Moss Landing Marine Laboratories

Technical Publication 76-1

CALIFORNIA COOPERATIVE OCEANIC FISHERIES INVESTIGATIONS HYDROGRAPHIC DATA REPORT MONTEREY BAY JANUARY TO DECEMBER 1975

by

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

Supported by
STATE OF CALIFORNIA, MARINE RESEARCH COMMITTEE
CALIFORNIA COOPERATIVE OCEANIC FISHERIES INVESTIGATIONS
and
OFFICE OF SEA GRANT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
via
UNIVERSITY OF CALIFORNIA SEA GRANT COLLEGE

Moss Landing Marine Laboratories
California State University and Colleges
Fresno, Hayward, Sacramento, San Francisco, San Jose, and Stanislaus

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CALCOFI HYDROGRAPHIC DATA REPORT
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INTRODUCTION

The data contained in this report were obtained as a continuance of the nearly bi-weekly hydrographic observations initiated by personnel at Hopkins Marine Station over two decades ago. These observations have been supported through the years by the State of California Marine Research Committee, California Cooperative Oceanic Fisheries Investigations. Since July 1974 the hydrographic sampling program has been carried out by investigators at Moss Landing Marine Laboratories in conjunction with an interdisciplinary study of the squid, Loligo opalescens, supported by the National Office of Sea Grant via the University of California Sea Grant College Project Number R/F-15.

Five of the original CalCOFI stations (2201, 2202, 2203, 2204, and 2205) have been retained in our sampling routine, and additional inner-bay stations have been added (1125 and 1154). Station 1121 is sometimes sampled in place of 1125 when the latter is inaccessible during use of the Fort Ord firing ranges.

Observations were made aboard ST 908 until September 1975 and aboard R/V OCONOSTOTA thereafter.

STATION LOCATIONS

NUMBER	LATITUDE N.	LONGITUDE W.	DEPTH m
2201	36°37.6'	121°63.6'	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
1121	36°37.6'	121°51.2'	18
1125	36°40.0'	121°50.8'	42
1154	36°55.2'	121°52.7'	16

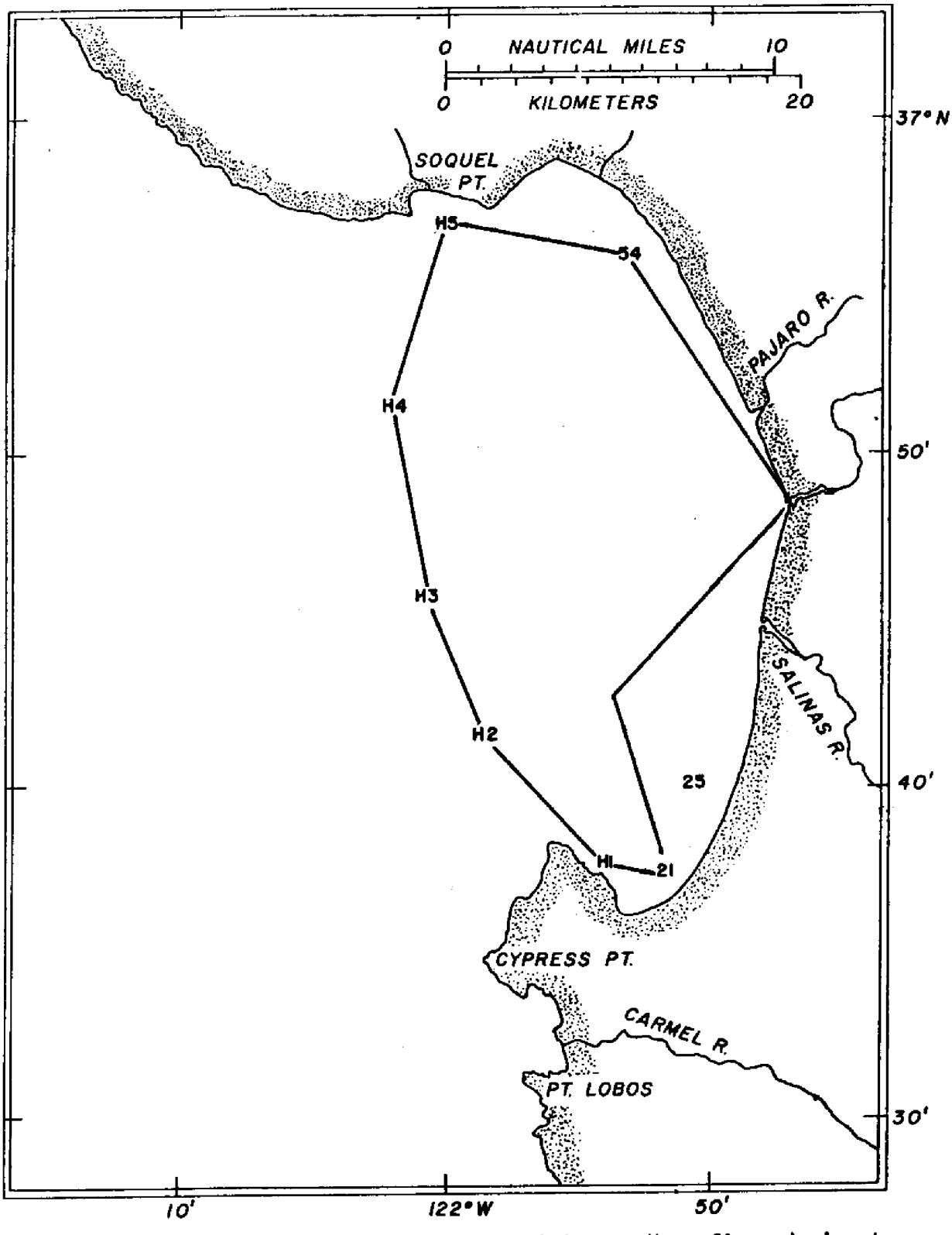

Figure 1. CalCOFI hydrographic station positions. H prefixes designate stations originated by Hopkins Marine Station.

EXPLANATION OF TABLES

CRUISE	Moss Landing Marine Laboratories consecutive hydrographic cruise number.
STATION	Permanent hydrographic station numbers. 11xx designates Moss Landing Marine Laboratories numbers, 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 were 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 was blowing, in tens of degrees, according to WMO Code 0877.
speed	Wind speed in knots.
BAROM	Pressure in millibars.
AIR TEMP °C	Air temperatures were obtained about 2 m above surface.
dry	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 (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.

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 drift 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 patch 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).

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CRUISE DATA

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 12	1154	3 JAN 1975	3.4	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	
49	2	X		10	1	1025.4			2	X	0	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	10.48	33.592	25.79	6.09	3	100	1.25	10.9	.35	.0	15
5	10.51	33.592	25.79	6.00	10	98	1.24	10.7	.33	.0	14
10	10.49	33.592	25.79	6.13	3	100	1.25	11.3	.35	.0	14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 12	2205	3 JAN 1975	2.4	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	
	0	0	X	0	0	1026.1			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	10.68	33.593	25.76	5.87	20	96	1.14	10.1	.32	.0	9
5	10.72	33.590	25.75	5.91	16	97	1.08	9.1	.33	.0	6
10	10.68	33.591	25.76	4.99	98	82	1.12	12.0	.31	.0	11
20	10.52	33.598	25.79	5.60	46	92	1.15	11.0	.33	.0	14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 12	2204	3 JAN 1975	1.0	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	
	24	2	2	0	0	1026.8			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	10.98	33.585	25.70	5.24	72	87	1.01	11.1	.25	.0	12
5	10.99	33.590	25.70	5.62	38	93	1.08	11.2	.24	.0	12
10	10.97	33.589	25.70	5.72	30	95	1.00	11.4	.26	.0	12
20	10.91	33.593	25.86	6.09	7	99	1.04	12.1	.26	.0	12
30	10.93	33.597	25.72	5.45	54	90	1.07	12.1	.26	.0	12
50	10.62	33.611	25.78	5.39	63	88	1.15	13.9	.35	.0	14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 12	2203	3 JAN 1975	23.2	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	1	X	99	0	1025.7			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	11.13	33.607	25.69	5.59	39	93	.96	13.1	.25	.0	15
5	11.13	33.597	25.68	5.55	43	92	1.02	14.1	.27	.0	13
10	11.10	33.604	25.69	5.74	26	95	1.06	16.3	.26	.0	13
20	11.07		25.42	5.64	37	93					
29	11.02			5.71	45	92	1.06	16.7	.26	.0	13
48	10.94	33.583	25.75	5.71	36	94	1.14	22.0	.26	.0	13
73	10.73	33.636	25.78	5.19	80	85	1.30	22.0	.28	.0	16
96	10.43	33.699	25.88	4.19	172	68	1.45	18.4*	.08	.0	20
147	9.62	33.819	26.12	3.46	247	56	1.72	23.5	.04	.0	25
197	8.40*	34.060	26.40	2.16	370	34	1.96	24.2	.01	.0	32
247	7.88	34.121	26.62	1.92	406	30	2.37	33.4	.00	.0	48
296	6.72	34.133	26.80	1.62	449	24	2.45	31.6	.00	.0	52
394	6.80	34.185	26.83	1.23	483	19	2.76	34.9	.00	.0	63
495	6.41	34.220	26.91	1.10	500	16	2.98	35.9	.02	.0	71
695	5.86			.93	522	14	3.08	39.0	.02	.0	80
795	4.61	34.265	27.16	.63	569	9	3.24	41.0	.03	.0	107

* indicates questionable data: Paired thermometer read 9.4
Nitrate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 12	2202	4 JAN 1975	21.9	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	
	27	2	X	27	1	1026.1			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	11.11	33.595	25.68	5.70	30	94	.99	11.2	.29	.0	11
5	11.10	33.594	25.68	5.79	22	96	1.09	11.0	.26	.0	10
10	11.07	33.693*	25.77	5.69	31	94	1.00	11.1	.26	.0	9
20	11.05	33.606	25.70	5.67	33	94	1.07	11.7	.32	.0	13
30	11.00	33.617	25.72	5.48	51	91	1.13	11.7	.31	.0	14
50	10.94*	33.625	25.74	5.39	59	89	1.19	12.8	.31	.0	15

* indicates questionable data: Salinity appears anomalously high
Paired thermometer read 10.88

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 12	2201	4 JAN 1975	20.5	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	
49	1	X		18	1	1026.4			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	11.05	33.596	25.70	5.69	31	94	1.01	11.7	.25	.0	12
5	11.05	33.596	25.70	5.71	30	95	1.04	12.3	.26	.0	12
10	11.04	33.601	25.70	5.71	30	94	.95	9.4	.23	.0	10
20	10.97	33.150*	25.36	5.54	47	91	1.02	11.0	.27	.0	12
30	10.96	33.608	25.72	5.34	64	88	1.18	12.4	.28	.0	13

* indicates questionable data; Salinity appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 12	1125	4 JAN 1975	19.7	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	
	49	1	X	0	0	1026.8			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	11.84	33.605	25.56	5.84	9	98	1.04	9.4	.22	.0	11
5	10.99	33.594	25.70	5.84	19	97	1.06	11.7	.26	.0	13
10	10.84	33.596	25.73	5.80	24	96	1.11	12.1	.26	.0	13
20	10.72	33.578	25.74				1.04	11.3	.19	.0	12

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 13	1154	18 JAN 1975	19.9	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	3	0	1015.9			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	11.51	33.496	25.53	7.00	-90	117	.59	1.8	.21	.0	8
5	10.83	33.547	25.70	5.76	28	95	1.00	7.6	.36	.0	11
10	10.67	33.561	25.74	5.93	15	15	1.25	10.5	.39	.0	7

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 13	2205	18 JAN 1975	20.7	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	1	X	6	1	1015.9			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	10.90*	33.496	25.64	6.61	-48	109	.73	3.3	.28	.0	15
5	10.90	33.509	25.65	6.59	-46	109	.78	5.0	.27	.0	15
10	10.80	33.544	25.70	5.30	69	87	.70	4.8	.18	.0	10
20	10.67	33.580	25.75	3.89*	197	64	.28*	11.3	.41	.0	6

* indicates questionable data: Paired thermometer read 10.83
Oxygen appears anomalously low
Phosphate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 13	2204	18 JAN 1975	21.8	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	
	27	2	2	33	1	1016.3			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	11.48	33.594	25.62	5.54	40	93	.83	7.5	.20	.0	16
5	11.37	33.597	25.64	5.53	42	92	.79	5.4	.20	.0	11
10	11.32	33.604	25.65	5.48	47	91	.86	7.1	.20	.0	20
20	11.28	33.602	25.66	5.29	64	88	.86	7.9	.19	.0	11
30	11.24	33.594	25.66	5.05	86	84	.85	8.2	.20	.0	12
50	10.87	33.628	25.75	4.40	149	73	1.03	10.6	.25	.0	14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 13	2203	18 JAN 1975	23.0	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	
	26	2	2	23	0	1016.3			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	11.45	33.576	25.61	6.19	-17	103	.80	8.9	.15	.2	10
5	11.47	33.570	25.60	3.75*	200	63	.70	7.9	.13	.0	10
10	11.39	33.573	25.62	6.14	-12	102	.76	8.3	.30	.0	10
20	11.11*	33.587	25.68	4.89	102	81	.78	10.4	.18	.0	8
30	10.77	33.633	25.77	4.62	130	76	.93	11.3	.15	.0	10
50	10.24	33.688	25.91	3.89	202	63	1.09	17.0	.13	.0	17
75	9.82	33.711	26.00	3.89	207	63	1.21	13.6	.07	.0	18
100	9.37	33.705	26.07	2.94	297	47	1.55	16.4	.04	.0	20
150	8.91	33.936	26.32	2.28	361	36	2.04	23.8	.13	.0	34
200	8.41	34.025	26.47	1.94	398	30	2.19	26.8	.07	.0	40
250	7.93	34.085	26.59	1.46	447	23	2.36	27.7	.05	.0	47
300	7.44	34.111	26.68	1.23	474	16	2.30	23.7*	.12	.0	42
400	6.72	34.167	26.82	1.14	492	17	2.56	25.9*	.07	.0	52
500	5.87	34.245	26.99	1.07	510	16	3.03	33.8	.05	.0	77
600	5.43	34.289	27.08	1.10	514	16	3.19	36.7	.05	.0	92
800		34.386	27.63	.95	620	12	3.12	35.9	.06	.0	101

