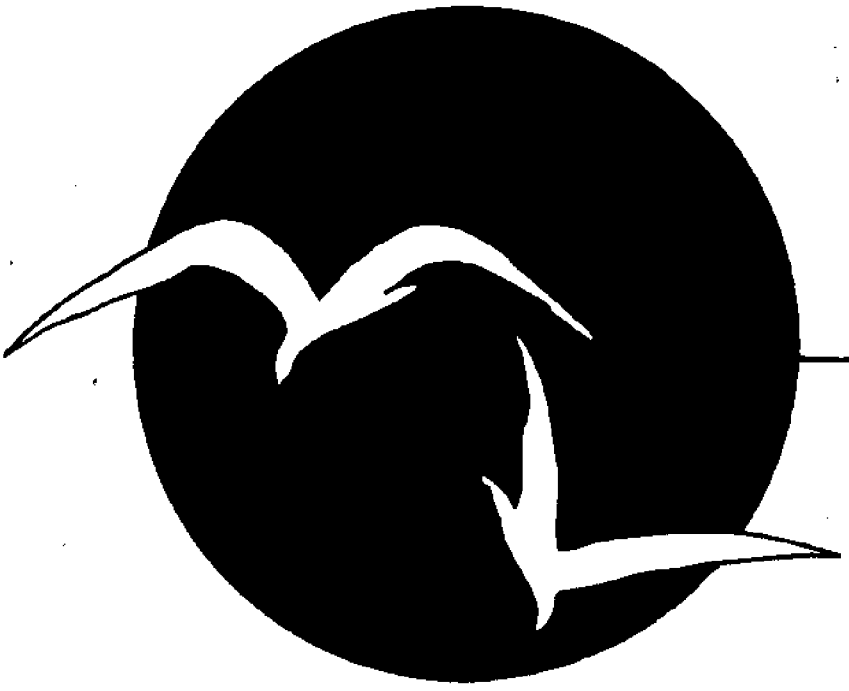

Moss Landing Marine Laboratories

Technical Publication 75-1

CALIFORNIA COOPERATIVE FISHERIES INVESTIGATIONS HYDROGRAPHIC DATA REPORT MONTEREY BAY JULY TO DECEMBER 1974

by

William W. Broenkow, Stephen R. Lasley, and George C. Schrader

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California State University and Colleges
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1975

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CALCOFI HYDROGRAPHIC DATA REPORT
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INTRODUCTION

In July 1974 Moss Landing Marine Laboratories began the continuation of the bi-weekly hydrographic observations in Monterey Bay. From 1951 to this date, these stations were sampled by personnel at Hopkins Marine Station in Pacific Grove.

Small changes were made in the sampling routine: 1) to facilitate squid (Loligo opalescens) studies, our observations were made at night, and 2) stations 1125 and 1154 are sampled in addition to five stations originally used by Hopkins Marine Station (2201, 2202, 2203, 2204, and 2205). These additional stations will provide important data of the nearshore environment.

STATION LOCATIONS

NUMBER	LATITUDE N.	LONGITUDE W.	DEPTH m
2201	36°37.6'	121°53.6'	46
2202	36°41.2'	121°57.9'	104
2203	36°46.7'	122°01.2'	988
2204	36°50.9'	122°01.5'	82
2205	36°55.8'	122°00.7'	26
1125	36°40.0'	121°50.8'	42
1154	36°55.2'	121°52.7'	16

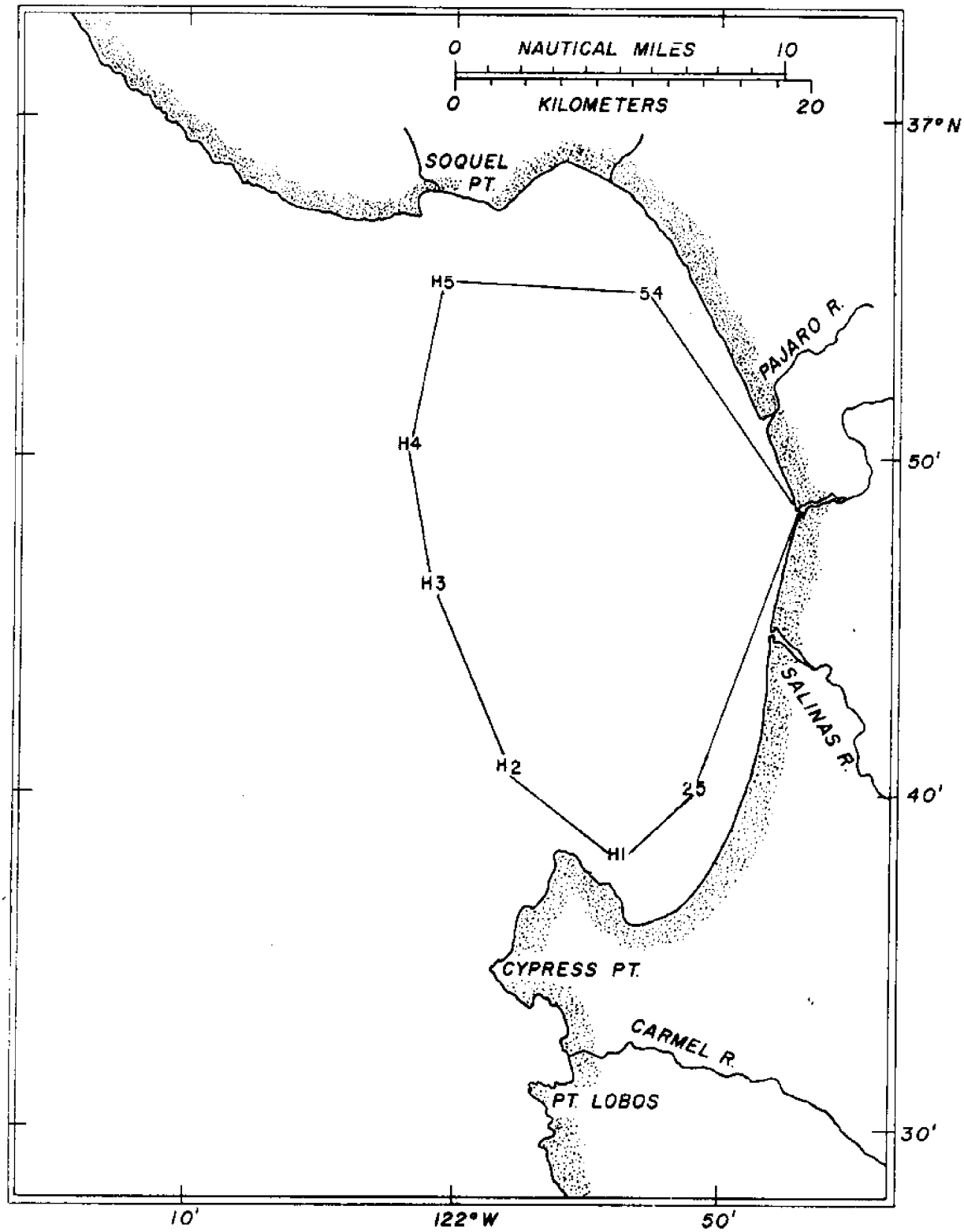

Figure 1. CalCOFI hydrographic station positions. H prefixes designate stations originated by Hopkins Marine Station.

EXPLANATION OF TABLES

CRUISE	Moss Landing Marine Laboratories consecutive hydrographic cruise number.
STATION	Permanent hydrographic station numbers. 11xx designates Moss Landing Marine Laboratories, 22xx CalCOFI numbers as originated by Hopkins Marine Station.
DATE	Local date of sampling.
HOUR	Local sampling time (Pacific Standard Time). Time of messenger release is given for one-cast stations, median time on station is given for multi-cast stations. For two-cast stations the time on-station was generally under one hour.
N LATITUDE W LONGITUDE	Observed station position corresponding to sampling time given above. Drift while on station was generally less than 0.5 miles. When greater drift was experienced, the ship was brought back to the station for subsequent casts.
TRANSP	Secchi disk depth, meters (not observed at night).
WAVES	
dir	Direction from which the dominant waves are coming, in tens of degrees, according to WMO Code 0885.
ht	Height of dominant waves according to WMO Code 1555.
p	Period of dominant waves according to WMO Code 3155.
WIND	
dir	Direction from which the wind is blowing, in tens of degrees, according to WMO Code 0877.
speed	Wind speed in knots.
BAROM	Pressure in millibars.
AIR TEMP °C	
dry	Air temperatures were obtained about 2 m above sea surface. Dry-bulb air temperature in degrees centigrade.
wet	Wet-bulb air temperature in degrees centigrade.
WEATH	Present weather according to WMO Code 4677.

