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9 data report.

6 PHYSICAL AND CHEMICAL DATA.

Expedition X,
20-25 April 1965.

LA PARED Expedition,
30 April - 17 May 1965.

STUDENT TRAINING Cruise,
28 August - 6 September 1965

and

MUDDAUBER Expedition,
29 October - 16 December 1965.

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UNIVERSITY OF CALIFORNIA
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PHYSICAL AND CHEMICAL DATA

Expedition X
20-25 April 1965

Sponsored by
National Science Foundation

LA PARED Expedition
30 April - 17 May 1965

Sponsored by
Office of Naval Research

STUDENT TRAINING Cruise
28 August - 6 September 1965

Sponsored by
Department of Scripps Institution of Oceanography
University of California

and

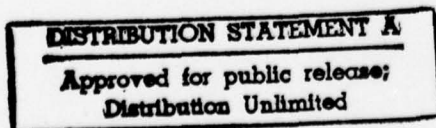
MUDDAUBER Expedition
29 October - 16 December 1965

Sponsored by
Marine Research Committee
State of California

Marine Life Research Group
Scripps Institution of Oceanography

SIO Reference 78-4

Approved for distribution:



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

Handwritten signature of W. A. Nierenberg in cursive, followed by his printed name and title.

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INTRODUCTION

This report presents data collected during 1965 on Expedition "X", LA PARED Expedition, a STUDENT TRAINING CRUISE and MUDDAUBER Expedition.

Preceding the tabulated data for each cruise are: 1) a description of the principal objective and the sponsoring agency, 2) the hydrographic work carried out on the cruise, 3) a chart of the station positions, 4) a list of scientific personnel participating in the collection of data and 5) a list of publications utilizing the cruise data.

STANDARD PROCEDURES

Hydrographic Cast Data

Temperature was measured using paired deep-sea reversing thermometers and is reported to hundredths of a degree Celsius. Unprotected thermometers were included on most Nansen bottles lowered 100 meters or deeper, except for the shallow stations of the STUDENT CRUISE where they were included in the bottom two or three bottles of each cast.

Water samples for chemical and nutrient analysis were obtained from Nansen bottles.

Salinities were determined by two types of salinometers, three different Australian Autolabs (inductive) on Expedition X, LA PARED and the STUDENT CRUISE and a Washington bridge (conductive) on Expedition X and MUDDAUBER. The salinity values were recorded and are reported to three decimal places, provided accepted standards were met. If only one determination per sample was obtained, or there was doubt concerning the accuracy of the analytical results, the salinities are reported to two decimal places. All STD salinities are tabulated to hundredths.

Dissolved oxygen was determined by the Winkler method as modified by Carpenter (1965). Where phosphate, nitrite and nitrate data appear, the determinations were made by Beckman DU Spectrophotometer according to methods suggested by Strickland and Parsons (1968).

The observed data has been evaluated using the method described by Klein (1973). This involves consideration of their variation as functions of density or depth and their relations to each other and comparison with adjacent observations.

In situ Salinity/Temperature/Depth Recorder (STD) Data

With the exception of Expedition X, an STD was used on all cruises included in this report.* However, the 227 analog recordings made on LA PARED Expedition were not processed by the Data Collection and

* Original STD analogs are on file in SIO data archives.

Processing Group. The STUDENT TRAINING CRUISE and MUDDAUBER Expedition include STD data digitized at standard depths from the analog recordings.

TABULATED DATA

The data presented in this report was obtained by Nansen bottle casts and by the STD and appears in two forms:

1. Data from the sample bottle casts is tabulated with the observed levels of depth on the left of a page and standard depth values of temperature and oxygen interpolated from these observations on the right.
2. For each STD lowering, temperature and salinity values are read only at standard levels of depth and appear with computed values of DT and DD (see below) on the right of the page. Corrections may have been applied to the temperature and salinity values as discussed later in this report.

The time reported for bottle casts is the time of messenger release. When a station consists of more than one cast, the messenger times for the first and last casts are given. Multiple casts are indicated by a letter following all observed depths except the cast with the shallowest depth. For STD lowerings the time given is the "start down" time.

The bottom depth, listed in meters, was determined by applying corrections from Matthews (1939) tables to echo soundings.

The weather and dominant waves were coded using the National Oceanographic Data Center (NODC) recommended conversions.

The column headings from the computer are explained as follows:

Z	Depth	meters
T	Temperature	°C
S	Salinity	‰
O2	Dissolved oxygen	ml/L
PO4	"Reactive" inorganic phosphate-phosphorus	µg at/L
SiO3	"Reactive" inorganic silicate-silicon	µg at/L
NO2	"Reactive" nitrite-nitrogen	µg at/L
NO3	"Reactive" nitrate-nitrogen	µg at/L
DT	δT Thermosteric anomaly	cl/ton
SIGT	$\sigma_t = (\rho_{s,t,0} - 1) 10^3$ where $\rho_{s,t,0}$ is the density the parcel would have if moved isothermally to the sea surface.	g/L
DD	Geopotential anomaly, referred to the sea surface.	dyn. meters

FOOTNOTES

Data which appears to be in error without obvious reason is reported, but flagged uncertain with a U. Such data was not used in the determination of values at standard depths. Footnotes are used to indicate data which has required special processing.

EXPEDITION X

Expedition X, supported by a grant from the National Science Foundation, was planned for the insular, basin and coastal waters of southern California during the period of spring upwelling. It was an investigation of the local onshore-offshore occurrence of zooplankton.

Most of the Nansen bottle casts consisted of 18 bottles lowered to approximately 600 meters. The bathythermograph traces were used to influence the drawing of the property curves.

Salinity was determined about three weeks after collection, using both conductive and inductive salinometers. Many samples were questionable because of "chipped tops" on the bottles. These values are footnoted.

Personnel participating in the collection of data were:

Ship's Captain:

Davis, Laurence E.
RV Alexander Agassiz

Scientific personnel:

Brinton, Dr. E. (Chief scientist)
Bonner, P. H.
Davoll, P. J.
Ferreira, S. M.
Jerde, C. E.
Matsui, T.
Netzley, R. L.
Pine, J. S.
Venrick, E. L.

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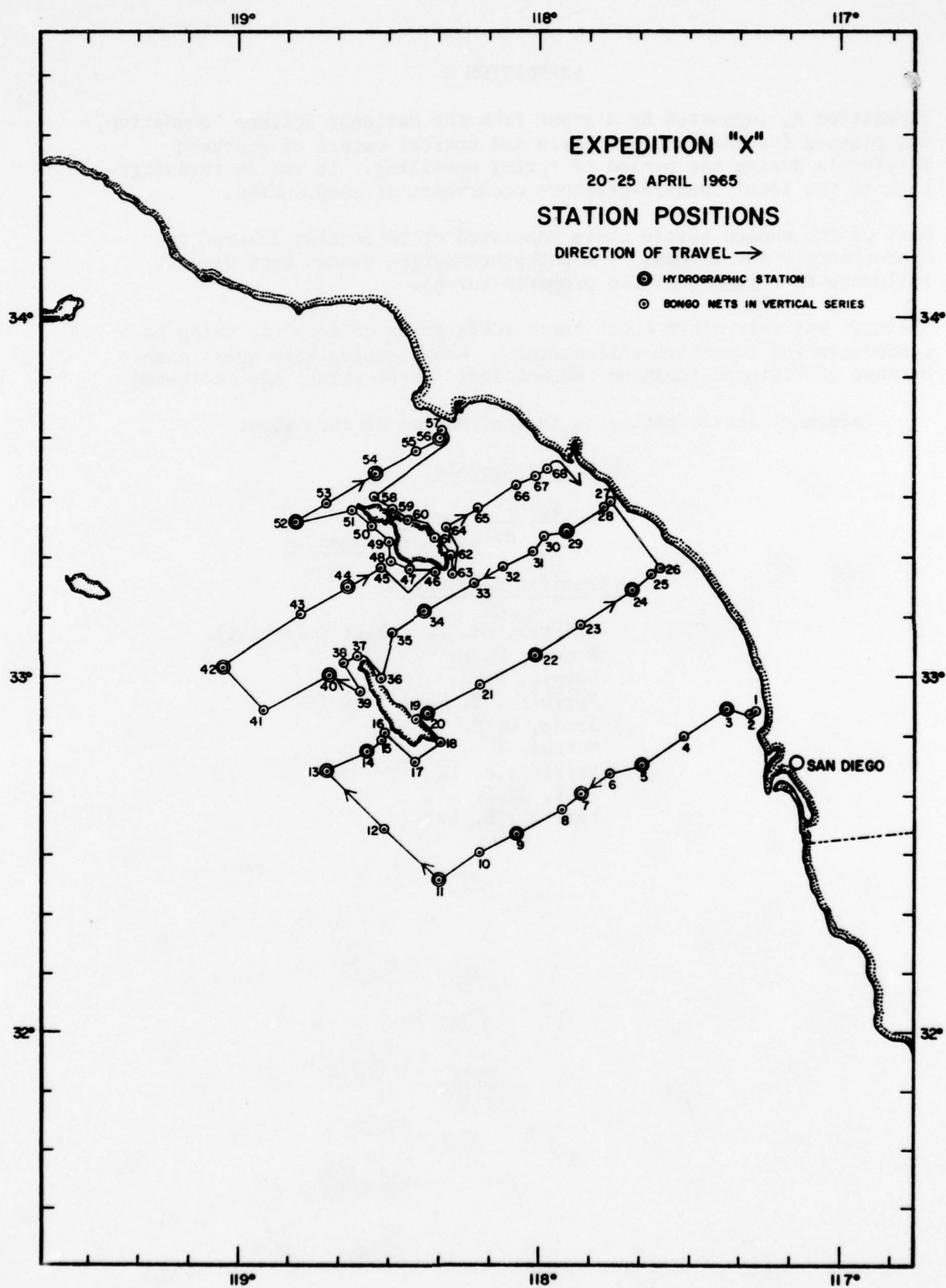


FIGURE 1

RV ALEXANDER AGASSIZ

EXPEDITION X

(93.28) 3

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
32 54.8N		117 22.6W		04/20/65		0440		GMT		501M	090	05KT	0	290 02 10		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
0	17.28	33.42	A					367.4	0	17.28	33.420	6.08	24.257	367.4	0	
10	15.04	33.423						318.7	10	15.04	33.423	6.42	24.769	318.7	.034	
30	12.18	33.495						257.9	20	14.00	33.440	5.90	25.003	296.4	.065	
44	11.08	33.585						231.9	30	12.18	33.495	4.82	25.407	257.9	.093	
54	10.66	33.649						220.1	50	10.81	33.624	4.08	25.759	224.5	.141	
69	10.12	33.763						202.8	75	10.01	33.792	3.46	26.028	198.9	.195	
83	9.89	33.821						194.8	100	9.61	33.887	3.10	26.169	185.6	.243	
98	9.63	33.876						186.7	125	9.34	34.011	2.62	26.310	172.2	.288	
124	9.36	34.007						172.7	150	9.01	34.090	2.31	26.424	161.3	.331	
144	9.02	34.073						162.6	200	8.86	34.151	1.92	26.496	154.5	.411	
173	8.98	34.120						158.6	250	8.63	34.193	1.63	26.564	148.0	.489	
202	8.85	34.153						154.2	300	8.26	34.205	1.41	26.632	141.6	.564	
235	8.72								400	7.28	34.279	.90	26.833	122.5	.702	
288	8.36	34.203						143.2								
341	7.88	34.218						135.3								
400	7.28	34.279						122.5								

RV ALEXANDER AGASSIZ

EXPEDITION X

(93.32) 5

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
32 45.2N		117 39.5W		04/20/65		0837		GMT		1055M	300	08KT	0	310 02 12		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
0	16.89	33.479						354.4	0	16.89	33.479	5.97	24.394	354.4	0	
10	15.70	33.490						327.6	10	15.70	33.490	6.13	24.675	327.6	.034	
30	13.05	33.485						274.7	20	14.45	33.486	5.98	24.944	302.0	.066	
40	11.91	33.497						252.9	30	13.05	33.485	5.67	25.230	274.7	.095	
50	11.58	33.514						245.8	50	11.58	33.514	4.96	25.534	245.8	.147	
65	10.71	33.601						224.5	75	10.48	33.656	4.12	25.842	216.6	.205	
80	10.36	33.683						212.7	100	9.78	33.813	3.46	26.083	193.7	.257	
100	9.78	33.813						193.7	125	9.44	33.947	3.01	26.244	178.4	.304	
125	9.44	33.947						178.4	150	9.14	34.030	2.73	26.358	167.6	.348	
145	9.18	34.012						169.6	200	8.87	34.124	2.16	26.474	156.6	.430	
175	8.98	34.103						159.8	250	8.47	34.214	1.66	26.607	144.0	.508	
205	8.84	34.127						155.9	300	8.35	34.254	1.21	26.657	139.2	.581	
235	8.46	34.187						145.9	400	7.43	34.250	1.03	26.789	126.7	.720	
275	8.48	34.238						142.4	500	6.56	34.280	.60	26.933	113.1	.847	
334	8.07	34.263						134.6								
409	7.34	34.248						125.6								
484	6.68	34.273						115.1								
564	6.14	34.310						105.6								

RV ALEXANDER AGASSIZ

EXPEDITION X

(93.35) 7

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
32 40.5N		117 51.4W		04/20/65		1605		GMT		648M	300	08KT	1	280 03 10		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
0	16.34	33.521						339.2	0	16.34	33.521	5.86	24.554	339.2	0	
10	15.43	33.534						318.7	10	15.43	33.534	6.02	24.769	318.7	.033	
30	14.39	33.538						297.0	20	15.20	33.530	6.03	24.816	314.2	.065	
41	12.64	33.541						262.9	30	14.39	33.538	6.03	24.997	297.0	.095	
50	12.12	33.587						250.1	50	12.12	33.587	4.66	25.490	250.1	.150	
64	11.22	33.639						230.4	75	10.76	33.653	4.14	25.790	221.5	.209	
80	10.59	33.658						218.3	100	9.96	33.746	3.91	26.001	201.5	.263	
100	9.96	33.746						201.5	125	9.47	33.901	3.34	26.203	182.3	.311	
125	9.47	33.901						182.3	150	8.99	34.023	2.79	26.375	166.0	.356	
144	9.09	34.005						168.8	200	8.31	34.067	2.31	26.515	152.7	.437	
174	8.66	34.059						158.3	250	8.21	34.175	1.61	26.615	143.2	.513	
204	8.27	34.068						151.9	300	8.11	34.245	1.05	26.686	136.4	.585	
234	8.16	34.138						145.2	400	7.44	34.275	.73	26.808	124.9	.722	
273	8.28	34.219						140.9	500	6.65	34.277	.58	26.918	114.5	.848	
333	7.80	34.260						131.0								
407	7.40	34.275						124.4								
482	6.80	34.272						116.7								
561	6.15	34.311						105.7								

A) POSSIBLE EVAPORATION. THE VALUE WAS ACCEPTED FOR INTERPOLATION AT STANDARD LEVELS OF DEPTH.
 B) OXYGEN SAMPLES AT 482 AND 561 METERS APPEAR TO HAVE BEEN REVERSED. THEY ARE ASSUMED TO BE IN THE CORRECT ORDER.

RV ALEXANDER AGASSIZ

EXPEDITION X

(93.38) 9

LATITUDE 32 33.6N				LONGITUDE 118 04.7W				MO/DAY/YR 04/20/65				MESSENGER TIME 2026				BOTTOM 1812M	WIND 300	SPEED 08KT	WEATHER 1	DOMINANT WAVES 290 03 10			
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DO								
0	16.18	33.459	6.01					340.2	0	16.18	33.459	6.01	24.543	340.2	0								
8	15.40	33.456	6.12					323.8	10	15.20	33.458	6.16	24.761	319.4	.033								
25	14.56	33.449	6.29					307.0	20	14.90	33.456	6.21	24.824	313.4	.065								
34	13.78	33.425	6.34					293.2	30	14.12	33.434	6.32	24.974	299.2	.095								
47	13.34	33.465	5.87					281.7	50	13.15	33.466	5.74	25.196	278.0	.153								
59	12.34	33.470	5.38					262.7	75	11.52	33.516	4.79	25.547	244.7	.219								
80	11.38	33.535	4.63					240.8	100	11.03	33.619	4.22	25.716	228.6	.279								
98	11.04	33.605	4.24					229.8	125	10.16	33.798	3.34	26.007	200.9	.333								
113	10.48	33.717	3.68					212.1	150	9.70	33.952	2.83	26.205	182.1	.382								
128	10.10	33.817	3.27					198.5	200	8.88	34.099	2.36	26.452	158.6	.468								
151	9.68	33.957	2.82					181.4	250	8.66	34.181	1.74	26.551	149.3	.547								
177	9.20	34.007	2.69					170.3	300	7.88	34.178	1.49	26.666	138.3	.622								
199	8.88	34.095	2.38					158.9	400	7.16	34.275	.72	26.847	121.2	.757								
237	8.88	34.185	1.81					152.2	500	6.37	34.307	.50	26.980	108.6	.879								
281	8.05	34.159	1.64					142.0															
351	7.60	34.244	1.03					129.4															
425	6.93	34.285	.60					117.4															
507	6.32	34.308	.49					108.0															

RV ALEXANDER AGASSIZ

EXPEDITION X

(93.42) 11

LATITUDE 32 25.8N				LONGITUDE 118 20.3W				MO/DAY/YR 04/21/65				MESSENGER TIME 0228				BOTTOM 1129M	WIND 310	SPEED 19KT	WEATHER 1	DOMINANT WAVES 320 03 06			
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DO								
1	15.86	33.498	5.87					330.5	0	15.86	33.498	5.87	24.645	330.5	0								
8	15.83	33.463	5.94					332.4	10	15.82	33.460	5.99	24.625	332.4	.033								
22	15.10	33.452	6.26					317.8	20	15.25	33.453	6.23	24.747	320.8	.066								
29	14.86	33.444	6.24					313.4	30	14.85	33.445	6.23	24.826	313.3	.098								
40	14.74	33.447	6.17					310.8	50	14.18	33.436	6.21	24.962	300.3	.159								
50	14.18	33.436	6.21					300.3	75	12.60	33.470	5.43	25.307	267.4	.231								
67	13.44	33.452	6.01					284.6	100	11.59	33.519	4.59	25.536	245.7	.295								
80	12.46	33.477	5.36					264.3	125	10.37	33.648	3.69	25.854	215.4	.353								
91	11.90	33.500	5.03					252.5	150	9.80	33.825	3.06	26.089	193.1	.405								
104	11.46	33.529	4.39					242.6	200	9.08	34.059	2.23	26.389	164.6	.496								
120	10.62	33.604	3.77					222.8	250	8.56	34.098	1.80	26.502	153.9	.578								
140	9.82	33.776	3.46					197.1	300	7.89	34.137	1.41	26.634	141.4	.654								
157	9.78	33.845	2.77					191.3	400	6.98		.90											
186	9.28	34.037	2.38					169.3															
220	8.84	34.061	2.05					160.8															
272	8.34	34.125	1.63					148.7															
331	7.40	34.166	1.19					132.5															
402	6.98		.90																				

RV ALEXANDER AGASSIZ

EXPEDITION X

(91.44) 13

LATITUDE 32 44.2N				LONGITUDE 118 42.2W				MO/DAY/YR 04/21/65				MESSENGER TIME 0849				BOTTOM 1036M	WIND 310	SPEED 19KT	WEATHER 2	DOMINANT WAVES 320 06 07			
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DO								
1	15.30	33.449	6.15					322.2	0	15.30	33.449	6.15	24.732	322.2	0								
10	15.30	33.452	6.04					322.0	10	15.30	33.452	6.04	24.734	322.0	.032								
34	14.35	33.428	6.30					304.3	20	15.18	33.450	6.06	24.759	319.6	.064								
43	13.50	33.427	6.41					287.6	30	14.73	33.433	6.17	24.843	311.6	.096								
56	12.84	33.497	5.55					269.9	50	13.11	33.461	6.00	25.201	277.6	.155								
70	12.06	33.556	5.07					251.3	75	11.67	33.584	4.80	25.572	242.3	.220								
94	10.50	33.710	3.92					213.0	100	10.40	33.750	3.81	25.929	208.4	.277								
113	9.96	33.85 A	3.46					193.8	125	9.67	33.895	3.24	26.164	186.0	.327								
132	9.54	33.912	3.13					182.6	150	9.22	33.985	2.80	26.309	172.3	.373								
160	9.07	34.022	2.64					167.2	200	8.59	34.100	2.23	26.499	154.2	.456								
188	8.74	34.083	2.35					157.7	250	8.12	34.165	1.72	26.620	142.7	.532								
224	8.32	34.129	1.99					148.1	300	7.66	34.192	1.33	26.710	134.1	.604								
252	8.11	34.167	1.70					142.3	400	6.95	34.280	.95	26.880	118.0	.735								
300	7.66	34.192	1.33					134.1	500	6.38	34.331	.62	26.997	107.0	.854								
360	7.20	34.243	1.05					124.1	600	5.90	34.351	.31	27.074	99.7	.965								
454	6.64	34.32 A	.82					111.1															
542	6.16	34.336	.458					103.9															
616	5.84	34.356	.288					98.6															

A) POSSIBLE EVAPORATION. THE VALUE WAS ACCEPTED FOR INTERPOLATION AT STANDARD LEVELS OF DEPTH.
 B) OXYGEN SAMPLES AT 542 AND 616 METERS APPEAR TO HAVE BEEN REVERSED. THEY ARE ASSUMED TO BE IN THE CORRECT ORDER.