* indicates questionable data: Paired thermometer read 11.05
Oxygen appears anomalously low
Nitrates appear anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 13	2202	19 JAN 1975	1.3	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	4	X	8	2	1016.3			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	11.05	33.562	25.67	5.93	10	98	.90	9.7	.26	.2	13
5	11.11	33.562	25.66	5.95	8	99	.70	7.2	.14	.0	9
10	10.99	33.564	25.68	4.96	97	82	.92	10.5	.26	.0	13
20	10.86*	33.557	25.70	5.13	84	85	.83	8.2	.22	.0	10
30	10.79	33.587	25.73	4.50	141	74	1.02	11.3	.22	.0	14
49	10.71	33.646	25.79	5.38	63	88	.98	8.3	.14	.8	11

* indicates questionable data: Paired thermometer read 10.80

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 13	2201	19 JAN 1975	2.1	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	
	27	2	X	15	0	1015.9			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	11.09	33.617	25.70	5.88	14	97	.94	10.1	.19	.0	13
5	11.02	33.608	25.71	5.83	19	96	.77	7.9	.12	.5	8
10	10.85	33.602	25.74	5.70	33	94	.94	10.0	.20	.0	12
20	10.67	33.627	25.79	5.37	64	88	1.14	14.3	.24	.4	16
30	10.81	33.640	25.77	4.97	98	82	1.17	14.0	.23	.0	16

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 13	1125	19 JAN 1975	3.2	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	4	X	9	3	1015.9			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	10.84	33.612	25.75	5.78	26	95	.92	10.9	.19	.0	14
5	10.89	33.612	25.74	5.88	16	97	.95	11.0	.19	.0	14
10	10.84	33.612	25.75	5.26	72	87	.86	12.0	.16	.0	12
20	10.61	33.628	25.80	5.25	76	86	.99	11.8	.19	.0	13

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 14	2203	4 FEB 1975	13.1	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	5	4	30	1		1016.6	10.0	10.3	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	11.62	33.539	25.55	6.43	-40	108	.68	8.1	.31	.0	10
5	11.62	33.539	25.55	6.40	-37	107	.65	8.2	.24	.0	8
10	11.62	33.538	25.55	6.25	-24	105	.72	8.8	.31	.0	9
20	11.60	33.539	25.55	6.14	-14	103	.63	7.5	.25	.0	8
30	11.58	33.540	25.56	6.14	-14	103	.71	9.3	.30	.0	9
50	11.62	33.540	25.55	6.15	-15	103	.70	8.0	.29	.0	9
75	11.31	33.588	25.64	5.56	40	93	.81	10.0	.25	.0	11
98	10.56	33.661	25.83	4.64	131	76					
147	10.03	33.732	25.98	3.95	199	64	1.38	12.4	.13	.0	22
196	8.81	33.942	26.34	2.74	321	43	1.63	16.4	.04	.0	26
245	8.24	34.043	26.51	2.19	378	34	2.25	28.1	.03	.0	45
294	7.54*	34.102	26.65	1.81	420	28	2.53	35.1	.00	.0	57
392	6.67	34.173	26.83	1.08	498	16	2.32*	22.9*	.00	.1	48*
490	5.88	34.247	27.00	.65	547	10	3.01	35.5	.00	.0	82
588	5.55	34.278	27.06	.61	556	9	3.07	30.8	.00	.0	88
784	4.59	34.373	27.25	.47	583	7	2.86	26.0	.00	.0	81*

* indicates questionable data: Paired thermometers read 7.66
Phosphate appears anomalously low
Nitrate appears anomalously low
Silicates appear anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 15	1154	20 FEB 1975	4.0	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	2	3	27	1	1015.9	10.0	9.2	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	11.50	32.721	24.94	6.08	-4	101	.84	6.8	.36	.6	13
5	11.41	33.126	25.27	6.03	0	100	.94	8.4	.34	.4	9
10	11.42	33.287	25.39	5.97	3	99	.68	4.7	.30	.1	7

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 15	2205	20 FEB 1975	3.0	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	2	2	0	0	1016.6			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	11.10	33.339	24.71	6.01	7	99	.95	7.1	.36	.3	22
5	11.32	33.307	25.42	6.05	-2	101	.60	4.1	.29	.0	7
10	11.28	33.357	25.47	5.86	14	97	.67	6.2	.35	.0	7
20	11.25	33.381	25.49	5.79	21	96	.59	6.3	.46	.0	12

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 15	2204	20 FEB 1975	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	
	27	4	2	0	0	1017.6	10.6	9.5	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	11.37	33.435	25.51	6.09	-6	101	.58	9.5	.27	.0	10
5	11.33	33.424	25.51	6.14	-10	102	.50	5.8	.23	.0	5
10	11.37	33.414	25.50	6.04	-2	101	.52	5.9	.23	.0	7
20	11.39	33.407	25.49	6.03	-1	100	.71	8.6	.31	.0	9
30	10.95	33.560	25.69	4.91	102	81	.90	12.2	.44	.0	11
50	9.03	33.823	26.21	3.00	296	48	1.73	23.1	.02	.0	41*

* indicates questionable data: Silicate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 15	2203	20 FEB 1975	.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	
	27	4	3	27	2	1017.6	9.9	8.9	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	11.00	33.570	25.68	5.80	22	96	.85	16.3	.33	.0	10
5		33.559		5.79			.81	11.0	.31	.0	10
10	10.97	33.563	25.68	5.78	24	95	.95	12.0	.43	.0	13
19	10.71	33.613	25.77	5.34	67	88	.95	12.1	.30	.0	13
29	10.56	33.645	25.82	4.91	107	80	1.15	17.3	.39	.0	20
48	9.80*	33.786	26.06	3.64	229	59	1.50	23.3	.11	.0	24
72	8.93	33.913	26.30	2.53	339	40	1.94	25.4	.02	.0	33
97	8.35	34.008	26.46	2.50	349	39	2.02	26.7	.06	.0	34

* indicates questionable data: Paired thermometer read 9.90

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 15	2202	19 FEB 1975	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	
	27	4	2	27	2	1017.6	10.0	11.1	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	11.25	33.497	25.58	6.13	-9	102	.77	14.1	.35	.0	11
5	11.22	33.495	25.59	6.11	-7	101	.68	9.0	.28	.0	9
10	11.22	33.494	25.59				.79	10.4	.34	.0	11
20	11.23	33.498	25.59	6.07	-3	101	.72	9.9	.29	.0	9
30	11.21	33.514	25.60	5.94	7	99	.78	11.0	.37	.1	11
49	10.34	33.706	25.91	4.33	161	71	1.33	18.7	.18	.0	22

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 15	2201	19 FEB 1975	22.5	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	
	27	3	3	27	3	1017.6	11.7	10.6	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	11.79	33.145	25.21	6.44	-42	108	.81	8.0	.31	.3	14
5		33.149		6.52			.78	8.6	.31	.2	14
10	11.77	33.164	25.23	6.55	-51	110	.82	8.7	.32	.2	13
20	11.59	33.321	25.38	5.73	23	96	.76	8.8	.29	.4	13
30	11.17	33.567	25.65	5.21	73	86	1.08	12.7	.42	.4	17

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 15	1125	19 FEB 1975	20.6	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	
26	3	3	29	2		1016.6	10.0	8.9	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	11.56	33.366	25.42	5.31	60	89	.79	9.4	.35	.2	12
5	11.58	33.383	25.43	6.18	-17	103	.72	8.2	.32	.0	11
10	11.51	33.363	25.43	6.21	-19	104	.78	9.0	.37	.0	12
20	11.52	33.374	25.44	6.12	-11	102	.82	10.7	.37	.2	13

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 16	1154	28 FEB 1975	19.0	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	
	0	1	X	0	0	1012.9	10.2	10.1	45	X	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	12.00	33.344	25.33	8.92	-266	150	.06	.6	.01	.0	0
5	11.80	33.350	25.37	8.66	-241	145	.09	.0	.01	.0	0
10	10.68	33.526	25.71	5.81	25	95	.98	7.1	.27	.3	6

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 16	2205	28 FEB 1975	20.4	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	
	0	1	X	15	1	1013.9	11.1	10.6	45	X	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	12.08	33.241	25.23	7.75	-162	131	.12	.0	.05	.0	0
5	11.65	33.375	25.41	7.37	-124	123	.00	1.7	.09	.2	0
10	11.29	33.490	25.57	6.48	-41	108	.00	4.6	.30	.0	4
20	10.05	33.739	25.98	3.48*	240	56	.05	8.3*	.28	1.3	19

* indicates questionable data: Oxygen appears anomalously low
Nitrate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 16	2204	28 FEB 1975	22.7	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	
	17	2	2	17	2	1013.9	10.6	10.0	45	X	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	11.72	33.520	25.51	8.02	-183	135	.00	.0	.01	.0	0
5	11.75	33.524	25.51	8.07	-188	136	.00	.0	.00	.0	0
10	11.66	33.519	25.52	8.01	-182	134	.19	.0	.01	.0	0
20	10.80	33.606	25.75	6.17	-8	107	.58	5.6	.18	.0	4
30	10.41*	33.724	25.91	4.43	151	72	1.12	9.7	.13	.0	9
49	9.24	33.884	26.23	3.16	278	50	1.78	19.1	.11	.0	26

* indicates questionable data: Paired thermometer read 10.21

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 16	2203	28 FEB 1975	22.7	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	
20	4	2		21	3	1013.5	11.1	10.6	45	X	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	11.47	33.543	25.58	7.10	-98	119	.27	.7	.07	.4	0
5	11.46	33.543	25.58	7.46	-130	125	.29	.1	.07	.0	0
10	10.45	33.676	25.86	5.54	52	91	1.02	11.5	.25	.0	11
20	9.63	33.816	26.11	4.16	184	67	1.67	22.8	.18	.0	25
30	9.21	33.888	26.24	3.59	240	57	1.87	25.2	.14	.0	30
50	9.14	33.896	26.25	3.48	251	55	1.40*	24.8	.12	.0	32
75	9.06	33.934	26.30	3.14	282	50	2.03			.0	35
100	8.79	33.963	26.36	2.88	309	45	2.03	27.4	.12	.0	37

* indicates questionable data: Phosphate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 16	2202	1 MAR 1975	.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	
20	4	2	20	3		1014.2	14.2	10.6	45	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	11.22	33.551	25.63	7.42	-124	123	.37	1.7	.06	.0	0
5	11.20	33.555	25.64	7.51	-132	125	.24	1.8	.05	.0	0
10	11.16	33.539	25.63	7.40	-121	123	.24	1.1	.05	.0	6
20	9.53	33.806	26.12	3.80	218	61	1.39	16.6	.08	.0	20
30	9.27	33.862	26.21	3.49	249	56	1.72	30.7	.11	.0	30
50	9.14	33.892	26.25	3.37	261	54	1.87	29.2	.07	.0	35

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 16	2201	1 MAR 1975	1.2	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	
	0	0	X	18	1	1013.9	10.8	10.0	45	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	11.82	33.451	25.44	8.57	-233	144	.00	1.5	.20	.0	0
5	10.90	33.614	25.74	7.05	-87	116	.26	6.1	.17	.0	5
10	10.60	33.670	25.83	6.75	-57	111	.50	9.6	.21	.0	8
20	9.98	33.764	26.01	4.76	127	77	.95	14.2	.15	.0	13
30	9.53	33.839	26.15	4.09	192	66	1.37	19.5	.18	.0	21

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 16	1125	1 MAR 1975	2.0	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	
	0	1	X	18	1	1012.5	10.6	10.6	50	X	8	7

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	11.96	33.475	25.43	8.09	-192	136	.05	3.4	.03	.0	15*
5	11.40	33.552	25.60	7.18	-105	120	.16	4.0	.16	.0	3
10	10.26	33.730	25.94	4.83	117	79	1.16	14.1	.34	.0	14
20	9.57	33.842	26.14	3.69	227	59	1.21	17.1	.19	.0	23

* indicates questionable data: Silicate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 17	1154	23 MAR 1975	19.3	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	4	3	23	1	1017.6	10.3	10.6	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	11.85	32.968	25.06	6.69	-64	112	.85	6.2	.30	.0	8
5	11.86	32.998	25.08	6.64	-60	111	.80	4.1	.30	.0	6
10	11.69	33.086	25.18	6.53	-48	109	.63	6.1	.31	.0	8

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 17	2205	23 MAR 1975	20.3	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	
	22	1	2	27	0	1017.6	10.6	12.2	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	11.62	32.888	25.04	4.54	130	76	1.00	4.8	.36	.1	12
5	11.09	33.373	25.52	5.74	27	95	1.20	6.7	.43	.0	9
10	10.97	33.444	25.59	5.57	44	92	1.84*	9.6	.58	.9	12
20	10.83	33.484	25.65	5.41	59	89	2.13*	10.4	.66	1.0	15

* indicates questionable data: Phosphates appear anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 17	2204	23 MAR 1975	21.7	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	2	3	18	0	1017.6			2	8	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	11.54	33.151	25.26				.85	7.8	.42	.0	10
5	11.01	33.342	25.51	6.08	-1	100	.88	9.4	.40	.0	10
10	11.04	33.393	25.54	6.20	-12	102	.84	8.2	.40	.0	8
20	10.94	33.429	25.59	5.08	88	84	1.00	9.0	.42	.0	9
30	10.73*	33.550	25.72	4.72	122	78	1.00	11.8	.45	.0	13
50	9.47	33.805	26.13	3.18	274	51	1.52	19.2	.40	.0	21