CLOUDS	
typ	Cloud type according to WMO Code 0500.
amt	Cloud amount in eights according to WMO Code 2700.
VISIB	Sea level visibility according to WMO Code 4300.
DEPTH	Accepted depth in meters from which the sample was obtained, determined from wire length, wire angle and thermometric depth calculation.
TEMP	In situ water temperature in degrees centigrade.
SALINITY	Salinity in grams/kilogram ($^{o}/oo$ or ppt).
SIGMA T	Potential density anomaly, computed from the equations in Knudsen's Hydrographical Tables (Knudsen, 1901).
OXYGEN	Dissolved oxygen concentration in ml(STP)/liter.
AOU	Apparent oxygen utilization in µg-atoms O_2-O/liter: the difference between the observed oxygen concentration and the oxygen solubility computed from the in situ temperature and salinity using the equations of Truesdale, et al. (1955).
SAT	Per cent of oxygen saturation computed from the in situ temperature and salinity using the equations of Truesdale, et al. (1955).
PHOSPHATE	Concentration of reactive phosphate in µg-atoms PO_4-P/liter.
NITRATE	Concentration of dissolved nitrate in µg-atoms NO_3-N/liter.
NITRITE	Concentration of dissolved nitrite in µg-atoms NO_2-N/liter.
AMMONIA	Concentration of dissolved ammonia in µg-atoms NH_3-N/liter.
SILICA	Concentration of reactive silica in µg-atoms SiO_2-Si/liter.
*	Questionable data point. These values are suspect based upon preliminary analysis of the data and should be used with caution.
†	Squid catch data are available for this station and will be published separately.

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METHODS

Station Position. Station positions were determined using radar ranges with an accuracy of about ±0.2 n mile near shore and ±0.5 n mile at station 2203.

Hydrographic Sampling. Eight 5-liter Niskin plastic sampling bottles were used to obtain discrete water samples at the standard sampling depths: 0, 5, 10, 20, 30, 50, 75, 100, 150, 200, 250, 300, 500, 600, and 800 m. Accepted sampling depths were determined from wire angle for depths less than 100 m and from a combination of wire angle and thermometric depth calculations for depths greater than 100 m.

Temperature. The *in situ* temperature was determined from paired reversing thermometers. The average temperature is recorded when the thermometers agreed to within 0.05° C.

Salinity. Salinity was determined using a Beckman RS-7B precision induction salinometer. Analyses were made in the laboratory and salinity was computed from conductivity ratio using the equations of Cox, *et al.* (1967). Substandard seawater was used to calibrate the salinometer before and after each set of 24 or fewer samples. Copenhagen water was used each month to standardize the substandard water.

Dissolved Oxygen. Water samples were treated aboard ship to fix the oxygen in the basic form. The samples were acidified and titrated

in the laboratory within 12 hours of the sampling time using Carpenter's (1965) modification of the Winkler method. The total sample is titrated with approximately 0.02 N sodium thiosulfate to the starch endpoint. Precision of the analyses is about ±0.06 ml/liter (2 SD).

Nutrient Ions. The 500 ml samples were quick frozen in dry ice aboard ship and were refrigerated at -10° C until analyzed ashore within two weeks of collection. Groups of 44 samples were quick-thawed in the laboratory just prior to the analyses for phosphate, nitrate, nitrite ammonia, and silica. Standards and reagent blanks were prepared fresh daily and were determined with each set of samples. When the probe colorimeter was used to determine sample absorbances, standards were read before and after samples. A linear frift correction was used to correct for electronic and chemical drift over the 20-minute reading time.

Dissolved reactive phosphate was determined by the method of Murphy and Riley (1962) described in Strickland and Parsons (1968) using ascorbic acid to reduce the phospho-molybdate complex. The sample absorbance at 885 nm was determined in 10 cm cells on a Beckman DU II Spectrophotometer, or by a Brinkman PC 1000 probe colorimeter at 880 nm. Precision of the analyses is about ±0.03 µg-atoms/liter (2 SD).

Nitrate was determined by the cadmium-reduction method of Wood et al. (1967) followed by the nitrite color development. The sample absorbance was determined in 1 cm cells using a Spectronic 20 Colorimeter

at 543 nm, or the PC-1000 probe colorimeter at 545 nm. Precision of the analyses is about ±0.5 µg-atoms/liter (2 SD).

Nitrite was determined by the method of Bendschneider and Robinson (1952) described by Strickland and Parsons (1967). The absorbance of the diazo color was determined with 10 cm path length on the Beckman DU at 543 nm, or on the PC-1000 at 545 nm. Precision of the method is about ±0.03 µg-atoms/liter (2 SD).

Ammonia was determined by the indophenol method of Solorzano (1969) with the color absorbance determined with a 10 cm path length on the Beckman DU at 640 nm, or on the PC-1000 at 650 nm. Precision of the method is about ±0.1 µg-atoms/liter (2 SD).

Reactive silica was determined by the method of Mullin and Riley (1955) as modified by Strickland and Parsons (1968). The silicomolybate complex was reduced by a metol-sulfite, oxalic acid solution, and the color absorbance at 810 nm was determined in 1 cm cells on a Spectronic 20, or on the PC-1000. Precision of the method is about ±1 µg-atoms/liter (2 SD).

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 1	1154	20 JUL 1974	23.8	36° 55.8'	121° 53.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	1	2		9	3	1017.6	12.7	12.7	45	X	9	1

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.89	33.765	25.06	7.53	-174	135	.00*	1.7	.06	.0	17
5	13.67	33.777	25.33	6.04*	-29	106	.00*	.7	.08	2.9	2
10	10.91	33.474*	25.63	4.62	129	76	1.54*	16.5	.34	2.9	30

* indicates questionable data: Salinity and oxygen appear anomalously low
All phosphates are anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 1	2205	21 JUL 1974	1.1	36° 55.6'	122° .7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	49	1	2	6	2	1013.2	12.5	12.7	45	X	9	1

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.98	33.710	25.00	7.87	205	142	.04*	2.2	.12	.0	2
5	14.23	33.709	25.16	7.79	-191	138	.00*	1.0	.16	.0	3
10	11.20	33.802	25.83	5.58	39	93	1.08*	13.2	.39	.0	14
20	10.19	33.820	26.02	3.77	212	61	1.54*	19.8	.54	.5	19

* indicates questionable data: All phosphates are anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 1	2204	21 JUL 1974	2.3	36° 50.3'	122° 2.5'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	1	2		5	1	1013.2	12.7	12.7	45	X	9	1

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.08	33.772	25.24	8.10	-217	143	.00*	.6	.09	.0	2
5	13.06	33.791	25.47	7.78	-178	135	.02*	2.0	.15	.0	2
10	12.21	33.798	25.64	7.64	-156	130	.11*	1.7	.24	.0	2
20	10.61	33.790	25.92	4.58	135	75	1.49*	16.0	.37	1.2	23
30	9.96	33.798	26.04	3.82	211	62	1.68*	36.6*	.38	.0	30
50	9.49	33.507*	25.89	3.22	271	51	2.33*	24.3	.29	.0	36

* indicates questionable data: Salinity appears anomalously low
Nitrate appears anomalously high
All phosphates are anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 1	2203	21 JUL 1974	3.6	36° 46.6'	122° 2.0'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	1	2		27	2	1016.6	12.5	12.7	45	K	9	1

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	13.16	33.791	25.45	8.85	-274	153	.24*	2.4	.32	.0	3
5	12.99	33.787	25.48	8.87	-274	153	.00*	.5	.12	.0	12
10	11.70	33.741	25.69	7.44	-132	125	.21*	4.4	.28	.0	4
20	10.29*	33.680*	25.89	4.67	131	76	1.33*	19.6	.33	.0	24
30	10.43	33.723*	25.90	4.70	127	77	1.39*	18.0	.34	.0	24
50	10.19	33.803	26.01	4.47	150	73	1.53*	20.8	.40	.0	28
75	9.81	33.845	26.10	3.77	217	61	1.78*	22.8	.28	.0	41
100	9.47	33.865	26.18	3.27	266	52	1.79*	24.1	.13	.0	37
150	8.97	33.968	26.34	2.43	347	38	1.92*	30.3	.10	.0	39
200	8.90	34.007	25.60	2.36	358	37	1.35*	23.6	.10	.0	34
250	8.69	34.046	26.44	2.18	372	34	1.61*	23.0	.04	.0	38
300	8.48	34.082	26.50	2.00	391	31	2.26*	28.9	.03	.0	52
400	7.30	34.188	26.76	.97	499	15	1.98*	26.7	.03	.0	56
500	6.33	34.253	26.94	.60	545	9	2.48*	34.8	.06	.0	94
600	5.87	34.287	27.03	.48	563	7	2.80*	36.2	.09	.0	91
800	4.81	34.368	27.22	.52	575	7	2.36	41.7	.08	.0	122

* indicates questionable data: Paired thermometer read 10.59
Salinity appears anomalously low at 20 and 30 meters
All phosphates are anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 1	2202	21 JUL 1974	6.7	36° 40.8'	121° 53.5'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	2	2		6	1	1012.9	11.1	11.5	45	X	9	1