RV ALEXANDER AGASSIZ

EXPEDITION X

(91.42) 14

LATITUDE 32 47.8N				LONGITUDE 118 34.4W				MO/DAY/YR 04/21/65				MESSENGER TIME 1146				BOTTOM 667M	WIND 320	SPEED 14KT	WEATHER 1	DOMINANT WAVES 320 06 10			
Z	T	S	OZ	P04	S103	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD								
0	14.90	33.485	6.07					311.3	0	14.90	33.485	6.07	24.847	311.3	0								
9	14.88	33.470	6.13					311.9	10	14.87	33.471	6.13	24.842	311.7	.031								
27	14.70	33.471	6.18					308.2	20	14.77	33.471	6.17	24.864	309.6	.062								
36	14.28	33.452	6.30					301.1	30	14.60	33.465	6.19	24.896	306.6	.093								
49	13.76	33.436	6.10					292.0	50	13.74	33.437	6.08	25.054	291.5	.153								
62	13.43	33.455	5.84					284.2	75	12.78	33.490	5.55	25.288	269.3	.224								
84	12.02	33.525	5.19					252.8	100	10.78	33.606	4.36	25.749	225.4	.286								
101	10.72	33.612	4.31					223.9	125	10.00	33.788	3.84	26.026	199.1	.340								
118	10.25	33.77 A	4.12					203.6	150	9.70	33.909	3.16	26.171	185.3	.388								
134	9.80	33.805	3.46					194.6	200	8.67	34.118	2.03	26.501	154.0	.475								
160	9.25	33.979	2.79					173.1	250	8.14	34.176	1.57	26.627	142.1	.551								
189	8.83	34.090	2.19					158.5	300	7.45	34.210	1.19	26.754	130.0	.621								
216	8.45	34.148	1.85					148.6	400	6.86	34.284	.65	26.895	116.6	.750								
259	8.06	34.179	1.51					140.7	500	6.18	34.313	.49	27.008	105.9	.868								
308	7.34	34.216	1.13					128.0															
383	7.00	34.279	.70					118.8															
462	6.37	34.298	.54					109.3															
552	6.05	34.331	.46					102.9															

RV ALEXANDER AGASSIZ

EXPEDITION X

(91.39) 20

LATITUDE 32 53.9N				LONGITUDE 118 22.2W				MO/DAY/YR 04/21/65				MESSENGER TIME 2139				BOTTOM 916M	WIND 320	SPEED 08KT	WEATHER 1	DOMINANT WAVES 320 03 04			
Z	T	S	OZ	P04	S103	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD								
0	15.46	33.509	6.21					321.2	0	15.46	33.509	6.21	24.743	321.2	0								
8	15.36	33.512	6.28					318.8	10	15.34	33.513	6.27	24.773	318.3	.032								
26	15.14	33.504	6.16					314.8	20	15.21	33.509	6.22	24.797	316.0	.064								
52	13.50	33.497	5.69					282.5	30	15.09	33.500	6.14	24.817	314.1	.095								
60	12.09	33.540	4.91					253.0	50	13.63	33.500	5.77	25.125	284.8	.155								
73	11.78	33.56	4.77					246.0	75	11.75	33.566	4.72	25.543	245.0	.222								
87	10.93	33.611	4.35					227.5	100	10.36	33.672	4.06	25.875	213.5	.280								
100	10.36	33.672	4.06					213.5	125	9.79	33.784	3.65	26.058	196.1	.332								
122	9.86	33.765	3.73					198.5	150	9.41	33.922	3.09	26.229	179.8	.379								
139	9.53	33.870	3.29					185.5	200	8.81	34.086	2.49	26.453	158.6	.466								
165	9.24	33.981	2.87					172.8	250	8.18	34.130	1.85	26.584	146.1	.544								
191	8.96	34.08 A	2.58					161.2	300	7.78	34.196	1.27	26.696	135.5	.616								
217	8.53	34.086	2.32					154.4	400	6.92	34.251	.75	26.862	119.8	.750								
261	8.09	34.147	1.69					143.5	500	6.27	34.300	.48	26.987	107.9	.870								
310	7.70	34.206	1.18					133.7															
386	7.02	34.244	.80					121.7															
465	6.48	34.283	.56					111.8															
549	5.99	34.324	.41					102.7															

RV ALEXANDER AGASSIZ

EXPEDITION X

(91.34) 22

LATITUDE 33 03.7N				LONGITUDE 118 00.8W				MO/DAY/YR 04/22/65				MESSENGER TIME 0449				BOTTOM 981M	WIND 290	SPEED 08KT	WEATHER 4	DOMINANT WAVES 300 04 08			
Z	T	S	OZ	P04	S103	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD								
0	16.05	33.471	5.95					336.5	0	16.05	33.471	5.95	24.582	336.5	0								
10	16.00	33.478	6.02					334.9	10	16.00	33.478	6.02	24.598	334.9	.034								
34	14.44	33.473	6.29					302.8	20	15.95	33.480	6.05	24.611	333.7	.067								
43	13.52	33.486	5.96					283.6	30	15.60	33.480	6.15	24.689	326.2	.100								
58	11.68	33.528	4.73					246.5	50	13.20	33.490	5.78	25.204	277.2	.161								
73	10.74	33.629	4.08					222.9	75	10.68	33.640	4.03	25.794	221.2	.223								
97	10.26	33.734	3.69					207.2	100	10.16	33.744	3.66	25.965	204.9	.277								
116	9.67	33.796	3.52					193.2	125	9.57	33.828	3.48	26.130	189.2	.327								
136	9.50	33.870	3.41					185.1	150	9.37	33.938	3.15	26.248	178.0	.373								
165	9.24	34.008	2.83					170.8	200	8.90	34.110	2.12	26.458	158.1	.459								
194	9.10	34.099	2.37					161.9	250	8.79	34.263	1.40	26.595	145.1	.537								
233	8.92	34.246	1.51					148.3	300	8.11	34.230	1.30	26.674	137.6	.610								
262	8.66	34.261	1.37					143.3	400	7.46	34.291	.76	26.817	124.0	.747								
310	7.97	34.222	1.28					136.2	500	6.61	34.311	.55	26.950	111.4	.872								
373	7.64	34.283	.85					127.1	600	5.86	34.353	.39	27.081	99.0	.985								
470	6.91	34.299	.62					116.1															
558	6.09	34.337	.44					103.0															
633	5.76	34.364	.36					97.0															

A) POSSIBLE EVAPORATION. THE VALUE WAS ACCEPTED FOR INTERPOLATION AT STANDARD LEVELS OF DEPTH.

RV ALEXANDER AGASSIZ				EXPEDITION X										(91.29) 24			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
33 14.4N		117 41.5W		04/22/65		0952		GMT	787M	070	02KT	4					
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD		
0	16.00	33.492	5.99					333.9	0	16.00	33.492	5.99	24.609	333.9	0		
10	15.44	33.478	6.14					323.0	10	15.44	33.478	6.14	24.723	323.0	.033		
30	13.20	33.499	5.81					276.6	20	14.48	33.480	6.07	24.933	303.1	.064		
40	12.16	33.523	5.28					255.5	30	13.20	33.499	5.81	25.211	276.6	.093		
50	11.83	33.532	5.02					248.9	50	11.83	33.532	5.02	25.502	248.9	.146		
65	10.68	33.611	4.29					223.3	75	10.38	33.640	4.11	25.846	216.2	.204		
80	10.30	33.654	4.04					213.8	100	9.96	33.797	3.37	26.040	197.7	.257		
100	9.96	33.797	3.37					197.7	125	9.30	33.907	3.18	26.235	179.2	.304		
125	9.30	33.907	3.18					179.2	150	9.07	33.982	2.86	26.331	170.2	.349		
144	9.08	33.975	2.90					170.8	200	8.79	34.163	2.33	26.517	152.5	.431		
174	8.76	34.019	2.72					162.8	250	8.42	34.180	1.60	26.587	145.8	.508		
205	8.80	34.188	2.24					150.8	300	8.11	34.216	1.30	26.663	138.6	.581		
235	8.50	34.165	1.78					148.1	400	7.51	34.246	.88	26.775	128.0	.720		
275	8.30	34.211	1.38					141.8	500	6.75	34.278	.61	26.905	115.7	.849		
334	7.84	34.215	1.25					134.9									
409	7.46	34.251	.83					127.0									
483	6.88	34.272	.66					117.7									
562	6.32	34.300	.43					108.6									

RV ALEXANDER AGASSIZ				EXPEDITION X										(90.30) 29			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
33 24.5N		117 54.6W		04/22/65		2025		GMT	611M	180	02KT	4	290 02 10				
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD		
0	15.68	33.472	6.11					328.5	0	15.68	33.472	6.11	24.665	328.5	0		
10	15.26	33.476	6.18					319.4	10	15.26	33.476	6.18	24.761	319.4	.032		
29	13.68	33.473	5.95					287.7	20	15.00	33.480	6.15	24.821	313.7	.064		
39	12.56	33.502	5.33					264.3	30	13.55	33.475	5.90	25.121	285.1	.094		
49	11.81	33.559	4.62					246.6	50	11.74	33.564	4.57	25.543	245.0	.147		
64	11.00	33.628	4.13					227.4	75	10.67	33.675	3.99	25.822	218.5	.206		
78	10.60	33.690	3.95					216.1	100	9.86	33.895	2.95	26.134	188.8	.257		
98	9.90	33.883	3.00					190.4	125	9.50	33.994	2.68	26.271	175.9	.303		
123	9.52	33.988	2.69					176.6	150	9.34	34.054	2.49	26.344	168.9	.347		
141	9.36	34.034	2.60					170.7	200	9.15	34.164	1.78	26.461	157.8	.430		
172	9.31	34.101	2.15					165.0	250	8.87	34.212	1.42	26.542	150.1	.509		
201	9.14	34.166	1.77					157.6	300	8.49	34.243	1.22	26.626	142.1	.585		
230	9.00	34.189						153.7	400	7.51	34.264	.85	26.788	126.7	.726		
268	8.74	34.230	1.35					146.8	500	6.76	34.301	.58	26.922	114.0	.853		
328	8.24	34.246	1.13					138.3									
401	7.50	34.264	.85					126.6									
475	6.94	34.297	.65					116.7									
554	6.38	34.296	.43					109.6									

RV ALEXANDER AGASSIZ				EXPEDITION X										(90.37) 34			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
33 10.9N		118 22.8W		04/23/65		0800		GMT	1162M	270	05KT	0	280 03 10				
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD		
0	15.26	33.494	6.12					318.1	0	15.26	33.494	6.12	24.775	318.1	0		
10	15.28	33.482	6.17					319.4	10	15.28	33.482	6.17	24.762	319.4	.032		
30	13.58	33.521	5.91					282.2	20	15.00	33.490	6.15	24.829	313.0	.064		
40	13.16	33.529	5.56					273.6	30	13.58	33.521	5.91	25.152	282.2	.093		
55	12.19	33.554	4.96					253.7	50	12.54	33.544	5.16	25.376	260.9	.148		
70	11.20	33.595	4.43					233.3	75	10.60	33.630	4.12	25.801	220.5	.208		
95	10.22	33.739	3.70					206.2	100	10.15	33.764	3.59	25.983	203.2	.262		
116	9.93	33.840	3.28					194.1	125	9.79	33.885	3.15	26.136	188.6	.311		
135	9.64	33.932	3.02					182.7	150	9.41	33.998	2.76	26.287	174.3	.357		
155	9.34	34.015	2.69					171.8	200	8.89	34.087	2.40	26.441	159.7	.443		
185	8.92	34.045	2.63					163.2	250	8.56	34.210	1.66	26.589	145.6	.521		
220	8.87	34.147	2.04					154.9	300	8.12	34.259	1.19	26.695	135.6	.594		
250	8.56	34.210	1.66					145.6	400	7.15	34.273	.73	26.846	121.3	.728		
300	8.12	34.259	1.19					135.6	500	6.39	34.305	.51	26.974	109.1	.850		
354	7.54	34.255	.92					127.8	600	5.80	34.345	.38	27.082	98.9	.961		
439	6.86	34.291	.61					116.1									
524	6.22	34.310	.48					106.6									
610	5.76	34.351	.37					98.0									

RV ALEXANDER AGASSIZ

EXPEDITION X

(90.42) 40

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 00.5N		118 42.1W		04/23/65		1829		GMT	944M	330	05KT	0	290 07 06		
Z	T	S	OZ	PO4	SIO3	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
0	15.59	33.479	5.98					326.1	0	15.59	33.479	5.98	24.691	326.1	0
10	15.33	33.477	6.02					320.8	10	15.33	33.477	6.02	24.747	320.8	.032
29	14.38	33.458	6.25					302.7	20	15.20	33.470	6.06	24.770	318.6	.064
39	13.28	33.471	5.90					280.1	30	14.27	33.459	6.23	24.961	300.4	.095
53	12.20	33.503	5.19					257.7	50	12.38	33.496	5.34	25.368	261.6	.152
68	11.70	33.553	4.76					245.1	75	11.53	33.580	4.67	25.595	240.1	.215
92	10.86	33.615	4.41					226.0	100	10.49	33.670	4.09	25.851	215.7	.272
113	9.94	33.779	3.53					198.8	125	9.66	33.877	3.21	26.152	187.1	.323
132	9.54	33.924	3.08					181.7	150	9.16	33.966	2.86	26.304	172.7	.369
151	9.14	33.967	2.85					172.3	200	8.49	34.076	2.40	26.495	154.6	.452
180	8.66	34.037	2.57					159.9	250	8.08	34.139	1.84	26.608	143.9	.529
214	8.40	34.098	2.28					151.6	300	7.67	34.199	1.32	26.715	133.7	.601
243	8.14	34.130	1.93					145.5	400	6.93	34.279	.74	26.882	117.9	.732
292	7.72	34.192	1.38					135.0	500	6.25	34.325	.49	27.009	105.8	.850
346	7.37	34.234	1.05					127.1	600	5.76	34.360	.40	27.099	97.3	.959
427	6.71	34.299	.62					113.5							
511	6.19	34.328	.48					104.9							
596	5.78	34.359	.40					97.6							

RV ALEXANDER AGASSIZ

EXPEDITION X

(89.46) 42

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 01.4N		119 03.2W		04/24/65		0025		GMT	1757M	310	08KT	1	290 04 08		
Z	T	S	OZ	PO4	SIO3	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
0	15.43	33.499	6.10					321.3	0	15.43	33.499	6.10	24.742	321.3	0
9	15.16	33.500	6.21					315.5	10	15.14	33.502	6.21	24.806	315.2	.032
28	14.86	33.524	6.19					307.6	20	15.02	33.514	6.20	24.843	311.6	.063
52	12.20	33.556	5.01					253.8	30	14.15	33.540	5.93	25.049	292.0	.093
81	10.70	33.653	4.68					220.5	50	12.38	33.553	5.09	25.414	257.3	.149
105	9.92	33.789	3.61					197.7	75	10.93	33.629	4.75	25.740	226.2	.209
134	9.32	33.921	3.16					178.5	100	10.08	33.750	3.84	25.984	203.1	.264
159	9.08	34.020	2.71					167.5	125	9.46	33.890	3.22	26.196	183.0	.312
211	8.58	34.098	2.27					154.2	150	9.15	33.988	2.87	26.322	171.0	.357
316	7.55	34.222	1.18					130.4	200	8.69	34.089	2.34	26.475	156.4	.441
419	6.81	34.273	.69					116.8	250	8.18	34.151	1.85	26.601	144.6	.518
522	6.09	34.327	.56					103.7	300	7.70	34.207	1.34	26.716	133.6	.590
625	5.74	34.356	.42					97.4	400	6.94	34.267	.75	26.871	118.9	.722
728	5.23	34.390	.47					89.0	500	6.23	34.316	.57	27.005	106.2	.841
830	4.80	34.424	.48					81.7	600	5.82	34.350	.45	27.084	98.7	.951
933	4.40	34.449	.48					75.6	700	5.37	34.381	.45	27.162	91.3	1.054
1031	4.14	34.477	.60					70.9	800	4.92	34.415	.48	27.242	83.7	1.150
1255	3.84	34.498	.65					66.4	1000	4.21	34.469	.56	27.363	72.2	1.324
1557	3.76	34.504	.70					65.1	1200	3.89	34.496	.64	27.419	66.9	1.484
1667	3.75	34.505	.69					65.0	1500	3.78	34.503	.70	27.436	65.4	1.717

RV ALEXANDER AGASSIZ

EXPEDITION X

(89.39) 44

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 15.2N		118 38.3W		04/24/65		0448		GMT	1350M	300	05KT	1	270 03 10		
Z	T	S	OZ	PO4	SIO3	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
0	15.62	33.485	6.09					326.3	0	15.62	33.485	6.09	24.689	326.3	0
10	15.51	33.488	6.17					323.8	10	15.51	33.488	6.17	24.716	323.8	.033
29	14.31	33.466	6.29					300.7	20	15.15	33.480	6.24	24.789	316.8	.065
39	13.92	33.484	6.29					291.6	30	14.26	33.468	6.29	24.968	299.7	.095
53	12.54	33.528	5.20					262.6	50	13.15	33.500	5.75	25.222	275.5	.153
68	11.78	33.571	4.69					245.1	75	11.41	33.599	4.43	25.632	236.6	.218
93	10.65	33.678	3.95					217.8	100	10.50	33.710	3.89	25.880	213.0	.274
112	9.98	33.774	3.74					199.8	125	9.56	33.830	3.52	26.133	188.9	.325
132	9.38	33.860	3.39					183.9	150	9.05	33.967	3.07	26.321	171.1	.371
151	9.04	33.972	3.05					170.4	200	8.86	34.122	2.23	26.474	156.6	.454
182	8.90	34.060	2.66					161.8	250	8.27	34.156	1.84	26.591	145.4	.532
216	8.77	34.162	1.90					152.3	300	8.08	34.236	1.27	26.683	136.7	.605
245	8.30	34.149	1.89					146.4	400	7.16	34.279	.78	26.850	120.9	.739
294	8.12	34.230	1.31					137.8	500	6.40	34.312	.50	26.979	108.7	.861
348	7.66	34.264	1.02					128.8	600	5.90	34.360	.38	27.081	99.0	.972
431	6.88	34.286	.67					116.7							
514	6.32	34.318	.48					107.2							
599	5.91	34.359	.38					99.2							

a) ALTERNATE VALUE, 15.58 DEGREES.

b) POSSIBLE EVAPORATION. THE VALUE WAS ACCEPTED FOR INTERPOLATION AT STANDARD LEVELS OF DEPTH.