* indicates questionable data: Paired thermometer read 10.65

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 17	2203	24 MAR 1975	23.4	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	2	X		18	1	1017.6	11.1	10.9	61	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	11.39	33.183	25.31	6.50	-42	108	.86	6.6	.35	.0	9
5	11.40	33.188	25.32	6.52	-44	108	.76	4.9	.24	.0	10
10	11.26	33.312	25.44	6.43	-35	107	.74	5.6	.26	.0	6
20	11.10	33.422	25.55	6.22	-15	103	.81	7.4	.36	.0	8
30	11.11	33.471	25.54	6.01	3	100	.79	10.8	.35	.0	8
50	10.48	33.612	25.81	4.35	158	71	1.23	9.3	.40	.0	11
75	9.36	33.803	26.15	3.06	286	49	1.75	16.4	.18	.0	23
100	8.85	33.917	26.32	2.85	311	45	2.12			.0	29
197	7.84	34.083	26.60	2.43	361	38	2.28	28.5	.08	.0	40
246	7.60	34.111	26.66	1.76	424	27	2.60	29.1	.16	.0	48
295	7.24	34.132	26.72	1.49	453	23	2.51	28.9	.06	.0	46
394	6.61	34.173	26.84	1.01	505	15	2.61	29.9	.05	.0	54
492	5.97	34.241	26.98	.56	554	8	2.90	24.9*	.03	.0	48*
590	5.28	34.297	27.11	.51	569	7	3.25	35.7	.05	.0	79
788	4.31	34.391	27.29	.45	589	6	2.92	29.2	.05	.0	79

* indicates questionable data: Nitrate appears anomalously low
Silicate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 17	2202	24 MAR 1975	2.1	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	
	24	2	3	6	1	1016.6	11.1	11.1	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	11.82	33.352	25.37	6.86	-80	115	.34	3.5	.21	.4	5
5	11.52	33.339	25.41	6.93	-83	116	.56	1.4	.21	.3	1
10	11.46	33.336	25.42	6.70	-62	112	.51	2.7	.24	.5	3
20	11.36	33.347	25.45				.62	4.4	.30	.6	7
30	11.00	33.467	25.60	5.45	54	90	.98	9.5	.40	.7	15
50	9.43	33.812	26.14	3.28	266	52	1.48	16.2	.32	3.0	24

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 17	2201	24 MAR 1975	2.9	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	1015.9	11.7	11.1	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	12.33	33.265	25.20	7.12	-109	121	.48	.9	.14	.4	6
5	12.25	33.265	25.22	7.43	-136	126	.39	.2	.11	.4	3
10	11.92*	33.284	25.29	7.23	-114	122	.41	.9	.12	.4	3
20	10.94	33.500	25.64	5.71	31	94	1.00	7.7	.30	.6	77*
30	9.72	33.765	26.06	3.62	232	58	1.42	15.4	.22	.5	24

* indicates questionable data: Paired thermometer read 11.86
Silicate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 17	1125	24 MAR 1975	3.9	36° 40.6'	121° 50.8'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
24	1	X		2	0	1015.9	10.7	10.0	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	12.00	33.120	25.15	7.09	-102	119	.43	2.9	.19	.4	6
5	11.74	33.242	25.30	6.87	-80	115	.45	2.8	.22	.5	7
10	11.53	33.325	25.40	6.12	-11	102	.50	2.5	.18	.7	4
20	10.84*	33.391	25.57	5.05	92	83	.83	3.5	.24	.9	15

* indicates questionable data: Paired thermometer read 10.91

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 18	1154	18 April 1975	19.8	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	6	1	1022.7	10.6	10.6	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	11.09	33.609	25.70	8.25	-197	137	1.58*	1.8	.16	.6	8
5	11.12	33.615	25.70	8.26	-198	137	.45	1.3	.15	.5	9
10	11.10	33.607	25.69	8.14	-187	135	.48	2.5	.15	.6	9

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 18	2205	18 April 1975	21.0	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	
49	1	2		27	2	1022.0	10.4	8.9	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	10.65	33.596	25.77	6.48	-33	106	1.01	9.5	.25	.7	20
5	10.70	33.591	25.75	6.60	-45	108	1.04	9.0	.25	.8	21
10	10.26	33.691	25.91	6.01	12	98	1.19	13.8	.26	.4	21
20	9.82	33.762	26.04	4.92	114	79	1.69	18.8	.28	1.0	29

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 18	2204	18 April 1975	22.1	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	
33	1	3	26	1		1022.7	10.3	9.4	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	10.07	33.517	25.63	6.20	-13	103	.85	8.8	.26	.3	12
5	11.12			6.27	-18	104	.85	9.4	.28	.3	13
10	11.07	33.518	25.63				.85	8.1	.25	.3	49*
20	10.99	33.546	25.67	6.20	-12	102	.87	8.5	.22	.4	50*
30	10.87	33.577	25.71	4.96	99	82	.95	11.2	.26	.4	17
50	9.75	33.763	26.05	7.93	114	79	1.64	23.5	.29	.8	28

* indicates questionable data: Silicates appear anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 18	2203	18 April 1975	23.4	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	
26	3	2	30	1		1022.0	10.6	9.2	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	10.96	33.547	25.67	6.07	0	100	.67	7.8	.22	.2	11
5	11.02	33.543	25.66	6.12	-5	101	.78	10.4	.22	.2	12
10	10.95	33.543	25.67	6.09	-2	101	.83	10.8	.25	.0	14
20	10.97	33.545	25.67	6.19	-11	102	.73	9.0	.20	.7	10
30	10.79	33.589	25.74	5.08	89	84	.90	12.6	.22	.2	15
49	10.41	33.676	25.87	5.92	18	97	1.14	17.2	.19	.5	20
74	9.19	33.875	26.23	3.48	251	55	1.52	24.3	.22	.4	29
98	8.94	33.897	26.29	3.24	275	51	1.27	16.7	.06	.3	24
148	8.83	33.926	26.33	3.02	296	48	1.75	20.1	.10	.3	28
197	8.59	33.968	26.40	2.83	316	44	2.08	25.2	.07	.3	38
246	8.16	34.023	26.50	2.47	354	38	2.23	28.6	.02	.2	43
295	7.39	34.039	26.63	2.24	385	34	2.28	28.1	.00	.2	50
394	6.90	34.188	26.81	1.08	494	16	2.87	34.2	.00	.2	69
492	6.17	34.231	26.95	.66	542	10	2.76	33.0	.02	.2	75
591	5.78	34.264	27.02	.39	572	6	3.15	36.6	.01	.2	93
787	4.80	34.361	27.21	.23	601	3	3.05	35.6	.03	.4	100

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 18	2202	19 April 1975	1.8	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	
30	2	2		33	2	1022.4	9.4	9.2	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	10.74	33.664	25.80	6.67	-52	110	.97	13.0	.14	.4	21
5	10.77	33.661	25.80	6.67	-52	110	.92	11.9	.09	.6	17
10	10.74	33.660	25.80	6.32	-20	104	.80	8.9	.06	.3	14
20	10.76	33.657	25.79	6.65	-50	109	.89	12.6	.09	.3	28
30	10.41	33.652	25.85	5.50	56	90	1.03	15.0	.14	.6	19
50	9.59	33.770	26.08	4.21	181	68	1.15	12.9	.14	.3	14*

* indicates questionable data: Silicate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 18	2201	19 April 1975	2.8	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	
	3	1	2	36	1	1021.7	10.5	9.4	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	11.77	33.648	25.60	9.74	-338	164	.32	.0	.14	.4	0*
5	11.36	33.656	25.69	8.26	-201	138	.71	3.4	.09	.3	11
10	10.86	33.658	25.78	6.51	-39	107	.91	11.2	.12	.5	18
20	9.87	33.720	26.00	4.31	168	70	1.28	21.1	.19	.4	23
30	9.69	33.755	26.05	4.22	179	68	1.23	13.5	.17	.2	51*

* indicates questionable data: Silicate appears anomalously low at 0 m; high at 30 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 18	1125	19 April 1975	3.9	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	
	30	1	2	12	0	1019.3	8.9	8.3	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	11.70	33.620	25.60	8.85	-257	149	.37	.4	.06	.4	14
5	11.35	33.637	25.67	8.39	-212	140	.40		.06	.5	2*
10	10.96	33.644	25.75	5.11	84	84	.91	10.7	.13	1.3	17
20	10.47	33.686	25.87	5.56	50	91	1.16	13.4	.16	1.5	20

* indicates questionable data: Silicate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 19	1154	29 APR 1975	20.1	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	6	1	1009.8	11.6	11.1	2	X	0	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	12.52	33.574	25.40	8.48	-233	145	.00	.4	.00	1.2	11
5	11.37	33.627	25.66	7.18	-105	120	.04	1.6	.00	.5	16
10	10.23	33.756	25.96	4.86	115	79	.88	8.9	.08	1.3	24

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
HL 19	2205	29 APR 1975	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	
24	1	2		6	0	1009.8	11.7	11.1	2	X	0	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	11.87	33.547	25.51	7.92	-176	133	.05	1.1	.00	.6	3
5	11.71	33.604	25.58	8.00	-182	134	.03	.0	.00	.2	8
10	9.88	33.753	26.02	4.87	118	79	1.11	10.7	.10	1.0	14
20	9.70	33.781	26.07	3.76	219	60	1.64	15.0	.27	2.7	25

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 19	2204	29 APR 1975	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	
	27	4	2	27	0	1009.8	11.1	10.6	2	X	0	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	10.50	33.715	25.88	6.49	-33	106	.39	4.2	.04	.2	21
5	10.51	33.715	25.88	5.48	56	90	.33	4.3	.00	.1	7
10	10.28	33.730	25.93	5.70	39	93	.49	6.3	.01	.0	5
20	9.47	33.778	26.11	3.98	203	64	1.08	10.7	.11	.7	17
30	9.14	33.830	26.20	3.61	240	57	1.47	15.9	.08	.5	24
50	8.77	33.935	26.34	2.85	312	45	1.47	15.0	.00	.2	21

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 19	2203	30 APR 1975	.7	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	
30	5	2	30	4		1010.2	10.6	10.1	2	X	0	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	9.96		25.42	5.58	57	90	1.08	9.8	.03	.5	17
5	9.99	33.771	26.02	5.40	69	87	1.14	11.6	.09	.5	18
10	9.94	33.770	26.02	5.54	58	90	1.08	11.6	.06	.7	16
20	9.88	33.778	26.04	5.01	106	81	1.09	10.7	.04	.5	14
30	9.21	33.788	26.16	3.94	210	63	1.31	11.9	.00	.2	15
50	8.87	33.925	26.32	2.88	308	45	1.63	19.3	.00	.1	34
74	8.60	33.987	26.41	3.19	284	50	1.76	19.7	.00	.1	40
98	8.50	34.013	26.45	2.17	376	34	1.88	22.0	.00	.0	48

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 19	2202	30 APR 1975	2.5	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	
	21	4	2	30	2	1009.8	10.3	9.4	2	X	0	6

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	11.04	33.694	25.78	4.99	94	83	.38	6.0	.01	1.3	9
5	11.09	33.690	25.76	6.84	-71	113	.35	3.8	.02	.5	11
10	11.04	33.691	25.77	7.00	-85	116	.34	5.2	.03	.4	8
20	10.91	33.694	25.80	6.28	-19	104	.59	6.6	.02	.5	7
30	9.72	33.757	26.05	4.33	168	70	1.35	13.8	.11	1.4	19
49	9.15	33.853	26.22	3.38	260	54	1.55	14.4	.16	.7	19*

* indicates questionable data: Silicate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 19	2201	30 APR 1975	3.6	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	
	27	2	2	27	1	1009.8	10.6	9.4	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	33.667	25.49	7.85	-173	134	.02	.3	.00	.2	1
5	12.52	33.663	25.47	8.24	-212	141	.00	.1	.00	.0	0
10	12.28	33.661	25.52	8.48	-231	144	.84*	.3	.00	.4	0
20	10.60	33.721	25.87	5.28	73	87	1.45	9.7	.00	2.6	4
30	9.35	33.823	26.16	3.36	259	54	1.59	13.0	.08	1.1	14

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 19	1125	30 APR 1975	4.6	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	
	24	3	2	30	2	1009.8	10.8	10.0	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	12.66	33.623	25.41	6.75	-81	116	.18	1.4	.00	.3	9
5	12.36	33.638	25.48	6.67	-70	114	.20	1.2	.00	.5	6
10	12.16	33.644	25.53	6.30	-35	107	.31	2.1	.00	.7	1
20	10.18	33.757	25.97	4.16	178	68	1.22	11.8	.15	2.2	10

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 20	1154	17 MAY 1975	20.0	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	
21	0	X		6	0	1009.1	11.3	11.1	0	X	8	6

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE ug-atoms/liter	NITRATE	NITRITE	AMMONIA	SILICA
0	12.93*	33.776	25.48	7.93	-190	137	.36	.5	.01	.9	11
5	11.53	33.881	25.83	6.78	-72	114	.83	6.0	.18	1.4	10
10	10.51*	33.846	25.99	5.27	74	86	1.31	13.8	.24	1.0	18

* indicates questionable data: Paired thermometers read 12.77 at 0 m; 10.57 at 10 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 20	2205	17 MAY 1975	21.2	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	
	12	2	3	9	2	1009.5	11.7	11.1	0	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	12.53	33.802	25.58	7.62	-158	130	.28	1.8	.00	.2	6
5	12.44	33.804	25.60	8.31	-218	142	.30	.5	.00	.2	6
10	11.49	33.831	25.80	6.84	-76	114	.46	.6	.00	.2	4
20	9.73	33.877	26.14	3.84	212	62	1.93	20.2	.36	2.4	27