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.85	33.775	25.49	8.81	-267	152	.30*	.0	.06	1.3	4
5	11.76	33.744	25.68	7.25	-116	122	.87*	5.2	.14	.4	5
10	11.30	33.731	25.75	5.80	18	97	1.24*	12.1	.12	.6	11
20	10.62	33.696*	25.85	4.84	112	79	1.59*	18.9	.10	.7	18
30	10.18	33.805	26.01	4.43	154	72	1.88*	27.1	.08	.4	24
50	9.88	33.844	26.09	3.68	224	59	1.87*	24.7	.09	.2	25

* indicates questionable data: Salinity appears anomalously low
All phosphates are anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 1	2201	21 JUL 1974	7.9	36° 37.6'	121° 54.0'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	3	2		27	1	1013.2	10.8	11.7	45	X	9	2

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.76	33.768	25.31	8.34	-235	146	.32*	.0	.06	.0	0
5	11.40	33.773	25.77	5.64	31	94	1.20*	11.8	.06	.3	10
10	10.70	33.765	25.89	4.65	128	76	1.55*	1.5*	.10	.4	15
20	9.98	33.824	26.06	3.61	229	58	1.96*	25.0	.09	.9	27
30	9.86	33.829	26.08	3.46	244	56	2.01*	31.7	.06	1.0	28

* indicates questionable data: Nitrate appears anomalously low
All phosphates appear anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 1	1125	21 JUL 1974	8.7	36° 40.2'	121° 50.7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
-	49	3	2	27	2	1013.2	11.3	11.7	45	X	9	2

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.86	33.755	25.28	8.34	-236	147	.28*	.0	.06	.0	4
5	12.65	33.767	25.53	7.42	-141	127	.55*	3.0	.05	.0	1
10	11.71	33.774	25.71	6.08	-11	102	1.18*	9.2	.09	1.0	4
20	10.17	33.794	26.00	3.99	193	65	1.81*	23.2	.09	1.2	24

* indicates questionable data: All phosphates appear anomalously low

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 2	1154	2 AUG 1974	2301	36° 55.1'	121° 52.7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	21	0	2	27	2	1010.8	15.0	15.5	2	8	8	6

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	16.16	33.669	24.71	7.13	-150	131	.47	.9	.09	.4	6
5	14.69	33.599*	24.98	6.76	-103	121	.55	2.2	.11	1.1	5
10	13.16	33.692	25.37	6.13	-31	106	1.10	3.5	.07	3.3	8

* indicates questionable data: Salinity appears anomalously low

CRUISE	STATION[+]	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 2	2205	2 AUG 1974	.4	36° 55.8'	122° .7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	23	0	3	27	0	1009.8	15.6	15.5	45	8	8	6

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.42	33.662	24.87	6.88	-121	125	.40	.8	.01	.6	2
5	14.34	33.667	25.11	7.01	-122	124	.41	1.5	.06	.4	6
10	12.40	33.677	25.51	5.85	1	100	1.02	8.5	.14	1.6	6
20	11.44	33.727	25.73	4.53	130	76	1.56	11.5	.15	4.3	13

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 2	2204	3 AUG 1974	1.8	36° 50.9'	122° 1.5'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
21	0	3	18	0		1010.8	15.3	15.5	45	X	9	2

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	14.34	33.685	25.12	6.87	-109	122	.51	3.7	.05	.0	3
5	14.13	33.682	25.16	6.87	-107	121	.58	3.8	.01	.0	4
10	13.78	33.686	25.24	6.78	-96	119	.68	3.8	.02	.0	3
20	11.14	33.729	25.78	4.65	123	77	1.38	8.8	.16	.8	14
30	10.60	33.750	25.89	4.21	168	69	1.49	15.7	.18	1.3	16
51	10.21	33.789	25.99	3.61	226	59	1.61	18.3	.23	1.1	19

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 2	2203	3 AUG 1974	3.2	36° 46.5'	122° .9'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	12	0	1010.8	14.7	15.5	4	X	8	2

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.05	33.702	25.20	6.40	-65	113	.51	.4	.05	.0	13
5	12.96	33.702	25.42	6.26	-41	108	.49	1.2	.13	.0	1
10	12.66	33.697	25.47	5.90	-5	101	.80	1.7	.08	.0	0
20	11.82	33.682	25.62	5.11	74	86	.81	1.7	.07	.0	0
30	10.95	33.718	25.81	4.31	155	71	.82	1.3	.08	.0	0
50	10.32	33.762	25.95	3.89	200	63	.88	5.6	.20	.0	4
75	10.04	33.822	26.05	4.00	194	65	.74	4.3	.19	.0	3
100	9.81	33.825	26.09	3.29	260	53	.94	4.8	.15	.0	17
150	9.19	33.906	26.25	2.57	332	41	2.16	24.8	.25	.0	22
200	8.89	33.974	26.35	2.62	331	41	2.21	25.5	.13	.0	24
250	8.62	34.011	26.43				2.31	25.8	.09	.0	26
300	7.89	34.066	26.58	1.93	405	30	2.28	25.4	.05	.0	27
400	7.26	34.180	26.76	.93	503	14	2.49	23.7	.03	.0	31
500	6.57	34.245	26.90	.56	545	8	2.80	28.2	.03	.0	41
600	5.92	34.285	27.02	.44	565	6	3.24	36.7	.02	.0	56
800	4.45	34.403	27.29	.56	577	8	3.01	30.7	.06	.0	64

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 2	2202	3 AUG 1974	5.9	36° 41.2'	121° 58.0'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	0	6	0	1009.8	14.1	15.0	45	X	8	2

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.29	33.677	25.13	6.90	-112	122	.56	1.5	.08	.0	2
5	14.09	33.672	25.16	6.67	-89	118	.63	2.0	.10	.1	3
10	13.68	33.654	25.23	6.26	-48	110	.70	3.8	.10	.2	3
20	11.06	33.721	25.79	4.35	150	72	1.30	9.2	.23	.9	8
30	10.55	33.733	25.89	3.86	200	63	1.65	15.0	.39	.0	13
50	10.05	33.745	25.99	3.48	240	56	1.51	18.0	.30	.0	12

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 2	2201	3 AUG 1974	7.0	36° 37.6'	121° 53.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
27	2	2	27	0		1010.8	15.0	15.0	2	X	8	6

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.76	33.664	24.80	6.77	-114	124	.58	1.2	.04	.6	4
5	13.99	33.696	25.20	6.67	-88	118	.66	3.0	.13	.0	2
10	13.72	33.699	25.26	6.10	-34	107	.98	3.8	.17	1.1	5
20	11.28	33.714	25.75	4.68	118	78	1.34	9.0	.25	1.1	7
30	10.97	33.743	25.82	4.23	162	70	1.55	9.0	.25	1.9	15

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 2	1125	3 AUG 1974	7.9	36° 39.7'	121° 51.5'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
27	1	2	12	0		1011.5	14.4	14.5	2	X	8	6

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	13.51	33.702	25.31	6.63	-79	116	.82	5.5	.21	.0	5
5	13.42	33.703	25.33	6.69	-84	117	.76	4.6	.17	.0	3
10	12.94	33.695	25.42	6.02	-19	104	.86	4.9	.16	1.6	4
20	11.48	33.710	25.71	4.78	107	80	1.36	11.4	.29	.9	8

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 3	1154	22 AUG 1974	23.2	36° 55.2'	121° 52.7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	27	1	2	30	1	1009.1	14.0		2	8	8	5

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.88	33.618	24.73	7.62	-191	139	.41	.15	.0		33
5	13.85	33.643	25.19	7.28	-141	128	.63	.39	.0		8
10	12.71	33.653	25.43	4.96	77	85	1.26	.48	.0		15

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 3	2205	22 AUG 1974	.9	36° 55.8'	122° .7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	27	2	2	30	1	1009.1	14.4		2	8	8	5

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	15.88	33.486*	24.63	7.12	-146	130	.59	.09	.0		45
5	15.15	33.605	24.89	7.81	-201	141	.49	.08	.0		2
10	12.66	33.611	25.41	5.60	21	96	1.02	.47	.0		9
20	11.11	33.679	25.75	3.79	200	63	1.94	.73	.0		27

* indicates questionable data: Salinity appears anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 3	2204	22 AUG 1974	3.1	36° 50.9'	122° 1.8'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	27	2	2	30	1	1009.1	13.0		45	X	9	2

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.77	33.602	24.97	8.26	-238	148	.22	.02	.0		4
5	13.99	33.594	25.12	7.60	-171	134	.28	.02	.0		1
10	12.73	33.605	25.39				.86	.43	.0		9
20	10.90	33.692	25.80	4.25	161	70	1.30	.33	.0		17
30	10.34	33.745	25.94	3.85	204	63	1.53	.14	.0		16
50	10.00	33.779	26.02	3.51	238	57	1.88	.18	.0		27

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 3	2203	23 AUG 1974	5.7	36° 46.7'	122° 1.2'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	27	3	2	16	2	1009.1	13.4		45	X	9	1