RV ALEXANDER AGASSIZ

EXPEDITION X

(88.40) 52

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 26.1N		118 48.6W		04/24/65		1948		GMT	1313M	310	05KT	0	270 03 10		
Z	T	S	OZ	PO4	SIO3	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
0	16.23	33.499	6.13					338.4	0	16.23	33.499	6.13	24.562	338.4	0
10	15.18	33.499	6.21					316.0	10	15.18	33.499	6.21	24.797	316.0	.033
30	14.50	33.493	6.22					302.5	20	14.94	33.500	6.21	24.850	311.0	.066
39	13.06	33.499	5.68					273.9	30	14.50	33.493	6.22	24.939	302.5	.095
54	12.24	33.525	5.04					256.8	50	12.49	33.518	5.24	25.366	261.9	.152
68	11.14	33.591	4.42					232.5	75	10.77	33.634	4.17	25.773	223.2	.213
94	10.10	33.764	3.66					203.9	100	9.94	33.771	3.56	26.023	199.4	.266
114	9.61	33.825	3.40					190.1	125	9.32	33.869	3.35	26.202	182.4	.314
134	9.12	33.903	3.30					176.8	150	8.92	33.957	2.99	26.334	169.8	.359
153	8.90	33.966	2.92					168.8	200	8.60	34.109	2.17	26.503	153.8	.441
183	8.76	34.070	2.40					159.0	250	8.16	34.177	1.57	26.624	142.4	.517
217	8.43	34.137	1.96					149.1	300	7.88	34.224	1.24	26.703	134.9	.589
247	8.18	34.173	1.60					142.9	400	7.05	34.252	.77	26.844	121.4	.723
296	7.92	34.222	1.26					135.5	500	6.44	34.285	.49	26.953	111.2	.846
350	7.40	34.236	.98					127.3	600	5.90	34.330	.39	27.057	101.3	.960
433	6.85	34.263	.66					118.0							
517	6.34	34.291	.46					109.5							
601	5.90	34.330	.39					101.2							

RV ALEXANDER AGASSIZ

EXPEDITION X

(88.36) 54

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 34.4N		118 32.5W		04/24/65		2355		GMT	888M	240	08KT	1	230 03 10		
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
0	17.18		6.03					363.0	0	17.18	33.450	6.03	24.304	363.0	0
9	16.04	33.450	6.30					337.8	10	16.00	33.453	6.30	24.579	336.8	.035
28	13.96	33.458	6.25					294.3	20	14.20	33.450	6.27	24.969	299.6	.067
37	13.54	33.479	6.03					284.6	30	13.89	33.463	6.23	25.044	292.5	.097
50	12.46	33.504	5.07					262.4	50	12.46	33.504	5.07	25.361	262.4	.152
64	11.36	33.554	4.45					239.0	75	10.94	33.610	4.17	25.725	227.7	.214
88	10.50	33.682	3.78					215.0	100	10.15	33.756	3.47	25.976	203.8	.268
106	10.00	33.792	3.35					198.8	125	9.68	33.888	3.12	26.159	186.5	.318
124	9.70	33.884	3.13					187.2	150	9.20	33.979	2.69	26.307	172.4	.363
142	9.31	33.949	2.84					176.3	200	8.91	34.135	1.99	26.476	156.4	.447
168	9.05	34.043	2.37					165.3	250	8.35	34.191	1.65	26.606	144.0	.524
199	8.93	34.135	1.99					156.7	300	8.03	34.244	1.12	26.697	135.4	.596
225	8.32	34.122	2.05					148.7	400	7.18	34.257	.71	26.830	122.8	.731
270	8.38	34.235	1.27					141.1	500	6.46	34.299	.51	26.960	110.5	.855
318	7.77	34.239	1.09					132.2							
397	7.20	34.256	.72					123.1							
476	6.62	34.289	.56					113.1							
559	6.12	34.321	.36					104.5							

RV ALEXANDER AGASSIZ

EXPEDITION X

(88.33) 56

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 40.5N		118 20.0W		04/25/65		0720		GMT	464M	270	08KT	0	310 02 12		
Z	T	S	OZ	PO4	SIO3	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
0	16.20	33.448	6.61					341.4	0	16.20	33.448	6.61	24.530	341.4	0
10	14.62	33.457	6.65					307.6	10	14.62	33.457	6.65	24.885	307.6	.032
30	12.02	33.525	4.64					252.8	20	13.19	33.484	5.71	25.201	277.6	.062
44	10.96	33.595	4.30					229.2	30	12.02	33.525	4.64	25.461	252.8	.088
54	10.68	33.625	4.11					222.2	50	10.78	33.612	4.20	25.754	224.9	.136
68	9.89	33.746	3.50					200.4	75	9.69	33.793	3.40	26.083	193.7	.189
83	9.56	33.836	3.33					188.5	100	9.47	33.896	3.00	26.199	182.7	.236
98	9.47	33.892	3.02					183.0	125	9.46	33.948	2.86	26.242	178.6	.282
123	9.48	33.942	2.88					179.4	150	9.15	34.026	2.52	26.352	168.2	.326
143	9.21	34.005	2.62					170.6	200	8.83	34.116	2.05	26.473	156.7	.409
173	9.02	34.082	2.23					162.0	250	8.44	34.192	1.44	26.594	145.2	.487
202	8.82	34.118	2.04					156.3	300	8.16	34.210	1.29	26.650	139.9	.560
238	8.52	34.182	1.47					147.1	400	7.65	34.236	.92	26.745	130.8	.702
292	8.20	34.208	1.32					140.5							
347	7.96	34.220	1.13					136.2							
405	7.62	34.237	.90					130.2							

LA PARED EXPEDITION

The objective of LA PARED Expedition, supported by the Office of Naval Research, was to examine in greater detail an abrupt change in characteristics that had been observed at about 18°N on the SHELLBACK Expedition (Scripps Institution of Oceanography, University of California, 1965; Wooster and Cromwell, 1958): surface temperature increased sharply to the south, but subsurface temperature (100-300 m) decreased sharply, and oxygen at 250 m dropped from 3.0 to 0.2 ml/L in less than 60 miles.

In addition to the hydrographic cast data reported herein, the work on LA PARED included 227 STD lowerings, 56 bathythermograph lowerings, some carbon 14, tritium and borate sampling, 86 current measurements with the GEK, 34 drogue deployments, 14 net tows and 6 phytoplankton samplings.

The depth of the 28 Nansen bottle casts varied from 750 to approximately 4000 m; the casts consisted of 20 bottles, with 16 bottles being lowered for the overlapping deep cast on 2 stations.

As noted in the introduction, no data from the 227 STD analog recordings is tabulated in this report. However, features have been incorporated into the curves except in cases of poor agreement where bathythermograph features have been used.

Personnel participating in the collection of data were:

Ship's Captain:

Collinson, Barnes
RV Argo

Scientific personnel:

Wooster, Dr. W. S. (Chief scientist)
Anderson, M. C.
Berger, W. H.
Bradshaw, J. S.
Hester, F.
Houtermans, J. C.
Jerde, C. E.
Mantyla, A. W.
Muus, D. A.
Rosendahl, D. V.
Wirth, D.

Publications utilizing LA PARED data are:

Berger, W. H., 1970. Planktonic Foraminifera: Differential Production and Expatriation off Baja California. *Limnol. Oceanogr.*, 15: 183-204.

Berger, W. H., 1971. Planktonic Foraminifera: Sediment Production in an Oceanic Front. J. Foram. Res., 1: 95-118.

Wooster, W. S., and J. H. Jones, 1966. Frontal Studies with in situ Salinometer. Second International Oceanographic Congress, Moscow, 1966, Abstracts of Papers, 398.

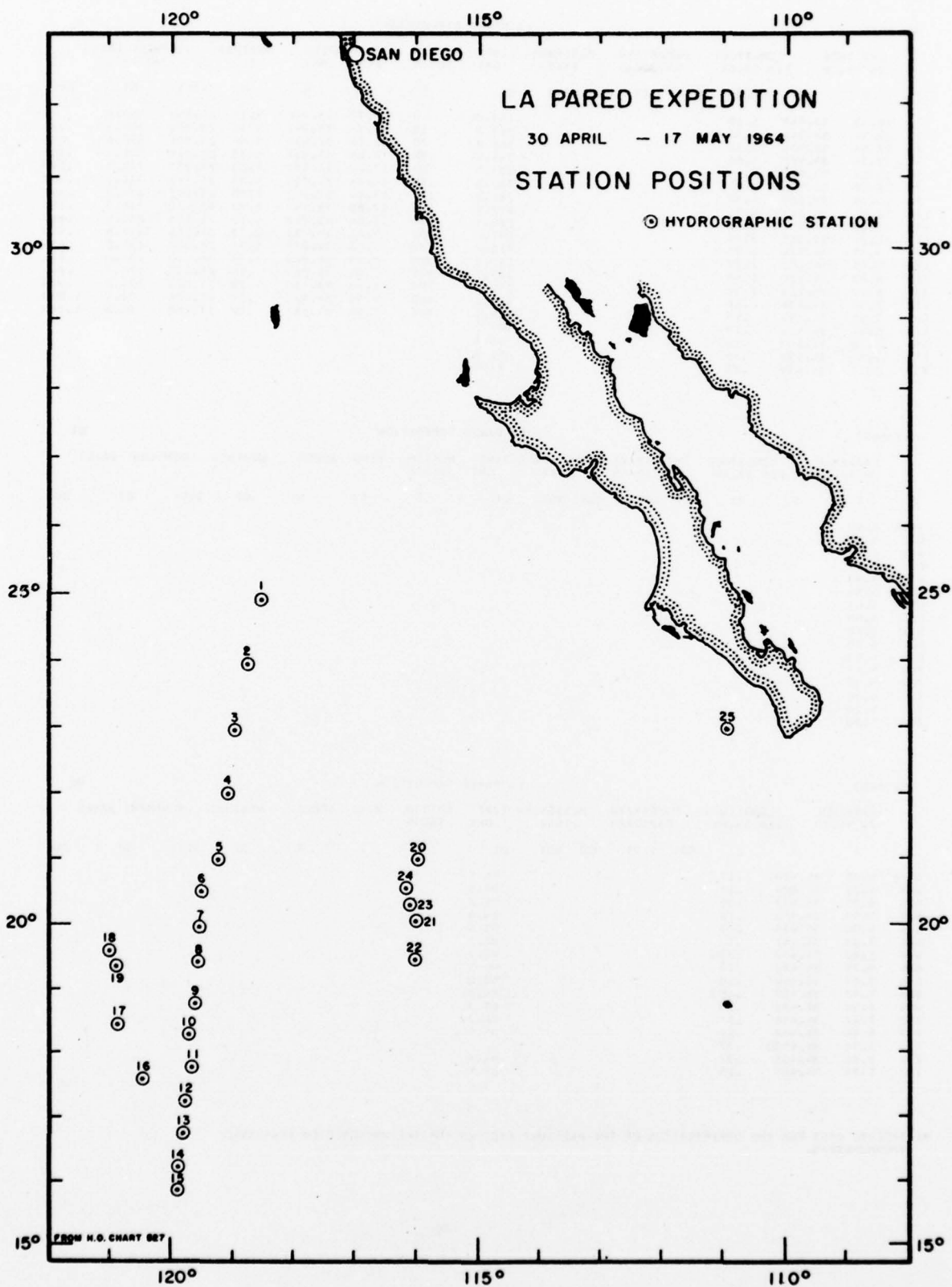


FIGURE 2

RV ARGO

LA PARED EXPEDITION

1

LATITUDE 24 55.0N				LONGITUDE 118 33.0W		MO/DAY/YR 04/30/65		MESSENGER 1315		TIME GMT	BOTTOM 3892M	WIND 350	SPEED 10KT	WEATHER 1	DOMINANT WAVES 340 03 10		
Z	T	S	O2	PD4	S103	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD		
0	18.72	33.942	5.18					363.0	0	18.72	33.942	5.18	24.304	363.0	0		
15	18.74	33.941	5.50					363.5	10	18.73	33.942	5.44	24.300	363.3	.036		
30	18.64	33.934	5.38					361.6	20	18.71	33.939	5.46	24.305	362.9	.073		
45	17.74	33.927	5.66					341.0	30	18.64	33.934	5.38	24.318	361.6	.109		
59	17.47	33.917	5.51					335.5	50	17.62	33.922	5.63	24.559	338.7	.179		
79	16.58	33.900	5.37					316.8	75	16.94	33.950	5.38	24.743	321.1	.262		
99	14.04	33.603	5.52					285.2	100	13.97	33.601	5.50	25.133	284.0	.339		
128	12.58	33.667	4.72					252.6	125	12.68	33.649	4.83	25.430	255.7	.407		
152	11.15	33.756	4.14					220.5	150	11.26	33.748	4.19	25.774	223.1	.467		
177	10.24	33.865	3.45					197.2	200	9.81	34.011	2.78	26.231	179.6	.570		
202	9.79	34.024	2.72					178.2	250	9.06	34.226	1.57	26.522	152.0	.655		
230	9.45	34.196	1.77					160.1	300	8.24	34.229	1.39	26.652	139.6	.731		
259	8.88	34.226	1.54					149.2	400	7.01	34.289	.58	26.878	118.2	.865		
303	8.20	34.228	1.38					139.1	500	6.64	34.414	.18	27.028	104.0	.983		
352	7.30	34.234	.86					126.1	600	5.95	34.422	.17	27.124	94.9	1.090		
401	7.01	34.290	.58					118.1	700	5.56	34.467	.22	27.208	86.9	1.190		
475	6.88	34.414	.19					107.2									
553	6.10	34.400	.16					98.4									
651	5.84	34.451	.19					91.4									
756	5.11	34.479	.28					81.0									

RV ARGO

LA PARED EXPEDITION

Q1

LATITUDE 24 55.0N				LONGITUDE 118 33.0W		MO/DAY/YR 04/30/65		MESSENGER 1517		TIME GMT	BOTTOM 3815M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	O2	PD4	S103	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD		
594A	5.95																
603	5.98																
613	5.93																
622	5.94																
632	5.90																
642	5.86																
652	5.64																
662	5.65																
671	5.60																
681	5.50																
690	5.53																
700	5.43																
709	5.37																
719	5.30																
728	5.24																
738	5.20																

RV ARGO

LA PARED EXPEDITION

Q2

LATITUDE 24 55.0N				LONGITUDE 118 33.0W		MO/DAY/YR 04/30/65		MESSENGER 1638		TIME GMT	BOTTOM 3815M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	O2	PD4	S103	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD		
594A	6.02	34.410	.17					96.7									
604	6.01	34.409	.15					96.6									
614	6.05	34.427	.20					95.8									
624	5.99	34.436	.18					94.4									
634	5.90	34.434	.23					93.4									
644	5.88	34.441	.17					92.7									
654	5.80	34.452	.36U					90.9									
664	5.75	34.452	.17					90.3									
674	5.67	34.444	.20					90.0									
684	5.52	34.438	.36U					88.7									
694	5.52	34.449	.23					87.9									
702	5.42	34.456	.22					86.2									
712	5.40	34.448	.25					86.5									
722	5.34	34.493U	.27														
732	5.26	34.456	.27					84.4									
742	5.24	34.465	.25					83.5									

A) SPECIAL CAST FOR THE VERIFICATION OF THE PRESSURE FACTORS FOR THE UNPROTECTED REVERSING THERMOMETERS.

RV ARGO

LA PARED EXPEDITION

2

LATITUDE 23 57.0N			LONGITUDE 118 45.0W			MO/DAY/YR 04/30/65		MESSENGER 2339		TIME GMT	BOTTOM 4218M	WIND 360	SPEED 09KT	WEATHER 1	DOMINANT WAVES 360 03 05	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	19.10	34.115	5.15	.31		.01		359.5	0	19.10	34.115	5.15	24.340	359.5	0	
13	19.02	34.105	5.34	.29		.00		358.3	10	19.05	34.110	5.30	24.349	358.7	.036	
26	18.84	34.072	5.45	.39		.00		356.4	20	18.94	34.086	5.41	24.359	357.7	.072	
40	18.52	34.097	5.48	.27		.00		346.9	30	18.76	34.081	5.46	24.400	353.8	.107	
58	17.92	33.981	5.37	.41		.02		341.3	50	18.20	34.039	5.42	24.508	343.5	.177	
79	17.27	33.921	5.52	.32		.00		330.7	75	17.43	33.930	5.49	24.611	333.7	.263	
101	15.56	33.869	5.32	.41		.02		297.0	100	15.65	33.871	5.33	24.978	298.8	.342	
123	13.48	33.832	4.34	.89		.08		257.5	125	13.26	33.822	4.30	25.448	254.1	.412	
146	11.28	33.764	4.00	1.34		.02		222.2	150	11.05	33.780	3.90	25.837	217.1	.472	
168	10.34	33.878	3.44	1.65		.01		197.9	200	9.74	34.011	2.88	26.245	178.4	.573	
194	9.80	33.984	3.01	1.90		.00		181.3	250	9.19	34.226	1.60	26.502	153.9	.658	
220	9.57	34.101	2.40	2.18		.00		169.1	300	8.41	34.292	1.04	26.676	137.4	.733	
250	9.19	34.226	1.60	2.53		.00		153.9	400	7.17	34.339	.43	26.896	116.6	.866	
289	8.56	34.280	1.14	2.75		.00		140.4	500	6.57	34.403	.23	27.028	104.0	.983	
337	7.93	34.318	.78	3.02		.00		128.5	600	6.00	34.436	.21	27.129	94.5	1.090	
385	7.28	34.328	.50	3.24		.00		118.8	700	5.49	34.462	.26	27.212	86.6	1.189	
459	6.85	34.384	.25	3.31		.00		109.0								
535	6.34	34.416	.21	3.35		.00		100.1								
637	5.82	34.445	.21	3.43		.00		91.7								
745	5.26	34.474	.31	3.52		.00		83.0								

RV ARGO

LA PARED EXPEDITION

3

LATITUDE 22 58.0N			LONGITUDE 118 57.0W			MO/DAY/YR 05/01/65			MESSENGER 1046		TIME GMT	BOTTOM 4036M	WIND 360	SPEED 10KT	WEATHER 1	DOMINANT WAVES		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
0	19.68	34.334	4.81			.00		357.8	0	19.68	34.334	4.81	24.358	357.8	0			
14	19.70	34.333	4.83			.00		358.4	10	19.69	34.333	4.82	24.353	358.3	.036			
28	19.66	34.333	4.92			.01		357.4	20	19.68	34.333	4.87	24.356	358.0	.072			
42	19.44	34.373	4.99			.00		349.1	30	19.65	34.342	4.93	24.372	356.4	.108			
60	18.54	34.203	4.95			.00		339.7	50	19.04	34.299	4.98	24.496	344.7	.178			
83	17.90	34.163	4.99			.01		327.6	75	18.35	34.220	4.98	24.608	334.0	.263			
105	15.55	34.003	4.79			.09		287.0	100	16.26	34.050	4.86	24.978	298.8	.343			
127	13.41	33.88 A	4.27			.05		252.6	125	13.56	33.888	4.32	25.439	254.9	.413			
149	11.91	33.823	4.13			.01		228.9	150	11.85	33.824	4.10	25.724	227.8	.474			
171	10.78	33.884	3.39			.00		204.8	200	9.83	34.025	2.76	26.239	178.8	.578			
197	9.88	34.007	2.84			.00		180.9	250	9.17	34.252	1.43	26.527	151.6	.663			
223	9.58	34.154	2.10			.00		165.3	300	8.68	34.346	.81	26.676	137.4	.737			
253	9.12	34.261	1.36			.00		150.2	400	7.74	34.430	.30	26.885	117.6	.871			
292	8.76								500	6.95	34.453	.16	27.016	105.1	.990			
341	8.28	34.361	.62			.00		130.3	600	6.18	34.467	.17	27.130	94.4	1.098			
390	7.82	34.424	.34			.01		119.1	700	5.57	34.477	.20	27.215	86.3	1.197			
466	7.24	34.445	.16			.00		109.6										
543	6.58	34.461	.16			.00		99.8										
646	5.89	34.47 A	.18			.00		90.6										
754	5.28	34.486	.22			.00		82.3										

RV ARGO

LA PARED EXPEDITION

4

LATITUDE 22 00.0N			LONGITUDE 119 05.0W			MO/DAY/YR 05/01/65		MESSENGER 1906		TIME GMT	BOTTOM 4189M	WIND 020	SPEED 10KT	WEATHER 2	DOMINANT WAVES 360 04 04		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	19.58	34.152	5.38					368.6	0	19.58	34.152	5.38	24.245	368.6	0		
14	19.56	34.150	5.37			.00		368.2	10	19.57	34.152	5.37	24.248	368.3	.037		
28	19.51	34.179	5.44			.01		364.9	20	19.55	34.156	5.40	24.256	367.5	.074		
42	19.32	34.284	5.36			.01		352.6	30	19.50	34.201	5.43	24.302	363.2	.110		
61	18.74	34.260	5.50			.01		340.3	50	18.95	34.210	5.38	24.450	349.0	.182		
84	18.30	34.205	5.38			.00		333.9	75	18.68	34.280	5.44	24.572	337.4	.268		
107	16.42	33.943	5.30					310.1	100	17.01	34.000	5.32	24.765	319.1	.351		
130	13.80	33.830	4.69			.09		263.9	125	14.36	33.844	4.85	25.237	274.1	.426		
153	12.38	33.796	4.21			.02		239.4	150	12.54	33.796	4.28	25.571	242.3	.491		
177	10.72	33.927	3.37			.01		200.6	200	10.13	34.038	2.81	26.200	182.6	.599		
205	10.07	34.059	2.71			.00		180.1	250	9.51	34.232	1.84	26.455	158.4	.687		
233	9.66	34.166	2.18			.00		165.7	300	9.07	34.356	1.02	26.623	142.5	.765		
265	9.40	34.284	1.56			.00		152.8	400	7.87	34.400	.52	26.842	121.6	.903		
307	9.00	34.364	.94			.01		140.8	500	7.04	34.440	.23	26.994	107.3	1.025		
357	8.44	34.383	.65			.02		131.0	600	6.36	34.462	.22	27.102	97.0	1.136		
408	7.77	34.403	.50			.01		120.0	700	5.59	34.469	.24	27.206	87.1	1.236		
487	7.12	34.435	.23			.01		108.7	800	5.03	34.483		27.284	79.8	1.329		
568	6.62	34.460	.22			.02		100.4									
674	5.77	34.464	.23			.00		89.6									
784	5.10	34.483	.30			.00		80.6									

A) POSSIBLE EVAPORATION. THE VALUE WAS ACCEPTED FOR INTERPOLATION AT STANDARD LEVELS OF DEPTH.