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 20	2204	17 MAY 1975	21.1	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	
	24	1	X	24	0	1009.8	11.0	11.0	45	X	8	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	10.82	33.859	25.94	7.07	-89	117	.72	6.0	.18	.8	13
5	10.71	33.863	25.96	6.94	-76	114	.79	7.8	.19	.1	12
10	9.95	33.852	26.09	4.94	111	80	1.63	17.5	.28	.7	25
20	9.37	33.814	26.15				1.83	21.9	.24	3.4	26
30	8.90	33.850	26.26	4.47	116	71	1.76	28.5*	.25	.7	28
50	8.56	33.948	26.39	2.74	325	43	2.53	29.4	.30	.0	36

* indicates questionable data: Nitrate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 20	2203	18 MAY 1975	.4	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
27	1	2		15	2	1009.8	11.1	10.6	45	X	8	3

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	10.25	33.765	25.97	4.78	122	78	1.33	16.0	.13	.4	22
5		33.770		4.92			1.42	15.8	.16	.6	21
10	9.95	33.781	26.03	4.84	120	78	1.68	29.1*	.28		23
20	9.75*	33.766	26.05	4.66	139	75	1.70	23.0	.19	.6	30
30	9.23	33.825	26.18	4.09	196	65	2.05	26.4	.33	1.0	33
50	9.07	33.892	26.26	3.49	251	55	2.10	28.0	.35	1.0	37
75	8.65	33.935	26.36	2.97	303	47	2.18	25.3	.20	.5	39
100	8.45	33.963	26.41	2.98	305	47	1.87	21.5	.09	1.7	37
148	8.27	34.021	26.49	2.22	375	35	2.22	26.6	.22	.6	35*
197	8.11	34.038	26.52	2.07	390	32	1.88	20.3	.21	1.2	32*
247	7.81	34.082	26.60	1.76	422	27	2.53	29.4	.34	.0	45
294	7.40	34.129	26.70	1.48	452	23	2.35	25.5	.05	.7	43
389	6.66	33.976*	26.68	3.37	294	51	1.95	33.3*	.16	.3	32*
485	6.27	34.223	26.93	.75	533	11	2.60	31.2	.02	.2	53
581	5.70	34.280	27.04	.40	572	6	3.09	37.4	.01	.2	78
772	4.49	34.368	27.25	.89	547	13	2.86	34.0	.00	.0	82

* indicates questionable data: Paired thermometer read 9.84
Salinity appears anomalously low
Nitrate appears anomalously high
Silicates appear anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 20	2202	18 MAY 1975	2.1	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	
	16	2	2	16	3	1009.8	9.9	10.0	45	X	8	3

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	10.42	33.782	25.95	5.47	58	89	1.28	21.9*	.15	1.0	17
5		33.796		4.12			1.35	14.0	.19	.9	21
10	10.35	33.814	25.99	4.37	157	71	1.34	14.1	.18	.9	18
20	10.02	33.816	26.05	5.08	97	82	1.52	.8*	.24	1.1	22
30	9.32	33.871	26.20	3.58	240	57	2.17	25.1	.44	1.6	36
50	8.93			3.19			1.90	21.0	.23	1.0	33

* indicates questionable data: Nitrate appears anomalously high at 0 m; low at 20 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 20	2201	18 MAY 1975	3.3	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	
	33	1	2	21	1	1009.8	9.4	10.0	0	X	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	12.06	33.834	25.69	7.55	-146	128	.66	3.7	.11	.1	29
5	11.64	33.835	25.77	8.07	-188	136	.53	1.9	.01	1.0	15
10	10.63	33.838	25.96	5.49	53	90	1.52	15.8	.23	1.0	25
20	9.48	33.904	26.20	4.06	195	65	1.74	18.5	.21	.7	26
30	9.06	33.937	26.30	3.42	257	54	2.12	25.3	.27	.7	34

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 20	1125	18 MAY 1975	4.1	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	
	30	1	X	15	0	1009.8	9.4	10.1	0	X	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	12.25	33.831	25.65	8.52	-235	145	.21	.1	.00	.0	0
5	12.10	33.827	25.68	8.01	-188	136	.36	.5	.00	.0	2
10	10.83	33.845	25.93	5.71	31	94	1.30	12.3	.18	.8	25
20	9.68	33.887	26.16	4.25	176	68	1.76	18.7	.23	1.3	33

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 21	2203	3 JUN 1975	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	
	27	4	3	27	2	1008.5	12.2	11.2	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											
5	12.34*	33.530	25.40	6.35	-41	108	.92	8.3	.14	.2	
9	12.30	33.531	25.41	6.30	-36	107	.78	5.2	.06	.3	
19	12.07	33.580	25.49	6.22	-27	105	.99	8.5	.12	.1	
28	10.31	33.659	25.87	4.87	113	79	1.24	9.7	.14	.2	
47	10.37	33.800	25.97	4.24	168	69	1.67	18.0	.19	.0	
70	9.67	33.768	26.07	4.24	177	68	1.50	14.7	.12	.4	
94	9.21*	33.865	26.16	4.08	224	94	1.94	22.5	.28	.0	

* indicates questionable data: Paired thermometers read 12.25 at 5 m; 9.27 at 94 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 21	2202	3 JUN 1975	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	
	27	4	3	27	2	1009.1	12.5	12.2	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	12.83	33.574	25.34	7.37	-138	127	.49	1.8	.03	.2	4
5	12.83	33.574	25.34	7.56	-155	130	.52	1.8	.02	1.1	0
10	11.98	33.644	25.56	6.42	-44	108	1.27	9.4	.05	.1	16
19	11.39	33.702	25.72	5.86	12	98	1.31	13.3	.09	.1	19
29	11.27	33.713	25.75	5.79	19	96	1.31	13.5	.10	.3	20
48	10.77	33.772	25.88	5.23	75	86	1.57	17.3	.13	2.2	22

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 21	2201	2 JUN 1975	22.4	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	
	29	4	3	27	2	1009.1	11.7	10.0	3	X	3	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	13.17	33.566	25.27	8.57	-249	148	.39	2.0	.00	.1	3
5	13.15	33.568	25.28	8.48	-240	147	.33	.2	.00	.9	1
10	13.17	33.567	25.27	8.36	-230	145	.39	.2	.00	1.0	1
20	12.74	33.581	25.37	7.32	-132	126	.62	3.9	.07	.0	9
30	11.13	33.702	25.76	4.98	93	83	1.30	11.4	.13	.4	14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 21	1125	2 JUN 1975	21.4	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	4	3	30	2		1009.1	12.6	12.2	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	12.71	33.563	25.36	6.49	-58	111	.89	9.2	.18	.3	10
5	12.72	33.560	25.35	5.27	-50	90	.87	8.5	.16	.0	17
10	12.71	33.560	25.36	6.54	-62	112	.90	8.4	.16	.0	12
20		33.583		6.95			.87	6.8	.19	.4	10

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 22	1154	16 JUN 1975	15.2	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	2	2	27	2	1011.9	13.4	12.2	2	X	0	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	14.55	33.567	24.99	7.96	-208	142	.38	2.6	.00	.3	0
5	14.41	33.568	25.02	7.93	-204	141	.34	1.9	.00	.3	0
10	13.19	33.576	25.27	6.89	-99	119	.99	5.8	.08	1.2	0

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 22	2205	16 JUN 1975	14.2	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	3	2	27	4	1009.8	14.7	13.6	2	X	0	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	13.84	33.560	25.13	7.60	-169	133	.58	2.1	.00	.4	17
5	13.83	33.559	25.13	7.70	-178	135	.54	1.6	.00	.3	8
10	13.74	33.563	25.15	7.61	-169	133	.55	2.0	.02	.4	7
20	12.59*	33.599	25.41	6.27	-37	107	1.20			2.4	0

* indicates questionable data: Paired thermometer read 12.53

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 22	2204	16 JUN 1975	12.5	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	
28	5	2	28	3		1012.2	13.3	12.8	1	8	4	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	14.73	33.567	24.95	8.49	-258	152	.14	1.1	.00	.3	3
5	14.73	33.572	24.95	8.44	-253	151	.19	1.3	.00	.3	3
10	14.00	33.562	25.10	8.07	-213	142	.38	1.8	.02	.7	7
20	12.35*	33.538	25.41	6.64	-67	113	.96	9.3	.11	.2	13
30	11.91*	33.563	25.51	6.57	-56	111	1.00				16
49	10.73	33.685	25.82	5.33	67	88	1.37	11.6	.22	1.2	20

* indicates questionable data: Paired thermometers read 12.28 at 20 m; 12.07 at 30 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 22	2203	16 JUN 1975	10.0	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	
30	3	2	30	3		1012.2	12.8	11.4	1	X	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	13.70	33.547	25.15	6.64	-82	116	.92	8.5	.10	.6	16
5	13.68	33.544	25.15	6.76	-92	118	.85	6.8	.07	.5	9
10	13.51	33.546	25.19	6.88	-101	120	.75	4.0	1.85	.4	10
19	12.74	33.523	25.32	7.03	-106	121	.70	6.6	.07	.4	2
29	11.71	33.561	25.55	6.35	-34	107	.98	20.1	.20	.4	12
48	11.26*	33.670	25.71	5.59	38	93	1.46	12.6	.25	1.9	15
72	10.10	33.790	26.01	4.46	152	72	1.80	17.4	.29	1.2	26
97	9.21	33.892	26.24	3.34	263	53	2.44	25.3	.50	1.3	34
145	8.32	34.009	26.47	2.87	316	45	2.57	27.4	.12	1.0	35
180	8.17*	34.052	26.53	2.33	366	36	2.66	28.6	.24	.3	50
232	7.60	34.081	26.63	2.10	394	32	2.47	27.1	.08	.6	44
283	7.30	34.098	26.69	1.95	412	30	2.73	27.9	.00	.6	46
380	6.40	34.131	26.84	1.32	480	20	3.27	34.1	.00	.3	59
478	6.14	34.250	26.96	.89	522	13	3.53	35.6	.00	.3	75
574	5.61	34.301	27.07	.42	572	6	3.71	36.9	.00	.0	85
767	4.86	34.374	27.22	.48	578	7	3.43	34.9	.00	.2	87

* indicates questionable data: Paired thermometers read 11.20 at 48 m; 7.96 at 180 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 22	2202	16 JUN 1975	8.1	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	3	3	27	2	1011.9	12.3	11.2	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	13.61	33.536	25.16	6.70	-86	117	.69	5.1	.03	1.0	10
5	13.62	33.523	25.15	6.68	-84	117	.81	6.1	.09	1.2	11
10	13.61	33.530	25.15	6.76	-91	118	.74	5.2	.06	.8	13
20	12.74	33.577	25.36	6.61	-69	113	1.01	7.2	.11	1.4	16
30	11.88	33.640	25.58	5.81	11	98	1.48	11.1	.20	3.4	23
49	10.62*	33.745	25.89	4.93	104	81	1.59	13.8	.22	1.5	24

* indicates questionable data: Paired thermometer read 10.56

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 22	2201	16 JUN 1975	7.2	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	
	27	3	2	27	1	1012.2	10.3	11.7	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	14.09	33.567	25.08	8.26	-231	146	.22	4.2*	.23	.2	7
5	14.20	33.564	25.06	8.14	-221	144	.21	.0	.00	.7	10
10	13.85*	33.567	25.13	7.87	-193	138	.35	1.4	.00	.9	7
20	13.41	33.578	25.23	7.36	-143	128	.48	1.2	.05	.4	17
30	12.79	33.589	25.36	6.57	-66	113	.94	6.2	.11	1.1	24

* indicates questionable data: Paired thermometer read 13.92
Nitrate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 23	1154	30 JUN 1975	8.7	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	1	2		13	1	1015.2	14.4	10.3	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	14.24	33.716	25.17	9.11	-308	161	.15	.4	.00	.0	1
5	10.13	33.792	26.01	4.90	112	80	2.10*	18.3	.21	.1	21
10	9.49	33.858	26.17	3.77	221	60	1.84	23.4	.24	1.1	32

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 23	2205	30 JUN 1975	10.0	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	
49	1	X		32	3	1015.2	12.8	11.7	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	14.10	33.695	25.18	9.06	-303	160	.13	.4	.00	.0	1
5	13.07	33.703	25.40	8.98	-285	155	.21	1.6	.00	.6	1
10	9.38	33.878	26.20	3.31	263	53	1.91	24.4	.31	.6	34
20	8.97	33.913	26.29	2.99	297	47	2.06	27.1	.21	.0	40

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 23	2204	30 JUN 1975	11.2	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	
	27	2	3	28	1	1015.2	11.4	10.6	2	X	0	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	10.45	33.847	26.00	5.48	56	90	1.35	17.1	.21	.2	24
5	10.41	33.843	26.00	5.49	56	90	1.34	16.7	.20	.0	25
10	10.35	33.850	26.02	5.43	62	89	1.34	16.7	.18	.3	25
20	9.76*	33.873	26.13	4.65	139	75	1.64	21.8	.17	.3	30
30	9.03	33.907	26.28	3.65	237	58	1.91	25.7	.19	.1	36
50	8.57	33.960	26.39	3.19	284	50	2.01	26.9	.12	.0	42

* indicates questionable data: Paired thermometer read 9.69

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 23	2203	1 JUL 1975	1.0	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	
	30	2	2	30	1	1015.2	11.7	10.0	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				
150	8.22	34.035	26.50	2.70	332	42	2.16	29.7	.13	.0	43
200	7.98	34.055	26.56	2.31	370	36	2.29	29.9	.25	.4	46
250	7.55	34.092	26.65	1.93	410	30	2.37	33.0	.02	.0	52
299	7.20	34.134	26.73	1.50	453	23	2.54	33.9	.00	.0	60
399	6.64	34.179	26.84	1.52	459	23	2.91	35.6	.00	.0	69
495	6.13	34.246	26.96	.81	529	12	2.94	37.7	.00	.0	81
591	5.81	34.283	27.03	.66	547	10	3.01	37.1	.00	.2	88
787	5.02	34.354	27.18	.07	612	1	3.06	40.8	.00	.0	103