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.53	33.636	25.25	7.59	-165	132	.40	.07	.0		5
5	12.77	33.642	25.41	6.55	-64	113	.95	.36	.0		13
10	11.96	33.656	25.57	5.71	19	96	1.32	.51	.0		16
20	10.93	33.704	25.80	4.26	160	70	1.76	.49	.0		20
30	10.65*	33.721	25.87	3.84	201	63	1.85	.34	.0		23
50	10.03	33.772	26.01	3.39	248	55	1.73	.10	.0		22
75	9.53	33.833	26.14	2.96	293	47	2.10	.13	.0		30
150	8.82	33.877	26.29	2.67	328	42	2.22	.01	.0		36
200	8.42*	34.020	26.46	2.19	375	34	2.20	.16	.0		74*
250	8.16	34.007	26.49	1.91	404	30	2.28	.11	.0		40
300	7.79	34.117	26.63	1.50	445	23	2.83	.10	.0		53
400	6.93	34.200	26.82	.92	508	14	3.07	.09	.0		65
500	6.19	34.249	26.96	.75	534	11	3.28	.15	.0		80
600	5.39	34.328	27.12	.56	562	8	3.21	.13	.0		79
800	4.27	34.415	27.31	.65	571	9	3.45	.12	.0		106

* indicates questionable data: Paired thermometers read 10.54 at 30 m; 8.56 at 200 m.
Silicate appears anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 3	2201	16 AUG 1974	.5	36° 37.3'	121° 53.3'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	30	3	2	30	4	1009.1	15.5		2	8	8	7

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	16.23	33.634	24.67	7.50	-184	138	1.16	5.7	.53	.3	8
5	16.22	33.637	24.67	7.43	-178	137	1.38	4.7	.64	.4	11
10	16.10	33.634	24.70	5.71	-23	105	1.79	16.8	.95	.0	20
20	14.31	33.627	25.08	4.97	60	88	1.93	22.1	1.17	.0	24
30	11.54	33.688	25.68	4.35	145	73	1.98	7.1	1.09	.0	25

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 3	1125	16 AUG 1974	23.0	36° 40.1'	121° 50.7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	30	4	2	30	4	1009.1	15.5		2	8	8	7

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	15.56	33.637	24.82				.22	2.8	.00	4.6	4
5	15.56	33.641	24.82	7.31	-161	133	.23	.0	.00	.0	0
10	15.55	33.635	24.82	6.61	98	120	.90	2.9	.10	2.2	16
20	14.93	33.627	24.95	6.89	117	124	1.42	7.0	.50	.6	20

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 4	1154	30 AUG 1974	23.0	36° 55.2'	121° 53.0'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	25	1	2	6	1	1009.5			2	X	0	8

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	15.31	33.639	24.88	7.48	-173	135	.42	.7	.08	.6	5
5	14.24*	33.656	25.12	7.10	-129	126	.45	1.2	.02	.7	3
10	11.96	33.666	25.58	4.60	118	78	1.42	8.0	.44	2.1	12

* indicates questionable data: Paired thermometer read 14.16

CRUISE	STATION[+]	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 4	2205	30 AUG 1974	.4	36° 55.8'	122° .7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	24	1	2	99	0	1009.5			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.22*	33.675	24.92	7.21	-148	130	.20	.5	.00	.0	1
5	11.72*	33.621	25.59	4.77	106	80	1.24	8.2	.27	1.5	9
10	11.45	33.616	25.64	4.68	117	78	1.48	9.4	.37	1.7	14
20	11.39	33.654	25.68	3.58	216	60	1.34	9.3	.29	2.4	11

* indicates questionable data: Paired thermometers read 15.14 at 0 m; 11.61 at 5 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 4	2204	31 AUG 1974	1.8	36° 50.9'	122° 1.6'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	23	1	2	30	1	1009.1			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.82	33.692	25.24	6.72	-91	118	.35	2.1	.04	1.3	3
5	13.75	33.692	25.25	6.69	-87	117	.43	2.8	.08	.7	4
10	12.47	33.680	25.50	5.60	23	96	1.00	8.6	.30	1.6	10
20	11.09	33.701	25.77	4.15	168	69	1.49	15.1	.34	.1	15
30	10.55	33.744	25.90	3.91	196	64	1.51	9.8	.13	.0	17
50	10.24	33.803	26.00	3.47	239	56	1.89	20.2	.30	.0	23

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 4	2203	31 AUG 1974	4.0	36° 46.7'	122° 1.3'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	27	3	2	29	1	1009.1			2	0	3	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.39	33.742	25.36	6.40	-58	111	.58	4.1	.22	.1	37*
5	11.82*	33.724	25.65	5.03	81	85	.97	8.9	.36	.6	11
10	11.49	33.734	25.72	4.82	103	81	1.12	11.1	.37	.8	15
20	11.21	33.784	25.81	4.54	131	76	1.88	13.3	.42	.8	39*
30	11.02	33.758	25.69	4.32	154	71	1.90	13.8	.37	1.2	15
50	10.82	33.768	25.87	4.10	175	68	1.42	14.1	.42	.1	28
75	10.51	33.777	25.93	3.82	204	63	1.54	14.7	.38	.0	17
100	9.85	33.844	26.10	3.27	261	53	1.49	12.7	.15	.0	15
150	8.90*	33.994	26.37	2.47	344	39	2.14	25.4	.07	.0	33
200	8.43	34.080	26.51	2.13	380	33	2.31	28.5	.08	.0	37
250	9.09	34.131	26.44	1.85	396	29	2.51	30.1	.03	.0	43
300	7.60*	34.169	26.70	1.66	433	26	2.68	32.1	.10	.0	51
400	6.92	34.256	26.87	.91	509	14	2.79	18.0*	.10	.0	57
500	6.26	34.314	27.00	.62	544	9	2.75	28.5	.13	.0	84
600	5.78	34.352	27.09	.01	606	0	3.22	37.8	.08	.0	81
800	4.55	34.450	27.31	.55	576	8	3.36	41.9	.10	.0	101

* indicates questionable data: Paired thermometers read 11.75 at 5 m; 8.97 at 150 m; 7.53 at 300 m
Nitrate appears anomalously low
Silicate appears anomalously high at 0 and 20 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 4	2202	31 AUG 1974	6.5	36° 41.2'	121° 57.9'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	49	1	X	3	0	1009.1			45	X	9	1

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.58	33.698	25.29	6.80	-95	119	.40	2.3	.23	.0	5
5	13.46	33.695	25.31	6.74	-89	118	.37	1.7	.21	.1	10
10	11.93	33.694	25.61	5.80	11	98	.98	7.4	.36	1.0	12
20	11.38	33.727	25.74	4.61	123	77	1.46	11.8	.46	.3	44*
30	10.88	33.730	25.83	3.92	191	65	1.74	17.5	.66	.0	19
50	10.37	33.746	25.93	3.70	217	60	1.90	15.4	.44	.0	22

* indicates questionable data: Silicate appears anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 4	2201	31 AUG 1974	7.5	36° 37.6'	121° 53.7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
30	1	2		30	0	1009.1			45	X	9	3

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	13.41	33.704	25.33	7.02	-113	122	.42	.9	.20	.1	16
5	13.35	33.706	25.34	7.03	-113	122	.37	.7	.20	.0	5
10	12.97	33.711	25.42	6.72	-82	116	.98	4.8	.30	.3	65*
20	11.66	33.734	25.69	4.76	107	80	1.15	7.2	.33	2.9	14
30	11.38	33.745	25.75	4.30	151	72	1.56	13.5	.51	2.9	20

* indicates questionable data: Silicate appears anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 4	1125	31 AUG 1974	8.7	36° 40.0'	121° 50.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	27	2	2	99	0	1008.5			45	X	0	4

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	13.33	33.705	25.35	6.95	-106	121	.50	1.4	.21	.0	5
5	12.45	33.711	25.52	6.57	-63	112	.85	5.5	.36	1.0	10
10	11.95	33.723	25.63	5.29	56	89	1.14	10.2	.48	2.9	12
20	11.51	33.734	25.72	4.68	116	78	1.37	13.6	.51	1.1	17

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 5	1154	13 SEP 1974	22.9	36° 55.2'	121° 52.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	0	0	1010.8			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.75	33.619	24.98	8.34	-245	149	.23	.6	.12	.1	2
5	14.51	33.629	25.04	8.52	-258	152	.22	.3	.09	.1	3
10	12.89	33.653	25.39	6.86	-93	118	.48	2.2	.14	.5	6

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 5	2205	13 SEP 1974	.0	36° 55.8'	122° 1.2'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	33	1	1010.8			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.39	33.609	24.84	8.07	-227	146	.29	.4	.05	.1	5
5	13.89	33.621	25.17	8.17	-221	144	.25	.7	.07	.2	5
10	12.23	33.654	25.52	5.79	9	98	.72	5.1	.17	.5	8
20	11.83*	33.656	25.60	4.86	96	82	1.24	9.2	.38	1.6	107