5

	LATITUDE 21 00.0N	LONGITUDE 119 14.0W	MO/DAY/YR 05/02/65	MESSENGER 1316	TIME GMT	BOTTOM 3892M	WIND 010	SPEED 10KT	WEATHER 1	DOMINANT WAVES 350 04 06					
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	S1GT	DT	DD
0	21.90	34.025	5.03			.00		437.1	0	21.90	34.025	5.03	23.527	437.1	0
16	21.93	34.030	5.04			.00		437.5	10	21.92	34.030	5.04	23.523	437.4	.044
30	21.92	34.025	5.08			.00		437.6	20	21.93	34.029	5.05	23.522	437.6	.088
43	20.96	34.211	5.06			.00		399.1	30	21.92	34.025	5.08	23.521	437.6	.131
61	20.02	34.270	5.30			.00		370.9	50	20.45	34.290	5.22	24.122	380.3	.213
84	18.44	34.140	5.15			.00		341.9	75	19.11	34.194	5.24	24.398	354.0	.306
109	16.46	34.001	4.81			.10		306.8	100	17.40	34.080	4.99	24.733	322.1	.391
131	14.84	33.983	3.87			.09		273.6	125	15.24	33.972	4.17	25.146	282.8	.467
154	12.97	34.083	2.80			.01		229.3	150	13.26	34.058	2.99	25.631	236.7	.533
177	12.25	34.255	1.75			.00		203.3	200	10.72	34.220	1.81	26.238	179.0	.639
204	10.58	34.217	1.82			.00		176.8	250	9.72	34.343	1.12	26.505	153.6	.725
232	10.01	34.299	1.37			.00		161.4	300	9.33	34.463	.45	26.664	138.5	.801
264	9.55	34.374	.93			.00		148.5	400	8.13	34.479	.20	26.865	119.4	.936
305	9.30	34.472	.40			.00		137.4	500	7.08	34.461	.19	27.005	106.2	1.057
356	8.34	34.447	.33			.00		124.8	600	6.20	34.460	.18	27.121	95.2	1.166
406	8.12	34.484	.18			.00		118.9	700	5.64	34.469	.23	27.200	87.8	1.266
484	7.25	34.463	.19			.00		108.4							
564	6.45	34.458	.17			.00		98.4							
669	5.81	34.465	.22			.00		90.0							
778	5.24	34.480	.25			.01		82.3							

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
20 31.0N		119 30.0W		05/02/65		1810 20ZBGMT		4199M	020	10KT	1	020 04 06			
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
0	20.84	34.382	5.12			.00		383.6	0	20.84	34.382	5.12	24.087	383.6	0
15	20.82	34.382	5.13			.00		383.1	10	20.83	34.383	5.13	24.092	383.2	.038
30	20.81	34.378	5.08			.01		383.1	20	20.82	34.381	5.11	24.093	383.1	.077
45	20.10	34.395	5.23			.00		363.9	30	20.81	34.378	5.08	24.092	383.1	.115
64	18.83	34.261	5.38			.00		342.4	50	19.74	34.360	5.28	24.361	357.5	.189
88	18.53	34.314	5.39			.00		331.4	75	18.73	34.292	5.38	24.569	337.7	.277
113	16.07	34.048	5.17			.04		294.8	100	17.50	34.191	5.28	24.794	316.3	.359
137	13.50	33.987	3.67			.03		246.5	125	14.73	33.988	4.49	25.269	271.0	.434
161	11.94	34.156	2.30			.00		204.9	150	12.58	34.079	2.84	25.783	222.2	.496
186	10.61	34.122	2.29			.00		184.3	200	10.55	34.228	1.89	26.275	175.5	.598
215	10.48	34.322	1.37			.00		167.4	250	10.48	34.527	.57	26.519	152.3	.682
245	10.52	34.511	.65			.00		154.1	300	9.76	34.578	.24	26.682	136.8	.757
279	10.13	34.574	.28			.00		143.0	400	8.14	34.513	.16	26.891	117.0	.891
323	9.32	34.565	.19			.00		130.8	500	6.92	34.477	.20	27.039	103.0	1.008
377	8.49	34.531	.18			.01		120.8	600	6.14	34.464	.19	27.133	94.1	1.115
430	7.71	34.493	.13			.01		112.4	700	5.53	34.479	.25	27.222	85.7	1.213
513	6.80	34.476	.22			.01		101.5	800	4.95	34.499	.27	27.305	77.8	1.304
596	6.17	34.464	.19			.01		94.5	1000	4.19	34.524	.44	27.410	67.8	1.468
703	5.51	34.480	.25			.00		85.4	1200	3.63	34.552	.63	27.490	60.2	1.616
783A	5.05	34.496	.25					79.0	1500	2.87	34.596	1.19	27.596	50.2	1.811
812	4.89	34.500	.29			.00		77.0	2000	2.13	34.639	2.01	27.694	41.0	2.087
930A	4.41	34.515	.36					70.8	2500	1.81	34.658	2.37	27.734	37.1	2.331
1028A	4.11	34.528	.47					66.8	3000	1.60	34.673	2.82	27.762	34.5	2.560
1126A	3.84	34.541	.52					63.1	3500	1.53	34.679	3.00	27.772	33.6	2.784
1372A	3.16	34.579	.96					54.0	4000	1.58	34.681	3.09	27.770	33.7	3.012
1617A	2.64	34.608	1.40					47.3							
1863A	2.29	34.630	1.81					42.8							
2106A	2.03	34.644	2.14					39.8							
2401A	1.86	34.654	2.30					37.8							
2696A	1.72	34.665	2.53					35.9							
2991A	1.60	34.672	2.81					34.6							
3286A	1.54	34.677	3.00					33.8							
3432A	1.53	34.678	2.98					33.6							
3579A	1.53	34.679	3.03B					33.5							
3727A	1.55	34.680	3.06					33.6							
3874A	1.56	34.676	3.09					34.0							
4022A	1.58	34.682	3.09					33.7							
4172A	1.59	34.682	3.12					33.7							

A) CAST II.
B) ALTERNATE OXYGEN VALUE, 2.67.

RV ARGO

LA PARED EXPEDITION

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LATITUDE 19 58.0N		LONGITUDE 119 31.0W		MO/DAY/YR 05/03/65		MESSENGER 0143		TIME GMT	BOTTOM 4045M	WIND 030	SPEED 16KT	WEATHER 1	DOMINANT WAVES 350 04 06		
Z	T	S	Q2	P04	S103	N02	N03	DT	Z	T	S	Q2	S1GT	DT	DD
0	22.45	34.015	4.79			.00		452.5	0	22.45	34.015	4.79	23.365	452.5	0
14	22.47	34.015	4.87			.00		453.1	10	22.46	34.015	4.84	23.361	452.9	.045
28	21.84	34.186	4.98			.01		423.9	20	22.44	34.020	4.92	23.372	451.9	.091
42	20.63	34.283	4.97					385.4	30	21.66	34.208	4.98	23.732	417.5	.134
61	19.88	34.392	5.18			.01		358.6	50	20.23	34.337	5.06	24.217	371.3	.213
84	19.14	34.352	5.14			.00		343.3	75	19.58	34.410	5.16	24.441	349.9	.304
108	18.66	34.289	5.26			.01		336.3	100	18.80	34.307	5.22	24.563	338.3	.391
131	17.64	34.167	5.21			.01		321.2	125	18.00	34.204	5.22	24.683	326.8	.475
154	15.30	34.025	4.18			.08		280.1	150	15.78	34.051	4.37	25.087	288.4	.553
178	12.10	33.848	3.75			.01		230.5	200	10.99	34.016	2.68	26.030	198.7	.677
206	10.88	34.078	2.38			.00		192.1	250	10.10	34.317	1.32	26.422	161.5	.769
234	10.44	34.249	1.73			.00		172.1	300	9.05	34.340	.88	26.614	143.3	.848
266	10.08	34.360	1.15			.00		158.0	400	8.06	34.457	.27	26.859	120.1	.986
308	8.96	34.360	.83			.01		140.5	500	7.13	34.482	.10	27.014	105.3	1.107
360	8.58	34.467	.29			.01		126.8	600	6.20	34.472	.16	27.131	94.3	1.215
411	7.91	34.449	.26			.00		118.5	700	5.45	34.478	.22	27.230	84.9	1.313
492	7.20	34.482	.10			.01		106.3	800	5.08	34.489		27.283	79.9	1.404
573	6.45	34.473	.14			.00		97.3							
679	5.58	34.476	.21			.00		86.5							
789	5.10	34.488	.25			.00		80.2							

RV ARGO

LA PARED EXPEDITION

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LATITUDE 19 26.0N		LONGITUDE 119 34.0W		MO/DAY/YR 05/03/65		MESSENGER 0940		TIME GMT	BOTTOM 4055M	WIND 040	SPEED 12KT	WEATHER	DOMINANT WAVES		
Z	T	S	Q2	P04	S103	N02	N03	DT	Z	T	S	Q2	S1GT	DT	DD
0	22.52	33.988	4.89			.00		456.4	0	22.52	33.988	4.89	23.325	456.4	0
12	22.53	33.989	4.94			.00		456.6	10	22.53	33.990	4.93	23.323	456.5	.046
24	22.52	33.985	4.88			.01		456.6	20	22.52	33.987	4.90	23.323	456.6	.091
37	21.84	34.168	4.99			.00		425.2	30	22.34	34.050	4.92	23.423	447.0	.137
53	20.78	34.260	5.20			.00		390.9	50	21.08	34.260	5.17	23.930	398.6	.222
73	19.48	34.209	5.06			.00		362.0	75	19.42	34.207	5.09	24.329	360.6	.317
93	18.74	34.163	5.28			.00		347.4	100	18.21	34.122	5.22	24.567	337.9	.405
110	17.30	34.066	4.96			.05		320.8	125	15.71	34.049	3.98	25.102	287.0	.484
128	15.38	34.049	3.78			.13		280.0	150	13.21	33.989	3.21	25.589	240.7	.551
147	13.52	33.998	3.25			.02		246.1	200	10.74	34.101	2.32	26.142	188.1	.660
167	11.66	33.962	3.04			.00		214.2	250	10.00	34.370	1.07	26.480	156.0	.749
188	10.81	33.995	2.78			.01		197.1	300	9.35	34.440	.57	26.644	140.4	.826
212	10.67	34.200	1.82			.01		179.6	400	7.82	34.429	.31	26.873	118.7	.962
244	10.20	34.368	1.16			.01		159.4	500	6.95	34.467	.16	27.027	104.1	1.080
283	9.58	34.425	.71			.00		145.2	600	6.10	34.465	.19	27.138	93.6	1.187
321	9.04	34.449	.44			.00		135.1							
380	8.04	34.425	.36			.00		122.1							
442	7.44	34.445	.20			.00		112.3							
528	6.72	34.474	.14			.00		100.6							
626	5.88	34.455	.21			.00		91.6							

RV ARGO

LA PARED EXPEDITION

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LATITUDE 18 48.0N		LONGITUDE 119 38.0W		MO/DAY/YR 05/03/65		MESSENGER 1452		TIME GMT	BOTTOM 4257M	WIND 040	SPEED 09KT	WEATHER 1	DOMINANT WAVES 040 04 06		
Z	T	S	Q2	P04	S103	N02	N03	DT	Z	T	S	Q2	SIGT	DT	DD
0	22.16	34.126	4.93			.00		436.7	0	22.16	34.126	4.93	23.531	436.7	0
14	22.18	34.124	4.94			.00		437.4	10	22.17	34.125	4.94	23.526	437.2	.044
28	21.78	34.165	4.94			.00		423.8	20	22.15	34.132	4.94	23.538	436.0	.087
41	20.40	34.339	5.09			.00		375.5	30	21.57	34.193	4.96	23.744	416.4	.130
59	19.26	34.270	5.17			.00		352.2	50	19.77	34.329	5.14	24.331	360.4	.208
80	18.06	34.160	5.29			.00		331.5	75	18.35	34.188	5.27	24.583	336.3	.296
103	16.42	34.045	5.11			.02		302.7	100	16.67	34.059	5.13	24.888	307.3	.377
124	13.98	33.999	3.60			.02		255.0	125	13.87	34.002	3.56	25.462	252.7	.448
146	12.23	34.078	2.77			.01		215.9	150	12.11	34.090	2.60	25.881	212.8	.507
167	12.18	34.289	1.67			.01		199.5	200	11.37	34.523	.67	26.355	167.8	.604
192	11.50	34.484	.84			.01		172.9	250	10.71	34.607	.29	26.541	150.3	.686
218	11.15	34.579	.41			.01		159.8	300	10.02	34.587	.22	26.645	140.4	.762
248	10.74	34.607	.29			.00		150.7	400	8.54	34.495	.25	26.816	124.2	.901
289	10.14	34.584	.25			.00		142.4	500	7.51	34.519	.10	26.988	107.8	1.025
336	9.60	34.580	.16			.01		134.1	600	6.71	34.517	.09	27.099	97.3	1.136
384	8.75	34.497	.28			.00		127.1	700	5.98	34.508	.14	27.189	88.8	1.238
459	7.90	34.517	.10			.00		113.3							
536	7.20	34.517	.10			.01		103.7							
637	6.44	34.515	.09			.00		94.0							
745	5.65	34.501	.20			.01		85.5							

RV ARGO

LA PARED EXPEDITION

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LATITUDE 18 19.0N				LONGITUDE 119 43.0W				MO/DAY/YR 05/03/65		MESSENGER 1946		TIME GMT	BOTTOM 4187M	WIND 030	SPEED 13KT	WEATHER 1	DOMINANT WAVES 360 06 10			
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD				
1	22.62	34.110	4.41			.00		450.3		0	22.62	34.110	4.41	23.389	450.3	0				
15	22.60	34.108	4.88			.00		449.9		10	22.61	34.109	4.76	23.392	450.0	.045				
29	22.51	34.116	4.93			.00		446.8		20	22.58	34.105	4.90	23.197	449.4	.090				
43	20.42	34.406	5.25			.00		371.2		30	22.50	34.120	4.95	23.430	446.3	.135				
61	19.45	34.364	5.46			.00		350.0		50	19.91	34.343	5.36	24.304	362.9	.216				
85	18.20	34.163	5.38			.00		334.6		75	18.77	34.254	5.41	24.528	341.6	.305				
107	16.25	34.047	4.66			.18		298.8		100	16.92	34.069	4.96	24.838	312.1	.387				
130	14.03	34.129	3.08			.03		246.5		125	14.47	34.095	3.45	25.409	257.8	.459				
153	13.03	34.341	1.62			.01		211.5		150	13.10	34.307	1.80	25.855	215.4	.519				
175	12.82	34.657	.57			.01		184.3		200	12.32	34.720	.38	26.328	170.4	.618				
202	12.28	34.717	.37			.01		169.8		250	11.50	34.720	.25	26.484	155.6	.702				
230	11.85	34.738	.38			.01		160.5		300	10.86	34.690	.21	26.578	146.7	.781				
261	11.32	34.706	.18			.00		153.4		400	9.30	34.604	.25	26.778	127.7	.926				
302	10.84	34.689	.21			.00		146.4		500	7.84	34.540	.21	26.956	110.9	1.053				
352	10.02	34.646	.22			.08		135.9		600	6.97	34.516	.20	27.063	100.7	1.168				
403	9.26	34.600	.25			.01		127.3		700	6.09	34.505	.25	27.171	90.4	1.273				
482	8.03	34.546	.23			.02		113.0												
563	7.30	34.523	.16			.00		104.6												
666	6.38	34.507	.26			.00		93.8												
772	5.50	34.505	.15			.01		83.4												

RV ARGO

LA PARED EXPEDITION

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LATITUDE 17 50.0N				LONGITUDE 119 47.0W				MO/DAY/YR 05/04/65		MESSENGER 0234		TIME GMT	BOTTOM 3873M	WIND 040	SPEED 17KT	WEATHER 1	DOMINANT WAVES 020 06 06			
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD				
1	23.91	33.905	4.79			.00		500.6		0	23.91	33.905	4.79	22.862	500.6	0				
15	23.89	33.897	4.90			.01		500.7		10	23.90	33.900	4.85	22.861	500.6	.050				
29	22.90	33.960	5.00			.01		468.7		20	23.78	33.900	4.97	22.896	497.4	.100				
43	22.04	34.135	5.05			.00		432.9		30	22.83	33.972	5.00	23.225	465.9	.148				
61	20.84	34.296	5.18			.01		389.8		50	21.58	34.213	5.10	23.757	415.1	.237				
84	19.29	34.280	5.18			.01		352.2		75	19.88	34.290	5.18	24.272	366.0	.335				
106	16.70	34.122	4.30			.33		303.3		100	17.46	34.159	4.64	24.779	317.7	.421				
128	14.66	34.215	2.60			.03		252.9		125	14.89	34.189	2.85	25.390	259.5	.494				
150	13.75	34.523	1.26			.02		212.1		150	13.75	34.523	1.26	25.890	212.1	.554				
173	13.31	34.796	.66			.01		183.5		200	12.69	34.807	.31	26.324	170.8	.652				
198	12.72	34.807	.32			.01		171.4		250	12.05	34.784	.19	26.431	160.6	.738				
224	12.36	34.800	.23			.01		165.2		300	11.40	34.747	.12	26.524	151.9	.819				
254	12.00	34.781	.18			.01		160.0		400	9.63	34.617	.09	26.735	131.8	.969				
293	11.48	34.750	.11			.00		153.0		500	8.07	34.525	.11	26.911	115.1	1.101				
340	10.88	34.716	.17			.01		145.1		600	7.03	34.524	.10	27.061	100.9	1.218				
386	9.90	34.640	.09			.01		134.4		700	6.20	34.521	.10	27.171	90.5	1.323				
457	8.65	34.541	.11			.01		122.4												
530	7.73	34.581U	.10			.01														
624	6.81	34.524	.10			.00		98.0												
728	6.00	34.519	.10			.01		88.3												