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 24	1154	22 JUL 1975	6.0	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	
49	0	X		99	0	1009.1	11.6	11.6	45	X	9	3

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	14.04	33.690	25.19	8.62	-263	152	.09	1.4	.00	.7	1
5	13.62	33.706	25.29	8.24	-224	144	.15	.5	.00	.4	1
10	13.60	33.714	25.30	8.38	-237	147	.18	.5	.00	2.3	1
20	13.60	33.714	25.30	8.38	-237	147	.18	.5	.00	2.3	1

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 24	2205	22 JUL 1975	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	
49	0	X		99	0	1008.8	12.2	11.7	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	13.70	33.712	25.28	9.11	-303	160	.12	2.2	.00	2.0	3
5	13.53	33.715	25.31	9.14	-304	160	.10	.9	.00	2.0	1
10	12.38	33.717	25.54	8.93	-273	152	.19	1.5	.00	.9	1
20	10.64	33.762	25.90	4.96	101	81	1.35	15.5	.22	3.9	19

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 24	2204	22 JUL 1975	3.5	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	X	99	0	1009.1	11.7	11.7	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	12.16	33.679	25.55	7.32	-126	124	.56	8.1	.18	1.0	3
5	11.65	33.733	25.69	7.00	-92	117	.52	7.0	.18	2.0	8
10	10.89*	33.743	25.84	5.77	26	95	.94	18.8*	.18	1.1	13
20	9.94	33.776	26.02	4.63	139	75	1.60	35.1*	.23	4.4	22
30	9.59	33.803	26.11	4.07	193	65	1.62	31.8*	.26	1.4	25
50	9.35	33.886	26.21	3.37	258	54	1.84	32.6	.24	3.4	34

* indicates questionable data: Paired thermometer read 10.82
Nitrates appear anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 24	2203	22 JUL 1975	1.1	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	
27	1	X		99	0	1009.1	11.7	11.6	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	11.70	33.693	25.65	7.28	-118	122	.46	7.4	.16	.5	9
5	11.65	33.690	25.66	7.10	-101	119	.42	10.3*	.15	.3	18
10	11.65	33.690	25.76	5.45	-76	119	.40	7.1	.15	.5	4
20	11.49	33.674	25.68	5.28	63	88	.66	7.7	.18	1.0	7
30	10.58	33.670	25.84	5.13	87	84	1.27	14.2	.22	1.4	17
50	9.68	33.862	26.14	3.47	245	56	1.60	32.8	.22	.8	28
75	9.37	33.914	26.23	3.53	244	56	1.67	47.8*	.25	1.0	29
100	9.10	33.956	26.31	2.99	295	47	1.89	41.4*	.23	.2	33
146	8.79	33.993	26.38	2.40	352	38	1.56*	30.4	.20		
194	8.58	34.026	26.44	2.24	369	35	2.20	29.1	.02	.3	26*
241	8.25	34.068	26.53	1.89	404	29	2.20	32.7	.03	.0	43
289	7.72	34.102	26.63	1.78	421	27	2.45	23.1*	.02	.2	52
380	6.88	34.151	26.79	1.31	474	20	2.59		.02	.3	54
471	6.36	34.209	26.90	.49	555	7	2.81	44.4*	.00	.1	67
562	5.68	34.264	27.03	.46	567	7	3.07	39.6	.00	.3	72
746	4.57	34.382	27.26	.32	596	5	3.03	53.0	.02	1.0	96

* indicates questionable data: Phosphate appears anomalously low
Nitrates appear anomalously high at 5, 75, 100, 471 m; low at 289 m
Silicate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 24	2202	21 JUL 1975	23.5	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	
24	1	X		27	0	1009.1	12.2	12.2	44	X	9	3

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	12.43	33.758	25.56	8.93	-273	152	.13	.8	.01	.2	1
5	12.39	33.757	25.57	9.24	-301	158	.10	.6	.00	.3	1
10	12.18	33.758	25.61	8.54	-236	145	1.05*	.8	.02	.9	1
20	10.77	33.770	25.88	5.70	33	94	1.18	22.6	.20	1.3	17
30	10.52	33.813	25.96	4.99	99	82	1.54	16.9	.25		25
50	10.01	33.852	26.08	4.34	164	70	1.58	36.8*	.29	.9	25

* indicates questionable data: Phosphate appears anomalously high
Nitrate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 24	2201	21 JUL 1975	22.4	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	
	27	1	X	21	0	1009.1	13.3	12.8	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	12.90	33.750	25.47	7.81	-178	134	.38	3.7	.15	.4	6
5	12.86	33.750	25.47	7.99	-194	138	.61	3.2	.10	.5	6
10	12.84	33.750	25.48	7.63	-162	131	.42	3.5	.10	.6	7
20	10.87	33.823	25.90	5.10	85	84	1.42	14.0	.11	2.7	17
30	10.27	33.836	26.02	3.72	216	61	1.66	20.7	.23	1.6	29

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 24	1125	21 JUL 1975	21.4	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	X		15	2	1009.5	13.3	13.3	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	13.38	33.745	25.37	9.53	-337	166	.03	.3	.00	1.1	1
5	13.32	33.744	25.38	9.65	-347	168	.05	.8	.00	.5	1
10	11.55	33.733	25.71	8.04	-184	135	.32	2.0	.04	.7	1
20	10.87	33.800	25.89	5.99	6	99	1.16	15.3	.10	1.2	18

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 25	1154	11 AUG 1975	20.6	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	
49	1	X		99	0	1009.1	13.1	12.6	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	14.57	33.822	25.18	7.90	-204	141	.20	1.3	.00	1.2	0
5	13.04	33.824	25.50	7.22	-128	125	.55	2.3	.03	1.8	
10	11.43	33.841	25.82	5.09	80	85	1.12	11.8	.32	1.9	92*

* indicates questionable data: Silicate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 25	2205	11 AUG 1975	21.7	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	
	49	1	X	99	0	1009.1	13.3	12.2	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	15.48	33.795	24.96	7.88	-211	143	.50	1.7	.00	1.5	125*
5	13.13	33.814	25.47	3.74	181	65	1.20	4.6*	.22	2.6	6
10	12.05	33.818	25.68	3.58	207	61	1.86	13.3*	.47	3.5	22
20	11.12	33.833	25.87	4.23	160	70	1.82	18.0	.69	3.1	25

* indicates questionable data: Nitrates appear anomalously low
Silicate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 25	2204	11 AUG 1975	22.7	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	X		99	0	1009.1	13.3	12.2	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	13.15	33.788	25.45	7.57	-160	131	.56	4.1	.23	2.3	6
5	12.44	33.760	25.56	6.21	-31	106	.97	11.6	.41	.9	12
10	12.32	33.761	25.59	6.16	-25	105	.95	10.9	.41	.1	12
20	11.43	33.762	25.76	5.28	63	88	1.25	14.9	.57	1.3	17
30	10.77	33.808	25.91	4.34	154	72	1.53	18.7	.52	1.4	21
50	9.98	33.881	26.10	3.23	263	52	1.80	29.7	.47	.0	29

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 25	2203	12 AUG 1975	.3	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	X		99	0	1009.1	12.5	11.7	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	13.05	33.803	25.48	7.45	-148	129	.45	4.1	.05	1.7	4
5	13.03	33.804	25.48	7.60	-161	131	.47	3.4	.09	1.8	2
10	12.88	33.814	25.52	6.83	-91	118	.71	6.3	.22	2.2	4
20	12.35	33.814	25.62	6.09	-19	104	.96	15.7	.37	2.5	9
30	11.12	33.820	25.86	4.56	131	76	1.23	12.0	.50	2.1	18
50	9.65	33.792	26.09	3.73	223	60	1.42	18.6	.03	.8	19
75	9.40	33.898	26.21	3.00	291	48	1.90	27.5	.01	.6	31
100	9.13	33.946	26.29	2.42	346	38	1.63	20.4	.03	.6	25*
148	8.85	34.032	26.41	1.89	396	30	2.07	30.1	.03	1.5	37
200	8.56	34.103	26.51	1.87	402	29	2.31	33.1	.05	1.8	42
247	8.10	34.144	26.61	1.65	427	26	2.19	31.2	.02	1.2	43
296	7.65	34.179	26.70	1.36	459	21	2.01	34.0	.01	1.2	37*
395	7.00	34.200	26.82	1.16	486	18	2.64	38.1	.00	1.0	62
488	6.24	34.263	26.96	.70	538	10	2.88	46.7	.02	.8	78
582	5.55	34.330	27.10	.52	564	8	2.64	35.0	.01	1.5	75
786	4.84	34.410	27.25	.44	581	6	2.96	39.9	.03	.5	97

* indicates questionable data: Silicates appear anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 25	2202	12 AUG 1975	2.4	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	2	X		21	1	1009.1	14.2	13.3	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	13.21	33.849	25.48	6.71	-84	117	.54	4.1	.09	3.8	3
5	13.10	33.845	25.50	6.66	-78	115	.49	4.7	.07	.9	2
10	13.05	33.862	25.52	6.85	-95	119	.61	3.6	.04	.9	2
20	10.48	33.896	26.03	3.54	229	58	1.38	14.6	.22	1.9	29
30	10.00	33.904	26.12	3.47	241	56	1.79	24.7	.18	.4	28
50	9.60	33.960	26.23	2.79	307	45	1.64	19.8	.04	1.4	26

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 25	2201	12 AUG 1975	3.4	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		99	0	1009.1	12.2	11.7	2	8	8	7

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	14.15	33.854	25.29	7.44	-159	132	.35	1.1	.00	1.6	2
5	11.85	33.885	25.77	4.99	84	84	1.16	11.2	.18	1.1	12
10	11.75	33.897	25.80	2.82	278	47	1.39	12.8	.26	.8	16
20	10.13	33.916	26.11	3.45	241	56	1.59	18.6	.20	.8	22
30	10.00*	33.921	26.13	3.28	258	53	1.83	25.8	.24	.5	29

* indicates questionable data: Paired thermometer read 9.72

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 25	1125	12 AUG 1975	4.1	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	
49	1	X		99	0	1009.1	13.3	12.3	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	14.09	33.853	25.30	7.39	-154	131	.36	1.2	.00	.6	16
5	14.08	33.854	25.31	7.35	-150	130	.32	.6	.00	1.2	1
10	14.06	33.854	25.31	5.06	53	89	.31	.3	.00	.0	1
20	12.08	33.864	25.71	3.82	185	65	.99	10.1	.37	1.3	9

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 26	1154	25 AUG 1975	7.1	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	1	2	0	0	1010.8	13.4	13.3	45	X	8	4

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	33.689	25.04	7.75	-192	139	.16	1.1	.00	2.4	0
5	14.14	33.679	25.16	6.60	-83	117	.22	1.2	.02	.2	3
10	13.06	33.722	25.41	5.95	-14	103	.70	5.9	.21	.7	16

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 26	2205	25 AUG 1975	8.2	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	
21	1	2		0	0	1010.8	13.3	12.8	45	X	8	4

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	15.61	33.674	24.84	8.40	-259	153	.09	.7	.00	.4	0
5	14.95	33.703	25.00	8.21	-235	148	.08	.6	.01	.2	4
10	13.27	33.733	25.38	6.72	-85	117	.39	3.1	.02	.2	2
20	12.37*	33.737	25.56	4.95	82	84	1.00	6.7	.18	1.2	12

* indicates questionable data: Paired thermometer read 12.31

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 26	2204	25 AUG 1975	9.2	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	
27	2	2		0	0	1011.2	14.0	13.3	2	X	8	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	13.70	33.708	25.27	6.71	-89	118	.22	.9	.00	.2	3
5	13.65	33.710	25.28	6.83	-99	120	.37	1.3	.07	.6	6
10	13.60	33.709	25.29	6.72	-88	118	.39	3.0	.13	.2	5
20	13.28	33.709	25.36	6.61	-75	115	.56	5.0	.18	.3	12
30	12.29*	33.714	25.56	5.41	42	92	.98	10.6	.41	.6	12
50	11.45	33.780	25.77	4.55	128	76	1.09	11.9	.41	1.2	17

* indicates questionable data: Paired thermometer read 12.23

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 26	2203	25 AUG 1975	10.5	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	
25	3	2		0	0	1011.9	15.0	10.7	0	X	8	4

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	14.27	33.730	25.17	6.53	-78	116	.66	6.9	.05	.7	26
5	14.06	33.724	25.21	6.38	-63	113	.49	4.2	.04	.5	8
10	13.96	33.717	25.23	6.56	-78	116	.61	6.6	.08	.2	11
20	12.63	33.705	25.48	5.79	4	99	.78	8.4	.23	.5	12
30	12.10	33.752	25.62	5.14	68	87	.95	9.6	.26	1.6	12
50	10.88	33.745	25.84	4.44	144	73	.74	12.0	.25	.1	15
74	9.64	33.843	26.13	3.35	257	54	1.30	17.6	.04	.6	23
98	9.20	33.929	26.27	2.78	313	44	1.56	19.6	.03	.9	26
145	8.75	34.026	26.42	1.97	390	31	1.68	16.7	.00	.1	21*
196	8.36	34.083	26.52	1.70	419	27	1.80	20.4	.00	.2	31
247	7.88	34.126	26.63	1.55	439	24	1.99	19.0	.00	.2	43
297	7.57	34.168	26.71	1.34	462	21	1.99	23.7	.00	2.8	42
396	6.71	34.185	26.84	1.01	503	15	2.25	23.7	.02	.2	70
496	6.15	34.207	26.93	.86	525	13	2.30	25.6	.00	.0	57
597	5.50	34.291	27.08	.48	5	7	2.68	32.4	.03	.1	81
792	4.79	34.369	27.22	.49	5	7	2.64	30.5	.02	.4	88