* indicates questionable data: Paired thermometer read 11.92
Silicate appears anomalously high

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 5	2204	14 SEP 1974	1.1	36° 50.9'	122° 2.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	0	0	1011.5			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.48	33.609	25.03	8.63	-268	154	.17	.6	.08	.3	10
5	13.54	33.612	25.23	7.28	-137	127	.45	1.7	.14	.2	8
10	13.08	33.623	25.33	6.64	-75	115	.58	40.1*	.16	.5	7
20	12.55*	33.631	25.44	5.71	12	98	.92	7.0	.23	1.1	49*
30	11.61	33.622	25.61	4.72	111	79	1.34	14.0	.44	.8	15
50	11.03	33.686	25.77	3.94	188	65	1.55	17.0	.47	.3	17

* indicates questionable data: Paired thermometer read 12.63
Nitrate appears anomalously high
Silicate appears anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 5	2203	14 SEP 1974	2.1	36° 46.7'	122° 1.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	33	0	1010.8			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.52	33.639	25.26	7.45	-153	130	.49	4.8	.14	.6	6
5	13.02	33.641	25.36	6.64	-75	115	.73	8.1	.17	.5	9
10	12.79	33.644	25.41	6.72	-80	116	.71	10.5	.16	.5	8
20	12.11*	33.648	25.54	5.53	33	94	1.17	13.9	.27	1.0	11
30	11.46	33.661	25.67	2.85	280	48	1.23	16.4	.29	1.1	12
50	11.32	33.666	25.70	4.54	131	76	1.38	14.8	.31	1.3	16
75	11.07	33.680	25.76	3.64	214	60	1.47	15.8	.33	.2	17
100	10.43	33.722	25.90	3.12	268	51	1.37	14.1	.14	.1	15
150	9.72	33.795	26.08	2.50	332	40	1.78	21.3	.05	.2	22
200	9.24	33.884	26.23	2.88	303	46	1.98	23.4	.05	.0	26
250	8.25	34.042	26.51	2.05	390	32	2.08	20.9	.03	.1	34
300	7.75*	34.100	26.63	1.73	425	27	2.58	31.9	.00	.0	43
400	6.90	34.175	26.80	1.11	492	17	2.33	25.0	.01	.3	40
500	6.26	34.223	26.93	.78	530	12	2.97	39.0	.01	.2	63
600	5.56	34.298	27.07	.59	557	9	3.15	37.2	.06	.0	78
800	4.56	34.390	27.26	.66	566	9	3.26	39.1	.07	.0	97

* indicates questionable data: Paired thermometers read 12.18 at 20 m; 7.81 at 300 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 5	2202	14 SEP 1974	5.2	36° 41.2'	121° 58.0'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	0	0	1010.8			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.93*	33.613	25.15	6.22	-47	109	.66	5.5	.26	.2	6
5	13.96	33.617	25.15	6.18	-44	109	.65	5.4	.25	.4	6
10	13.73	33.622	25.20	6.13	-32	107	.54	3.4	.15	.8	17
20	13.10*	33.630	25.33	5.70	7	99	.80	7.9	.19	.4	9
30	12.98	33.632	25.36	5.75	4	99	.92	9.8	.20	.8	10
50	12.35	33.644	25.49	3.67	197	62	.88	7.6	.18	.7	9

* indicates questionable data: Paired thermometers read 14.00 at 0 m; 13.04 at 20 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 5	2201	14 SEP 1974	6.4	36° 37.6'	121° 53.6'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	12	0	1012.2			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.94	33.633	25.16	7.96	-202	140	.35	.4	.07	.4	4
5	13.82	33.629	25.19	7.17	-131	126	.53	2.5	.11	.5	5
10	13.78	33.627	25.19	6.49	-69	114	.64	4.3	.16	.2	6
20	13.57*	33.635	25.24	6.31	-51	110	.60	3.7	.13	.0	7
30	13.26	33.639	25.31	5.73	3	99	.50	2.3	.08	.3	6

* indicates questionable data: Paired thermometer read 13.63

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 5	1125	14 SEP 1974	7.1	36° 40.0'	121° 50.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	0	0	1012.5			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.35	33.635	25.08	8.08	-217	143	.24	.0	.05	.0	2
5	13.46	33.624	25.26	6.60	-76	115	.49	1.7	.10	.2	6
10	13.27	33.629	25.30	6.46	-61	112	.71	4.4	.19	.3	7
20	12.56*	33.643	25.45	5.28	51	90	1.00	8.4	.24	.1	11

* indicates questionable data: Paired thermometer read 12.65

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 6	1154	29 SEP 1974	7.7	36° 55.2'	121° 52.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	24	2	2	26	0	1012.5			2	8	8	7

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	15.54	33.584	24.78	6.82	-116	124	.43	.9	.03	.0	14
5	14.85	33.570	24.92	7.28	-151	130	.81	.1	.12	.0	12
10	13.30	33.610	25.28	4.64	100	81	1.30	6.8	.35	2.7	24

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 6	2205	29 SEP 1974	6.9	36° 55.8'	122° .7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	20	2	3	18	1	1012.5			51	8	8	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.01*	33.591	25.11	4.13	137	73	.62	3.6	.15	.4	25
5	14.00	33.589	25.12	4.10	141*	72	.58	2.2	.06	.4	15
10	13.14	33.586	25.29	5.67	10	98	.95	7.2	.36	.9	20
20	11.90*	33.637	25.57	4.09	164	69	1.79	14.3	.58	3.4	34

* indicates questionable data: Paired thermometer read 14.07
AOU appears anomalously high
Paired thermometer read 11.82

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 6	2204	29 SEP 1974	5.6	36° 50.9'	122° 1.6'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	19	3	2	17	1	1012.5			2	8	8	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/1	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.17*	33.582	25.08	7.18	-135	127	.38	1.7	.06	.0	52*
5	14.07	33.583	25.10	7.03	-121	124	.41	1.7	.08	.0	62*
10	13.03	33.534	25.27	5.88	-7	101	.82	5.2	.30	.9	19
20	11.73*	33.603	25.58	4.41	138	74	1.20	10.0	.35	1.0	75*
30	10.86*	33.630	25.76	4.07	178	67	1.24	12.7	.21	.2	24
50	10.50	33.669	25.85	4.14	176	68	1.63	19.7	.22	.0	28

* indicates questionable data: Paired thermometer read 14.07 at 0 m;11.66 at 20 m; 10.94 at 30 m
Silicates appear anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 6	2203	29 SEP 1974	2.5	36° 46.7'	122° 1.3'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	2	X		17	1	1012.5			2	8	8	8

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	13.56	33.590	25.21	6.57	-74	115	.52	3.0	.20	.1	17
5	13.45	33.584	25.23	6.35	-53	111	.58	4.6	.23	.0	16
10	12.74	33.516	25.32	5.86	-2	101	.83	7.1	.32	.1	20
20	11.53*	33.557	25.58	5.01	87	84	1.17	11.4	.37	.1	22
30	10.81*	33.065*	25.33	4.08	180	67	1.33	14.1	.26	.0	55*
50	10.66	33.667	25.82	3.95	191	65	1.46	16.3	.29	.0	43*
75	10.21	33.668	25.90	3.61	227	59	1.66	20.2	.11	.0	29
100	9.84*	33.754	26.03	3.41	249	55	1.56	18.6	.07	.0	62*
150	9.58	33.796	26.10	3.15	275	51	1.64	19.9	.12	.0	35
200	12.50*	33.896	25.66	2.19	326	37	2.10	25.6	.06	.3	40
250	8.46	34.005	26.45	2.17	377	34	2.18	28.0	.06	.0	44
300	8.14*	34.060	26.54	2.80	324	44	2.40	30.0	.08	.0	49
400	6.97	34.148	26.77	.83	516	13	2.76	36.1	.04	.0	61
500	6.16	34.200	26.92	.92	519	14	2.96	37.4	.04	.0	71
600	5.35	34.285	27.09	.64	556	9	3.11	38.4	.07	.0	85
800	4.36	34.389	27.28	.59	575	8	3.19	40.0	.08	.0	101

* indicates questionable data: Paired thermometers read 11.47 at 20 m; 10.89 at 30 m; 9.77 at 100 m; 12.46 at 200 m; 8.07 at 300 m
Salinity appears anomalously low
Silicates appear anomalously high

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 6	2202	29 SEP 1974	1.6	36° 41.2'	121° 57.9'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	20	2	2	17	1	1012.5			2	8	8	8

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	14.31	33.516	25.00	6.15	-44	109	.54	1.8	.19	.0	4
5	13.78	33.478	25.08	6.57	-76	115	.65	3.2	.21	.0	12
10	13.06	33.434	25.19	5.99	-17	103	.72	4.3	.24	.2	6
20	11.48*	33.439	25.50	5.15	75	86	1.14	9.7	.31	.1	10
30	11.17*	33.628	25.70	4.86	104	81	1.29	11.7	.24	.0	13
50	10.95	33.648	25.75	4.17	168	69	1.44	14.9	.33	.0	16