RV ARGO

LA PARED EXPEDITION

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LATITUDE 17 17.0N				LONGITUDE 119 50.0W				MO/DAY/YR 05/04/65		MESSENGER 1107		TIME GMT	BOTTOM 3982M	WIND 050	SPEED 12KT	WEATHER	DOMINANT WAVES			
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD				
0	23.49	34.002	4.67			.00		481.9		0	23.49	34.002	4.67	23.058	481.9	0				
15	23.51	34.001	4.89			.00		482.5		10	23.51	34.001	4.83	23.052	482.4	.048				
35	23.51	34.006	5.06			.02		482.2		20	23.51	34.002	4.96	23.051	482.5	.097				
50	23.50	34.003	4.91			.00		482.1		30	23.51	34.004	5.04	23.053	482.3	.145				
70	21.69	34.281	5.20			.01		413.0		50	23.50	34.003	4.91	23.055	482.1	.242				
99	18.08	34.182	5.02			.07		330.4		75	21.05	34.280	5.20	23.953	396.4	.352				
119	15.52	34.216	3.02			.08		270.8		100	17.94	34.182	4.94	24.680	327.2	.443				
148	13.64	34.452	.93			.01		215.1		125	14.93	34.230	2.49	25.413	257.4	.517				
178	12.92	34.667	.22			.01		185.5		150	13.58	34.470	.85	25.885	212.5	.577				
203	12.25	34.723	.13			.00		168.8		200	12.33	34.720	.14	26.328	170.4	.675				
237	11.72	34.736	.06			.00		158.3		250	11.53	34.729	.06	26.486	155.5	.759				
267	11.28	34.714	.07			.01		152.1		300	10.67	34.679	.14	26.604	144.2	.837				
305	10.58	34.674	.15			.65		143.1		400	9.37	34.606	.07	26.770	128.5	.981				
349	10.10	34.649	.08			.97		137.0		500	7.95	34.547	.11	26.947	111.7	1.110				
412	9.18	34.595	.07			.01		126.4		600	6.86	34.518	.12	27.080	99.1	1.224				
475	8.28	34.561	.09			.00		115.5		700	6.05	34.520	.10	27.188	88.8	1.327				
565	7.18	34.521	.15			.00		103.1		800	5.37	34.524	.13	27.276	80.5	1.422				
638	6.55	34.519	.08			.00		95.1												
746	5.71	34.521	.11			.00		84.7												
886	4.92	34.528	.15			.02		75.2												

RV ARGO

LA PARED EXPEDITION

13

LATITUDE 16 47.0N			LONGITUDE 119 52.0W		MO/DAY/YR 05/04/65		MESSENGER 1612		TIME GMT	BOTTOM 4018M	WIND 040	SPEED 14KT	WEATHER 1	DOMINANT WAVES 020 07 10		
Z	T	S	Q2	P04	S103	N02	N03	DT	Z	T	S	Q2	SIGT	DT	DD	
0	24.14	33.976	4.34			.00		502.0	0	24.14	33.976	4.34	22.847	502.0	0	
14	24.12	33.975	4.73			.00		501.5	10	24.13	33.976	4.66	22.851	501.6	.050	
27	22.59	33.941	4.82			.00		461.7	20	24.01	33.970	4.78	22.881	498.8	.100	
40	22.42	33.943	4.97			.00		456.9	30	22.55	33.942	4.85	23.281	460.6	.148	
58	22.24	34.105	5.10			.00		440.4	50	22.32	33.998	5.06	23.388	450.3	.240	
80	20.68	34.383	4.96			.00		379.4	75	21.18	34.345	4.99	23.966	395.2	.346	
101	17.37	34.071	4.58			.17		322.1	100	17.54	34.085	4.60	24.704	324.8	.437	
122	15.12	34.231	2.17			.04		261.2	125	14.83	34.230	2.06	25.435	255.3	.510	
143	12.80	34.270	1.63			.01		212.3	150	12.75	34.391	1.23	25.990	202.6	.568	
164	12.66	34.549	.44			.01		189.2	200	11.98	34.682	.13	26.365	166.9	.663	
189	12.26	34.675	.18			.01		172.5	250	10.99	34.668	.06	26.538	150.5	.745	
214	11.61	34.673	.10			.01		160.9	300	10.30	34.624	.06	26.625	142.2	.821	
243	11.09	34.673	.07			.01		151.8	400	9.02	34.556	.11	26.788	126.8	.963	
282	10.55	34.634	.05			.01		145.5	500	7.64	34.484	.10	26.942	112.2	1.091	
328	9.94	34.609	.07			.31		137.3	600	6.69	34.464	.10	27.060	101.0	1.206	
376	9.42	34.582	.08			.01		131.1	700	5.97	34.473	.10	27.161	91.4	1.311	
448	8.20	34.508	.15			.00		118.2								
523	7.44	34.477	.08			.01		109.9								
621	6.50	34.463	.11			.00		98.6								
727	5.84	34.479	.10			.01		89.4								

RV ARGO

LA PARED EXPEDITION

14

LATITUDE 16 16.0N			LONGITUDE 119 55.0W		MO/DAY/YR 05/04/65		MESSENGER 2054		TIME GMT	BOTTOM 4015M	WIND 040	SPEED 20KT	WEATHER 1	DOMINANT WAVES 030 08 08		
Z	T	S	Q2	P04	S103	N02	N03	DT	Z	T	S	Q2	SIGT	DT	DD	
1	24.32	34.008	4.78	.17		.00		504.8	0	24.32	34.008	4.78	22.818	504.8	0	
15	24.30	34.010	4.83	.16		.00		504.1	10	24.31	34.007	4.81	22.821	504.5	.050	
29	24.24	34.016	4.88	.17		.01		501.9	20	24.28	34.012	4.85	22.834	503.3	.101	
43	23.88	34.054	4.88	.18		.00		489.0	30	24.21	34.019	4.88	22.857	501.0	.151	
62	23.01	34.066	5.05	.21		.00		464.1	50	23.80	34.060	4.90	23.011	486.4	.250	
85	20.52	34.446	5.20	.22		.00		370.8	75	21.32	34.360	5.18	23.940	397.6	.361	
109	16.40	34.250	2.80	1.38		.21		287.3	100	18.05	34.352	3.83	24.784	317.3	.451	
132	13.90	34.340	1.50	2.11		.02		228.4	125	14.42	34.060	1.85	25.392	259.4	.524	
157	12.86	34.589	.48	2.63		.01		190.0	150	13.06	34.588	.71	26.080	194.0	.582	
180	12.35	34.673	.18	2.72		.01		174.3	200	11.88	34.700	.08	26.398	163.8	.674	
209	11.69	34.704	.06	2.77		.00		160.1	250	11.16	34.703	.04	26.535	150.8	.755	
237	11.37	34.713	.02	2.92		.30		153.8	300	10.46	34.673	.07	26.636	141.2	.831	
269	10.84	34.684	.08	2.86		.03		146.7	400	8.97	34.586	.07	26.818	124.0	.971	
312	10.32	34.668	.06	2.92		1.13		139.2	500	7.70	34.523	.10	26.964	110.1	1.096	
363	9.55	34.623	.06	3.05		.54		130.1	600	6.78	34.511	.09	27.085	98.6	1.209	
414	8.76	34.571	.07	3.09		.01		121.8	700	5.98	34.507	.15	27.187	89.0	1.313	
494	7.76	34.524	.10	3.21		.00		110.8	800	5.40	34.506	.16	27.258	82.2	1.408	
574	7.02	34.513	.08	3.30		.00		101.6								
681	6.10	34.507	.15	3.44		.00		90.4								
792	5.45	34.506	.16	3.38		.06		82.8								

RV ARGO

LA PARED EXPEDITION

15

LATITUDE 15 55.0N			LONGITUDE 119 59.0W		MO/DAY/YR 05/05/65		MESSENGER TIME 0955 1221GMT		BOTTOM 4093M	WIND 050	SPEED 16KT	WEATHER	DOMINANT WAVES 030 08 08		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	24.49	34.051	4.69			.00		506.5	0	24.49	34.051	4.69	22.800	506.5	0
14	24.53	34.051	4.78			.00		507.7	10	24.52	34.051	4.77	22.791	507.3	.051
27	24.44	34.060	4.75			.00		504.5	20	24.50	34.054	4.77	22.801	506.5	.101
41	24.35	34.080	4.77			.00		500.4	30	24.42	34.065	4.75	22.831	503.6	.152
59	22.71	34.098	5.01			.00		453.6	50	23.67	34.082	4.88	23.067	481.1	.251
81	20.09	34.278	5.12			.01		372.1	75	20.87	34.233	5.09	23.966	395.2	.361
104	16.71	34.206	3.44			.58		297.4	100	17.31	34.222	3.79	24.864	309.6	.450
125	13.99	34.241	2.02			.02		237.5	125	13.99	34.241	2.02	23.622	237.5	.519
147	13.23	34.670	.13			.01		191.2	150	13.11	34.693	.12	26.151	187.2	.573
168	12.44	34.744	.06			.20		170.8	200	11.78	34.749	.09	26.454	158.5	.662
195	11.86	34.747	.09			1.43		160.0	250	11.13	34.734	.06	26.563	148.1	.741
221	11.51	34.751	.06			1.55		153.4	300	10.43	34.680	.11	26.648	140.1	.816
251	11.12	34.733	.06			.67		147.9	400	9.15	34.627	.07	26.821	123.6	.955
289	10.58	34.693	.12			1.37		141.7	500	7.76	34.553	.06	26.979	108.6	1.080
335	9.96	34.647	.06			1.12		134.9	600	6.77	34.536	.08	27.106	96.6	1.191
382	9.41	34.640	.07			.51		126.6	700	6.09	34.534	.11	27.194	86.3	1.293
455	8.34	34.578	.05			.00		115.1	800	5.50	34.534	.16	27.268	81.3	1.388
530	7.41	34.542	.07			.00		104.7	1000	4.47	34.549	.40	27.399	68.9	1.558
631	6.54	34.537	.09			.00		93.6	1200	3.80	34.567	.75	27.483	60.9	1.709
741	5.86	34.532	.12			.01		85.6	1500	3.05	34.598	1.02	27.581	51.6	1.909
988A	4.52	34.548	.38					69.4	2000	2.17	34.637	1.92	27.689	41.4	2.191
1117A	4.06	34.558	.61					64.0	2500	1.81	34.658	2.48	27.733	37.2	2.437
1204A	3.79	34.566	.76					60.8	3000	1.64	34.672	2.80	27.758	34.9	2.668
1288A	3.49	34.585	.84					56.5	3500	1.56	34.673	2.99	27.765	34.2	2.895
1505A	3.04	34.597	1.03					51.6							
1721A	2.61	34.618	1.56					46.3							
1939A	2.24	34.632	1.83					42.3							
2160A	2.02	34.646	2.14					39.6							
2429A	1.85	34.655	2.42					37.6							
2700A	1.73	34.664	2.64					36.1							
2974A	1.65	34.672	2.79					34.9							
3250A	1.59	34.672	2.91					34.5							
3390A	1.57	34.675	2.96					34.1							
3533A	1.56	34.672	3.00					34.3							
3674A	1.57	34.674	3.03					34.2							
3819A	1.58	34.675	3.11					34.2							

RV ARGO

LA PARED EXPEDITION

15

LATITUDE 15 55.0N			LONGITUDE 119 59.0W		MO/DAY/YR 05/05/65		MESSENGER TIME 1543		BOTTOM 3959M	WIND 040	SPEED 14KT	WEATHER 2	DOMINANT WAVES 360 10 06		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1438	13.56	34.696				.02		195.7	150	13.28	34.701		26.123	189.9	
157	13.02	34.709				.01		184.3	200	11.80	34.748		26.450	158.8	
172	12.51	34.735				.02		172.8	250	11.10	34.723		26.561	148.3	
186	12.08	34.747				1.16		164.0	300	10.34	34.678		26.662	138.7	
200	11.80	34.748				1.56		158.8	400	8.89	34.589		26.833	122.5	
214	11.69	34.750				1.68		156.7	500	7.58	34.553		27.005	106.2	
228	11.46	34.745				1.39		153.0	600	6.59	34.539		27.133	94.1	
242	11.21	34.731				1.30		149.6	700	5.91	34.532		27.216	86.2	
256	11.02	34.717				1.21		147.4							
270	10.84	34.706				1.35		145.1							
285	10.56	34.689				1.45		141.6							
298	10.37	34.679				1.60		139.2							
313	10.14	34.671				1.28		136.0							
327	10.00	34.659				1.36		134.6							
341	9.78	34.647				1.03		132.0							
355	9.56	34.631				.51		129.6							
369	9.41	34.627				.54		127.6							
384		34.612				.21									
398	8.92	34.589				.00		122.9							
412		34.583				.00									
426	8.52	34.576				.01		117.9							
769	5.62	34.527				.00		83.2							

A) CAST II.

B) SPECIAL CAST TO LOCATE THE NITRITE MAXIMUM.

RV ARGO

LA PARED EXPEDITION

16

LATITUDE 17 39.0N				LONGITUDE 120 32.0W		MO/DAY/YR 05/06/65		MESSENGER 0325		TIME GMT	BOTTOM 4026M	WIND 030	SPEED 16KT	WEATHER 1	DOMINANT WAVES 020 06 07			
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD			
0	23.82	34.137	4.65			.00		481.4	0	23.82	34.137	4.65	23.063	481.4	0			
12	23.83	34.134	4.61			.00		481.9	10	23.83	34.134	4.62	23.058	481.8	.048			
25	23.83	34.138	4.70			.00		481.6	20	23.83	34.137	4.66	23.060	481.7	.096			
37	22.35	34.047	4.96			.00		447.5	30	23.80	34.130	4.70	23.064	481.3	.145			
53	21.07	34.284	5.08			.00		396.6	50	21.19	34.228	5.06	23.874	403.9	.233			
73	19.82	34.285	5.05			.01		364.9	75	19.66	34.272	5.03	24.314	362.0	.330			
93	17.70	34.131	4.88			.08		325.3	100	16.58	34.100	4.48	24.942	302.2	.413			
113	15.22	34.087	3.51			.06		273.9	125	14.37	34.345	2.13	25.622	237.5	.482			
132	14.00	34.504	1.38			.02		218.4	150	13.28	34.523	.66	25.986	202.9	.538			
151	13.25	34.520	.64			.01		202.6	200	12.24	34.717	.11	26.341	169.2	.633			
172	12.64	34.644	.22			.01		181.9	250	11.42	34.718	.06	26.499	154.2	.717			
193	12.34	34.703	.12			.00		172.0	300	10.72	34.689	.06	26.603	144.3	.795			
219	11.97	34.739	.09			.00		162.5	400	9.08	34.592	.10	26.806	125.1	.937			
251	11.40	34.717	.06			.00		154.0	500	7.77	34.538	.07	26.966	109.9	1.062			
290	10.88	34.699	.06			.01		146.3	600	6.72	34.521	.08	27.100	97.2	1.175			
330	10.21	34.655	.07			.21		138.3										
390	9.21	34.598	.11			.01		126.6										
453	8.41	34.561	.06			.00		117.4										
539	7.28	34.526	.07			.00		104.1										
631	6.52	34.523	.09			.02		94.4										

RV ARGO

LA PARED EXPEDITION

17

LATITUDE 18 29.0N				LONGITUDE 120 54.0W		MO/DAY/YR 05/06/65		MESSENGER 1518		TIME GMT	BOTTOM 4450M	WIND 020	SPEED 16KT	WEATHER 1	DOMINANT WAVES 050 08 06			
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD			
1	22.54	34.012	4.94			.00		455.2	0	22.54	34.012	4.94	23.337	455.2	0			
15	22.54	34.004	4.94			.00		455.8	10	22.54	34.006	4.94	23.333	455.6	.046			
29	22.54	34.004	5.01			.00		455.8	20	22.54	34.004	4.97	23.331	455.8	.091			
43	22.51	34.003	5.00			.00		455.0	30	22.54	34.004	5.01	23.332	455.7	.137			
61	22.54	34.006	4.90			.00		455.6	50	22.52	34.004	4.95	23.337	455.2	.228			
85	20.78	34.322	5.09			.00		386.4	75	21.91	34.170	4.98	23.634	426.9	.339			
108	18.60	34.199	5.13			.01		341.4	100	19.42	34.276	5.12	24.381	355.6	.438			
131	15.90	34.191	3.11			.11		280.7	125	15.95	34.190	3.14	25.156	281.9	.518			
154	14.08	34.391	1.57			.02		228.3	150	14.46	34.343	1.90	25.601	239.5	.584			
177	12.98	34.584	.43			.01		192.7	200	12.47	34.696	.15	26.280	174.9	.690			
204	12.42	34.707	.10			.01		173.1	250	11.69	34.730	.05	26.458	158.1	.776			
232	12.01	34.729	.06			.03		164.0	300	10.75	34.681	.05	26.592	145.4	.856			
265	11.40	34.723	.04			.09		153.6	400	9.39	34.603	.08	26.764	129.0	1.000			
306	10.64	34.672	.05			.01		144.2	500	7.98	34.534	.09	26.932	113.1	1.130			
357	9.86	34.619	.07			.01		135.3	600	6.86	34.523	.07	27.083	98.8	1.245			
408	9.30	34.600	.08			.00		127.9	700	6.07	34.513	.09	27.180	89.6	1.348			
488	8.14	34.538	.09			.00		115.2	800	5.41	34.510	.12	27.260	82.0	1.444			
568	7.16	34.526	.07			.01		102.5										
673	6.28	34.516	.08			.00		91.9										
783	5.51	34.509	.12			.01		83.2										

RV ARGO

LA PARED EXPEDITION

18

LATITUDE 19 37.0N				LONGITUDE 121 00.0W		MO/DAY/YR 05/08/65		MESSENGER 1359		TIME GMT	BOTTOM 4218M	WIND 050	SPEED 10KT	WEATHER 1	DOMINANT WAVES 030 06 06			
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD			
0	22.42	34.053	4.46			.00		449.0	0	22.42	34.053	4.46	23.402	449.0	0			
15	22.44	34.051	4.68			.00		449.7	10	22.44	34.052	4.62	23.397	449.5	.045			
30	22.44	34.050	4.78			.00		449.7	20	22.44	34.051	4.72	23.395	449.7	.090			
45	22.42	34.056	4.87			.00		448.8	30	22.44	34.050	4.78	23.394	449.7	.135			
65	20.39	34.473	5.18			.00		365.5	50	21.95	34.171	4.96	23.622	428.0	.223			
90	19.04	34.290	5.17			.00		345.4	75	19.90	34.400	5.18	24.351	358.5	.322			
115	16.86	34.124	4.28			.01		306.7	100	18.34	34.220	4.98	24.611	333.7	.409			
139	14.33	34.088	3.21			.32		255.5	125	15.78	34.093	3.81	25.120	285.2	.487			
164	12.40	34.140	2.41			.02		214.5	150	13.35	34.093	2.86	25.639	235.9	.554			
188	11.83	34.365	1.34			.01		187.6	200	11.54	34.434	1.02	26.255	177.3	.659			
218	11.12	34.498	.73			.00		165.3	250	10.47	34.536	.51	26.528	151.5	.744			
247	10.51	34.533	.52			.00		152.3	300	9.75	34.538	.30	26.653	139.6	.820			
281	10.09	34.547	.38			.00		144.4	400	8.16	34.458	.21	26.845	121.4	.957			
325	9.29	34.520	.22			.01		133.6	500	7.26	34.462	.14	26.979	108.6	1.079			
379	8.48	34.484	.16			.00		124.1	600	6.39	34.480	.11	27.113	96.0	1.190			
433	7.72	34.426	.29			.00		117.6	700	5.70	34.489	.11	27.208	86.9	1.290			
517	7.17	34.476	.09			.00		106.4	800	5.13	34.503	.21	27.287	79.4	1.383			
601	6.38	34.480	.11			.00		95.9										
710	5.64	34.490	.11			.01		86.2										
819	5.04	34.506	.24			.01		78.2										

RV ARGO

LA PARED EXPEDITION

19

LATITUDE 19 22.0N			LONGITUDE 120 54.0W		MO/DAY/YR 05/10/65		MESSENGER 1304		TIME GMT	BOTTOM 4189M	WIND 040	SPEED 07KT	WEATHER	DOMINANT WAVES 040 04 05		
Z	T	S	OZ	P04	S103	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD	
0	22.52	34.026	4.72			.01		453.6	0	22.52	34.026	4.72	23.354	453.6	0	
15	22.54	34.021	4.85			.01		454.5	10	22.54	34.022	4.81	23.346	454.4	.045	
30	22.54	34.025	4.91			.01		454.2	20	22.54	34.023	4.87	23.345	454.4	.091	
45	22.12	34.157	5.11			.00		433.4	30	22.54	34.025	4.91	23.347	454.2	.136	
65	20.71	34.340	5.14			.00		383.3	50	21.82	34.221	5.12	23.696	420.9	.224	
90	18.46	34.198	4.85			.06		338.2	75	19.92	34.280	5.02	24.254	367.7	.323	
114	16.04	34.170	3.35			.18		285.3	100	17.42	34.167	4.32	24.794	316.3	.410	
138	14.18	34.304	1.79			.02		236.7	125	15.11	34.222	2.59	25.368	261.6	.483	
163	13.06	34.435	.97			.01		205.2	150	13.61	34.382	1.27	25.809	219.7	.544	
187	11.68	34.374	1.29			.01		184.2	200	11.57	34.476	.95	26.282	174.8	.645	
216	11.44	34.573	.44			.01		165.3	250	10.84	34.596	.31	26.508	153.3	.729	
246	10.91	34.595	.32			.01		154.5	300	10.10	34.577	.23	26.624	142.3	.806	
280	10.36	34.585	.27			.01		146.0	400	8.59	34.502	.19	26.813	124.4	.947	
324	9.78	34.561	.19			.00		138.3	500	7.30	34.474	.18	26.983	108.3	1.071	
380	8.83	34.501	.20			.00		128.0	600	6.41	34.456	.17	27.092	98.0	1.182	
434	8.22	34.509	.18			.01		118.5	700	5.75	34.485	.19	27.199	87.8	1.284	
517	7.08	34.464	.18			.01		106.1	800	5.26	34.507	.21	27.276	80.5	1.377	
601	6.40	34.456	.17			.00		97.9								
710	5.69	34.489	.19			.00		86.8								
820	5.18	34.510	.21			.01		79.4								