* indicates questionable data: Silicate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 26	2202	25 AUG 1975	12.5	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	
26	3	3	18	1		1010.8	13.3	11.2	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	14.64	33.712	25.08	8.02	-215	143	.16	1.5	.00	.3	7
5	14.48	33.704	25.11	8.03	-214	143	.21	1.5	.04	.8	15
10	14.30*	33.703	25.14	8.16	-224	145	.09	.8	.00	.2	0
20	12.85*	33.739	25.47	5.87	-4	101	.79	6.9	.20	.4	8
30	11.73	33.719	25.67	5.26	61	88	.95	10.9	.48	.6	12
50	10.49	33.769	25.93	4.07	182	67	1.24	14.2	.04	.2	16

* indicates questionable data: Paired thermometers read 13.96 at 10 m; 12.78 at 20 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 26	2201	25 AUG 1975	13.4	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	
	27	2	X	27	2	1010.8	15.6	13.9	2	X	6	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	15.61	33.684	24.84	8.91	-304	162	.02	1.0	.00	.1	1
5	14.90	33.693	25.01	8.94	-300	160	.03	.9	.00	.7	0
10	12.62	33.731	25.51	5.42	37	93	.74	8.3	.26	.4	10
20	11.41*	33.768	25.76	4.50	133	75	1.15	13.2	.45	1.3	22
30	10.83	33.798	25.89	3.98	186	66	1.28	16.2	.42	.6	22

* indicates questionable data: Paired thermometer read 11.27

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 26	1121	25 AUG 1975	14.0	36° 37.7'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	24	3	X	24	2	1010.8	16.1	15.1	2	X	6	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	14.89	33.697	25.01	8.62	-271	155	.07	1.1	.00	.1	2
5	14.82	33.693	25.02	7.29	-152	131	.08	.5	.01	.1	2
10	12.61*	33.746	25.53				.90	9.5	.29	.5	15

* indicates questionable data: Paired thermometer read 12.55

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 27	1154	8 SEP 1975	7.4	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	
5	22	1	2	9	1	1007.5	11.0	10.6	45	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	14.13	33.744	25.21	6.36	-62	112	.31	2.3	.14	.6	8
5	13.59	33.753	25.33	6.07	-30	106	.49	5.2	.21	.5	12
10	13.10	33.757	25.43	5.77	1	100	.65	8.0	.30	.6	14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 27	2205	8 SEP 1975	8.9	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	
6	24	2	2	99	0	1008.5	14.2	13.4	45	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	15.06	33.739	25.01	7.14	-141	129	.02	4.0	.03	.7	3
5	12.99	33.730	25.43	6.88	-96	119	.31	2.5	.14	.9	4
10	11.87	33.785	25.69	5.47	41	92	.83		.44	.6	10
20	11.10	33.769	25.82	4.14	169	69	1.22	13.0	.69	1.5	15

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 27	2204	8 SEP 1975	9.7	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	
7	26	2	2	24	3	1008.5	13.8	13.3	1	X	8	6

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	12.85	33.715	25.45	6.31	-44	109	.40	5.2	.31	.9	9
5	12.83	33.715	25.45	6.29	-42	108	.43	5.5	.24	.8	9
10	12.56	33.726	25.51	6.00	-13	103	.52	4.4	.24	.4	10
20	11.15	33.783	25.82	4.64	123	77	1.17	15.2	.28	.6	21
30	10.66	33.800	25.92	4.34	156	71	1.37	17.5	.28	.4	25
50	9.59	33.873	26.16	2.82	304	45	1.39	18.5	.11	.7	26

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 27	2203	8 SEP 1975	10.8	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	
9	23	3	3	16	1	1009.5	14.7	13.9	1	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	13.03	33.699	25.40	5.54	22	96	.35	8.7	.21	.8	14
5	12.80	33.698	25.45	6.34	-46	109	.49	6.7	.29	.4	10
10	12.68	33.698	25.47	5.73	9	98	.52	7.9	.27	.3	10
20	12.37	33.729	25.55	5.75	10	98	.59	7.5	.48	.4	16
30	11.28	33.725	25.75	4.86	102	81	1.10	15.4	.34	.0	18
50	10.34*	33.779	25.96	3.75	212	61	1.45	21.6	.08	.0	25
78	9.47	33.877	26.18	3.13	278	50	1.34	17.3	.03	.5	25
102	9.10	33.925	26.28	2.82	310	45	1.33	17.9	.09	.3	24
145	8.80	34.000	26.39	2.29	361	36	2.07	27.3	.03	.8	39
196	8.55	34.045	26.46	1.94	396	30	1.81	24.3	.03	.5	37
246	8.06	34.094	26.58	1.61	432	25	2.25	30.1	.02	.6	51
297	7.87	34.115	26.62	1.50	444	23	2.25	31.9	.02	.8	71*
397	6.71	34.185	26.84	1.00	504	15	2.00	26.6	.05	1.1	49
496	6.05	34.234	26.96	.73	538	11	2.24	26.3	.06	.7	65
596	5.42	34.293	27.09	.57	561	8	2.24	25.5	.03	.7	66
794	4.89	34.352	27.20	.54	572	8	3.02	38.1	.09	.2	106*

* indicates questionable data: Paired thermometer read 10.28
Silicates appear anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 27	2202	8 SEP 1975	12.7	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	
7	25	1	3	26	0	1009.1	16.1	14.4	1	8	6	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	13.37	33.680	25.32	5.10	58	89	.12	2.1	.14	.6	3
5	12.86	33.710	25.44	6.47	-53	111	.30	4.7	.20	.6	9
10	12.04	33.706	25.60	5.17	56	87	.66	8.8	.30	.8	9
20	10.86	33.745	25.84	4.17	169	69	1.02	14.9	.13	.3	15
30	10.68	33.768	25.89	3.87	198	64	1.38	19.7	.10	.3	23
50	10.13*	33.815	26.03	3.45	242	56	1.38	18.5	.09	.5	23

* indicates questionable data: Paired thermometer read 10.07

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 27	2201	8 SEP 1975	13.7	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	
7	32	1	2	28	1	1008.5	16.7	15.0	1	8	5	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	13.50	33.737	25.34	7.33	-142	128	.00	1.1	.01	.6	1
5	13.30	33.722	25.36	5.64	10	98	.13	.4	.02	.6	2
10	11.23	33.798	25.82	3.18	253	53	1.25	11.5	.41	1.1	20
20	10.70	33.813	25.93	3.66	216	60	1.19	10.5	1.36	1.0	17
30	10.31	33.831	26.01	3.71	216	61	1.60	20.2	.30	.4	28

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 27	1121	8 SEP 1975	14.1	36° 37.7'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
7	27	1	X	26	1	1007.8	15.0	14.4	1	8	7	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	14.68	33.698	25.06	7.36	-157	132	.11	1.0	.02	1.2	2
5	14.10	33.736	25.21	7.02	-121	124	.00	.0	.00	.7	0
10	12.24	33.773	25.61	5.81	6	99	.75	7.8	.22	1.0	11

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 28	1154	22 SEP 1975	7.8	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	
25	1	7		31	1	1014.2	12.5	12.2	45	X	8	4

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	13.79	33.857	25.37	6.45	-67	113	.29	1.5	.09	1.6	9
5	13.36	33.876	25.47	6.94	-106	121	.45	2.4	.13	1.5	2
10	13.23	33.881	25.50	6.51	-66	113	.46	2.8	.28	.9	2

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 28	2205	22 SEP 1975	8.7	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	X		49	0	1014.6	13.3	12.7	44	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	15.20	33.865	25.07	6.12	-52	111	.42	1.7	.08	.3	9
5	14.43	33.881	25.25	6.36	-65	113	.48	2.0	.10	.5	9
10	14.06	33.881	25.33	6.60	-83	117	.41	1.4	.06	1.0	5
20	11.30	33.912	25.90	4.25	156	71	1.23	6.8*	.29	.6	18

* indicates questionable data: Nitrate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 28	2204	22 SEP 1975	9.9	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
	27	1	3	49	0	1014.2	12.9	12.2	44	7	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	12.36	33.857	25.65	5.83	3	99	.72	7.2	.17	.6	10
5	11.66*	33.816	25.75	5.46	44	92	.84	8.9	.19	.1	12
10	11.59	33.807	25.76	5.04	82	85	.93	11.7	.14	.6	16
20	11.08	33.910	25.93	4.53	133	75	1.21	16.5	.39	.6	
30	10.54	33.929	26.04	3.93	193	64	1.21	16.6	.21	.6	23
50	10.22	33.959	26.12	3.45	240	56	1.44	19.3	.08	.3	28

* indicates questionable data: Paired thermometer read 11.60

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 28	2203	22 SEP 1975	10.5	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	
26	2	3		28	3	1015.2	13.3	12.7	1	X	0	7

DEPTH m	TEMP °C	SALINITY ppt	SIGMA T	OXYGEN ml/l	AOU ug-at/l	SAT %	PHOSPHATE ug-atoms/liter	NITRATE ug-atoms/liter	NITRITE ug-atoms/liter	AMMONIA ug-atoms/liter	SILICA ug-atoms/liter
0	11.95	33.814	25.70	5.25	59	89	.90	63.1*	.31	.6	37
5	11.82	33.814	25.72	5.21	65	88	.81	11.9	.15	.2	17
10	11.52	33.814	25.78	5.09	79	85	1.06	13.6	.08	.6	18
19	10.90	33.895	25.95				1.00		.47	.0	22
29	10.57	33.908	26.02	3.90	196	64	.70*	14.0	.17	.2	21
48	10.17	33.959	26.13	3.55	232	58	1.30	20.8	.07	.5	27
72	9.65	33.974	26.23				1.39	20.1	.06	1.0	29
97	9.47	34.031	26.31	2.93	295	47	1.40	17.0	.05	.0	25
142	8.83	34.156	26.51	2.40	351	38	1.84		.11	.0	39
190	8.43*	34.215	26.61	1.87	403	29	1.93	27.6	.16	2.7	46
240	7.94	34.259	26.72	1.56	437	24	2.37	33.0	.00	.0	51
288	7.38	34.313	26.85	1.20	477	18	2.32	32.8	.03	.3	61
385	6.63	34.349	26.98	1.10	496	17	2.16	27.5	.03	.3	56
484	6.20	34.380	27.06	.72	536	11	2.82	36.8	.02	.9	78
582	5.67	34.424	27.16	.47	566	7	2.73	38.2	.03	.7	90
774	4.74	34.522	27.35	.42	584	66	2.96	40.5	.31	.7	106

* indicates questionable data: Paired thermometer read 8.36
Phosphate appears anomalously low
Nitrate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 28	2202	22 SEP 1975	12.7	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	
	28	2	2	28	3	1014.6	13.4	12.8	3	8	6	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	13.37	33.896	25.48				.13	.0	.03	.6	3
5	12.75*	33.888	25.60	6.74	-82	116	.31	1.1	.18	1.4	4
10	11.93	33.888	25.76	5.24	60	89	.77	9.2	.14	.6	12
20	11.28	33.915	25.90	4.60	125	77	.91	11.1	.36	.3	16
30	10.63	33.919	26.02	3.78	206	62	1.20	15.9	.13	.1	
49	10.22	33.954	26.12	3.57	229	58	1.48	17.7	.05	.5	24

* indicates questionable data: Paired thermometer read 12.62

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 28	2201	22 SEP 1975	13.6	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	29	2	1014.9	14.1	13.3	1	8	6	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	14.78	33.880	25.18	6.59	-89	118	.16	.0	.02	.5	5
5	13.34	33.883	25.48	5.69	5	99	.32	1.6	.10	.2	12
10	11.94	33.887	25.76	5.42	44	92	.88	10.1	.32	.5	14
20	10.87	33.912	25.97	4.02	181	66	1.16	9.8	.28	.4	22
30	10.53	33.929	26.05	3.60	223	59	1.40	18.7	.36	.1	31

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 28	1121	22 SEP 1975	13.9	36° 37.7'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	29	2	2	28	2	1014.6	14.1	11.1	2	7	6	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	14.30	33.876	25.28	6.62	-87	118	.21	2.0	.03	.5	3
5	14.23	33.879	25.29				.42	1.6	.08	1.3	2
10	13.22	33.879	25.50	5.68	7	99	.35	1.6	.08	5.2	10

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 29	1154	6 OCT 1975	7.6	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	
10	4	3	2	49	0	1007.8	16.1	14.2	44	7	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	13.75	33.631	25.20	6.56	-75	115	.71	4.2	.21	1.9	4
5	13.69	33.632	25.22	6.01	-26	105	.47	4.4	.19	2.2	3
10	13.47	33.632	25.26	6.69	-84	117	.42	4.6	.20	2.3	3

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 29	2205	6 OCT 1975	8.5	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	
	6	4	2	49	0	1008.1	14.4	13.3	44	7	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	13.89	33.656	25.19	6.62	-82	116	.34	3.2	.18	3.4	5
5	13.28	33.656	25.32	6.70	-83	116	.27	4.2	.16	2.1	3
10	12.96	33.656	25.38				.35	5.1	.17	1.5	4
20	12.28	33.668	25.52	5.79	8	98	.87	7.1	.27	2.0	10

