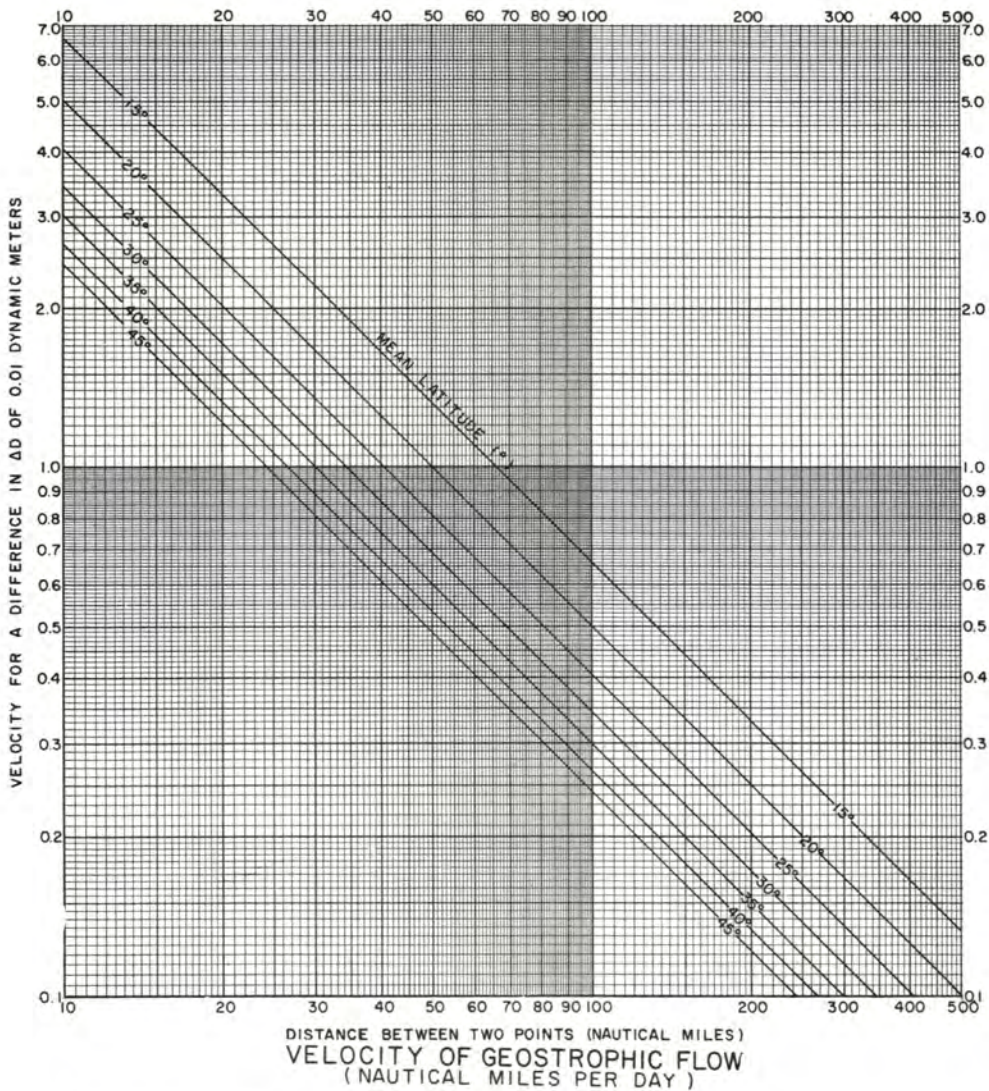
Values which are not used in interpolation because they seem to be in error without apparent reason are indicated by the following notation.

u: uncertain value

Values at standard levels of depth entered in the observed columns to limit machine interpolations may have either of the following notations.

k: a value determined from another measurement
such as a bathythermogram or STD recording.

g: a value determined from considerations such as
stability or previous or surrounding stations.



cm/sec	0	1	2	3	4	5	6	7	8	9
0	<i>KNOTS</i> 0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.17	
	<i>NM/DAY</i> 0.47	0.93	1.40	1.86	2.33	2.80	3.26	3.73	4.20	
10	0.19	0.21	0.23	0.25	0.27	0.29	0.31	0.33	0.35	0.37
	4.66	5.13	5.59	6.06	6.53	6.99	7.46	7.93	8.39	8.86
20	0.39	0.41	0.43	0.45	0.47	0.49	0.51	0.52	0.54	0.56
	9.32	9.79	10.26	10.72	11.19	11.66	12.12	12.59	13.05	13.52
30	0.58	0.60	0.62	0.64	0.66	0.68	0.70	0.72	0.74	0.76
	13.99	14.45	14.92	15.38	15.85	16.32	16.78	17.25	17.72	18.18
40	0.78	0.80	0.82	0.84	0.85	0.87	0.89	0.91	0.93	0.95
	18.65	19.11	19.58	20.05	20.51	20.98	21.45	21.91	22.38	22.84
50	0.97	0.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.15
	23.31	23.78	24.24	24.71	25.17	25.64	26.11	26.57	27.04	27.51
60	1.17	1.18	1.20	1.22	1.24	1.26	1.28	1.30	1.32	1.34
	27.98	28.44	28.90	29.37	29.84	30.30	30.77	31.24	31.70	32.17
70	1.36	1.38	1.40	1.42	1.44	1.46	1.48	1.50	1.52	1.53
	32.63	33.10	33.57	34.03	34.50	34.96	35.43	35.90	36.36	36.83
80	1.55	1.57	1.59	1.61	1.63	1.65	1.67	1.69	1.71	1.73
	37.30	37.76	38.23	38.69	39.16	39.63	40.09	40.56	41.03	41.49
90	1.75	1.77	1.79	1.81	1.83	1.85	1.86	1.88	1.90	1.92
	41.96	42.42	42.89	43.36	43.82	44.29	44.76	45.22	45.69	46.15
100	1.94	1.96	1.98	2.00	2.02	2.04	2.06	2.08	2.10	2.12
	46.62	47.09	47.55	48.02	48.48	48.95	49.42	49.88	50.35	50.82

CONVERSION TABLE
(CENTIMETERS / SECOND - KNOTS - NAUTICAL MILES / DAY)

1 cm/sec = 0.019 kts = 0.466 NAUTICAL MILES / DAY
 1 kt = 24 NAUTICAL MILES / DAY = 51.48 cm/sec
 1 NAUTICAL MILE / DAY = 0.042 kts = 2.14 cm/sec

FIGURES
Cruise 6604

1. CalCOFI Cruise 6604, station positions
2. Horizontal distribution of temperature at 10 meters
3. Horizontal distribution of salinity at 10 meters
4. Horizontal distribution of thermosteric anomaly at 10 meters