RV ARGO

LA PARED EXPEDITION

20

LATITUDE 21 00.0N			LONGITUDE 116 00.0W		MO/DAY/YR 05/12/65		MESSENGER 0026		TIME GMT	BOTTOM 3835M	WIND 360	SPEED 10KT	WEATHER 1	DOMINANT WAVES 360 04 07		
Z	T	S	OZ	P04	S103	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD	
0	22.03	34.211	4.96			.01		427.1	0	22.03	34.211	4.96	23.631	427.1	0	
15	22.02	34.210	4.98			.00		426.9	10	22.02	34.211	4.97	23.633	427.0	.043	
29	22.00	34.203	5.00			.01		426.9	20	22.01	34.208	4.99	23.633	426.9	.085	
43	21.74	34.240	5.11			.01		417.3	30	21.98	34.206	5.00	23.641	426.2	.128	
63	19.80	34.193	5.27			.00		371.0	50	20.97	34.230	5.20	23.937	398.0	.211	
87	17.74	34.099	4.62			.11		328.5	75	18.90	34.152	5.08	24.420	351.9	.305	
111	14.38	34.041	3.30			.07		260.0	100	15.72	34.050	3.81	25.100	287.1	.386	
135	12.62	34.219	1.88			.01		212.7	125	13.15	34.124	2.46	25.703	229.8	.451	
159	11.98	34.390	1.11			.01		188.4	150	12.40	34.380	1.28	26.050	196.8	.505	
183	10.83	34.358	1.25			.00		170.6	200	11.08	34.500	1.05	26.391	164.4	.598	
212	10.66	34.512	.60			.01		156.4	250	10.01	34.485	.54	26.567	147.7	.678	
240	10.20	34.491	.55			.01		150.3	300	9.21	34.460	.45	26.682	136.8	.752	
274	9.58	34.473	.50			.01		141.7	400	8.42	34.543	.09	26.871	118.9	.887	
317	9.02	34.461	.40			.00		133.9	500	7.22	34.487	.14	27.005	106.2	1.007	
369	8.82	34.567	.07			.00		123.0	600	6.39	34.480	.15	27.113	96.0	1.116	
422	8.10	34.513	.10			.00		116.4	700	5.74	34.496	.13	27.208	86.9	1.217	
504	7.18	34.487	.14			.00		105.7	800	5.16	34.499	.21	27.281	80.0	1.310	
588	6.48	34.479	.15			.00		97.2								
695	5.77	34.495	.13			.00		87.3								
804	5.14	34.499	.21			.01		79.8								

RV ARGO

LA PARED EXPEDITION

21

LATITUDE 20 01.0N			LONGITUDE 116 02.0W		MO/DAY/YR 05/12/65		MESSENGER 1342		TIME GMT	BOTTOM 3778M	WIND 330	SPEED 07KT	WEATHER 1	DOMINANT WAVES 340 03 07		
Z	T	S	OZ	P04	S103	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD	
0	23.32	33.971	4.67			.00		479.4	0	23.32	33.971	4.67	23.083	479.4	0	
15	23.33	33.967	4.91			.00		480.0	10	23.33	33.969	4.85	23.080	479.8	.048	
30	22.54	34.030	5.02			.01		453.9	20	23.32	33.960	4.95	23.075	480.2	.096	
45	20.52	34.235	5.17			.00		386.1	30	22.54	34.030	5.02	23.351	453.9	.143	
65	18.42	34.090	5.14			.02		345.1	50	19.99	34.221	5.16	24.191	373.7	.226	
89	15.25	33.991	3.88			.22		281.5	75	17.16	34.048	4.67	24.766	318.9	.313	
114	12.78	33.971	3.10			.02		233.9	100	13.72	33.920	3.45	25.431	255.7	.385	
138	11.73	34.207	1.86			.01		197.4	125	11.72	33.970	2.64	25.862	214.7	.445	
163	12.54	34.669	.26			.01		178.2	150	12.60	34.520	1.25	26.119	190.2	.496	
188	12.00	34.685	.11			.00		167.1	200	11.89	34.716	.07	26.407	162.9	.587	
217	11.77	34.752	.05			.00	1.20	158.0	250	11.22	34.713	.04	26.532	151.1	.668	
246	11.28	34.719	.04			.64		151.7	300	10.41	34.645	.06	26.623	142.4	.745	
281	10.73	34.666	.06			.01		146.2	400	8.31	34.470	.24	26.832	122.6	.884	
325	9.93	34.609	.07			.00		137.2	500	7.34	34.485	.09	26.987	107.9	1.007	
379	8.58	34.474	.25			.00		126.3	600	6.51	34.482	.11	27.098	97.4	1.118	
433	8.00	34.482	.18			.00		117.3	700	5.75	34.489	.13	27.202	87.6	1.220	
518	7.17	34.485	.07			.00		105.7	800	5.19	34.501	.16	27.280	80.1	1.313	
602	6.50	34.482	.11			.00		97.2								
710	5.68	34.490	.13			.00		86.6								
820	5.10	34.504	.17			.01		79.0								

RV ARGO

LA PARED EXPEDITION

22

LATITUDE 19 28.0N		LONGITUDE 116 01.0W		MO/DAY/YR 05/13/65		MESSENGER 1217		TIME GMT	BOTTOM 3854M	WIND 350	SPEED 10KT	WEATHER	DOMINANT WAVES 350 02 10		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	23.64	33.965	4.77			.00		488.8	0	23.64	33.965	4.77	22.986	488.8	0
25	23.64	33.964	4.90			.00		488.8	10	23.64	33.965	4.83	22.986	488.8	.049
50	21.70	34.360	5.01			.02		407.6	20	23.64	33.965	4.88	22.985	488.8	.098
59	19.81	34.177	4.66			.07		372.5	30	23.14	33.970	4.92	23.134	474.6	.146
69	18.80	34.181	4.74			.09		347.5	50	21.70	34.360	5.01	23.836	407.6	.235
79	17.18	34.127	3.95			.30		313.7	75	17.80	34.138	4.36	24.680	327.2	.327
89	16.58	34.280	2.44			.50		289.1	100	15.96	34.448	1.17	25.352	263.2	.401
99	16.06	34.453	1.17A			.25		265.0	125	14.08	34.542	.50	25.836	217.2	.462
109	14.98	34.398	1.16			.04		246.1	150	13.12	34.625	.28	26.096	192.5	.514
118	14.28	34.504	.71			.02		224.0	200	11.87	34.709	.06	26.408	162.9	.606
128	14.03	34.552	.44			.02		215.5	250	11.24	34.719	.06	26.533	151.0	.687
177	12.12	34.682	.09			.01		169.5	300	10.56	34.670	.05	26.617	143.0	.763
187		34.706	.11			.01									
197	11.89	34.704	.06			.00		163.7							
207		34.706	.06			.00									
217	11.72	34.733	.07			.03		158.5							
227		34.736	.05			.45									
246	11.29	34.724	.04			.53		151.6							
271	10.96	34.691	.15			.03		148.3							
296	10.62	34.674	.05			.23		143.8							
331	10.10	34.642	.08			.02		137.5							
375	9.74	34.631	.07			.25		132.5							

RV ARGO

LA PARED EXPEDITION

23

LATITUDE 20 18.0N		LONGITUDE 116 09.0W		MO/DAY/YR 05/14/65		MESSENGER 1605		TIME GMT	BOTTOM 3437M	WIND 360	SPEED 12KT	WEATHER 1	DOMINANT WAVES 350 04 07		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	22.97	34.004	4.86			.00		467.4	0	22.97	34.004	4.86	23.209	467.4	0
25	22.47	34.027	4.91			.01		452.2	10	22.97	34.000	4.88	23.206	467.7	.047
50	17.67	34.307	2.88			.52		311.7	20	22.32	34.011	4.90	23.398	449.4	.093
60	16.28	34.225	3.01			.40		286.5	30	22.41	34.050	4.90	23.403	448.9	.138
70	15.48	34.227	2.41			.15		269.1	50	17.67	34.307	2.88	24.842	311.7	.214
80	14.42	34.104	2.93			.06		256.1	75	14.93	34.160	2.67	25.360	262.4	.286
90	14.02	34.189	2.39			.03		241.9	100	13.58	34.178	2.22	25.658	234.1	.349
99	13.70	34.195	2.16			.02		235.1	125	11.82	34.120	2.70	25.960	205.4	.405
109	12.36	34.008	2.89			.02		223.4	150	12.15	34.614	.72	26.279	175.1	.453
119	11.36	33.929	3.07			.01		211.4	200	11.02	34.594	.23	26.474	156.5	.538
129	12.68	34.431	1.01			.01		198.3	250	10.42	34.601	.23	26.587	145.8	.616
178	11.44	34.611	.33			.01		162.5	300	9.36	34.501	.37	26.689	136.1	.690
187		34.664	.36			.01									
197	11.05	34.587	.23			.00		157.5							
207		34.647	.23			.00									
217	10.89	34.632	.23			.00		151.4							
226		34.661	.10			.01									
246	10.56	34.623	.17			.01		146.5							
270	9.70	34.493	.49			.00		142.1							
295	9.38	34.495	.40			.01		136.9							
330	9.24	34.535	.20			.00		131.8							
375	8.58	34.521	.17			.00		122.8							

RV ARGO

LA PARED EXPEDITION

24

LATITUDE 20 33.0N		LONGITUDE 116 11.0W		MO/DAY/YR 05/15/65		MESSENGER 0850		TIME GMT	BOTTOM 3940M	WIND 020	SPEED 13KT	WEATHER 1	DOMINANT WAVES 350 06 08		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	22.07	34.158	4.92			.01		432.0	0	22.07	34.158	4.92	23.580	432.0	0
14	22.08	34.155	5.01			.01		432.5	10	22.08	34.156	4.99	23.576	432.4	.043
28	21.91	34.192	5.02			.00		425.3	20	22.02	34.173	5.01	23.604	429.7	.086
43	19.98	34.172	5.37			.00		377.1	30	21.88	34.192	5.03	23.659	424.5	.129
61	18.37	34.072	5.13			.00		345.2	50	19.30	34.139	5.28	24.306	362.7	.208
85	15.72	33.982	4.25			.25		292.1	75	16.85	34.004	4.69	24.806	315.2	.293
109	13.24	34.065	2.74			.03		235.8	100	14.07	34.017	3.31	25.433	255.5	.365
132	12.30	34.220	1.86			.00		206.7	125	12.53	34.177	2.06	25.868	214.1	.425
155	11.08	34.269	1.67			.01		181.5	150	11.32	34.258	1.70	26.160	186.4	.476
178	10.72	34.410	.98			.01		164.9	200	10.55	34.505	.55	26.490	155.0	.563
206	10.52	34.525	.47			.00		153.1	250	9.97	34.557	.31	26.631	141.6	.640
233	10.40	34.592	.27			.01		146.1	300	9.29	34.545	.25	26.736	131.7	.711
265	9.56	34.519	.36			.01		137.9	400	7.80	34.478	.21	26.915	114.7	.841
306	9.26	34.552	.23			.01		130.8	500	7.06	34.486	.18	27.027	104.1	.957
355	8.41	34.500	.20			.00		121.9	600	6.28	34.482	.18	27.128	94.5	1.065
405	7.74	34.477	.21			.00		114.0	700	5.65	34.494	.20	27.218	86.0	1.164
483	7.20	34.488	.18			.00		105.9							
561	6.56	34.479	.18			.00		98.2							
666	5.86	34.491	.17			.00		88.7							
774	5.24	34.498	.30			.01		81.0							

A) ALTERNATE OXYGEN VALUE, 1.03.

RV ARGO

LA PARED EXPEDITION

25

LATITUDE 22 59.0N		LONGITUDE 111 00.0W		MO/DAY/YR 05/17/65		MESSENGER 1859		TIME GMT		BOTTOM 2052M		WIND 340		SPEED 07KT		WEATHER 1		DOMINANT WAVES 320 03 04		
Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DO					
0	16.47	33.974	6.30	.32		.02		309.0	0	16.47	33.974	6.30	24.871	309.0	0					
14	15.66	33.899	5.45	.43		.07		296.9	10	15.93	33.920	5.74	24.953	301.1	.031					
28	15.42	33.907	5.16	.64		.20		291.2	20	15.51	33.898	5.26	25.030	293.8	.060					
42	14.86	33.868	4.77			.29		282.4	30	15.37	33.902	5.13	25.063	290.6	.090					
60	13.02	33.888	3.22	1.41		.19		244.6	50	14.20	33.870	4.22	25.292	268.9	.146					
83	12.90	34.287	1.38	2.09		.03		213.0	75	12.94	34.183	1.91	25.791	221.5	.207					
106	12.52	34.477	.88	2.44		.04		191.9	100	12.61	34.435	.95	26.053	196.6	.260					
129	12.67	34.716	.29	2.82		.01		177.1	125	12.65	34.681	.38	26.234	179.3	.308					
151	12.20	34.739	.10	2.76		.00		166.7	150	12.22	34.741	.10	26.363	167.1	.352					
175	12.00	34.732	.13	2.75		.01		163.6	200	11.65	34.726	.12	26.461	157.8	.436					
202	11.62	34.725	.12	2.82		.00		157.3	250	10.86	34.694	.09	26.581	146.4	.514					
228	11.22	34.714	.04	2.84		.02		151.1	300	10.18	34.651	.08	26.668	138.1	.589					
260	10.70	34.683	.12	2.86		.19		144.4	400	8.77	34.542	.16	26.817	124.1	.727					
300	10.18	34.651	.08	3.09		.33		138.1	500	7.50	34.507	.11	26.981	106.5	.851					
350	9.44	34.597	.13	3.04		.00		130.3	600	6.60	34.489	.13	27.092	98.0	.963					
399	8.78	34.542	.16	3.11		.00		124.2	700	5.80	34.494	.16	27.199	87.8	1.065					
474	7.80	34.520	.11			.00		111.7												
550	6.98	34.485	.13			.00		103.2												
647	6.27	34.497	.13			.00		93.2												
747	5.34	34.486	.21			.00		83.0												

STUDENT TRAINING CRUISE

This training cruise, supported by the Department of SIO of the University of California, consisted of a series of closely spaced STD lowerings in Sebastian Vizcaino Bay. In addition to the hydrographic cast and STD data reported herein, 144 drift bottles were released, 2 surface zooplankton samples were collected, and 36 double one-meter oblique net hauls and 11 chlorophyll casts to approximately 60 m were made.

A surface bucket temperature and salinity sample were obtained with each STD lowering, and 11 Nansen bottle casts of 6 to 10 bottles were made with phosphate, nitrate and nitrite determined for each cast.

The STD data is reported without correction, since the analog recordings and surface data agreed well. The Nansen cast data did not agree as well, but rapid changes were indicated when the STD was lowered more than once at a station.

Personnel participating in the collection of data were:

Ship's Captain:

Phinney, Alan W.
RV Argo

Scientific personnel:

McGowan, Dr. J. A. (Chief scientist)
Blankley, W. F.
Born, R. M.
Daniel, D. A.
Evans, M.
Felix, D. W.
Grenness, O.
Hacker, P. W.
Hart, J. T.
Krajewski, R. J.
Lawson, J. B.
Mantyla, A. W.
McGeary, D. F.
Monteiro, J. H.
Nierenberg, Dr. W. A.
Preslan, W. L.
Rodrigues, D. A.
Silver, E. A.
Wiebe, P. H.
Wilson, P. G.
Wirth, D.
Wooster, Dr. W. S.
Young, D. R.

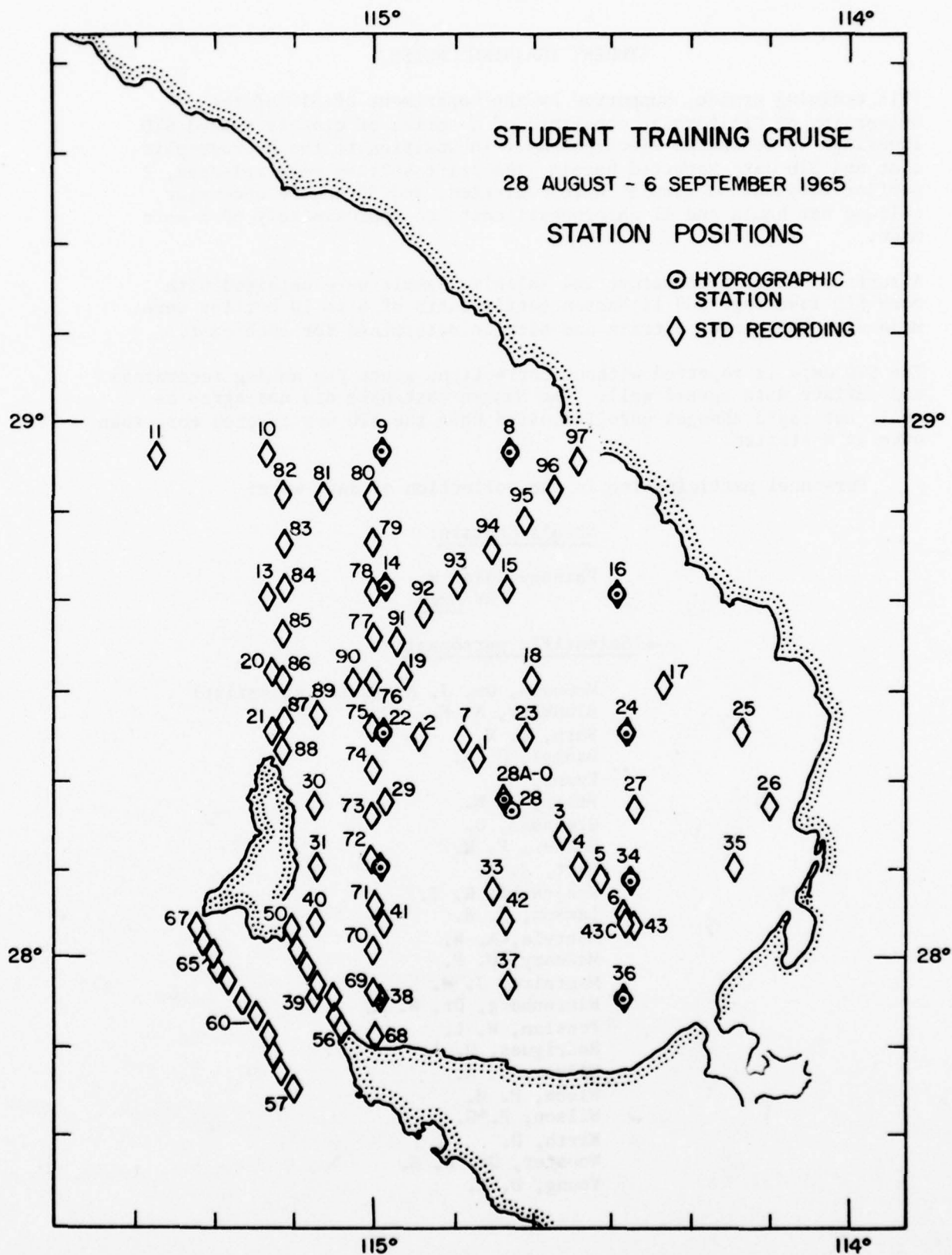


FIGURE 3

6508 STUDENT TRAINING CRUISE

Station Positions

Chronological Order

Date 1965	Station	Latitude North	Longitude West
Aug. 28	43 A-B	28°04.0'	114°27.0'
29	42	28°04.0'	114°43.5'
29	41	28°04.0'	114°58.5'
29	40	28°04.0'	115°07.0'
29	39	27°56.0'	115°07.0'
29	38	27°56.0'	114°59.0'
29	37	27°57.0'	114°43.0'
29	36	27°55.5'	114°28.5'
29	43 C	28°04.0'	114°28.0'
29	35	28°10.5'	114°14.5'
29	35 A	28°10.0'	114°13.5'
30	34	28°10.0'	114°28.5'
30	33	28°10.5'	114°43.0'
30	32	28°10.5'	114°58.0'
30	31	28°10.0'	115°06.5'
30	30 B-C	28°17.5'	115°06.5'
30	29	28°17.5'	114°58.5'
30	28	28°17.5'	114°43.5'
30	27	28°17.5'	114°28.0'
30	26	28°17.0'	114°13.0'