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 29	2204	6 OCT 1975	9.5	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	
	5	4	2	49	0	1008.5	14.2	13.3	44	7	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	12.78	33.621	25.39	5.89	-5	101	.64	7.4	.29	.9	7
5	12.72	33.625	25.40	5.72	10	98	.64	7.8	.25	.6	7
10	12.00	33.639	25.55	5.35	51	90	.87	10.3	.33	.8	10
20	11.49	33.646	25.65	4.96	91	83	.97	11.6	.30	.9	12
30	10.91	33.680	25.79	4.51	138	74	1.30	15.6	.37	1.1	17
50	10.71*	33.732	25.86	4.22	166	69	1.35	16.5	.38	1.9	20

* indicates questionable data: Paired thermometer read 10.65

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 29	2203	6 OCT 1975	10.5	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	
9	6	3		20	0	1009.5	14.4	13.9	44	7	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	13.49	33.613	25.24	5.82	-7	101	.57	7.4	.19	.9	9
5	13.26			6.15							
10	13.06	33.611	25.33	4.63	103	80	.62	7.5	.21	.9	6
20	12.50	33.622	25.45	5.52	30	94	.59	6.5	.18	1.1	5
30	11.82	33.664	25.61	4.85	97	82	.83	9.1	.24	.9	10
50	10.91*	33.696	25.80	4.25	161	70	1.36	18.1	.38	1.5	19
75	10.11*	33.775	26.00	3.70	220	60	1.31	14.5	.19	.9	20
99	9.87	33.827	26.08	3.26	262	53	1.71	21.3	.19	.5	27
146	9.44	33.893	26.20	2.85	304	46	1.75	22.5	.00	1.0	29
195	8.59	34.017	25.65	1.97	397	31	2.29	29.4	.00	2.1	43
244	8.10	34.081	26.56	1.67	426	26	2.18	27.8	.00	.2	43
293	7.67	34.131	26.66	1.33	426	20	2.25	29.3	.00	.8	46
391	6.65	34.199	26.86	.86	518	13	2.78	35.5	.00	.9	69
491	5.84	34.256	27.01	.45	566	7	2.74	32.9	.00	.0	75
592	5.25	34.307	27.12	.42	577	6	2.90	34.4	.00	.6	88
771	4.36	34.399	27.29	.41	592	6	3.20	41.7	.00	.8	115

* indicates questionable data: Paired thermometers read 10.84 at 50 m; 10.19 at 75 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 29	2202	6 OCT 1975	12.3	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	
12	5	2	27	0		1008.8	15.3	14.4	44	4	4	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	13.64	33.638	25.23	6.09	-32	107	.61	6.3	.24	.6	6
5	12.25	33.628	25.50	4.89	89	83	.72	7.2	.19	1.4	7
10	11.91	33.639	25.57	5.18	67	87	1.01	11.0	.31	.5	11
20	11.60	33.652	25.64	4.81	103	81	1.08	12.9	.35	.9	13
30	11.19	33.672	25.73	4.53	133	75	1.23	14.6	.36	.3	16
50	11.13*	33.664	25.73	4.52	135	75	1.00	11.5	.24	.8	12

* indicates questionable data: Paired thermometer read 11.07

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 29	2201	6 OCT 1975	13.2	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	
	9	5	2	22	0	1009.1	17.8	15.0	1	6	7	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	14.71	33.648	25.01	6.46	-76	115	.51	42.0	.17	.6	4
5	14.23	33.649	25.12	6.54	-79	116	.43	3.5	.15	1.4	2
10	12.79	33.640	25.40	6.19	-32	106	.60	5.2	.17	1.3	6
20	11.54	33.647	25.65	5.46	46	91	.80	7.5	.18	2.1	8
30	11.29	33.659	25.70	5.00	90	83	1.13	13.6	.31	.8	14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 29	1121	6 OCT 1975	13.6	36° 37.2'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
	9	5	2	20	0	1008.1	17.2	15.3	1	6	7	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	14.63	33.643	25.03	6.31	-62	113	.48	4.2	.17	.6	4
5	14.46	33.643	25.06	6.44	-72	115	.46	3.9	.16	.6	3
10	14.26	33.643	25.11	6.58	-83	117	.46	3.4	.16	.7	3

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
NL 30	2203	20 OCT 1975	10.7	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	4	4		18	4	1012.5	14.7	13.9	41	7	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	13.48	33.593	25.23	6.23	-43	109	.73	5.3	.14	.1	7
5	13.41	33.599	25.25	6.30	-49	110	.77	5.4	.20	.3	6
10											
20	12.43										
30	11.93	33.642	25.57	4.81	100	81	1.37	11.2	.80	.8	11
49	10.80	33.693	25.82	4.22	165	70	1.22	14.4	.14	.2	15
73	10.20	33.752	25.97	3.43	243	56	1.37	14.5	.00	.1	14
97	9.70	33.847	26.12	3.06	282	49	2.00	26.3	.00	.6	26
149	9.15	33.942	26.29	2.70	320	43	2.13	25.4	.00	.1	31
192	8.57	34.042	26.46	2.39	355	38	2.34	31.3	.00	.0	40
236	8.13	34.084	26.56	1.58	433	25	2.59	30.8	.00	.0	47
279	7.56	34.163	26.70	1.19	476	18	2.38	29.4	.00	.1	43
378	6.65	34.217	26.87	.78	525	12	3.01	38.2	.00	.0	70
477	5.99	34.263	26.99	.57	553	8	3.15	39.8	.00	1.4*	81
574	5.30	34.323	27.13	.51	568	7	3.29	33.0*	.00	.2	95
768	4.63	34.393	27.26	.42	586	6	2.80	35.8	.00	.0	84

* indicates questionable data: Nitrate appears anomalously low
Ammonia appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 30	2202	20 OCT 1975	9.4	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	
10	27	2	2	12	0	1011.5	13.9	13.4	41	X	8	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	13.05	33.566	25.29	6.23	-38	108	.85	4.8	.20	.1	4
5	12.92	33.566	25.32	6.19	-33	107	.81	6.3	.32	1.9	5
10	12.59*	33.544	25.37	5.71	12	98	.85	5.2	.23	.5	4
20	12.28	33.601	25.47	5.38	45	91	1.10	10.1	.46	.2	9
30	12.14	33.600	25.50	5.21	62	88	1.07	9.2	.40	.1	9
49	11.22	33.657	25.71	4.41	143	73	1.37	15.1	.57	.0	14

* indicates questionable data: Paired thermometer read 12.52

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 30	2201	20 OCT 1975	8.5	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	
5	30	3	2	99	0	1012.2	14.4	12.9	2	X	0	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	13.77	33.547	25.13	6.09	-33	107	1.31*	5.0	.26	1.5	5
5	13.24	33.563	25.25	5.97	-17	104	1.06	6.6	.30	.3	6
10	12.57*	33.589	25.41	5.50	31	94	1.15	10.4	.48	.1	8
20	11.70	33.626	25.60	4.54	126	76	1.36	12.6	.72	.3	11
30	11.21	33.651	25.71	4.42	143	73	1.16	9.2	.39	.3	7

* indicates questionable data: Paired thermometer read 12.50
Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 30	1121	20 OCT 1975	8.0	36° 37.7'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
5	32	4	2	99	0	1011.2	15.0	13.3	2	X	0	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	13.72*	33.606	25.19	6.30	-52	110	1.92*	2.3	.09	1.4	1
5	13.50	33.609	25.24	6.05	-27	106	1.80*	3.0	.10	1.3	1
10	12.71	33.596	25.38	5.48	31	94	1.60*	8.7	.41	1.3	7

* indicates questionable data: Paired thermometer read 13.79
Phosphates appear anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 31	1154	3 NOV 1975	8.7	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	
12	99	1	X	31	4	1020.5	15.4	13.4	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	12.90	33.568	25.33	7.26	-129	125	.17	.6	.03	.3	1
5	12.90	33.567	25.32	6.36	-48	110	.14	1.0	.01	.0	1
10	12.88	33.565	25.33	7.14	-118	123	.16	.1	.01	.3	0

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 31	2205	3 NOV 1975	9.8	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	
10	99	1	X	21	2	1020.4	13.9	12.8	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	12.34	33.572	25.44	6.41	-47	109	.44	3.7	.20	1.0	4
5	12.33	33.582	25.45	6.31	-38	107	.43	2.8	.16	.4	4
10	12.06*	33.600	25.50	5.85	5	99	.65	6.8	.27	.9	7
20	11.24	33.661	25.67	3.63	213	60	1.32	14.7	.50	1.4	20

* indicates questionable data: Paired thermometer read 12.14

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 31	2204	3 NOV 1975	11.0	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	
12	25	2	2	31	1	1020.0	14.3	12.2	2	X	0	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	12.66	33.571	25.37	6.05	-18	104	.34	2.7	.13	1.1	5
5	12.43	33.570	25.42	5.08	70	87	.32	.9	.14	.7	4
10	12.39	33.571	25.43	5.72	13	97	.28	2.2	.13	.8	9
20	12.27	33.572	25.45	4.96	83	84	.36	3.5	.15	1.4	6
30		33.635		4.42			1.22	17.2	.33	.0	16
50	10.00	33.683	25.95	4.18	179	68	1.40	20.0	.09	.0	20

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 31	2203	3 NOV 1975	12.2	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	
15	28	3	3	32	2	1019.3	14.2	12.3	2	X	0	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	12.83	33.581	25.35	6.45	-56	111	.38	5.5	.14	1.4	9
5	12.64	33.573	25.38	6.55	-62	112	.29	5.3	.11	1.0	4
10	11.82*	33.596	25.54	4.88	94	82	.64	10.7	.23	1.5	8
20	11.30	33.616	25.67	4.31	152	72	.86	9.5	.25	.8	9
30	10.34	33.639	25.85	4.24	169	69	1.10	14.2	.14	.0	14
50	9.92	33.719	25.99	3.86	208	62	1.48		.07	.0	22
75	9.84	33.733	26.01	3.63	229	59	1.34	16.1	.03	.0	18
97	9.61	33.796	26.10	3.18	272	51	1.52	19.7	.01	.0	24
138	9.26	33.869	26.21	3.03	290	48	1.38	19.3	.00	.0	24
185	8.63	33.995	26.41	2.05	385	32	1.94		.02	.0	34
233	8.12	34.063	26.54	1.53	438	24	1.90	23.6	.08	.0	32
281	7.86	34.103	26.61	1.56	439	24	2.27	29.0	.00	.0	44
377		34.178		1.25			2.23	27.6	.01	.0	43
473	6.01	34.246	26.98	.53	556	8	2.89	35.1	.00	.0	71
569	5.48	34.295	27.08	.51	566	7	2.73	33.7	.00	.0	70
761	4.45	34.389	27.27	.48	584	7	2.64		.02	.0	103

* indicates questionable data: Paired thermometer read 11.89

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 31	2202	3 NOV 1975	14.5	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	
9	27	2	3	23	1	1017.5	14.4	12.8	2	X	0	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	12.12	33.533	25.45	4.65	112	79	.79	10.3	.17	.0	12
5	11.85	33.530	25.50	5.19	67	87	.65	7.9	.15	.0	11
10	11.56	33.538	25.56	5.84	12	98	.83	11.5	.19	.0	11
20	10.46	33.589	25.79	4.12	179	67	.96	8.4	.08	.0	10
30	10.14	33.601	25.86	4.41	157	72	1.28	18.4	.05	.0	18
50	9.59	33.677	26.01	3.91	208	63	2.08*	15.5	.02	.0	17

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 31	2201	3 NOV 1975	15.2	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	
9	28	1	2	29	2	1017.5	16.7	14.4	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	13.21	33.496	25.21	7.38	-142	128	.58	5.2	.16	.7	9
5	11.50	33.531	25.56	5.62	33	94	.95	10.3	.24	.4	17
10	11.12	33.565	25.66	5.12	82	85	.87	9.2	.19	.2	12
20	10.79	33.598	25.74	4.78	116	79	1.12	8.0	.73	.4	16
30	10.47	33.630	25.82	4.44	150	73	1.29	17.3	.28	.0	20

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 31	1121	3 NOV 1975	15.7	36° 37.7'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
8	31	2	3	30	2	1017.0	17.2	14.9	2	X	0	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	13.05	33.542	25.28	6.67	-78	115	.44	3.4	.11	.1	7
5	12.71	33.539	25.34	6.95	-99	119	.49	2.9	.12	.2	4
10	11.57	33.517	25.54	5.66	28	95	.93	9.6	.23	.9	11

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 32	1154	17 NOV 1975	8.7	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	
5	30	2	3	32	3	1019.7	9.7	9.2	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	11.29	33.587	25.65	6.34	-28	105	.49	5.8	.12	.9	6
5	11.24	33.581	25.65	5.88	12	98	.64	7.1	.15	.6	8
10	10.91	33.614	25.73	4.30	157	71	1.34	16.5	.38	1.5	20

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 32	2205	17 NOV 1975	9.7	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	
5	28	2	2	22	1	1020.0	11.2	10.1	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	11.04	33.587	25.69	4.07	176	67	1.11	13.2	.31	1.3	15
5	10.97	33.588	25.70	4.90	103	81	1.13	13.8	.30	1.6	16
10	10.99	33.590	25.70	4.68	122	77	1.13	14.8	.31	1.0	16
20	10.92	33.596	25.72	4.42	146	73	1.20	13.5	.43	1.3	17

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 32	2204	17 NOV 1975	10.7	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	
5	28	4	2	32	1	1019.2	12.9	12.2	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	11.73	33.569	25.55	7.23	-113	121	.43	3.9	.08	.5	5
5	11.67	33.571	25.56	7.21	-110	121	.40	3.3	.08	.4	5
10	11.66	33.568	25.56	7.15	-105	120	.33	3.0	.07	.4	4
20	11.08	33.591	25.69	5.50	48	91	1.58*	13.0	.30	.5	14
30	10.32	33.661	25.87	4.16	177	68	1.39	20.4	.19	.5	19
49		33.717		3.66			1.52	23.3	.02	.2	22