* indicates questionable data: Paired thermometers read 11.41 at 20 m; 11.23 at 30 m

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 6	2201	28 SEP 1974	.1	36° 37.7'	121° 53.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	1	X		21	0	1012.9			2	8	8	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	13.82	33.502	25.09	6.29	-52	110	.62	3.4	.21	.0	5
5	13.78	33.520	25.11	6.32	-54	111	.66	4.0	.20	.3	6
10	13.25	33.579	25.26	6.13	-32	106	.77	5.3	.27	.0	8
20	13.03*	33.608	25.33	5.63	14	97	.98	6.9	.31	.2	11
30	11.80*	33.604	25.56	5.59	32	94	.96	6.4	.30	.3	8

* indicates questionable data: Paired thermometers read 12.96 at 20 m; 11.88 at 30 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 6	1125	28 SEP 1974	23.0	36° 40.0'	121° 50.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
25	2	2		19	1	1012.2			2	8	8	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.26	33.604	25.08	7.44	-159	132	.30	.3	.06	.1	2
5	14.24	33.596	25.07	7.43	-158	132	.30	.0	.09	.0	2
10	14.14	33.598	25.10	7.46	-160	132	.27	.0	.03	.0	1
20	11.90*	33.627	25.56	4.86	96	82	1.46	12.8	.59	1.3	15

* indicates questionable data: Paired thermometer read 11.81

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 7	1154	11 OCT 1974	22.7	36° 55.2'	121° 52.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
23	1	3		6	0	1015.2			2	X	0	8

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	16.12*	33.468	24.56	10.28	-431	189	.36	.2	.05	.0	6
5	14.81	33.502	24.88	5.59	0	100	.51	.3	.02	.0	8
10	14.49*	33.511	24.96	4.12	134	73	.85	.0	.04	.0	14

* indicates questionable data: Paired thermometers read 16.18 at 0 m; 14.42 at 10 m

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 7	2205	11 OCT 1974	23.9	36° 55.8'	122° .7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	49	1	2	4	1	1014.9			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.06*	33.513	24.83	8.05	-221	145	.42	.0	.03	.0	7
5	14.29	33.545	25.02	6.30	-58	112	.61	.1	.10	.0	8
10	13.90	33.553	25.11	5.72	-2	101	.85	2.3	.24	.7	12
20	13.75	33.554	25.14	4.71	89	83	.95	2.7	.26	1.9	13

* indicates questionable data: Paired thermometer read 15.14

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 7	2204	12 OCT 1974	1.1	36° 50.9'	122° 1.6'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
26	2	2		8	2	1014.2			2	X	0	8

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	14.61*	33.537	24.95	7.44	-163	133	.40	.0	.05	3.4	5
5	14.65	33.538	24.94	7.01	-125	125	.46	.0	.07	.0	6
10	14.23	33.543	25.04	6.42	-68	114	.63	1.1	.20	.0	6
20	13.24	33.552	25.25	5.42	31	94	.70	3.8	.37	.0	6
30	12.00	33.570	25.50	4.75	104	80	1.09	9.6	.18	.0	9
50	11.25	33.616	25.67	4.22	160	70	1.39	14.1	.09	.0	14

* indicates questionable data: Paired thermometer read 14.67

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 7	2203	12 OCT 1974	2.9	36° 46.7'	122° 1.3'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
49	1	3		35	1	1013.9			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.23*	33.561	25.05	6.43	-69	114	.51	6.8	.17	.5	8
5	14.26	33.561	25.04	6.32	-59	112	.46	6.3	.13	.2	6
10	14.14	33.562	25.07	6.22	-49	110	.58	4.9	.23	.1	7
20	13.84*	33.523	25.10	5.03	60	88	.69	3.3	.31	.1	7
30	12.70	33.535	25.34	4.82	90	83	.95	11.3	.56	.2	10
50	11.65	33.564	25.56	4.46	134	75	1.32	13.5	.18	.0	14
75	10.76	33.617	25.76	3.91	194	64	1.44	13.2	.07	.0	23
100	9.92	33.746	26.01	3.29	259	53	1.55	14.0	.06	.0	19
150	9.11	33.917	26.27	2.62	328	42	2.00	22.2	.06	.0	26
200	8.51	34.008	26.44	2.35	360	37	2.10	22.3	.06	.0	32
250	8.00	34.100	26.59	1.83	413	28	2.50	28.5	.08	.0	41
300	7.49	34.134	26.69	1.57	443	24	2.66	31.8	.02	.0	49
400	6.84	34.177	26.81	1.03	500	16	2.76	32.4	.06	.0	53
500	5.94	34.248	26.99	.62	549	9	2.65	29.8	.25	.0	81
600	5.28	34.302	27.11	.17	599	2	3.27	37.1	.08	.0	90
800	4.59	34.386	27.26	.23	604	3	3.67	38.6	.18	.0	106

* indicates questionable data: Paired thermometers read 14.30 at 0m; 13.76 at 20 m

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 7	2202	12 OCT 1974	5.1	36° 41.2'	121° 57.9'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	27	1	2	8	1	1014.6			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.73	33.525	24.92	6.48	-78	116	.53	1.1	.11	.0	6
5	14.71	33.527	24.92	6.51	-80	116	.47	1.4	.13	.0	25*
10	14.48	33.514	24.96	6.48	-75	115	.44	3.0	.09	.0	10
20	13.63	33.552	25.17	5.65	6	99	.93	5.6	.32	1.2	8
30	12.95	33.529	25.29	5.36	40	92	.93	8.0	.61	.6	8
50	11.94	33.592	25.53	4.50	127	76	1.14	12.4	.60	.7	11

* indicates questionable data: Silicate anomalously high

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 7	2201	12 OCT 1974	0.1	36° 37.6'	121° 53.7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	0	X		12	1	1015.6			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.51	33.520	24.74	7.48	-175	136	.54	.4	.05	.9	8
5	15.29*	33.522	24.79	7.47	-172	135	.43	.4	.02	.1	8
10	14.86	33.530	24.89	6.47	-78	116	.74	.4	.07	.2	8
20	13.74*	33.547	25.14	5.48	20	96	.92	4.1	.04	1.2	11
30	12.89	33.572	25.33	3.63	195	62	1.07	1.8	.64	.4	12

* indicates questionable data: Paired thermometers read 15.35 at 5 m; 13.66 at 20 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 7	1125	12 OCT 1974	6,8	36° 40.0'	121° 50.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	0	X		11	0	1014.2			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.96*	33.533	24.87	7.04	-130	126	.43	.4	.02	.0	7
5	14.97*	33.534	24.87	7.01	-128	126	.39	.6	.01	.0	7
10	14.95	33.536	24.88	6.91	-119	124	.43	.8	.03	.0	7
20	13.96	33.546	25.09	5.80	-9	102	.69	1.3	.21	.5	8

* indicates questionable data: Paired thermometers read 15.02 at 0 m; 15.03 at 5 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 8	1154	26 OCT 1974	6.2	36° 55.2'	121° 52.8'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	0	0	X	9	0	1015.2			2	X	8	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.55	33.508	24.72	7.01	-133	127	4.69*	.0	.07	.5	12
5	15.12	33.505	24.82	4.13	127	74	.58	.0	.00	.0	12
10	14.50	33.527	24.97	5.33	26	95	.40	.0	.05	.0	6

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 8	2205	26 OCT 1974	4.9	36° 55.8'	122° .7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	0	0	1015.2			2	X	8	8

DEPTH	TEMP	SALINITY	SIGMA T	OXYGEN	AOU	SAT	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
m	°C	ppt		ml/l	ug-at/l	%	ug-atoms/liter				
0	15.05	33.519	24.84	8.28	-242	149	.23	.0	.02	.0	6
5	15.02	33.513	24.84	8.31	-244	149	.16	.0	.01	.0	6
10	14.64	33.560	24.96	7.73	-189	138	.74	.0	.06	.0	6
20	13.67*	33.579	25.18	5.11	54	89	.89	.2	.13	.0	13

* indicates questionable data: Paired thermometer read 13.57

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 8	2204	26 OCT 1974	3.9	36° 50.9'	122° 1.6'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	0	0	1015.2			2	X	8	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.90	33.573	24.92	7.76	-194	139	.34	.0	.00	.1	7
5	14.82*	33.569	24.93	7.19	-142	129	.26	.0	.03	.0	6
10	14.77	33.569	24.94	6.78	-105	121	.33	.0	.04	.0	5
20	13.68*	33.541	25.15	5.46	23	96	.73	3.8	.32	.0	13
30	13.35	33.568	25.24	4.94	73	86	.69	3.5	.25	.0	6
50	12.53	33.560	25.39	4.81	93	82	1.04	7.9	.26	.0	8