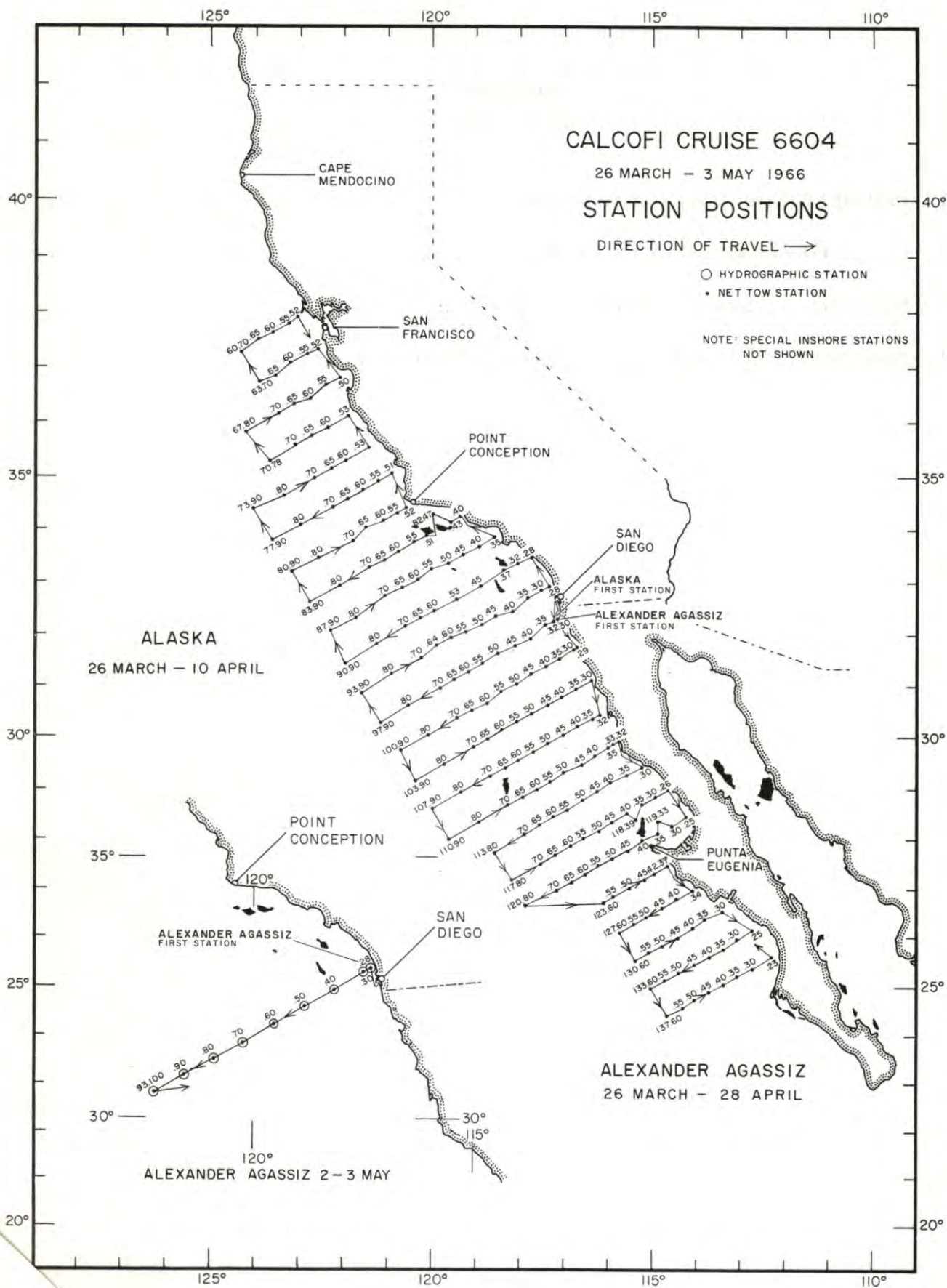


FIGURE 1

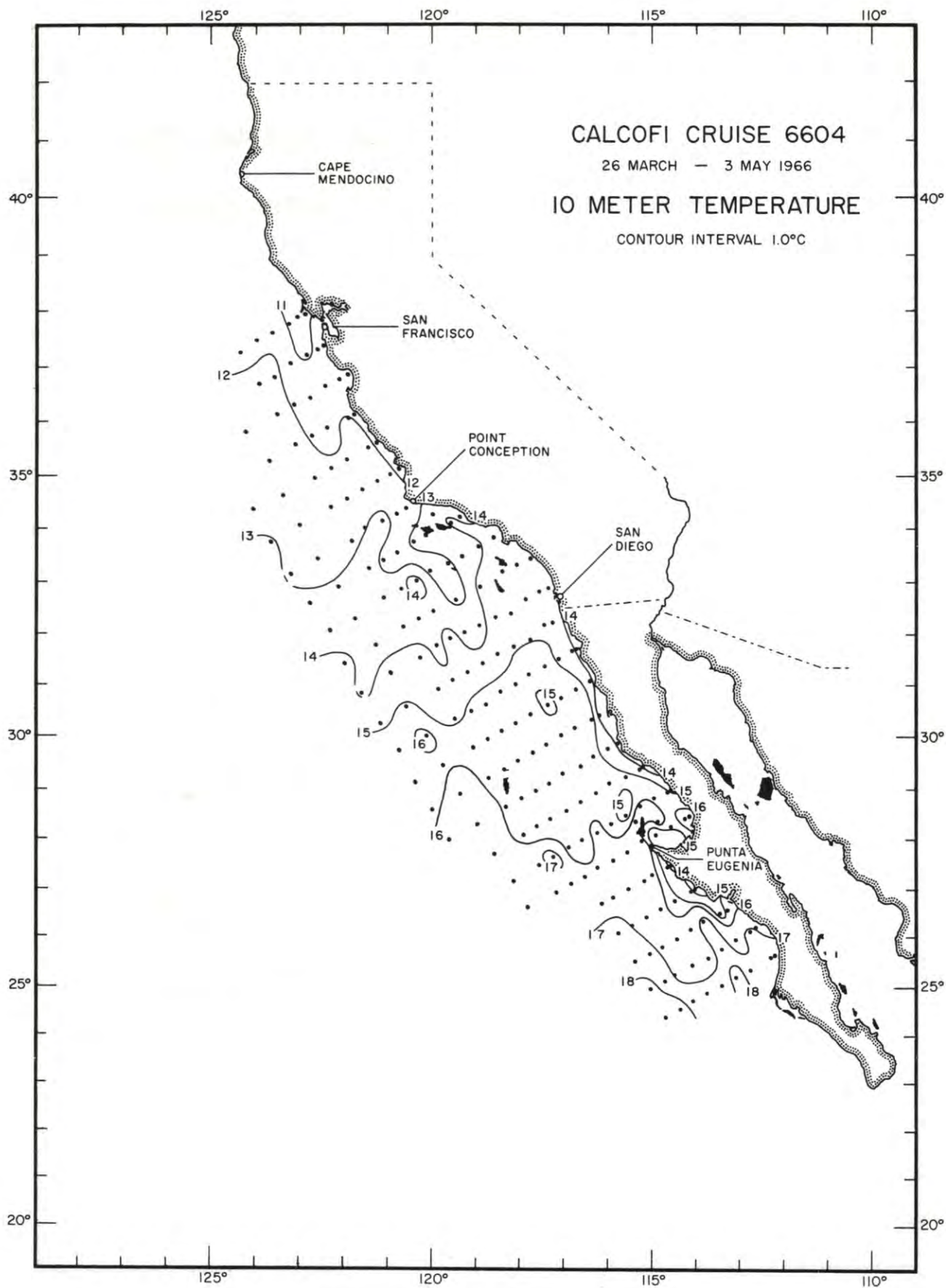


FIGURE 2

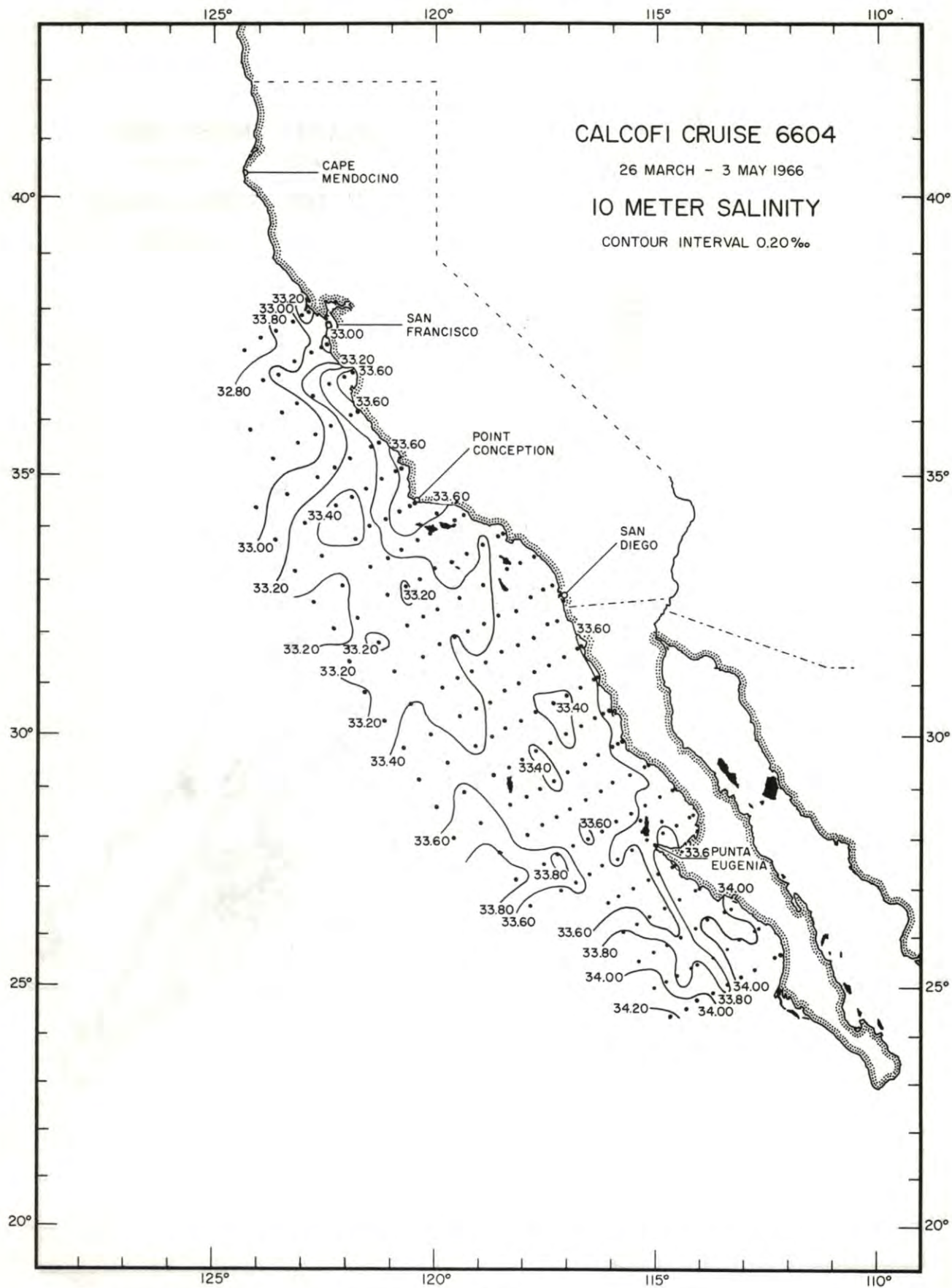


FIGURE 3

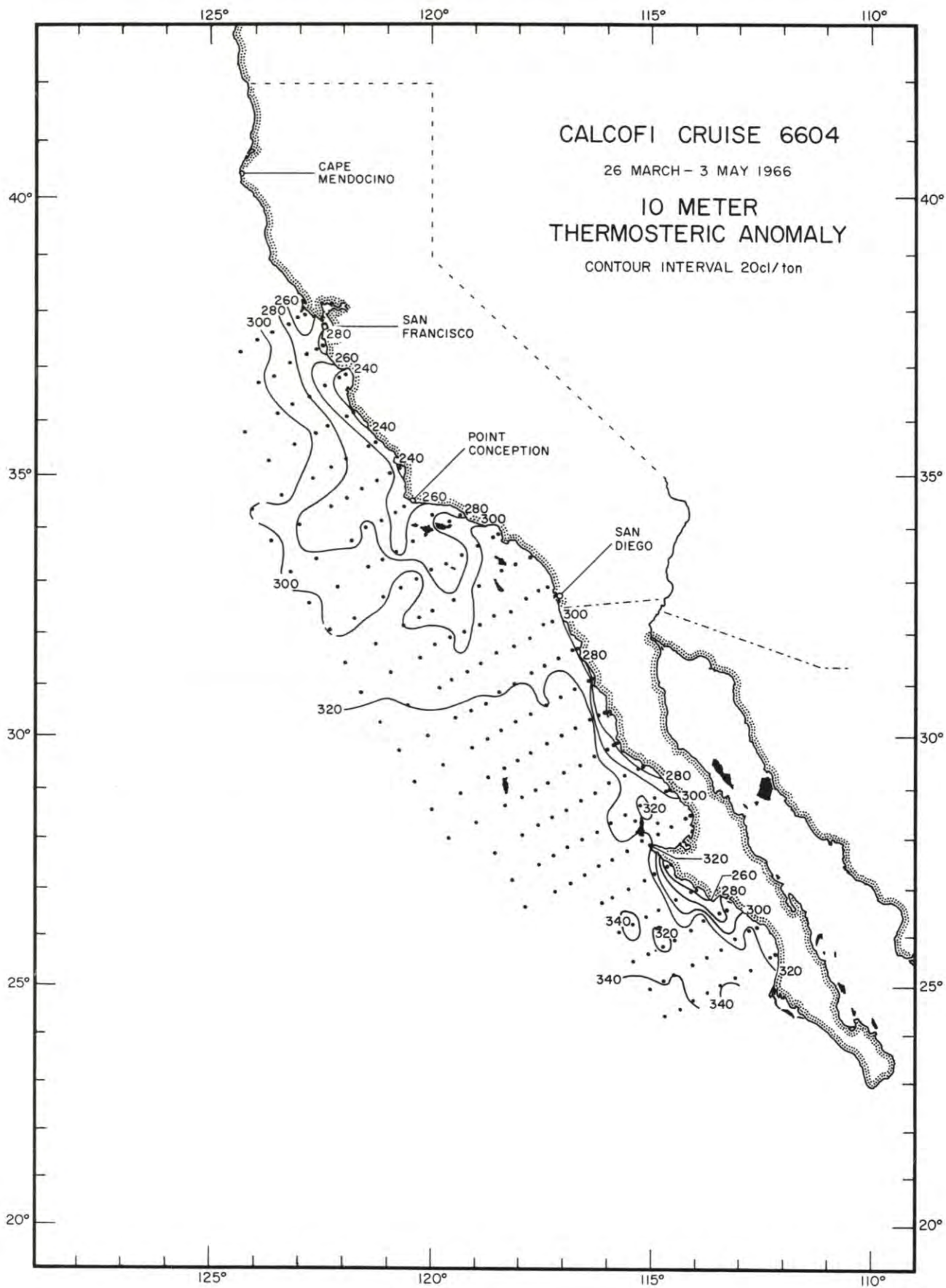


FIGURE 4

PERSONNEL
Cruise 6604

SHIPS' CAPTAINS

Davis, Laurence E., RV Alexander Agassiz
Kuselj, Ivo, RV Alaska

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

RV Alaska

Counts, Robert C., Fishery Research Biologist (in charge), Bureau of Commercial Fisheries

Wagner, Vaughn M., Fisheries Technician, Bureau of Commercial Fisheries

RV Alexander Agassiz

Hester, Arthur W., Senior Marine Technician (in charge)

*Bryan, Walter R., Senior Marine Technician

Farrar, Lloyd, Biological Technician, Bureau of Commercial Fisheries

*Graham, Jery B., Electronics Technician

*Mead, Richard V., Principal Marine Technician

Muus, David A., Senior Marine Technician

Paloma, Pedro, Biological Technician, Bureau of Commercial Fisheries

*Rosendahl, Donald V., Senior Electronics Technician

*Schmitt, Walter R., Associate Specialist in Geophysics

*Line 93 only.

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH								
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG* T	D*T	DC		
93.28								CALCOFI CRUISE 6604								93.28
ALEXANDER AGASSIZ, MAY 2 1966, 0218 GMT, 32 54N 117 21.5W, SOUNDING 275 FM, WIND 290 FORCE 3, WEATHER FOG, SEA SLIGHT, WIRE ANGLE 10.																
0	17.08	33.559	6.5	-	-	-	352.8	0	17.08	33.559	6.50	24.41	352.8	0		
10	16.87	33.549	5.90	-	-	-	348.8	10	16.87	33.549	5.90	24.45	348.8	.035		
20	13.60K	33.58 G	-	-	-	-	278.3	20	13.60	33.580	5.08	25.19	278.3	.066		
30	12.28	33.589	4.42	-	-	-	252.8	30	12.28	33.589	4.42	25.46	252.8	.093		
44	11.18	33.563	4.34	-	-	-	235.3	50	11.16	33.663	3.79	25.73	227.5	.141		
54	11.18	33.735	3.41	-	-	-	222.6	75	10.45	33.829	3.18	25.98	203.3	.196		
69	10.63	33.794	3.26	-	-	-	208.9	100	10.07	33.939	2.97	26.13	189.0	.245		
83	10.26	33.876	3.09	-	-	-	196.7	125	9.49	34.030	2.79	26.30	173.0	.291		