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 32	2203	17 NOV 1975	12.7	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	
12	29	8	3	32	3	1018.2	12.0	11.8	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	10.87	33.645	25.77	5.25	73	87	1.13	18.2	.14	1.7	18
5	10.85	33.643	25.77	2.79	293	46	1.78	17.8*	.12	.8	16
10	10.85	33.642	25.77	5.29	69	87	1.10	16.8	.35	.2	17
20	10.67	33.650	25.80	5.08	90	83	.94	16.4	.11	1.1	29
30	10.58	33.665	25.83	4.69	126	77	1.31	21.1	.16	.4	22
50	10.09	33.739	25.97	4.05	189	66	1.56	25.4	.14	.4	23
75	9.83	33.782	26.05	3.48	243	56	1.57	25.9	.03	.0	19
92	9.41	33.830	26.16	3.01	290	48	1.70	28.7	.05	.0	28
142	8.97	33.907	26.29	2.68	325	42	1.64	26.6	.00	.2	26
190	8.42	33.984	26.43	2.14	380	33	2.04	31.4	.00	1.3	36
250	8.80	33.945	26.35	2.27	363	36	1.80	25.8	.04	.4	32
290	7.86	34.097	26.61	1.15	475	18	2.10	33.6	.00	.3	44
382	6.82	34.164	26.81	.82	519	12	2.52	31.9	.00	.2	53
465	6.10	34.212	26.94	.62	547	9	2.72	37.8	.00	.1	65
545	5.52	34.271	27.06	.47	569	7	2.59	37.0	.00	.1	74
705	4.54	34.368	27.25	.46	584	7	2.70	34.0	.00	.3	86

* indicates questionable data: Nitrate appears anomalously low

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 32	2202	17 NOV 1975	14.3	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	
10	29	7	3	32	3	1016.5	12.2	11.8	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	10.79	33.652	25.79	5.10	87	84	1.09	18.6	.15	1.5	18
5	10.78	33.651	25.79	4.72	121	78	1.09	17.3	.26	.1	17
10	10.77	33.653	25.79	4.26	162	70	.95	15.1	.13	.4	15
20	10.64	33.658	25.82	4.11	177	67	.98	18.4	.13	.4	17
30	10.56	33.662	25.83	4.19	171	69	1.00	15.3	.14	2.2	17
50	10.34	33.701	25.90	3.76	212	61	1.14	15.8	.31	.3	16

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 32	2201	17 NOV 1975	15.1	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	
10	31	4	3	32	4	1016.7	11.9	10.9	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	11.20	33.626	25.69	4.89	101	81	.88	14.6	.10	.5	15
5	11.17	33.626	25.70	4.42	143	73	.68	12.3	.09	3.1	13
10	11.15	33.625	25.70	4.74	115	79	1.02	15.4	.11	8.8	16
20	10.69	33.625	25.78	4.23	166	69	1.16	22.3	.14	1.4	18
30	10.57	33.676	25.84	4.83	114	79	1.25	18.7	.15	.5	19

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 32	1121	17 NOV 1975	15.5	36° 37.7'	121° 51.1'

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	4	1016.2	12.1	12.0	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	11.22	33.629	25.69	5.44	52	90	.93	15.0	.13	2.0	17
5	11.20	33.641	25.70	5.90	11	98	.92	15.6	.12	1.0	16
10	11.21	33.641	25.70	5.63	35	94	.93	14.8	.12	1.4	16

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 33	1154	1 DEC 1975	8.4	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	
6	22	1	2	17	1	1010.3	10.2	9.0	2	0	2	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	10.28	33.724	25.93	4.81	119	78	.74	7.8	.28	2.2	16
5	10.29	33.717	25.92	4.54	143	74	.74	10.9	.27	1.3	15
10	10.31	33.714	25.92	6.08	5	99	.79	9.1	.27	1.3	13

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 33	2205	1 DEC 1975	9.3	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	
8	23	1	2	18	0	1010.3	11.5	10.0	2	0	1	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	10.23	33.718	25.93	5.74	36	93	.85	14.1	.27	2.0	13
5	10.21	33.716	25.94	5.64	46	92	.96	15.5	.32	.8	13
10	10.18	33.717	25.94	5.58	51	91	1.44*	9.3	.29	.8	12
20	10.16	33.730	25.96	4.73	127	77	.83	12.0	.22	.7	14

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 33	2204	1 DEC 1975	10.2	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	
17	29	1	2	9	1	1010.3	11.5	9.8	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	10.21	33.702	25.92	5.10	94	83	1.02	14.6	.18	.4	19
5	10.20	33.707	25.93	5.14	90	84	.84	14.9	.13	.4	14
10	10.18	33.700	25.93	5.07	97	82	2.39*	21.2	.17	.0	16
20	10.15	33.713	25.94	5.16	89	84	1.03	11.5	.27	.3	17
30	9.73	33.762	26.05	3.70	225	60	1.40	20.8	.08	.1	21
50	9.41	33.827	26.16	3.21	272	51	1.54	25.9	.13	.1	26

* indicates questionable data: Phosphate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 33	2203	1 DEC 1975	11.7	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	
17	12	1	2	7	0	1010.3	15.0	12.0	2	X	0	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	10.94	33.644	25.75	3.67	213	61	.61	11.1	.16	.3	10
5	10.67	33.638	25.80	5.58	46	92	.88	16.4	.25	.7	13
10	10.65	33.646	25.81	5.26	74	86	.68	13.5	.19	.3	10
20	10.53	33.650	25.83	4.73	123	77	.95	18.0	.24	.1	10
30	10.33	33.666	25.88	5.13	90	84	.92	12.2	.23	.4	14
50	10.10	33.709	25.95	4.44	154	72	1.16	17.9	.19	.2	16
75	9.44	33.797	26.13	3.38	257	54	1.48	26.6	.00	.0	20
100	8.87	33.882	26.29	3.03	295	48	1.62	28.0	.00	.2	20
147	8.33	33.992	26.45	2.30	367	36	1.79	34.0	.00	.1	36
196	7.97	34.039	26.55	1.86	411	29	1.95	33.0	.05	4.9	36
244	7.62	34.076	26.63	1.83	418	28	2.15	23.0*	.00	.0	37
292	7.30	34.095	26.69	1.58	445	24	2.22	32.1*	.00	.0	46
388	6.53	34.157	26.84	.91	515	14	2.51	40.7	.00	.0	54*
486	6.06	34.196	26.93	.83	529	12	2.60	32.2*	.00	.0	42
583	5.31	34.281	27.09	.62	559	9	2.73	30.6*	.00	.0	45
780	4.69	34.399	27.26	.40	587	6	2.54	26.1*	.03	.4	65

* indicates questionable data: Nitrates appear anomalously low
Silicate appears anomalously high

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 33	2202	1 DEC 1975	13.6	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	
18	31	1	2	30	2	1010.3	13.0	11.2	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	10.75*	33.674	25.81	4.77	117	78	1.03	22.0	.24	.2	14
5	10.43	33.676	25.87	3.76	211	61	.81	9.7	.25	.3	9
10	10.41	33.678	25.87	4.83	116	79	1.03	16.0	.24	.4	14
20	10.29	33.690	25.90	4.52	145	74	1.05	19.1	.22	.3	15
30	10.24*	33.705	25.92	4.39	157	71	1.08	20.2	.26	.2	16
50	9.83	33.777	26.05	3.19	269	51	1.14	22.6	.18	.1	14

* indicates questionable data: Paired thermometers read 10.66 at 0 m; 10.18 at 30 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 33	2201	1 DEC 1975	14.4	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	
11	21	1	2	29	2	1010.3	17.0	11.2	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	10.98	33.667	25.76	6.76	-63	112	.62	7.0	.13	.6	7
5	10.72	33.640	25.79	6.48	-34	107	.67	10.5	.14	1.4	10
10	10.66	33.656	25.81	6.47	-33	106	.61	10.3	.12	.7	8
20	10.59	33.652	25.82	6.28	-15	103	.65	10.7	.11	.4	8
30	10.11	33.730	25.96	4.61	139	75	1.09	20.0	.19	.2	12

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 33	1121	1 DEC 1975	14.8	36° 37.7'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
8	31	1	2	29	2	1010.3	12.5	11.1	2	X	0	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	10.89	33.655	25.77	6.11	-3	101	.76	8.5	.17	.3	9
5	10.65	33.660	25.82	6.55	-40	108	.68	9.2	.15	.8	8
10	10.61	33.652	25.82	6.04	5	99	.65	9.5	.11	1.8	7

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 34	1154	15 DEC 1975	8.7	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	
8	26	1	3	23	1	1010.3	8.2	7.1	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	11.04	33.630	25.72	6.17	-10	102	1.72	8.4	.26	3.5	12
5	10.63	33.628	25.79	5.73	33	94	1.07	10.2	.24	.7	12
10	10.57	33.625	25.80	6.09	1	100	1.19	10.0	.24	.4	11

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 34	2205	15 DEC 1975	9.6	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	
9	15	0	X	33	1	1010.3	8.3	7.9	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	10.47	33.660	25.85	5.60	46	92	1.32	16.1	.31	1.5	15
5	10.46	33.653	25.84	5.30	73	87	1.39	19.3	.31	1.5	15
10	10.40	33.654	25.85	5.61	46	92	1.34	11.3	.31	1.6	15
20	10.43	33.656	25.85	5.59	48	91	1.47	13.7	.33	2.4	16

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 34	2204	15 DEC 1975	11.4	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	
18	32	2	2	7	2	1010.3	12.0	10.0	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	10.87	33.625	25.75	5.92	13	98	1.12	12.2	.31	.7	11
5	10.85*	33.622	25.75	5.99	7	99	1.05	11.4	.25	.1	9
10	10.76	33.629	25.77	5.92	14	97	1.08	15.3	.30	.8	10
20	10.80	33.627	25.76	5.93	13	98	1.11	10.5	.32	.3	12
30	10.76	33.625	25.77	5.89	17	97	1.19	12.5	.32	.8	12
50	10.14	33.717	25.95	4.45	153	72	1.62	22.4	.12	.0	21

* indicates questionable data: Paired thermometer read 10.95

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 34	2203	15 DEC 1975	12.9	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	
17	28	2	X	7	2	1012.3	13.1	10.8	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	10.98*	33.642	25.74	5.98	6	99	1.20	12.8	.36	1.0	13
5	10.98	33.639	25.74	5.98	6	99	1.03	14.2	.36	.9	10
10	10.93	33.638	25.75	5.94	10*	98	2.30	31.8	.11	.3	45*
20	10.92	33.636	25.75	5.77	26	95	1.06	13.8	.30	1.4	10
30	10.83	33.636	25.77	5.92	13	98	.99	14.7	.29	1.3	9
50	10.45	33.649	25.84	5.08	93	83	1.37	15.1	.38	.5	15
74	9.72	33.775	26.06	3.30	260	53	1.41	18.2	.06	1.1	18
99	9.30	33.854	26.19	2.74	315	44	1.56	22.8	.11	4.7	21
142	8.95	33.926	26.31	2.69	324	43	2.02	30.9	.04	1.1	30
191	8.52	33.990	26.42	2.35	360	37	2.16	40.3	.06	.5	34
240	7.84*	34.038	26.56	2.11	390	33	2.34	27.2	.01	.3	33
289	7.25	34.098	26.70	1.63	441	25	2.58	15.1*	.00	.6	51
386	6.53	34.146	26.83	1.03	504	15	2.94	39.8	.01	1.7	61
484	5.97	34.205	26.95	.70	542	10	1.62	21.4	.22	.4	27*
576	5.48	34.249	27.05	.51	566	7	3.11	56.9	.01	.0	76
774	4.27	34.403	27.31	.48	587	7	3.27	37.4	.00	.9	

* indicates questionable data: Paired thermometers read 11.04 at 0 m; 7.77 at 240 m
AOU appears anomalously low
Nitrate appears anomalously low
Silicate appears anomalously high at 10 m; low at 484 m

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 34	2202	15 DEC 1975	15.5	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	
12	33	3	4	4	2	1010.2	14.3	12.3	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	10.90	33.634	25.75	5.90	14	97	1.08	17.0	.33	1.6	12
5	10.89	33.633	25.75	5.98	7	99	.85	7.7	.26	1.9	9
10	10.81	33.626	25.76	5.93	13	98	1.04	11.0	.32	1.4	11
20	10.82	33.631	25.76	5.94	12	98	.90	10.5	.26	2.2	9
30	10.82	33.635	25.77	5.85	20	96	1.00	12.5	.30	1.4	9
50	10.47	33.690	25.87	4.77	120	78	1.17	19.7	.24	1.0	15

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 34	2201	15 DEC 1975	17.7	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	
33	2	2		49	0	1010.2	13.3	11.8	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	11.03	33.600	25.70	6.55	-44	108	.93	6.6	.30	1.4	7
5	11.05	33.599	25.70	6.49	-39	107	.94	8.0	.30	1.1	7
10	11.02	33.599	25.70	6.58	-47	109	.95	9.1	.30	1.8	7
20	10.97	33.601	25.71	6.63	-51	110	.82	6.7	.22	1.6	5
30	10.50	33.685	25.86	4.75	122	78	1.47	22.2	.29	2.1	21

CRUISE	STATION	DATE	HOUR	N LATITUDE	W LONGITUDE
ML 34	1121	15 DEC 1975	18.1	36° 37.7'	121° 51.1'

TRANSP	WAVES			WIND		BAROM	AIR TEMP °C		WEATH	CLOUDS		VISIB
m	dir	ht	p	dir	speed	mb	dry	wet		typ	amt	
31	2	3	1	3		1010.2	11.5	9.5	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	11.05	33.600	25.70	6.10	-4	101	.90	7.3	.29	.7	8
5	11.04	33.599	25.70	6.45	-35	107	.92	8.0	.31	1.5	8
10	11.00	33.602	25.71	6.50	-39	107	.98	9.0	.32	.9	8