Date 1965	Station	Latitude North	Longitude West
Aug. 30	25	28°25.5'	114°13.5
30	24	28°25.5'	114°28.0'
30	23 A-C	28°25.5'	114°43.0'
30	22	28°25.5'	114°58.5'
31	21	28°26.0'	115°12.5'
31	20	28°33.0'	115°27.5'
31	19	28°33.0'	114°58.5'
31	18	28°33.0'	114°43.0'
31	17	28°33.0'	114°28.5'
31	16	28°41.0'	114°29.0'
31	15	28°41.0'	114°43.5'
31	14	28°40.0'	114°58.0'
31	13	28°40.5'	115°13.0'
31	12	28°41.5'	115°26.0'
31	11	28°56.0'	115°27.5'
31	10	28°56.0'	115°13.0'
31	9	28°56.0'	114°58.5'
31	8	28°56.5'	114°42.5'
Sept. 1	7 A-I	28°23.0'	114°49.0'
1	1 A-D	28°22.5'	114°47.5'
2	2 A-D	28°25.0'	114°54.0'
2	3 A-D	28°14.0'	114°36.0'
2	4 A-D	28°10.5'	114°34.0'
2	5 A-D	28°09.0'	114°31.0'
3	6 A-D	28°04.5'	114°28.0'

Date 1965	Station	Latitude North	Longitude West
Sept. 3	28 A-L	28°18.0	114°43.0'
4	28 M	28°18.0'	114°43.0'
4	28 N-P	28°17.5'	114°43.0'
5	50	28°03.5'	115°10.5'
5	51	28°01.5'	115°09.0'
5	52	27°59.5'	115°08.0'
5	53	27°57.5'	115°07.0'
5	54	27°55.5'	115°05.5'
5	55	27°53.5'	115°04.5'
5	56	27°53.0'	115°04.0'
5	57	27°46.0'	115°10.0'
5	58	27°47.5'	115°11.0'
5	59	27°49.0'	115°12.0'
5	60	27°52.0'	115°13.5'
5	61	27°54.0'	115°14.5'
5	62	27°55.5'	115°16.0'
5	63	27°58.0'	115°18.0'
5	64	27°59.0'	115°19.5'
5	65	28°00.5'	115°20.0'
5	66	28°02.5'	115°21.0'
5	67	28°04.0'	115°22.0'
5	68	27°51.0'	115°00.5'
6	69	27°56.0'	115°00.0'
6	70	28°01.0'	115°00.0'
6	71	28°06.0'	115°00.0'

Date 1965	Station	Latitude North	Longitude West
Sept. 6	72	28°11.0'	115°00.0'
6	73	28°16.0'	115°00.0'
6	73 A	28°16.0'	115°00.0'
6	74	28°21.0'	115°00.0'
6	75	28°26.0'	115°00.0'
6	76	28°31.5'	115°00.0'
6	77	28°36.5'	115°00.0'
6	78	28°41.5'	115°00.0'
6	79	28°46.5'	115°00.0'
6	80	28°51.5'	115°00.0'
6	81	28°51.5'	115°05.5'
6	82	28°51.5'	115°11.5'
6	83	28°46.5'	115°11.5'
6	84	28°41.5'	115°11.5'
6	85	28°36.5'	115°11.5'
6	85 B	28°36.5'	115°11.5'
6	86	28°31.5'	115°11.5'
6	87	28°26.5'	115°11.5'
6	88	28°23.5'	115°11.5'
6	89	28°27.0'	115°07.0'
6	90	28°31.0'	115°02.5'
6	91	28°35.0'	114°57.5'
6	92	28°39.0'	114°53.5'
6	93	28°42.0'	114°49.5'
6	94	28°45.5'	114°45.0'

Date 1965	Station	Latitude North	Longitude West
Sept. 6	95	28°49.0'	114°41.0'
6	96	28°52.5'	114°37.0'
6	97	28°55.5'	114°34.0'

RV ARGO 6508 STUDENT TRAINING CRUISE 1 A

LATITUDE 28 22.5N			LONGITUDE 114 47.5W			MO/DAY/YR 09/01/65		MESSENGER TIME 2007		BOTTOM 101M	WIND 320	SPEED 13KT	WEATHER 1	DOMINANT WAVES 310 04		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	20.04	33.77											23.835	407.7	0	
10	18.68	33.67											24.107	381.8	.039	
20	17.66	33.61											24.311	362.3	.077	
30	16.98	33.62											24.481	346.1	.112	
50	14.95	33.60											24.924	303.9	.177	
75	12.95	33.65											25.378	260.7	.248	
100	11.94	33.95											25.805	220.1	.309	

RV ARGO 6508 STUDENT TRAINING CRUISE 1 B

LATITUDE 28 22.5N			LONGITUDE 114 47.5W			MO/DAY/YR 09/01/65		MESSENGER TIME 2104		BOTTOM 101M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	20.16	33.78											23.811	410.0	0	
10	19.30	33.71											23.981	393.8	.040	
20	18.34	33.65											24.176	375.2	.079	
30	16.74	33.62											24.537	340.7	.115	
50	15.07	33.59											24.891	307.1	.180	
75	13.16	33.64											25.328	265.4	.252	
100	11.99	33.95											25.796	221.0	.313	

RV ARGO 6508 STUDENT TRAINING CRUISE 1 C

LATITUDE 28 22.5N			LONGITUDE 114 47.5W			MO/DAY/YR 09/01/65		MESSENGER TIME 2207		BOTTOM 101M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	20.14	33.76											23.801	410.9	0	
10	18.90	33.69											24.067	385.6	.040	
20	18.38	33.62											24.143	378.3	.078	
30	16.60	33.58											24.539	340.6	.114	
50	14.57	33.61											25.014	295.4	.178	
75	12.98	33.64											25.364	262.0	.248	
100	12.06	33.95											25.783	222.2	.309	

RV ARGO 6508 STUDENT TRAINING CRUISE 1 D

LATITUDE 28 22.5N			LONGITUDE 114 47.5W			MO/DAY/YR 09/01/65		MESSENGER TIME 2250		BOTTOM 97M	WIND 320	SPEED 15KT	WEATHER 1	DOMINANT WAVES 320 04		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	20.10	33.76											23.811	409.9	0	
10	18.94	33.64											24.019	390.2	.040	
20	18.24	33.61											24.170	375.7	.078	
30	16.75	33.57											24.497	344.6	.114	
50	14.85	33.59											24.938	302.5	.179	
75	13.19	33.63											25.315	266.7	.251	
100A	12.12	33.94											25.763	224.1	.313	

RV ARGO 6508 STUDENT TRAINING CRUISE 2 A

LATITUDE 28 25.0N			LONGITUDE 114 54.0W			MO/DAY/YR 09/02/65		MESSENGER TIME 0225		BOTTOM 97M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	19.86	33.78											23.889	402.5	0	
10	19.80	33.76											23.890	402.5	.040	
20	18.29	33.62											24.165	376.2	.079	
30	16.76	33.58											24.502	344.1	.115	
50	14.97	33.60											24.920	304.3	.180	
75	13.29	33.62											25.287	269.4	.253	

AT THE FATHOMETER READING DURING S/T/O 1A INDICATED A DEPTH OF 101 METERS.

RV ARGO 6508 STUDENT TRAINING CRUISE 2 B

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 25.0N		114 54.0W		09/02/65		0415		GMT	95M	330	16KT	1	320 06		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	19.80	33.78		23.905	401.0	0
									10	19.77	33.77		23.905	401.0	.030
									20	18.69	33.62		24.066	385.6	.079
									30	16.98	33.56		24.435	350.5	.116
									50	14.94	33.61		24.934	302.9	.182
									75	13.19	33.63		25.315	266.7	.254

RV ARGO 6508 STUDENT TRAINING CRUISE 2 C

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 25.0N		114 54.0W		09/02/65		0523		GMT	95M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.05	33.79		23.847	406.5	0
									10	19.85	33.78		23.892	402.2	.040
									20	18.12	33.57		24.169	375.8	.079
									30	16.58	33.58		24.544	340.1	.115
									50	14.90	33.62		24.951	301.4	.180
									75	13.21	33.63		25.310	267.1	.251

RV ARGO 6508 STUDENT TRAINING CRUISE 2 D

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 25.0N		114 54.0W		09/02/65		0613		GMT	95M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	19.80	33.78		23.905	401.0	0
									10	19.76	33.77		23.908	400.7	.040
									20	18.98	33.65		24.016	390.4	.080
									30	17.38	33.63		24.394	354.4	.117
									50	15.15	33.61		24.888	307.3	.183
									75	13.40	33.61		25.257	272.2	.256

RV ARGO 6508 STUDENT TRAINING CRUISE 3 A

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 14.0N		114 36.0W		09/02/65		0823		GMT	93M	320	11KT	1	320		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	19.98	33.77		23.850	406.2	0
									10	19.98	33.76		23.843	406.9	.041
									20	18.80	33.63		24.046	387.5	.080
									30	17.68	33.58		24.284	364.9	.118
									50	15.86	33.56		24.693	325.9	.187
									75	13.60	33.58		25.193	278.3	.263

RV ARGO 6508 STUDENT TRAINING CRUISE 3 B

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 14.0N		114 36.0W		09/02/65		0957		GMT	93M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	19.95	33.77		23.858	405.5	0
									10	19.85	33.73		23.854	405.9	.041
									20	18.25	33.67		24.213	371.6	.080
									30	17.57	33.59		24.318	361.6	.116
									50	15.90	33.57		24.691	326.1	.185
									75	13.40	33.61		25.257	272.2	.260

RV ARGO 6508 STUDENT TRAINING CRUISE 3 C

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 14.0N		114 36.0W		09/02/65		1103		GMT	93M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	19.93	33.77		23.864	405.0	0
									10	19.55	33.72		23.924	399.2	.040
									20	18.97	33.68		24.041	388.0	.080
									30	17.50	33.63		24.365	357.1	.117
									50	15.74	33.56		24.720	323.4	.185
									75	13.48	33.62		25.248	273.0	.260

RV ARGO 6508 STUDENT TRAINING CRUISE 3 D

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 14.0N		114 36.0W		09/02/65	1220		GMT	93M	340	11KT	1	320			
Z	T	S	02	PO4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD
									0	19.90	33.76		23.864	404.9	0
									10	19.34	33.69		23.955	396.2	.040
									20	19.06	33.69		24.026	389.4	.079
									30	17.87	33.67		24.306	362.7	.117
									50	15.72	33.56		24.724	322.9	.186
									75	13.39	33.66		25.297	268.4	.260

RV ARGO 6508 STUDENT TRAINING CRUISE 4 A

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 10.5N		114 34.0W		09/02/65	1450		GMT	90M							
Z	T	S	02	PO4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD
									0	19.85	33.74		23.862	405.1	0
									10	19.35	33.70		23.960	395.7	.040
									20	19.00	33.67		24.026	389.4	.079
									30	17.67	33.52		24.240	369.0	.117
									50	15.58	33.56		24.755	320.0	.187
									75	13.45	33.73		25.339	264.4	.260

RV ARGO 6508 STUDENT TRAINING CRUISE 4 B

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 10.5N		114 34.0W		09/02/65	1531		GMT	90M							
Z	T	S	02	PO4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD
									0	19.70	33.74		23.900	401.4	0
									10	19.15	33.68		23.996	392.3	.040
									20	18.28	33.62		24.168	375.9	.078
									30	16.98	33.54		24.420	351.9	.115
									50	15.58	33.58		24.771	318.5	.182
									75	13.52	33.78		25.364	262.1	.255

RV ARGO 6508 STUDENT TRAINING CRUISE 4 C

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 10.5N		114 34.0W		09/02/65	1612		GMT	88M							
Z	T	S	02	PO4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD
									0	19.85	33.74		23.862	405.1	0
									10	19.10	33.68		24.009	391.1	.040
									20	18.95	33.68		24.047	387.5	.079
									30	17.28	33.59		24.387	355.0	.116
									50	15.73	33.58		24.737	321.7	.184
									75	13.67	33.73		25.294	268.7	.258

RV ARGO 6508 STUDENT TRAINING CRUISE 4 D

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 10.5N		114 34.0W		09/02/65	1651		GMT	88M	360	10KT	1	320 03			
Z	T	S	02	PO4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD
									0	19.86	33.76		23.874	403.9	0
									10	19.41	33.70		23.945	397.2	.040
									20	19.29	33.70		23.975	394.3	.080
									30	17.47	33.62		24.365	357.2	.117
									50	15.50	33.57		24.781	317.5	.185
									75	13.81	33.71		25.250	272.9	.259

RV ARGO 6508 STUDENT TRAINING CRUISE 5 A

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 09.0N		114 31.0W		09/02/65	2059		GMT	82M							
Z	T	S	02	PO4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD
									0	20.36	33.75		23.735	417.2	0
									10	19.00	33.68		24.034	388.7	.040
									20	17.72	33.60		24.289	364.4	.078
									30	16.73	33.59		24.516	342.7	.113
									50	15.28	33.61		24.860	310.0	.179
									75	13.90	33.71		25.232	274.6	.252

RV ARGO 6508 STUDENT TRAINING CRUISE 5 B

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 09.0N		114 31.0W		09/02/65	2158	GMT	82M				O2	SIGT	DT	DD
Z	T	S	O2	P04	S103	NO2 NO3	DT	Z	T	S	O2	SIGT	DT	DD
								0	20.40	33.76		23.732	417.5	0
								10	19.12	33.70		24.019	390.2	.040
								20	18.06	33.59		24.199	373.0	.079
								30	16.84	33.59		24.491	345.2	.115
								50	15.26	33.62		24.872	308.8	.180
								75	13.69	33.74		25.298	268.3	.253

RV ARGO 6508 STUDENT TRAINING CRUISE 5 C

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 09.0N		114 31.0W		09/02/65	2251	GMT	78M	310	09KT	1		320 O2		
Z	T	S	O2	P04	S103	NO2 NO3	DT	Z	T	S	O2	SIGT	DT	DD
								0	20.48	33.74		23.696	420.9	0
								10	19.16	33.69		24.001	391.9	.041
								20	18.44	33.60		24.113	381.2	.079
								30	16.82	33.59		24.496	344.7	.116
								50	15.32	33.60		24.844	311.6	.182
								75	13.70	33.72		25.281	270.0	.255

RV ARGO 6508 STUDENT TRAINING CRUISE 5 D

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 09.0N		114 31.0W		09/02/65	2331	GMT	80M				O2	SIGT	DT	DD
Z	T	S	O2	P04	S103	NO2 NO3	DT	Z	T	S	O2	SIGT	DT	DD
								0	20.25	33.76		23.772	413.7	0
								10	19.26	33.70		23.983	393.6	.040
								20	18.35	33.66		24.181	374.7	.079
								30	17.23	33.58		24.391	354.6	.115
								50	15.48	33.60		24.808	314.9	.183
								75	13.84	33.72		25.252	272.7	.256

RV ARGO 6508 STUDENT TRAINING CRUISE 6 A

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 04.5N		114 28.0W		09/03/65	0258	GMT	75M	340	09KT	1		320 O2		
Z	T	S	O2	P04	S103	NO2 NO3	DT	Z	T	S	O2	SIGT	DT	DD
								0	20.35	33.75		23.738	416.9	0
								10	20.31	33.75		23.749	415.9	.042
								20	19.10	33.70		24.024	389.7	.082
								30	17.38	33.58		24.356	358.0	.119
								50	15.54	33.60		24.795	316.2	.187

RV ARGO 6508 STUDENT TRAINING CRUISE 6 B

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 04.5N		114 28.0W		09/03/65	0400	GMT	69M	330	08KT		O2	SIGT	DT	DD
Z	T	S	O2	P04	S103	NO2 NO3	DT	Z	T	S	O2	SIGT	DT	DD
								0	20.31	33.75		23.749	415.9	0
								10	20.23	33.75		23.770	413.9	.042
								20	18.94	33.65		24.026	389.4	.082
								30	17.49	33.59		24.337	359.8	.119
								50	15.68	33.61		24.771	318.4	.187

RV ARGO 6508 STUDENT TRAINING CRUISE 6 C

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 04.5N		114 28.0W		09/03/65	0514	GMT	67M	340	03KT		O2	SIGT	DT	DD
Z	T	S	O2	P04	S103	NO2 NO3	DT	Z	T	S	O2	SIGT	DT	DD
								0	20.28	33.75		23.757	415.2	0
								10	20.00	33.71		23.800	411.1	.041
								20	18.96	33.68		24.044	387.7	.081
								30	17.62	33.61		24.321	361.3	.119
								50	15.91	33.65		24.750	320.4	.187

RV ARGO 6508 STUDENT TRAINING CRUISE 6 D

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 04.5N		114 28.0W		09/03/65		0610		69M	020	04KT					
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	20.35	33.76		23.746	416.2	0
									10	19.76	33.70		23.855	405.8	.041
									20	18.96	33.67		24.036	388.5	.081
									30	17.74	33.63		24.307	362.6	.119
									50	15.82	33.63		24.755	320.0	.187

RV ARGO 6508 STUDENT TRAINING CRUISE 7 A

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 23.0N		114 49.0W		09/01/65		0425		104M	310	15KT	1	320 03			
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	19.32	33.73		23.991	392.8	0
									10	19.18	33.73		24.026	389.4	.039
									20	18.60	33.66		24.119	380.6	.078
									30	17.00	33.58		24.446	349.5	.114
									50	15.04	33.61		24.912	305.0	.180
									75	12.76	33.65		25.415	257.2	.251
									100	12.00	33.94		25.786	221.9	.311

RV ARGO 6508 STUDENT TRAINING CRUISE 7 B

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 23.0N		114 49.0W		09/01/65		0503		104M							
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	19.41	33.73		23.968	395.0	0
									10	19.31	33.73		23.993	392.6	.039
									20	18.58	33.65		24.116	380.8	.078
									30	16.78	33.58		24.497	344.6	.114
									50	15.30	33.61		24.856	310.4	.180
									75	12.68	33.65		25.431	255.7	.251
									100	11.96	33.94		25.794	221.2	.312

RV ARGO 6508 STUDENT TRAINING CRUISE 7 C

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 23.0N		114 49.0W		09/01/65		0609		104M							
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	19.39	33.72		23.965	395.3	0
									10	19.16	33.70		24.009	391.1	.039
									20	18.57	33.65		24.119	380.6	.078
									30	16.97	33.55		24.430	351.0	.115
									50	15.39	33.59		24.820	313.8	.181
									75	12.49	33.66		25.476	251.4	.252
									100	11.90	33.95		25.813	219.4	.312

RV ARGO 6508 STUDENT TRAINING CRUISE 7 D

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 23.0N		114 49.0W		09/01/65		0731		104M	320	11KT	0	320 03			
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	19.56	33.74		23.937	398.0	0
									10	19.18	33.72		24.019	390.2	.039
									20	18.64	33.69		24.132	379.4	.078
									30	17.32	33.56		24.355	358.1	.115
									50	15.77	33.58		24.728	322.5	.183
									75	12.95	33.65		25.378	260.7	.257
									100	11.97	33.94		25.792	221.4	.317

RV ARGO 6508 STUDENT TRAINING CRUISE 7 E

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 23.0N		114 49.0W		09/01/65		0904		104M							
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	19.95	33.80		23.881	403.3	0
									10	19.04	33.72		24.054	386.8	.040
									20	17.75	33.59		24.274	365.8	.077
									30	16.67	33.60		24.538	340.7	.113
									50	15.03	33.60		24.907	305.5	.177
									75	12.54	33.67		25.474	251.6	.247