98	10.12	33.931	2.98	-	-	-	190.4	150	9.42	34.126	2.21	26.39	164.9	.334		
123	9.50	34.024	2.82	-	-	-	173.7	200	8.61	34.173	1.86	26.55	149.1	.414		
143	9.46	34.090	2.42	-	-	-	168.1	250	8.69	34.311	1.11	26.65	140.0	.488		
172	9.18	34.213	1.67	-	-	-	154.7	300	8.11	34.286	1.00	26.72	133.4	.559		
203	8.56	34.168	1.88	-	-	-	148.7	400	7.11	34.276	.83	26.85	120.5	.692		
237	8.80	34.305	1.13	-	-	-	142.1									
291	8.16	34.282	1.03	-	-	-	134.5									
345	7.76	34.294	.87	-	-	-	127.9									
405	7.04	34.273	.83	-	-	-	119.8									

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH								
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG* T	D*T	DC		
93.30								CALCOFI CRUISE 6604								93.30
ALEXANDER AGASSIZ, MAY 2 1966, 0418 GMT, 32 50.5N 117 31W, SOUNDING 463 FM, WIND 300 FORCE 2, WEATHER OVERCAST, SEA MISSING, WIRE ANGLE 08.																
0	16.92	33.544	6.11	-	-	-	350.3	0	16.92	33.544	6.11	24.44	350.3	0		
9	16.62	33.535	6.22	-	-	-	344.3	10	16.50	33.532	6.28	24.53	341.8	.035		
28	13.68	33.496	6.43	-	-	-	286.0	20	15.08	33.509	6.56	24.83	313.3	.067		
38	12.29	33.508	5.13	-	-	-	258.9	30	13.38	33.497	6.20	25.17	280.1	.097		
48	11.32	33.617	4.17	-	-	-	233.7	50	11.21	33.625	4.10	25.69	231.2	.148		
63	10.75	33.668	3.94	-	-	-	220.2	75	10.31	33.775	3.72	25.96	204.9	.203		
78	10.20	33.803	3.67	-	-	-	201.2	100	9.64	33.905	3.52	26.18	184.7	.252		
97	9.64	33.881	3.66	-	-	-	186.4	125	9.55	34.065	2.49	26.32	171.4	.298		
122	9.63	34.059	2.50	-	-	-	173.1	150	8.93	34.086	2.56	26.44	160.2	.340		
142	9.06	34.079	2.60	-	-	-	162.8	200	9.13	34.276	1.38	26.55	149.2	.419		
172	8.80	34.130	2.25	-	-	-	155.1	250	8.66	34.285	1.20	26.63	141.5	.494		
201	9.14	34.281	1.35	-	-	-	149.0	300	8.14	34.272	1.08	26.70	134.9	.565		
231	8.82	34.289	1.20	-	-	-	143.6	400	7.03	34.270	.77	26.86	119.9	.698		
271	8.48	34.277	1.21	-	-	-	139.5	500	6.36	34.312	.60	26.98	108.1	.819		
330	7.76	34.269	.92	-	-	-	129.8									
405	6.99	34.270	.76	-	-	-	119.3									
479	6.50	34.303	.64	-	-	-	110.6									
559	5.96	34.338	.47	-	-	-	101.3									