* indicates questionable data: Paired thermometers read 14.88 at 5 m; 13.60 at 20 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 8	2203	26 OCT 1974	1.5	36° 46.7'	122° 1.3'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH typ	CLOUDS amt	VISIB
	0	0	X	0	0	1015.9			2	X 6	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.63	33.595	24.77	6.86	-121	125	.27	.7	.04	.0	8
5	15.62	33.598	24.78	6.52	-91	119	.27	.5	.01	.0	2
10	15.54	33.590	24.79	6.13	-55	111	.37	1.0	.04	.0	2
20	14.34*	33.535	25.01	5.95	-27	106	.53	2.5	.30	.0	5
30	13.12	33.524	25.25	5.22	50	90	.77	5.4	.28	.0	6
50	12.35	33.559	25.43	4.86	91	83	.94	7.5	.16	.0	6
75	11.77	33.582	25.55	3.92	181	66	1.21	11.6	.08	.0	11
100	10.62	33.689	28.84	3.64	219	60	1.47	13.5	.03	.0	14
150	9.46	33.862	26.17	2.80	308	45	1.90	12.6	.03	.2	26
200	8.72	33.990	26.39	2.31	361	36	2.27	13.9	.02	.0	36
250	8.15	34.093	26.56	1.95	400	30	2.34	20.6	.02	.0	37
300	7.67*	34.129	26.66	1.59	438	24	2.63	8.2*	.01	.0	47
400	6.76	34.196	26.84	1.04	500	16	2.77	19.1	.00	.0	55
500	5.77	34.224	26.99	.75	540	11	3.16	21.7	.00	.2	77
600	5.36	34.300	27.10	.48	570	7	3.18	27.8	.01	.0	82
800	4.50	34.402	27.28	.60	572	9	3.33	31.6	.03	.0	102

* indicates questionable data: Paired thermometers read 14.27 at 20 m; 8.75 at 300 m
Nitrate appears anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 8	2202	25 OCT 1974	23.9	36° 41.2'	121° 57.9'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	0	0	X	0	0	1015.9			2	X	6	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	15.77	33.600	24.74	6.10	-54	111	.34	.6	.00	.0	5
5	15.73	33.600	24.75	6.05	-50	110	.36	.4	.00	.1	5
10	15.57	33.592	24.78	6.14	-56	112	.36	.9	.01	.0	5
20	14.84	33.553	24.91	6.14	-49	110	.45	2.0	.16	.0	6
30	13.97	33.543	25.09	5.44	22	96	.60	3.3	.29	.0	8
50	13.29	33.560	25.24	5.29	42	92	.87	4.2	.29	.1	10

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 8	2201	25 OCT 1974	22.7	36° 37.6'	121° 53.7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	0	0	X	0	0	1015.2			2	X	6	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.90	33.573	24.92	7.83	-200	140	.62	.3	.02	.1	8
5	14.89	33.572	24.92	7.94	-210	142	.43	.5	.02	.0	8
10	14.86	33.570	24.92	7.92	-208	142	.47	.3	.01	.0	7
20	14.75	33.574	24.95	7.36	-157	132	.63	2.6	.03	.4	8
30	14.52	33.576	25.00	7.26	-146	129	.40	.4	.01	.0	9

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 8	1125	25 OCT 1974	21.8	36° 40.0'	121° 50.8'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	0	0	X	0	0	1015.9			2	X	5	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	14.94*	33.566	24.90	7.57	-178	136	.37	.4	.03	1.6	7
5	14.61	33.574	24.98	7.09	-131	126	.42	.6	.02	.2	7
10	14.52	33.571	25.00	6.72	-97	120	.44	.8	.02	.2	7
20	14.22	33.560	25.05	6.12	-41	108	.52	.3	.13	.2	7

* indicates questionable data: Paired thermometer read 14.85

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 9	1154	23 NOV 1974	4.5	36° 55.2'	121° 52.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	36	0	2	32	0	1024.4			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	11.92	33.454	25.43	6.61	-59	111	.87	2.7	.22	.0	10
5	11.92	33.460	25.43	3.95	177	67	.82	3.2	.17	2.2	12
10	11.92	33.468	25.44	5.61	29	95	.72	3.7	.19	.0	12

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 9	2205	23 NOV 1974	3.5	36° 55.8'	122° .7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	32	1	2	36	1	1022.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	11.90	33.494	25.46	6.02	-7	101	1.01	5.2	.24	.0	13
5	11.95	33.491	25.45	5.91	2	100	.88	3.4	.20	.0	10
10	11.93	33.492	25.45	5.88	5	99	.88	4.0	.23		10
20	11.88	33.492	25.46	4.33	144	73	1.09	7.6	.31	.4	15

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 9	2204	23 NOV 1974	1.9	36° 50.9'	122° 1.6'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	32	1	2	32	1	1022.4			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.78	33.469	25.27	5.80	2	100	.72	5.7	.15	.0	7
5	12.79	33.469	25.27	5.95	-10	102	.62	5.4	.12	.0	6
10	12.83	33.468	25.26	5.72	9	98	.73	6.9	.16	.0	7
20	12.26	33.488	25.39	5.60	26	95	.67	5.9	.16	.0	9
30	11.61*	33.527	25.54	3.80	194	64	1.03	9.8	.18	.0	12
50	10.81	33.585	25.73	4.48	142	74	1.13	9.5	.13	.0	11

* indicates questionable data: Paired thermometer read 11.60

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 9	2203	22 NOV 1974	.1	36° 46.7'	122° 1.3'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	23	4	2	18	1	1021.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	11.99	33.499	25.45	5.75	16	97	.85	5.5	.22	.0	10
5	11.99*	33.500	25.45	5.71	19	96	.76	4.5	.14	.0	8
10	12.04	33.499	25.44	5.67	22	96	.72	3.8	.12	.0	6
20	12.03	33.502	25.44	5.71	19	96	.92	7.1	.20	.0	10
30	11.84	33.512	25.49	5.49	40	92	.77	5.7	.14	.0	8
50	11.30	33.562	25.62	3.51	223	58	1.02	10.4	.18	.0	12
75	10.78	33.590	25.74	3.14	262	52	1.15	11.8	.16	.0	13
100	10.25	33.657	25.88	3.36	249	55	1.30	13.3	.13	.7	15
150	9.99	33.712	25.97	3.31	256	54	1.64	18.8	.19	.0	23
200	8.48	33.965	26.41	2.36	359	37	2.19	24.6	.03	.0	36
250	7.53	34.067	26.63	1.67	433	26	2.51	28.6	.02	.1	48
300	7.15	34.101	26.71	1.44	459	22	2.70	30.5	.00	.0	56
400	6.78	35.124	26.78	.99	504	15	2.58	33.6	.00	.0	53
500	6.09*	34.129	26.91	.91	521	13	3.04	17.1*	.02	.0	77
600	5.40	34.174	26.96	1.23	503	18	2.83	35.2	.04	.3	70
800	4.55	34.175	27.11	.96	540	14	2.84	35.0	.04	.9	79

* indicates questionable data: Paired thermometers read 12.06 at 5 m; 6.01 at 500 m
Nitrate appears anomalously low

CRUISE†	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 9	2202	22 NOV 1974	22.0	36° 41.2'	121° 57.9'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	32	4	2	32	2	1021.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.60	33.485	25.32	5.96	-9	102	.92	6.4	.21	.0	9
5	12.57*	33.486	25.33	6.02	-14	103	.87	5.9	.19	.0	8
10	12.60	33.488	25.32	5.98	-11	102	.84	5.9	.18	.0	9
20	12.30*	33.499	25.39	5.80	8	99	.85	5.2	.18	.0	7
30	12.18	33.502	25.41	4.66	111	79	.93	7.0	.19	.0	10
49	11.92	33.506	25.47	4.55	123	77	.96	7.5	.18	.0	11

* indicates questionable data: Paired thermometers read 12.63 at 5 m; 12.23 at 20 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 9	2201	22 NOV 1974	20.9	36° 37.6'	121° 53.7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
32	2	2		18	1	1021.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.55	33.479	25.32	6.11	-22	104	.92	5.3	.21	.2	10
5	12.61	33.477	25.31	6.10	-22	104	.94	5.6	.19	.1	9
10	12.61*	33.479	25.31	5.97	-10	102	.87	5.7	.21	.0	11
20	12.55	33.480	25.33	5.64	19	96	.73	4.5	.15	.7	9
30	12.42	33.493	25.36	5.78	8	98	.76	4.7	.15	.0	17

* indicates questionable data: Paired thermometer read 12.55

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 9	1125	22 NOV 1974	20.1	36° 40.0'	121° 50.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	32	2	2	32	1	1021.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.53	33.496	25.34	5.78	7	99	.91	6.8	.23	.0	9
5	12.51	33.494	25.34	6.68	-72	114	.87	6.7	.20	.0	9
10	12.54	33.494	25.34	5.87		100	.89	6.8	.23	1.3	8
19	12.53*	33.494	25.34	5.20	59	89	.85	6.6	.22	2.1	9

* indicates questionable data: Paired thermometers read 12.57 at 5 m; 12.50 at 19 m

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 10	1154	6 DEC 1974	19.9	36° 55.2'	121° 52.8'