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH								
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG* T	D*T	DC		
93.40								CALCOFI CRUISE 6604								93.40
ALEXANDER AGASSIZ, MAY 2 1966, 0857 GMT, 32 30N 118 11.5W, SOUNDING 1010 FM, WIND 260 FCRCE 3, WEATHER OVERCAST, SEA MODERATE, WIRE ANGLE 08.																
0	15.91	33.461	6.17	-	-	-	334.2	0	15.91	33.461	6.17	24.61	334.2	0		
10	15.88	33.460	6.22	-	-	-	333.7	10	15.88	33.460	6.22	24.61	333.7	.033		
30	14.66	33.478	6.62	-	-	-	306.9	20	15.53	33.471	6.51	24.70	325.4	.066		
40	13.08	33.463	6.11	-	-	-	276.9	30	14.66	33.478	6.62	24.89	306.9	.098		
54	12.22	33.519	5.13	-	-	-	256.9	50	12.37	33.494	5.44	25.37	261.5	.155		
69	11.62	33.679	3.71	-	-	-	234.4	75	11.50	33.713	3.45	25.70	229.9	.217		
94	11.21	33.787	3.11	-	-	-	219.3	100	11.05	33.820	3.02	25.87	214.1	.273		
114	10.62	33.895	2.88	-	-	-	201.3	125	10.20	33.941	2.88	26.11	191.0	.324		
134	9.86	33.967	2.91	-	-	-	183.6	150	9.36	33.971	2.96	26.28	175.4	.371		
154	9.26	33.975	2.95	-	-	-	173.6	200	8.83	34.125	2.11	26.48	155.9	.455		
184	8.92	34.085	2.38	-	-	-	160.2	250	8.50	34.206	1.57	26.60	145.1	.532		
219	8.74	34.162	1.85	-	-	-	151.8	300	7.73	34.179	1.48	26.69	136.0	.605		
248	8.53	34.206	1.58	-	-	-	145.5	400	6.86	34.260	.70	26.88	118.3	.738		
297	7.76	34.177	1.50	-	-	-	136.6	500	6.16	34.316	.48	27.01	105.3	.856		
379A	7.02	34.249	.79	-	-	-	121.3	600	5.54	34.362	.40	27.13	94.7	.963		
435	6.60	34.276	.61	-	-	-	113.9									
518	6.04	34.326	.45	-	-	-	103.2									
604	5.52	34.363	.40	-	-	-	94.3									

A) POSSIBLE WINCH ERROR, ALTERNATE DEPTH 351 METERS.

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH									
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD			
93.50								CALCOFI CRUISE 6604								93.50	
ALEXANDER AGASSIZ, MAY 2 1966, 1406 GMT, 32 10N 118 51.5W, SOUNDING 750 FM, WIND 270 FORCE 3, WEATHER OVERCAST, SEA ROUGH, WIRE ANGLE 08.																	
0	14.98	33.458	6.13	-	-	-	314.9	0	14.98	33.458	6.13	24.81	314.9	0			
10	14.98	33.458	6.18	-	-	-	314.9	10	14.98	33.458	6.18	24.81	314.9	.032			
30	13.32	33.384	6.31	-	-	-	287.3	20	14.18	33.411	6.27	24.94	302.0	.062			
40	13.16	33.441	6.20	-	-	-	280.1	30	13.32	33.384	6.31	25.10	287.3	.092			
54	12.82	33.486	5.92	-	-	-	270.3	50	12.95	33.477	6.02	25.24	273.4	.148			
69	11.93	33.488	5.35	-	-	-	253.9	75	11.82	33.520	5.08	25.49	249.6	.214			
75	11.82K	33.52 G	-	-	-	-	249.6	100	10.28	33.700	4.05	25.91	210.1	.272			
95	10.91	33.643	4.21	-	-	-	224.8	125	9.70	33.850	3.35	26.12	189.7	.322			
100	10.28K	33.70 G	-	-	-	-	210.1	150	9.21	33.998	2.97	26.32	171.1	.368			
114	9.92	33.754	3.65	-	-	-	200.3	200	8.60	34.110	2.30	26.50	153.7	.451			
134	9.54	33.931	3.15	-	-	-	181.2	250	7.92	34.136	1.86	26.63	141.9	.527			
154	9.13	34.009	2.93	-	-	-	169.1	300	7.76	34.220	1.21	26.72	133.4	.598			
184	8.80	34.095	2.43	-	-	-	157.7	400	6.82	34.261	.71	26.88	117.8	.729			
218	8.36	34.115	2.19	-	-	-	149.8	500	6.16	34.305	.59	27.00	106.2	.848			
247	7.94	34.131	1.90	-	-	-	142.6	600	5.55	34.352	.26	27.12	95.5	.956			
295	7.81	34.217	1.25	-	-	-	134.4										
348	7.22	34.235	.95	-	-	-	125.0										
431	6.62	34.277	.61	-	-	-	114.0										
514	6.07	34.311	.57	-	-	-	104.7										
599	5.56	34.351	.27	-	-	-	95.6										

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH									
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD			
93.60								CALCOFI CRUISE 6604								93.60	
ALEXANDER AGASSIZ, MAY 2 1966, 1900 GMT, 31 49.5N 119 33.5W, SOUNDING 1360 FM, WIND 300 FORCE 3, WEATHER OVERCAST, SEA ROUGH, WIRE ANGLE 23.																	
0	14.86	33.420	6.19	-	-	-	315.2	0	14.86	33.420	6.19	24.81	315.2	0			
9	14.82	33.414	6.23	-	-	-	314.8	10	14.82	33.413	6.24	24.81	314.8	.032			
28	14.72	33.408	6.25	-	-	-	313.2	20	14.77	33.407	6.26	24.81	314.3	.063			
30	14.70K	33.41 G	-	-	-	-	312.6	30	14.70	33.410	6.23	24.83	312.6	.094			
55	12.58	33.422	5.88	-	-	-	270.6	50	13.12	33.426	6.02	25.17	280.4	.154			
64	11.95	33.391	5.46	-	-	-	261.4	75	10.78	33.530	4.70	25.69	230.9	.218			
75	10.78K	33.53 G	-	-	-	-	230.9	100	10.32	33.753	3.69	25.95	206.8	.273			
78	10.76	33.549	4.49	-	-	-	229.2	125	9.38	33.894	3.11	26.21	181.4	.322			
92	10.66	33.703	3.92	-	-	-	216.1	150	8.93	33.994	2.73	26.36	167.1	.367			
105	10.07	33.778	3.56	-	-	-	200.9	200	8.22	34.064	2.40	26.53	151.5	.448			
128	9.30	33.910	3.05	-	-	-	179.0	250	7.87	34.116	1.92	26.62	142.7	.523			
146	8.97	33.985	2.77	-	-	-	168.4	300	7.37	34.139	1.53	26.71	134.2	.595			
172	8.72	34.028	2.59	-	-	-	161.5	400	6.56	34.250	.87	26.91	115.2	.725			
198	8.24	34.061	2.42	-	-	-	152.0	500	5.97	34.315	.43	27.04	103.1	.840			
224	8.04	34.097	2.11	-	-	-	146.5										
268	7.74	34.125	1.81	-	-	-	140.2										
318	7.16	34.149	1.37	-	-	-	130.6										
395	6.59	34.246	.90	-	-	-	116.0										
475	6.10	34.303	.49	-	-	-	105.6										
558	5.69	34.334	.40	-	-	-	98.4										

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH									
Z	T	S	OXY	PHO	SIL	NIT	D*T	Z	T	S	OXY	SIG*T	D*T	DD			
93.70								CALCOFI CRUISE 6604								93.70	
ALEXANDER AGASSIZ, MAY 3 1966, 0028 GMT, 31 28.5N 120 15.5W, SOUNDING 2110 FM, WIND 290 FORCE 3, WEATHER OVERCAST, SEA VERY ROUGH, WIRE ANGLE 31.																	
0	15.51	33.298	5.87	-	-	-	337.6	0	15.51	33.298	5.87	24.57	337.6	0			
8	15.49	33.298	5.93	-	-	-	337.2	10	15.48	33.298	5.94	24.58	337.0	.034			
26	15.24	33.294	6.00	-	-	-	332.3	20	15.36	33.296	5.97	24.60	334.6	.067			
34	15.02	33.290	6.08	-	-	-	328.0	30	15.15	33.292	6.04	24.64	330.5	.101			
47	14.21	33.230	6.23	-	-	-	316.0	50	14.03	33.215	6.26	24.82	313.5	.165			
60	13.50	33.185	6.32	-	-	-	305.4	75	12.95	33.230	6.27	25.05	291.6	.241			
75	12.95K	33.23 G	-	-	-	-	291.6	100	11.93	33.372	5.28	25.36	262.4	.311			
80	12.92	33.230	6.18	-	-	-	291.0	125	10.27	33.516	4.57	25.77	223.6	.372			
97	12.12	33.364	5.36	-	-	-	266.5	150	9.56	33.781	3.82	26.09	192.6	.425			
113	11.04	33.410	4.96	-	-	-	244.2	200	8.92	33.989	3.00	26.36	167.4	.517			
128	10.11	33.548	4.47	-	-	-	218.6	250	8.09	34.098	2.31	26.57	147.1	.598			
150	9.56	33.781	3.82	-	-	-	192.6	300	7.61	34.152	1.65	26.69	136.4	.671			
176	9.27	33.921	3.21	-	-	-	177.7	400	6.74	34.221	.86	26.86	119.7	.804			
198	8.96	33.983	3.02	-	-	-	168.4	500	5.87	34.259	.53	27.01	106.1	.923			
235	8.26	34.076	2.53	-	-	-	151.2										
277	7.84	34.127	1.93	-	-	-	141.5										
344	7.19	34.191	1.22	-	-	-	127.9										
415	6.61	34.228	.79	-	-	-	117.6										
492	5.94	34.257	.54	-	-	-	107.1										

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH								
Z	T	S	OXY	PHO	SIL	NIT	D#T	Z	T	S	OXY	SIG*T	D#T	CC		
93.80								CALCOFI CRUISE 6604								93.80
ALEXANDER AGASSIZ, MAY 3 1966, 0509 GMT, 31 09N 120 55W, SOUNDING 2090 FM, WIND 290 FORCE 4, WEATHER OVERCAST, SEA VERY ROUGH, WIRE ANGLE 14.																
0	15.27	33.258A	6.00	-	-	-	335.5	0	15.27	33.258	6.00	24.59	335.5	0		
10	15.25	33.258A	6.03	-	-	-	335.1	10	15.25	33.258	6.03	24.60	335.1	.034		
34	14.02	33.185	6.28	-	-	-	315.5	20	14.79	33.226	6.12	24.67	328.0	.067		
44	13.73	33.193	6.36	-	-	-	309.2	30	14.26	33.196	6.23	24.76	319.4	.099		
58	13.19	33.206	6.45	-	-	-	297.9	50	13.53	33.200	6.41	24.91	304.8	.162		
73	12.30	33.195	6.29	-	-	-	282.2	75	12.17	33.200	6.26	25.18	279.4	.235		
75	12.17K	33.20 G	-	-	-	-	279.4	100	11.78	33.327	5.70	25.35	263.1	.304		
97	11.99	33.308	5.89	-	-	-	268.3	125	10.18	33.531	4.28	25.80	220.9	.365		
116	10.55	33.444	4.64	-	-	-	233.4	150	9.61	33.724	3.70	26.04	197.5	.418		
136	9.88	33.635	3.97	-	-	-	208.4	200	8.87	33.960	3.19	26.34	168.8	.511		
165	9.39	33.799	3.52	-	-	-	188.6	250	8.16	34.062	2.39	26.53	150.8	.593		
194	8.94	33.938	3.31	-	-	-	171.5	300	7.33	34.066	2.20	26.66	139.0	.668		
233	8.48	34.043	2.54	-	-	-	156.8	400	6.51	34.181	.95	26.86	119.8	.802		
262	7.92	34.068	2.32	-	-	-	147.0	500	5.74	34.226	.63	27.00	107.1	.922		
310	7.20	34.066	2.15	-	-	-	137.3	600	5.28	34.325	.40	27.13	94.4	1.029		
374	6.76	34.167	1.11	-	-	-	124.0									
472	5.85	34.191	.79	-	-	-	111.0									
560	5.48	34.291	.42	-	-	-	99.2									
634	5.10	34.349	.38	-	-	-	90.6									

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH								
Z	T	S	OXY	PHO	SIL	NIT	D#T	Z	T	S	OXY	SIG*T	D#T	CC		
93.90								CALCOFI CRUISE 6604								93.90
ALEXANDER AGASSIZ, MAY 3 1966, 1057 GMT, 30 50N 121 34.5W, SOUNDING 2210 FM, WIND 310 FORCE 4, WEATHER OVERCAST, SEA VERY ROUGH, WIRE ANGLE 25.																
0	15.00	33.263	5.98	-	-	-	329.6	0	15.00	33.263	5.98	24.65	329.6	0		
9	14.99	33.264	6.04	-	-	-	329.3	10	14.99	33.260	6.06	24.65	329.6	.033		
10	14.99K	33.26 G	-	-	-	-	329.6	20	14.96	33.270	6.22	24.67	328.2	.066		
20	14.96K	33.27 G	-	-	-	-	328.2	30	13.46	33.172	6.37	24.91	305.4	.098		
27	13.65	33.186	6.34	-	-	-	308.2	50	12.31	33.141	6.42	25.11	286.3	.157		
36	13.28	33.162	6.41	-	-	-	302.8	75	12.12	33.240	5.99	25.22	275.6	.228		
50	12.31	33.141	6.42	-	-	-	286.3	100	10.66	33.436	5.02	25.64	235.9	.292		
64	12.13	33.221	6.12	-	-	-	277.2	125	9.65	33.676	4.05	26.00	201.8	.347		
75	12.12K	33.24 G	-	-	-	-	275.6	150	9.30	33.866	3.24	26.20	182.3	.396		
87	11.83	33.347	5.73	-	-	-	262.5	200	8.54	34.017	2.73	26.44	159.6	.483		
105	10.19	33.471	4.74	-	-	-	225.6	250	7.85	34.061	2.36	26.58	146.6	.562		
122	9.72	33.646	4.18	-	-	-	205.1	300	7.14	34.078	1.91	26.70	135.5	.634		
140	9.38	33.806	3.47	-	-	-	187.9	400	6.36	34.171	.98	26.87	118.8	.767		
165	9.20	33.932	3.02	-	-	-	175.8	500	5.62	34.231	.55	27.01	105.3	.884		
195	8.62	34.014	2.71	-	-	-	161.0									
221	8.22	34.024	2.78	-	-	-	154.5									
265	7.67	34.080	2.09	-	-	-	142.6									
313	6.95	34.076	1.87	-	-	-	133.3									
390	6.45	34.166	1.04	-	-	-	120.2									
468	5.84	34.210	.66	-	-	-	109.5									
550	5.33	34.269	.45	-	-	-	99.2									

INPUT								OUTPUT AT STANDARD LEVELS OF DEPTH								
Z	T	S	OXY	PHO	SIL	NIT	D#T	Z	T	S	OXY	SIG*T	D#T	CC		
93.100								CALCOFI CRUISE 6604								93.100
ALEXANDER AGASSIZ, MAY 3 1966, 1613 GMT, 30 30N 122 15W, SOUNDING 2205 FM, WIND 310 FORCE 3, WEATHER OVERCAST, SEA ROUGH, WIRE ANGLE 12.																
0	15.45	33.377	5.87	-	-	-	330.6	0	15.45	33.377	5.87	24.64	330.6	0		
10	15.44	33.375	5.91	-	-	-	330.5	10	15.44	33.375	5.91	24.64	330.5	.033		
29	15.43	33.371	6.44U	-	-	-	330.6	20	15.43	33.373	5.93	24.64	330.6	.066		
39	15.40	33.370	5.95	-	-	-	330.1	30	15.43	33.371	5.94	24.64	330.6	.099		
54	14.48	33.255	6.12	-	-	-	319.5	50	14.75	33.288	6.08	24.73	322.6	.165		
68	14.13	33.236	6.17	-	-	-	313.9	75	14.01	33.237	6.16	24.84	311.5	.245		
93	13.52	33.253	6.08	-	-	-	300.7	100	13.11	33.266	5.93	25.05	292.1	.321		
113	12.29	33.303	5.57	-	-	-	274.0	125	11.68	33.353	5.27	25.39	259.4	.390		
132	11.34	33.400	5.06	-	-	-	250.0	150	10.45	33.634	4.30	25.83	217.7	.450		
152	10.36	33.661	4.22	-	-	-	214.3	200	9.45	33.859	3.60	26.17	185.1	.553		
180	9.82	33.795	3.75	-	-	-	195.6	250	8.59	34.032	2.97	26.45	159.3	.641		
214	9.19	33.900	3.50	-	-	-	178.1	300	8.16	34.143	2.10	26.60	144.7	.720		
242	8.68	34.007	3.10	-	-	-	162.5	400	7.12	34.228	.93	26.82	124.1	.860		
290	8.26	34.128	2.29	-	-	-	147.3	500	6.24	34.288	.51	26.98	108.4	.983		
342	7.70	34.188	1.37	-	-	-	135.0	600	5.47	34.315	.37	27.10	97.3	1.092		
423	6.90	34.240	.84	-	-	-	120.4									
506	6.19	34.291	.49	-	-	-	107.6									
590	5.54	34.314	.38	-	-	-	98.2									

A) AN ERROR OF +20 OHMS RESISTANCE HAS BEEN ASSUMED. THE LISTED OBSERVED VALUES INCORPORATE THE CORRECTIONS.

Station	Date	Time GCT	DATA AT NET TOW STATIONS						10 METERS		
			Latitude North	Longitude West	Sounding (fm)	Wind Dir Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
60.50-L	IV-11	0000	37°57.5'	122°53.0'	25	200° 4	rain	moderate	10.98	33.224	256
60.52-L	10	2240	37°54.0'	123°01.5'	40	220° 4	cloudy	moderate	10.58	33.254	248
60.55-L	10	2105	37°46.5'	123°15.0'	50	220° 4	cloudy	rough	10.64	32.882	203
60.60-L	10	1830	37°37.0'	123°37.0'	1800	290° 3	cloudy	moderate	11.54	32.862	293
60.65-L	10	1545	37°30.0'	123°58.0'	2000	220° 2	cloudy	rough	11.38	32.680	304
60.70-L	10	1315	37°16.5'	124°20.0'	2150	270° 5	cloudy	rough	11.34	32.694	302
63.50-L	9	2055	37°23.5'	122°28.0'	16	170° 5	rain	slight	11.56	32.967	285
63.52-L	9	2215	37°19.0'	122°36.0'	43	160° 6	overcast	slight	11.40	33.029	278
63.55-L	10	0020	37°12.5'	122°50.0'	150	140° 5	overcast	slight	10.99	33.086	267
63.60-L	10	0315	37°03.0'	123°12.0'	1400	190° 3	overcast	rough	11.18	32.808	291
63.65-L	10	0600	36°50.0'	123°33.0'	1800	300° 4	missing	rough	12.15	33.031	292
63.70-L	10	0840	36°42.0'	123°53.0'	2100	310° 4	missing	rough	12.57	32.971	303
67.48-L	9	1605	36°53.0'	121°56.0'	20	- 1	overcast	slight	11.34	33.658	232
67.50-L	9	1435	36°47.5'	122°04.0'	105	- 1	overcast	slight	11.84	33.694	237
67.55-L	9	1220	36°40.0'	122°25.5'	1100	- 1	missing	slight	11.64	33.490	249
67.60-L	9	0945	36°27.5'	122°46.5'	1550	- 1	fog	slight	-	33.287	
67.65-L	9	0645	36°18.0'	123°09.0'	1800	- 1	missing	slight	11.95	32.983	291
67.70-L	9	0410	36°08.0'	123°29.0'	1900	- 1	missing	slight	12.38	32.952	302
67.80-L	8	2330	35°48.0'	124°11.5'	2100	220° 2	overcast	moderate	12.82	32.880	315