TRANSP m	WAVES dir	WAVES ht	WAVES p	WIND dir	WIND speed	BAROM mb	AIR TEMP °C dry	AIR TEMP °C wet	WEATH	CLOUDS typ	CLOUDS amt	VISIB
	24	1	2	9	0	1023.4			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.34	33.489	25.37	6.41	-46	109	.81	6.8	.28	.4	10
5	12.35	33.489	25.37	6.47	-52	110	.78	5.5	.27	.1	9
10	12.28	33.485	25.38	5.09	71	86	.86	5.7	.30	.7	9

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 10	2205	6 DEC 1974	21.4	36° 55.8'	122° .7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
25	1	0		6	0	1023.4			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.30	33.525	25.41	6.23	-30	106	.75	6.3	.28	.3	10
5	12.27	33.526	25.42	6.19	-26	105	.84	5.8	.26	.3	9
10	12.22	33.525	25.42	5.93	-2	101	.76	6.9	.27	.4	9
20	12.17	33.525	25.43	5.94	-3	101	.86	5.6	.27	.3	10

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 10	2204	6 DEC 1974	22.9	36° 50.9'	122° 1.6'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	1	2	9	1		1023.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.95	33.475	25.24	6.19	-33	107	.70	2.8	.20	.4	7
5	12.96	33.476	25.24	6.14	-29	106	.69	2.6	.20	1.1	7
10	12.94	33.483	25.25	6.49	-60	112	.61	3.2	.21	.7	7
20	12.81	33.503	25.29	4.77	94	82	.64	2.7	.45	.6	7
30	12.82	33.501	25.29	5.26	50	90	.74	4.8	.26	.4	8
50	12.39	33.515	25.38	5.40	42	92	.77	5.2	.25	.3	11

CRUISE	STATION[†]	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 10	2203	7 DEC 1974	.4	36° 46.7'	122° 1.3'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	1	2		9	1	1022.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.85	33.509	25.29	6.17	-31	106	.63	2.6	.15	.9	6
5	12.80	33.507	25.30	6.11	-25	105	.86	3.6	.20	.5	31*
10	12.85	33.511	25.29	6.01	-16	103	.77	4.7	.23	.7	9
20	12.83*	33.518	25.30	5.89	-5	101	.70	4.4	.21	.6	7
30	12.76	33.514	25.31	5.60	20	96	.73	5.8	.26	1.0	8
50	12.64	33.517	25.34	5.06	70	87	.76	10.8*	.27	.7	9
75	12.06	33.546	25.47	4.92	89	83	.86	8.4	.25	.9	18
100	11.48	33.594	25.62	4.09	169	68	1.13	9.4	.27	.9	17
150	9.55	33.827	26.13	2.86	302	46	1.54	13.5	.03	1.1	19
200	8.29	34.024	26.49	2.20	376	34	2.06	17.9	.00	.7	34
250	7.83	34.076	26.60	1.87	411	29	2.23	20.0	.00	.4	37
300	7.37	34.119	26.70	1.55	446	24	2.61	26.1	.00	.2	51
400	6.68	34.173	26.83	1.06	499	16	3.03	30.4	.01	.1	65
500	6.03	34.225	26.96	.70	541	10	2.97	28.4	.02	.3	70
600	5.40	34.266	27.07	.63	556	9	2.87	31.8	.47	.3	78
800	5.28	34.346	27.15	.46	573	7	2.94	26.4	.01	.8	76*

* indicates questionable data: Paired thermometer read 12.76
Nitrate and Silicate at 5 m appear anomalously high
Silicate appears anomalously low at 800 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 10	2202	7 DEC 1974	2.9	36° 41.2'	121° 57.9'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
24	2	X		9	1	1022.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.81	33.488	25.28	6.15	-28	106	.59	3.3	.15	.6	7
5	12.80	33.488	25.28	6.07	-21	104	.62	2.5	.13	1.1	5
10	12.80	33.488	25.28	4.92	81	84	.70	4.1	.22	.3	0
20	12.80	33.488	25.28	5.33	44	92	.61	3.4	.15		6
30	12.79	33.494	25.29	5.95	-10	102	.66	3.9	.19	.5	9
50	12.69	33.501	25.31	5.38	41	92	.75	4.1	.20	.4	7

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 10	2201	7 DEC 1974	3.9	36° 37.6'	121° 53.7'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
49	1	X		9	0	1021.7			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.97	33.474	25.24	6.35	-48	109	1.01	3.8	.03	.0	4
5	12.99	33.473	25.23	6.35	-48	110	1.04	3.5	.05	.0	5
10	13.01	33.474	25.23	6.35	-48	110	1.04	1.8	.01	.0	2
20	12.98	33.475	25.24	5.61	17	97	1.03	2.6	.05	.4	8
30	12.52	33.511	25.36	4.26	143	73	.83*	2.3	.05	.0	2

* indicates questionable data: Phosphate appears anomalously low

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 10	1125	7 DEC 1974	5.0	36° 40.0'	121° 50.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	49	1	X	9	1	1021.0			2	X	0	8

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.86	33.492	25.27	6.34	-46	109	1.23*	4.2	.08	.1	4
5	12.87	33.492	25.27	6.34	-46	109	.93	1.9	.01	.0	2
10	12.86	33.491	25.27	6.27	-40	108	.94	3.0	.07	.0	4
20	12.79	33.503	25.31				.91	3.1	.07	.0	4

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 11	1154	19 DEC 1974	19.7	36° 55.2'	121° 52.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	27	2	2	3	1	1020.0			2	X	0	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.54	33.555	25.39	6.61	-67	113	1.02	2.1	.18	.0	7
5	12.35	33.539	25.41	6.63	-66	113	1.51*	1.3	.18	.4	9
10	12.22	33.537	25.29	6.75	-75	114	1.18	1.1	.14	.2	8

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 11	2205	19 DEC 1974	20.8	36° 55.8'	122° .7'

TRANSP m	WAVES dir	ht	p	WIND dir	speed	BAROM mb	AIR TEMP °C dry	wet	WEATH	CLOUDS typ	amt	VISIB
	26	2	2	3	1	1020.0			2	X	0	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.59	33.558	25.38	6.02	-15	103	.80	3.9	.20	.0	5
5	12.60	33.554	25.37	5.77	7	99	1.41*	3.1	.22	.0	4
10	12.39	33.569	25.43	5.85	2	100	.81	4.0	.21		6
20	11.58	33.639	25.63	4.28	151	72	1.15	10.3	.27	.0	17

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION †	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 11	2204	19 DEC 1974	21.9	36° 50.9'	122° 1.6'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	21	4	3	9	0	1020.0			2	X	0	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.68	33.552	25.36	5.69	13	98	.69	1.5	.17	1.4	4
5	12.69	33.553	25.35	5.80	3	99	.82	1.8	.22	.0	4
10	12.65	33.545	25.36	5.68	14	97	.84	1.7	.22	.0	5
20	12.61	33.550	25.37	5.69	14	97	.89	1.1	.22	.0	5
30	12.31	33.572	25.44	4.57	117	78	1.18	5.0	.21	.0	7
50	10.17	33.714	25.94	2.82	298	46	2.48	17.6	.33	.0	15

CRUISE	STATION†	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 11	2203	19 DEC 1974	23.4	36° 46.7'	121° 1.3'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
21	4	X		3	2	1020.0			2	X	0	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE	NITRATE	NITRITE	AMMONIA	SILICA
							ug-atoms/liter				
0	12.46*	33.554	25.40	6.77	-80	115	.98	1.1	.11	.0	7
5	12.48*	33.548	25.39	6.82	-85	116	.98	.0	.13	.0	4
10	12.52	33.544	25.38	6.64	-69	113	.94	.0	.12	.0	5
20	12.37			6.43	-47	109	1.26	2.9	.23	.0	5
30	11.30			4.74	116	79	1.81	12.2	.21	.0	9
50	10.05			4.07	190	66	2.35	18.5	.02		12
75	9.61			3.61	285	49	2.61	22.5	.03	.0	19
100				3.07			2.93	18.9*	.05	.0	19
150	8.74	34.012	26.41	2.65	330	42	2.81	20.7	.06	.0	22
200	8.13	34.103	26.57	2.21	377	34	3.14	22.8	.00	.0	18*
250	7.83	34.143	26.65	1.88	410	29	3.76	31.2	.04	.0	42
300	7.33	34.186	26.75	1.50	451	23	4.07	30.4	.03	.0	46
400	6.56	34.242	26.12	1.00	511	15	4.52	32.9	.02	.0	56
500	5.90	34.292	27.03	.76	537	11	4.95	32.1	.00	.0	62
600	5.50	34.333	27.11	.60	557	9	4.30	26.6	.02	.0	61*
800		34.406		.41			5.33	33.1	.04	.0	78

* indicates questionable data: Paired thermometers read 12.37 at 0 m ; 12.56 at 5 m
Nitrate appears anomalously low
Silicates appear anomalously low