Station	Date	Time GCT	DATA AT NET TOW STATIONS						10 METERS			
			Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
70.51-L	IV-8	0400	36°11.0'	121°44.0'	200	310°	4	overcast	rough	11.59	33.588	240
70.53-L	8	0530	36°06.0'	121°56.0'	600	310°	5	missing	rough	12.00	33.494	255
70.60-L	8	0915	35°51.5'	122°21.5'	1700	300°	4	missing	rough	11.59	33.012	283
70.65-L	8	1155	35°43.0'	122°44.5'	1100	320°	4	overcast	rough	11.98	32.865	300
70.70-L	8	1410	35°32.5'	123°05.5'	2050	360°	3	overcast	slight	12.48	32.943	304
70.78-L	8	1850	35°17.0'	123°40.0'	2150	320°	1	cloudy	moderate	12.38	32.935	303
73.50-L	7	1705	35°37.0'	121°17.0'	50	090°	1	clear	slight	11.52	33.520	244
73.53-L	7	1525	35°31.0'	121°28.5'	410	270°	6	clear	rough	12.28	33.398	267
73.60-L	7	1150	35°16.0'	121°59.0'	1300	310°	5	missing	rough	12.65	33.240	285
73.65-L	7	0850	35°09.0'	122°18.5'	2100	270°	5	overcast	moderate	12.22	33.158	284
73.70-L	7	0600	34°57.5'	122°40.0'	2200	320°	4	missing	moderate	12.78	33.164	293
73.80-L	7	0125	34°37.0'	123°21.0'	2275	300°	3	partly cloudy	slight	12.83	33.048	302
73.90-L	6	2040	34°20.5'	124°02.0'	330	270°	3	overcast	slight	12.14	32.933	299
77.48-L	5	1750	35°08.0'	120°43.5'	13	040°	1	overcast	slight	11.82	33.651	240
77.51-L	5	2000	35°02.0'	120°56.5'	165	330°	2	overcast	slight	12.52	33.503	263
77.55-L	5	2220	34°53.5'	121°14.0'	310	270°	2	partly cloudy	slight	12.42	33.483	264
77.60-L	6	0050	34°43.0'	121°33.5'	510	060°	2	partly cloudy	slight	12.04	33.231	275
77.65-L	6	0320	34°33.5'	121°54.5'	2100	020°	2	missing	slight	12.78	33.456	271
77.70-L	6	0605	34°25.0'	122°15.5'	2150	020°	3	missing	slight	12.96	33.437	275

Station	Date	Time GCT	DATA AT NET TOW STATIONS						10 METERS		
			Latitude North	Longitude West	Sounding (fm)	Wind Dir Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
77.80-L	IV-6	1100	34°03.0'	122°59.0'	2280	040° 3	cloudy	slight	12.53	33.296	279
77.90-L	6	1515	33°44.0'	123°38.5'	2200	270° 3	overcast	slight	13.01	33.092	303
80.51-L	5	1305	34°26.0'	120°31.0'	55	270° 3	overcast	slight	12.80	33.633	259
80.52-L	5	1155	34°24.0'	120°36.0'	125	330° 4	overcast	slight	12.29	33.640	250
80.55-L	5	0930	34°18.0'	120°47.0'	430	340° 4	missing	slight	12.22	33.664	246
80.60-L	5	0705	34°09.5'	121°08.0'	1200	330° 3	missing	slight	13.16	33.580	270
80.65-L	5	0425	34°01.0'	121°30.0'	830	010° 3	missing	slight	12.96	33.355	282
80.70-L	5	0140	33°48.0'	121°49.0'	2030	020° 3	overcast	slight	12.93	33.448	275
80.80-L	4	2055	33°27.0'	122°33.0'	2050	020° 3	overcast	moderate	12.86	33.336	282
80.90-L	4	1620	33°10.0'	123°10.0'	2300	320° 3	overcast	moderate	12.92	33.360	281
82.47-L	3	0830	34°15.5'	119°59.0'	300	100° 3	missing	slight	13.17	33.602	268
83.40-L	3	0410	34°14.0'	119°22.0'	12	- 1	missing	slight	13.30	33.500	278
83.43-L	3	0545	34°08.0'	119°34.0'	126	- 1	missing	slight	14.20	33.473	298
83.51-L	3	1250	33°52.0'	120°09.0'	160	110° 5	missing	slight	13.34	33.520	278
83.55-L	3	1510	33°45.0'	120°24.0'	580	090° 4	overcast	moderate	13.06	33.578	268
83.60-L	3	1735	33°33.0'	120°46.0'	950	090° 1	overcast	moderate	12.28	33.506	259
83.65-L	3	2040	33°24.0'	121°05.5'	1900	090° 1	overcast	moderate	12.94	33.361	282
83.70-L	3	2305	33°16.5'	121°25.0'	2050	020° 2	overcast	moderate	13.11	33.267	292
83.80-L	4	0345	32°53.5'	122°07.5'	2240	340° 3	overcast	moderate	13.02	33.188	296

Station	Date	Time GCT	DATA AT NET TOW STATIONS				10 METERS				
			Latitude North	Longitude West	Sounding (fm)	Wind Dir Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
83.90-L	IV-4	1025	32°35.5'	122°46.5'	2150	340° 4	overcast	moderate	13.34	33.160	304
87.35-L	2	2320	33°50.0'	118°37.0'	340	150° 3	overcast	slight	14.62	33.475	306
87.40-L	1	2235	33°40.0'	118°57.0'	360	220° 1	fog	moderate	13.92	33.398	298
87.45-L	1	2010	33°30.0'	119°19.0'	830	220° 1	fog	moderate	13.51	33.592	276
87.50-L	1	1725	33°20.0'	119°39.0'	40	320° 4	fog	very rough	12.98	33.552	268
87.55-L	1	1450	33°12.0'	120°00.0'	600	320° 4	fog	very rough	12.84	33.406	277
87.60-L	1	1150	33°01.0'	120°20.0'	480	290° 7	fog	very rough	14.02	33.248	311
87.65-L	1	0920	32°51.0'	120°40.0'	2050	300° 6	light fog	very rough	13.69	33.187	309
87.70-L	1	0600	32°42.0'	121°04.0'	2000	320° 4	fog	very rough	13.44	33.266	298
87.80-L	1	0055	32°18.0'	121°45.0'	2300	320° 6	overcast	very rough	13.32	33.243	298
87.90-L	III-31	2100	32°02.0'	122°19.0'	2450	310° 5	overcast	rough	13.10	33.186	298
90.28-L	30	0550	33°28.0'	117°46.0'	37	- 1	missing	slight	14.88	33.490	310
90.32-L	30	0805	33°20.0'	118°03.0'	370	- 1	missing	slight	14.97	33.473	314
90.37-L	30	1105	33°12.0'	118°23.0'	630	270° 1	missing	calm	14.52	33.470	304
90.45-L	30	1500	32°55.0'	118°54.0'	890	270° 1	overcast	slight	14.07	33.379	302
90.53-L	30	1815	32°39.0'	119°28.0'	750	360° 2	overcast	rough	12.94	33.370	281
90.60-L	30	2150	32°27.0'	119°58.0'	620	290° 4	overcast	rough	13.52	33.354	293
90.65-L	31	0115	32°19.0'	120°16.0'	1900	320° 6	overcast	very rough	13.56	33.292	298
90.70-L	31	0400	32°09.0'	120°37.0'	2000	320° 5	missing	rough	13.58	33.271	300

DATA AT NET TOW STATIONS										10 METERS		
Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	T °C	S ‰	δ_T cl/ton
						Dir	Force					
90.80-L	III-31	0935	31°48.0'	121°17.0'	1920	310°	5	partly cloudy	rough	13.50	33.199	304
90.90-L	31	1410	31°26.0'	121°58.0'	2190	290°	6	overcast	rough	14.33	33.328	311
93.28-L	30	0100	32°54.0'	117°22.0'	290	280°	3	overcast	slight	14.91	33.458	313
93.30-L	29	2310	32°50.0'	117°31.0'	440	270°	3	overcast	slight	14.80	33.415	314
93.35-L	29	2020	32°40.0'	117°50.0'	240	230°	1	overcast	slight	14.74	33.439	311
93.40-L	29	1720	32.25.0'	118°10.0'	800	310°	1	overcast	moderate	14.46	33.448	305
93.45-L	29	1500	32°20.0'	118°32.0'	790	290°	3	overcast	moderate	14.22	33.426	302
93.50-L	29	1200	32°10.0'	118°54.0'	870	310°	5	missing	moderate	13.93	33.308	304
93.55-L	29	0915	32°01.0'	119°14.0'	875	320°	4	missing	moderate	13.27	33.317	292
93.60-L	29	0630	31°55.0'	119°33.0'	1200	320°	4	missing	rough	14.26	33.437	302
93.64-L	29	0400	31°48.0'	119°52.0'	1850	320°	4	missing	moderate	13.75	33.277	304
93.70-L	29	0110	31°31.0'	120°15.0'	2140	320°	5	overcast	moderate	14.16	33.287	311
93.80-L	28	1940	31°13.0'	120°54.0'	2100	320°	3	overcast	moderate	14.16	33.233	314
93.90-L	28	1525	30°50.0'	121°34.0'	2160	320°	4	overcast	moderate	13.98	33.197	314
97.29-G	IV-14	2200	32°17.5'	117°04.5'	30	300°	4	clear	moderate	13.44	33.558	277
97.30-G	14	2235	32°15.5'	117°07.5'	33	310°	3	clear	moderate	15.54	33.525	322
97.32-L	III-26	2310	32°13.0'	117°15.5'	600	320°	4	overcast	slight	14.81	33.538	306
97.35-L	27	0140	32°10.0'	117°27.5'	700	270°	4	overcast	moderate	14.86	33.420	315
97.40-L	27	0420	31°53.0'	117°46.0'	900	320°	3	missing	moderate	14.92	33.439	315

Station	Date	Time GCT	DATA AT NET TOW STATIONS						10 METERS			
			Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
97.45-L	III-27	0720	31°46.0'	118°08.0'	950	320°	3	missing	moderate	14.98	33.451	316
97.50-L	27	1220	31°38.0'	118°30.0'	1360	280°	5	missing	moderate	14.74	33.452	310
97.55-L	27	1500	31°25.0'	118°50.0'	1450	280°	5	overcast	rough	14.52	33.422	308
97.60-L	27	1745	31°15.0'	119°10.0'	1800	280°	5	overcast	rough	14.38	33.437	304
97.65-L	27	2115	31°06.0'	119°30.0'	1950	300°	6	overcast	rough	14.03	33.381	302
97.70-L	28	0020	30°56.0'	119°49.0'	1940	300°	5	overcast	rough	14.03	33.317	306
97.80-L	28	0440	30°35.0'	120°31.0'	2100	320°	5	missing	rough	15.01	33.403	320
97.90-L	28	0935	30°15.0'	121°10.0'	2100	300°	4	missing	rough	14.95	33.334	323
100.29-G	IV-15	0235	31°42.0'	116°43.5'	80	280°	1	clear	moderate	13.36	33.647	269
100.30-G	15	0325	31°40.5'	116°47.0'	240	350°	1	clear	rough	14.66	33.544	302
100.35-G	15	0600	31°30.5'	117°07.0'	645	320°	2	clear	missing	14.96	33.451	315
100.40-G	15	0848	31°21.0'	117°27.0'	1050	310°	3	clear	missing	15.54	33.559	319
100.45-G	15	1111	31°11.5'	117°46.5'	900	300°	3	clear	missing	15.14	33.481	317
100.50-G	15	1340	31°00.0'	118°08.0'	940	280°	3	clear	moderate	15.30	33.482	320
100.55-G	15	1555	30°50.5'	118°27.0'	1150	280°	3	clear	moderate	15.16	33.447	319
100.60-G	15	1850	30°38.0'	118°47.5'	1650	270°	4	clear	rough	15.34	33.434	324
100.65-G	15	2120	30°30.0'	119°08.5'	1720	330°	3	clear	moderate	15.12	33.350	326
100.70-G	15	2345	30°21.0'	119°27.0'	2043	270°	4	clear	moderate	14.98	33.293	327
100.80-G	16	0414	30°00.0'	120°07.0'	2135	270°	4	clear	missing	16.06	33.592	328

Station	Date	Time GCT	DATA AT NET TOW STATIONS						10 METERS		
			Latitude North	Longitude West	Sounding (fm)	Wind Dir Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
100.90-G	IV-16	0825	29°42.0'	120°44.0'	1800	280° 4	clear	missing	15.74	33.408	334
103.29-G	17	1725	31°07.0'	116°21.0'	19	140° 2	cloudy	slight	13.74	33.677	274
103.30-G	17	1655	31°06.0'	116°24.5'	36	120° 3	cloudy	slight	14.76	33.537	304
103.35-G	17	1435	30°56.0'	116°45.5'	1010	180° 2	cloudy	moderate	15.29	33.444	322
103.40-G	17	1110	30°46.0'	117°04.5'	930	190° 3	overcast	missing	15.44	33.398	329
103.45-G	17	0840	30°36.0'	117°25.0'	1280	170° 2	missing	missing	14.86	33.349	320
103.50-G	17	0610	30°26.0'	117°45.0'	1110	250° 3	overcast	moderate	15.49	33.459	325
103.55-G	17	0355	30°16.0'	118°04.5'	1345	250° 4	missing	moderate	15.60	33.441	329
103.60-G	17	0138	30°06.0'	118°25.0'	2400	230° 3	cloudy	moderate	15.38	33.407	327
103.65-G	16	2320	29°57.0'	118°43.0'	1747	240° 4	cloudy	moderate	15.46	33.411	328
103.70-G	16	2050	29°46.0'	119°04.0'	1860	240° 3	overcast	missing	15.32	33.358	329
103.80-G	16	1635	29°25.0'	119°43.0'	2023	260° 4	overcast	moderate	15.80	33.539	326
103.90-G	16	1228	29°05.0'	120°22.5'	2168	280° 4	clear	missing	15.84	33.481	331
107.31-G	17	2155	30°27.5'	116°07.0'	24	220° 1	overcast	slight	13.28	33.710	263
107.32-G	17	2250	30°25.0'	116°11.5'	310	170° 1	overcast	slight	13.54	33.659	271
107.35-G	18	0025	30°21.5'	116°22.5'	945	220° 1	overcast	moderate	15.34	33.469	322
107.40-G	18	0252	30°11.0'	116°42.0'	1400	260° 2	cloudy	slight	15.74	33.541	325
107.45-G	18	0508	30°01.0'	117°02.0'	908	280° 3	overcast	slight	15.17	33.351	326
107.50-G	18	0727	29°51.0'	117°21.5'	1175	280° 3	missing	slight	15.52	33.432	328

Station	Date	Time GCT	DATA AT NET TOW STATIONS						10 METERS			
			Latitude North	Longitude West	Sounding (fm)	Wind Dir	Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
107.55-G	IV-18	1010	29°40.5'	117°42.0'	1750	270°	3	overcast	missing	15.19	33.347	327
107.60-G	18	1230	29°31.0'	118°01.5'	1945	290°	4	overcast	missing	15.66	33.526	324
107.65-G	18	1455	29°21.5'	118°21.0'	1555	280°	4	overcast	moderate	15.74	33.534	325
107.70-G	18	1727	29°11.5'	118°41.0'	1670	280°	4	overcast	moderate	15.70	33.456	330
107.80-G	18	2134	28°51.0'	119°20.5'	1953	280°	4	cloudy	moderate	16.36	33.684	327
107.90-G	19	0143	28°32.0'	119°59.5'	2160	270°	3	cloudy	rough	15.74	33.441	332
110.32-G	20	1018	29°52.0'	115°48.0'	12	340°	4	clear	moderate	13.40	33.750	262
110.33-G	20	0920	29°50.0'	115°52.5'	54	340°	4	missing	moderate	14.39	33.656	288
110.35-G	20	0805	29°46.0'	116°00.0'	658	310°	4	missing	moderate	14.37	33.605	291
110.40-G	20	0540	29°36.5'	116°20.0'	1335	310°	3	partly cloudy	moderate	15.54	33.464	326
110.45-G	20	0310	29°25.0'	116°37.0'	440	320°	4	partly cloudy	moderate	15.68	33.437	331
110.50-G	20	0040	29°16.0'	117°00.5'	1985	300°	3	cloudy	rough	15.66	33.444	330
110.55-G	19	2210	29°05.5'	117°20.0'	1913	320°	3	partly cloudy	moderate	15.45	33.394	329
110.60-G	19	1953	28°56.5'	117°38.5'	1914	310°	3	cloudy	moderate	15.65	33.553	322
110.65-G	19	1727	28°46.5'	117°58.0'	1910	350°	3	cloudy	moderate	15.96	33.543	329
110.70-G	19	1455	28°36.5'	118°18.0'	1500	300°	4	overcast	rough	15.90	33.537	328
110.80-G	19	1030	28°16.0'	118°57.0'	2133	270°	4	overcast	missing	16.74	33.767	330
110.90-G	19	0615	27°56.0'	119°36.0'	2200	280°	3	cloudy	rough	16.78	33.792	329
113.29-G	20	1510	29°24.0'	115°13.5'	16	340°	2	partly cloudy	slight	13.81	33.757	270

DATA AT NET TOW STATIONS										10 METERS		
Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	T °C	S ‰	δ_T cl/ton
						Dir	Force					
113.30-G	IV-20	1555	29°22.0'	115°18.0'	35	280°	2	partly cloudy	moderate	14.18	33.696	281
113.35-G	20	1825	29°11.5'	115°38.0'	700	320°	4	partly cloudy	moderate	15.08	33.440	318
113.40-G	20	2044	29°04.0'	115°58.0'	1040	310°	4	partly cloudy	moderate	15.42	33.443	325
113.45-G	21	2310	28°53.0'	116°18.0'	1138	320°	5	partly cloudy	rough	15.67	33.486	327
113.50-G	21	0125	28°41.5'	116°37.0'	1860	320°	5	partly cloudy	rough	15.68	33.462	329
113.55-G	21	0350	28°31.5'	116°56.0'	1860	340°	5	partly cloudy	rough	15.77	33.522	327
113.60-G	21	0555	28°22.0'	117°15.5'	1945	340°	5	partly cloudy	rough	15.50	33.457	326
113.65-G	21	0820	28°12.0'	117°35.0'	2010	340°	3	missing	missing	15.63	33.456	329
113.70-G	21	1048	28°02.0'	117°54.0'	1720	320°	5	partly cloudy	rough	15.84	33.500	330
113.80-G	21	1455	27°39.0'	118°33.0'	2083	320°	5	cloudy	rough	16.87	33.826	329
117.25-G	23	0540	28°58.0'	114°37.0'	28	310°	3	partly cloudy	moderate	14.82	33.735	291
117.26-G	23	0455	28°55.5'	114°41.5'	42	310°	4	partly cloudy	moderate	15.12	33.728	298
117.30-G	23	0253	28°48.0'	114°56.5'	57	290°	4	partly cloudy	moderate	15.53	33.742	306
117.35-G	23	0030	28°38.0'	115°17.5'	117	300°	3	cloudy	moderate	16.04	33.688	321
117.40-G	22	1505	28°28.0'	115°35.5'	535	320°	2	cloudy	moderate	14.84	33.465	312
117.45-G	22	1214	28°16.5'	115°57.0'	1870	310°	4	missing	missing	15.35	33.531	317
117.50-G	22	0944	28°05.0'	116°13.0'	2175	320°	4	missing	rough	16.14	33.589	330
117.55-G	22	0718	27°57.5'	116°34.5'	2315	320°	4	missing	rough	15.94	33.608	324
117.60-G	22	0457	27°48.0'	116°52.0'	1920	310°	4	cloudy	rough	15.86	33.473	332

DATA AT NET TOW STATIONS										10 METERS		
Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind		Weather	Sea	T °C	S ‰	δ_T cl/ton
						Dir	Force					
117.65-G	IV-22	0225	27°37.5'	117°13.0'	2086	320°	4	partly cloudy	rough	17.01	33.856	330
117.70-G	22	0000	27°28.0'	117°32.0'	1960	310°	4	partly cloudy	moderate	16.92	33.774	333
117.80-G	21	1935	27°08.5'	118°10.5'	2140	320°	4	partly cloudy	rough	16.90	33.839	328
118.39-G	22	1655	28°18.5'	115°24.0'	140	310°	2	cloudy	moderate	16.14	33.752	318
119.33-G	23	1500	28°19.0'	114°53.0'	60	270°	4	cloudy	moderate	16.11	33.737	319
120.24-G	23	0950	28°24.0'	114°11.0'	19	300°	3	missing	missing	16.14	33.765	317
120.25-G	23	1035	28°22.5'	114°15.0'	31	310°	3	missing	missing	16.24	33.765	319
120.30-G	23	1250	28°13.0'	114°34.0'	53	310°	2	cloudy	moderate	15.14	33.685	302
120.35-G	23	1638	28°03.0'	114°54.0'	46	320°	3	partly cloudy	moderate	14.85	33.578	304
120.40-G	23	1837	27°56.5'	115°14.0'	25	310°	4	partly cloudy	moderate	16.66	33.796	326
120.45-G	23	2110	27°42.0'	115°32.0'	1390	310°	3	cloudy	moderate	16.12	33.587	329
120.50-G	23	2320	27°32.5'	115°52.5'	2045	320°	2	cloudy	rough	16.17	33.611	329
120.55-G	24	0145	27°23.0'	116°12.0'	1965	340°	2	cloudy	rough	16.02	33.487	335
120.60-G	24	0358	27°13.0'	116°30.5'	2000	350°	3	cloudy	moderate	16.26	33.536	336
120.65-G	24	0615	27°03.0'	116°50.5'	2070	330°	3	missing	moderate	16.55	33.632	336
120.70-G	24	0845	26°53.0'	117°10.0'	1930	320°	3	missing	moderate	16.28	33.542	337
120.80-G	24	1300	26°35.0'	117°53.0'	1990	340°	3	partly cloudy	rough	16.38	33.541	339
123.36-G	25	1041	27°26.0'	114°36.0'	31	calm		clear	missing	13.82	34.019	250
123.37-G	25	0955	27°24.0'	114°40.0'	40	calm		clear	smooth	14.12	33.984	259

Station	Date	Time GCT	DATA AT NET TOW STATIONS						10 METERS			
			Latitude	Longitude	Sounding	Wind		Weather	Sea	T °C	S ‰	δ_T cl/ton
			North	West	(fm)	Dir	Force					
123.42-G	IV-25	0732	27°14.0'	114°59.0'	995	340°	4	partly cloudy	moderate	16.02	33.705	319
123.45-G	25	0548	27°08.0'	115°10.5'	2235	340°	4	partly cloudy	moderate	16.24	33.594	332
123.50-G	25	0326	26°58.0'	115°31.0'	1800	310°	4	clear	moderate	16.16	33.511	336
123.55-G	25	0045	26°47.0'	115°52.0'	1965	300°	3	clear	moderate	16.24	33.542	336
123.60-G	24	2220	26°39.0'	116°08.0'	2055	310°	2	clear	moderate	16.16	33.518	335
127.33-G	25	1510	26°57.5'	114°02.5'	36	190°	1	clear	smooth	13.88	33.972	255
127.34-G	25	1600	26°55.0'	114°06.5'	48	330°	1	clear	slight	14.68	33.889	277
127.40-G	25	1837	26°43.5'	114°29.0'	1775	230°	1	clear	slight	15.19	33.866	289
127.45-G	25	2105	26°34.0'	114°49.0'	1680	300°	4	clear	moderate	16.20	33.590	331
127.50-G	25	2323	26°23.0'	115°10.0'	1945	310°	4	clear	moderate	16.16	33.597	330
127.55-G	26	0135	26°14.0'	115°27.0'	1934	330°	5	clear	missing	16.99	33.684	342
127.60-G	26	0345	26°03.5'	115°47.0'	2035	330°	4	clear	missing	17.34	33.839	338
130.28-G	26	2325	26°32.5'	113°21.0'	33	280°	4	clear	moderate	15.47	34.046	282
130.30-G	26	2223	26°29.0'	113°28.0'	44	290°	4	clear	moderate	14.44	33.993	265
130.35-G	26	2005	26°20.5'	113°50.0'	232	300°	4	clear	slight	17.64	34.103	326
130.40-G	26	1745	26°09.0'	114°07.5'	1256	300°	3	clear	moderate	16.86	33.925	321
130.45-G	26	1518	25°58.0'	114°26.5'	1870	300°	3	clear	moderate	16.10	33.603	328
130.50-G	26	1240	25°46.5'	114°47.0'	1945	320°	4	clear	moderate	16.58	33.960	312
130.55-G	26	1015	25°39.0'	115°05.0'	2015	320°	4	clear	moderate	17.22	33.842	335

Station	Date	Time GCT	DATA AT NET TOW STATIONS					10 METERS			
			Latitude North	Longitude West	Sounding (fm)	Wind Dir Force	Weather	Sea	T °C	S ‰	δ_T cl/ton
130.60-G	IV-26	0752	25°29.0'	115°24.0'	2040	320° 4	clear	moderate	17.56	33.962	334
133.23-G	27	0343	26°08.5'	112°40.0'	40	310° 4	clear	moderate	16.82	34.017	314
133.25-G	27	0445	26°05.0'	112°48.0'	45	290° 3	clear	moderate	17.02	33.979	321
133.30-G	27	0715	25°54.5'	113°07.5'	116	300° 3	partly cloudy	moderate	16.56	34.006	309
133.35-G	27	0940	25°42.5'	113°26.0'	475	300° 4	cloudy	rough	17.77	34.056	332
133.40-G	27	1204	25°33.0'	113°44.0'	1530	300° 5	missing	rough	16.62	33.731	330
133.45-G	27	1427	25°24.5'	114°04.5'	1850	320° 4	cloudy	rough	16.68	33.837	324
133.50-G	27	1649	25°14.5'	114°23.5'	2040	310° 4	partly cloudy	moderate	16.56	33.645	335
133.55-G	27	1910	25°05.0'	114°42.5'	1995	310° 3	cloudy	moderate	17.78	33.963	339
133.60-G	27	2125	24°55.0'	115°02.0'	2090	320° 3	cloudy	moderate	18.09	34.036	342
137.22-G	28	2010	25°36.0'	112°15.0'	32	210° 1	partly cloudy	slight	17.16	34.122	314
137.23-G	28	1925	25°34.0'	112°19.0'	43	270° 1	partly cloudy	slight	17.10	34.090	315
137.30-G	28	1615	25°19.0'	112°47.0'	218	270° 3	cloudy	moderate	17.88	34.098	332
137.35-G	28	1407	25°10.5'	113°05.0'	795	300° 3	overcast	moderate	18.04	34.107	335
137.40-G	28	1123	25°00.0'	113°24.0'	1930	320° 4	missing	missing	17.27	33.791	340
137.45-G	28	0859	24°50.0'	113°42.5'	1765	320° 4	cloudy	moderate	17.73	33.972	338
137.50-G	28	0630	24°40.0'	114°02.0'	2040	300° 4	cloudy	moderate	17.84	34.004	338
137.55-G	28	0410	24°30.0'	114°20.5'	2040	320° 3	cloudy	moderate	18.41	34.138	342
137.60-G	28	0133	24°19.5'	114°41.0'	1945	330° 3	cloudy	moderate	18.76	34.235	343

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