RV ARGO 6508 STUDENT TRAINING CRUISE 7 F

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 23.0N		114 49.0W		09/01/65		1022		GMT		104M									
Z	T	S	O2	PD4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD				
0	19.89	33.80							0	19.89	33.80		23.897	401.8	0				
10	18.89	33.71							10	18.89	33.71		24.085	383.9	.039				
20	17.75	33.59							20	17.75	33.59		24.274	365.8	.077				
30	16.89	33.59							30	16.89	33.59		24.479	346.3	.113				
50	15.17	33.58							50	15.17	33.58		24.861	309.9	.178				
75	12.47	33.64							75	12.47	33.64		25.464	252.5	.249				
100	11.98	33.94							100	11.98	33.94		25.790	221.5	.309				

RV ARGO 6508 STUDENT TRAINING CRUISE 7 G

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 23.0N		114 49.0W		09/01/65		1208		GMT		104M									
Z	T	S	O2	PD4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD				
0	19.84	33.79							0	19.84	33.79		23.902	401.3	0				
10	19.38	33.69							10	19.38	33.69		23.945	397.2	.040				
20	18.10	33.55							20	18.10	33.55		24.159	376.8	.079				
30	17.19	33.60							30	17.19	33.60		24.416	352.3	.115				
50	15.24	33.59							50	15.24	33.59		24.853	310.6	.182				
75	12.42	33.68							75	12.42	33.68		25.505	248.7	.252				

RV ARGO 6508 STUDENT TRAINING CRUISE 7 H

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 23.0N		114 49.0W		09/01/65		1307		GMT		104M		320		14KT		1		320 03	
Z	T	S	O2	PD4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD				
0	19.69	33.79							0	19.69	33.79		23.941	397.6	0				
10	19.28	33.70							10	19.28	33.70		23.978	394.0	.040				
20	18.47	33.63							20	18.47	33.63		24.129	379.7	.078				
30	17.11	33.60							30	17.11	33.60		24.435	350.5	.115				
50	15.22	33.60							50	15.22	33.60		24.865	309.5	.181				
75	12.75	33.62							75	12.75	33.62		25.394	259.2	.253				

RV ARGO 6508 STUDENT TRAINING CRUISE 7 I

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 23.0N		114 49.0W		09/01/65		1407		GMT		104M		320		15KT		1		320 04	
Z	T	S	O2	PD4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD				
0	19.60	33.77							0	19.60	33.77		23.949	396.8	0				
10	18.85	33.68							10	18.85	33.68		24.072	385.1	.039				
20	18.30	33.61							20	18.30	33.61		24.155	377.1	.077				
30	17.14	33.58							30	17.14	33.58		24.413	352.6	.114				
50	15.24	33.68							50	15.24	33.68		24.923	304.0	.180				
75	12.83	33.64							75	12.83	33.64		25.394	259.2	.251				

RV ARGO 6508 STUDENT TRAINING CRUISE 8

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 56.5N		114 42.5W		08/31/65		2348		GMT		75M		340		11KT		2		320 04	
Z	T	S	O2	PD4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD				
0	20.49	33.82							0	20.49	33.82		23.754	415.4	0				
10	19.77	33.80							10	19.77	33.80		23.928	398.8	.041				
20	15.95	33.54							20	15.95	33.54		24.657	329.3	.077				
30	15.14	33.54							30	15.14	33.54		24.837	312.2	.109				
50	12.75	33.66							50	12.75	33.66		25.425	256.2	.166				

RV ARGO 6508 STUDENT TRAINING CRUISE 8

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 56.5N		114 42.5W		08/31/65		2359		GMT		75M		340		11KT		2		320 04	
Z	T	S	O2	PD4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD				
0	20.50	33.780	5.71	.14		.03	.0	418.6	0	20.50	33.780	5.71	23.721	418.6	0				
5	20.48	33.780	5.81	.14		.02	.0	418.0	10	19.88	33.767	5.90	23.874	403.9	.041				
10	19.88	33.767	5.90	.15		.01	.0	403.9	20	16.69	33.550	6.03	24.495	344.7	.079				
20	16.69	33.550	6.03	.28		.00	.0	344.7	30	15.24	33.488	5.98	24.775	318.1	.112				
30	15.24	33.488	5.98	.40		.01	.1	318.1	50	13.00	33.689	4.32	25.398	258.8	.170				
40	14.09	33.590	5.06	.78		.49	3.9	287.2											
60	12.92	33.774	3.77	1.54		.04	15.1	251.1											

RV ARGO										6508 STUDENT TRAINING CRUISE										13		
LATITUDE 28 40.5N			LONGITUDE 115 13.0W			MO/DAY/YR 08/31/65			MESSENGER TIME 1420		GMT		BOTTOM 190M		WIND 310		SPEED 14KT		WEATHER 2		DOMINANT WAVES 320 03	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD							
									0	19.69	33.68		23.857	405.5	0							
									10	19.69	33.68		23.857	405.5	.041							
									20	19.66	33.68		23.865	404.8	.081							
									30	18.56	33.62		24.099	382.5	.121							
									50	16.58	33.55		24.521	342.3	.193							
									75	14.29	33.60		25.065	290.4	.273							
									100	12.93	33.65		25.382	260.4	.342							
									125	11.74	33.97		25.858	215.0	.402							
									150	11.54	34.04		25.950	206.3	.456							

RV ARGO														6508 STUDENT TRAINING CRUISE														14	
LATITUDE 28 40.0N				LONGITUDE 114 58.0W				MO/DAY/YR 08/31/65				MESSENGER 1230		TIME GMT		BOTTOM 127M		WIND 310		SPEED 13KT		WEATHER 2		DOMINANT WAVES 320 02					
Z	T	S		O2	P04	S103		N02	N03	DT		Z	T	S		O2	SIGT	DT		DD									
0	19.16	33.665		5.56	.29			.00	.0	393.7		0	19.16	33.665		5.56	23.982	393.7		0									
5	19.14	33.665		5.56	.30			.01	.0	393.2		10	19.16	33.667		5.53	23.983	393.5		.039									
10	19.16	33.667		5.53	.26			.01	.0	393.5		20	19.03	33.665		5.52	24.015	390.5		.079									
20	19.03	33.665		5.52	.24			.00	.0	390.5		30	17.11	33.537		5.81	24.388	355.0		.116									
29	17.28	33.549		5.82	.32			.00	.0	358.0		50	15.23	33.489		5.75	24.777	317.9		.184									
40	15.70	33.457		5.65	.34			.00	.0	330.0		75	13.49	33.618		5.25	25.244	273.5		.258									
58	15.02	33.540		5.80	.38			.00	.0	309.7																			
78	13.20	33.634		5.09	.82			.12	6.4	266.6																			
96	11.95	33.741		3.70	1.51			.02	17.2	235.7																			

RV ARGO				6508 STUDENT TRAINING CRUISE											14		
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 40.0N		114 58.0W		08/31/65		1250		127M		310		13KT		2		320 02	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
									0	18.97	33.66		24.026	389.4	0		
									10	18.94	33.66		24.034	388.7	.039		
									20	18.78	33.66		24.074	384.9	.078		
									30	17.35	33.56		24.348	358.8	.115		
									50	15.26	33.44		24.734	322.0	.183		
									75	13.09	33.64		25.342	264.1	.257		
									100	11.51	33.88		25.831	217.6	.318		

RV ARGO										6508 STUDENT TRAINING CRUISE										15	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES									
28 41.0N		114 43.5W		08/31/65		1045		101M	310	14KT	4	320 02									
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD						
									0	20.08	33.79		23.840	407.3	0						
									10	20.09	33.80		23.844	406.8	.041						
									20	15.83	33.58		24.715	323.8	.077						
									30	13.81	33.52		25.104	286.8	.108						
									50	12.51	33.66		25.472	251.8	.162						
									75	11.83	33.90		25.787	221.8	.222						
									100	11.68	33.93		25.839	216.9	.277						

RV ARGO										6508 STUDENT TRAINING CRUISE										16	
LATITUDE 28 41.0N			LONGITUDE 114 29.0W			MO/DAY/YR 08/31/65			MESSENGER TIME 0905 GMT		BOTTOM 88M		WIND 320		SPEED 08KT		WEATHER 1		DOMINANT WAVES 340 03		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD						
0	20.54	33.776	5.57	.20		.02	.0	419.9	0	20.54	33.776	5.57	23.707	419.9		0					
5	20.54	33.774	5.49	.22		.02	.0	420.0	10	20.54	33.774	5.51	23.706	420.0		.042					
10	20.54	33.774	5.51	.30		.01	.0	420.0	20	16.64	33.585	5.91	24.534	341.1		.080					
20	16.64	33.585	5.91	.30		.02	.0	341.1	30	15.50	33.544	5.60	24.761	319.4		.113					
30	15.50	33.544	5.60	.48		.04	.3	319.4	50	13.18	33.608	4.78	25.300	268.2		.172					
40	14.58	33.534	5.56	.57		.26	.7	301.1	75	12.31	33.809	2.83	25.625	237.2		.236					
50	13.18	33.608	4.78	.88		.38	6.3	268.2													
60	12.52	33.641	4.30	1.15		.18	11.3	253.4													
80	12.24	33.843	2.14	2.07		.05	18.6	233.4													

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 41.0N		114 29.0W		08/31/65		0912		GMT	88M	320	08KT	I	340 03		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	S1GT	DT	DD
	0	20.44	33.78										23.737	417.0	0
	10	20.39	33.77										23.743	416.5	.042
	20	16.35	33.55										24.574	337.3	.079
	30	15.21	33.52										24.806	315.1	.112
	50	12.98	33.61										25.341	264.2	.170
	75	12.31	33.85										25.657	234.1	.233

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28	33.0N	114	28.5W	08	31/65	0725		GMT	84M	370	10KT	4	340	03	
Z	T	S	02	04	5103	N02	N03	0T	Z	T	S	02	SIGT	0T	DD
									0	20.08	33.75		23.809	410.2	0
									10	20.07	33.75		23.812	409.9	.041
									20	18.92	33.67		24.270	366.2	.080
									30	16.68	33.71		24.620	332.9	.115
									50	14.17	33.57		25.067	290.2	.177
									75	12.92	33.80		25.500	249.1	.245

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LATITUDE 28 33.0N			LONGITUDE 114 43.0W			MO/DAY/YR 08/31/65		MESSENGER 0545		TIME GMT	BOTTOM 101M	WIND 290	SPEED 1KT	WEATHER 1	DOMINANT WAVES 320 03	
Z	T	S	02	04	103	02	03	DT	Z	T	S	02	1GT	DT	DD	
	0	20.53	33.83										23.751	415.7	0	
	10	20.53	33.83										23.751	415.7	.042	
	20	20.16	33.72										23.765	414.3	.083	
	30	15.37	33.68										24.894	306.8	.119	
	50	13.19	33.67										25.345	263.8	.177	
	75	11.80	33.82										25.731	227.2	.238	
	100	11.08	34.04										26.034	198.4	.292	

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LATITUDE 28 33.0N			LONGITUDE 114 58.5W			MO/DAY/YR 08/31/65		MESSENGER 0418		TIME GMT	BOTTOM 127M	WIND 270	SPEED 12KT	WEATHER 1	DOMINANT WAVES 290 03		
Z	T	S	02	04	10	03	02	03	DT	Z	T	S	02	10	DT	DD	
										0	18.71	33.68		24.107	381.8	0	
										10	18.52	33.67		24.147	378.0	.038	
										20	17.18	33.61		24.426	351.3	.075	
										30	16.12	33.60		24.665	328.6	.109	
										50	14.95	33.63		24.947	301.7	.172	
										75	13.10	33.64		25.340	264.3	.243	
										100	11.56	33.90		25.838	217.0	.304	

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LATITUDE 28 33.0N			LONGITUDE 115 27.5W			MO/DAY/YR 08/31/65		MESSENGER 0244		TIME GMT	BOTTOM 142M	WIND 280	SPEED 11KT	WEATHER 1	DOMINANT WAVES 270 03		
Z	T	S	02	04	103	02	03	DT	Z	T	S	02	DT	DD			
	0	19.81	33.68									23.826	408.5	0			
	10	19.81	33.68									23.826	408.5	.041			
	20	19.51	33.68									23.904	401.1	.081			
	30	18.21	33.62									24.185	374.3	.120			
	50	16.65	33.56									24.512	343.1	.192			
	75	14.72	33.60									24.974	299.1	.273			
	100	12.82	33.72									25.458	253.1	.343			

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LATITUDE 28 26.0N			LONGITUDE 115 12.5W			MO/DAY/YR 08/31/65		MESSENGER 0129		TIME GMT	BOTTOM 119M	WIND 270	SPEED 12KT	WEATHER 0	DOMINANT WAVES 320 02		
Z	T	S	02	04	1003	02	03	DT	Z	T	S	02	101T	DT	DD		
	0								0	19.30	33.71			23.981	393.8	0	
	10								10	18.69	33.69			24.119	380.6	.039	
	20								20	18.30	33.67			24.201	372.8	.076	
	30								30	18.06	33.67			24.260	367.1	.114	
	50								50	15.82	33.61			24.740	321.4	.183	
	75								75	13.52	33.75			25.340	264.3	.256	
	100								100	12.86	33.92			25.604	239.2	.320	

22

LATITUDE 28 25.9N			LONGITUDE 114 58.9W			MO/DAY/YR 08/30/65		MESSENGER TIME 2243		BOTTOM 125M	WIND 310	SPEED 15KT	WEATHER 1	DOMINANT WAVES 340 03 05		
Z	T	S	02	04	103	02	03	DT	Z	T	S	02	SIGT	DT	DD	
									0	19.40	33.68		23.932	398.4	0	
									10	19.10	33.68		24.009	391.1	.039	
									20	18.71	33.63		24.069	385.4	.078	
									30	17.69	33.61		24.304	362.9	.116	
									50	15.97	33.55		24.660	329.0	.185	
									75	13.92	33.62		25.158	281.6	.262	
									100	12.18	33.74		25.597	239.9	.328	

22

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 25.5N		114 58.5W		08/30/65		2320		GMT	125M	310	15KT	1	340 03 05		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	19.28	33.653	5.39	1.32		.02	.0	397.5	0	19.28	33.653	5.39	23.942	397.5	0
5	19.24	33.637	5.29	.30		.02	.0	397.6	10	19.22	33.638	5.36	23.946	397.1	.040
10	19.22	33.638	5.36	.31		.00	.1	397.1	20	18.98	33.636	5.49	24.005	391.4	.079
20	18.98	33.636	5.49	.33		.01	.1	391.4	30	18.07	33.583	5.57	24.191	373.7	.118
30	18.07	33.583	5.57	.34		.00	.0	373.7	50	15.99	33.552	5.61	24.657	329.3	.188
39	17.05	33.569	5.62	.35		.01	.1	351.4	75	14.13	33.590	5.48	25.090	288.1	.266
58	15.32	33.547	5.61	.40		.00	.0	315.4	100	12.27	33.712	3.92	25.558	243.6	.333
78	13.93	33.600	5.46	.69		.14	2.0	283.3							
97	12.32	33.678	4.11	1.23		.03	12.3	247.0							
106	12.16	33.752	3.57	1.48		.00	15.6	238.6							

23 A

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 25.5N		114 43.0W		08/30/65		2009		GMT	108M	310	10KT	I	270	02 04	
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	20.62					
									10	20.07					
									20	17.66					
									30	15.72					
									50	13.22					
									75	11.96					
									100	11.20					

23 C

LATITUDE 28 25.5N			LONGITUDE 114 43.0W		MO/DAY/YR 08/30/65		MESSENGER 2123		TIME GMT	BOTTOM 108M	WIND 310	SPEED 10KT	WEATHER 1	DOMINANT WAVES 2 TO 02 04		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
									0	20.65	33.82		23.712	419.5	0	
									10	19.50	33.77		23.975	394.3	.041	
									20	17.69	33.73		24.396	354.2	.078	
									30	15.71	33.63		24.780	317.6	.112	
									50	13.23	33.66		25.330	265.3	.170	
									75	11.96	33.76		25.654	234.4	.233	
									100	11.30	34.02		25.978	203.6	.288	

24

LATITUDE 28 25.5N		LONGITUDE 114 28.0W		MO/DAY/YR 08/30/65		MESSENGER 1635		TIME GMT	BOTTOM 93M	WIND 340	SPEED 03KT	WEATHER 1	DOMINANT WAVES 320 01		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	S1GT	DT	DD
									0	19.86	33.73		23.851	406.1	0
									10	18.83	33.70		24.092	383.2	.039
									20	17.09	33.71		24.524	342.0	.076
									30	16.08	33.69		24.743	321.2	.109
									50	13.79	33.50		25.092	287.9	.170
									75	12.76	33.78		25.516	247.6	.237

24

LATITUDE 28 25.5N			LONGITUDE 114 28.0W		MO/DAY/YR 08/30/65		MESSENGER 1804		TIME GMT		BOTTOM 93M		WIND 340		SPEED 03KT		WEATHER 1		DOMINANT WAVES 320 01	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD					
0	20.04	33.724	5.57	.21		.00	.0	411.0	0	20.04	33.724	5.57	23.800	411.0	0					
5	19.92	33.709	5.59	.20		.00	.0	409.1	10	19.83	33.708	5.62	23.842	407.0	.041					
10	19.83	33.708	5.62	.23		.00	.0	407.0	20	17.22	33.677	5.48	24.468	347.3	.079					
20	17.22	33.677	5.48	.46		.49	.6	347.3	30	16.63	33.699	5.08	24.623	332.5	.113					
30	16.63	33.699	5.08	.59		1.03	1.6	332.5	40	13.92	33.453	5.93	25.029	293.9	.176					
40	14.76	33.518	5.86	.48		.26	.3	306.0	75	13.04	33.551	3.51	25.282	269.9	.246					
50	13.92	33.453	5.93	.53		.17	1.8	293.9												
60	13.58	33.556	5.37	.75		.28	4.0	279.7												
80	12.88	33.574	2.87	1.74		.02	13.9	265.0												
90	12.62	33.830	2.22	2.03		.17	17.7	241.3												

25

LATITUDE 28 25.5N			LONGITUDE 114 13.5W			MO/DAY/YR 08/30/65		MESSENGER TIME 1612 GMT		BOTTOM 45M	WIND 300	SPEED 04KT	WEATHER 1	DOMINANT WAVES 340 01		
Z	T	S	02	PO4	SI03	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD	
									0	20.65	33.79		23.689	421.6	0	
									10	19.50	33.71		23.929	398.7	.041	
									20	16.01	33.58		24.674	327.7	.077	
									30	15.04	33.63		24.928	303.5	.109	
									50A	14.16	33.62		25.108	286.4	.168	

26

LATITUDE 28 17.0N			LONGITUDE 114 13.0W			MO/DAY/YR 08/30/65			MESSENGER 1455		TIME GMT		BOTTOM 21M		WIND 330		SPEED 04KT		WEATHER 1		DOMINANT WAVES 270 01		
Z	T	S	02	04	10	13	16	19	DT	Z	T	S	02	10	13	16	19	DT	DD				
										0	21.05	33.82						23.604	429.7			0	
										10	20.70	33.82						23.698	420.7			.043	
										20	16.40	33.70						24.677	327.4			.080	

27

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28	17.5N	114	28.0W	08	30/65	1323		GMT	82M	340	08KT	1	320	01	
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	S1GT	DT	DD
									0	20.11	33.76		23.809	410.2	0
									10	19.69	33.70		23.873	404.1	.041
									20	17.72	33.76		24.412	352.7	.079
									30	17.27	33.73		24.497	344.6	.114
									50	13.96	33.54		25.088	288.3	.177
									75	13.02	33.78		25.464	252.5	.245

28

LATITUDE 28 17.5N			LONGITUDE 114 43.5W			MO/DAY/YR 08/30/65		MESSENGER TIME 1100 GMT		BOTTOM 97M	WIND 330	SPEED 09KT	WEATHER 4	DOMINANT WAVES 320 01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
									0	18.89	33.70		24.077	384.6	0	
									10	18.42	33.69		24.187	374.1	.038	
									20	17.75	33.65		24.320	361.4	.075	
									30	17.04	33.64		24.482	346.0	.110	
									50	15.22	33.58		24.850	310.9	.176	
									75	12.82	33.67		25.419	256.8	.248	
									100	12.20	33.94		25.748	225.5	.308	

A) THE S/T/D ANALOG RECORDING INDICATED A DEPTH OF MORE THAN 51 METERS.

RV ARGO 6508 STUDENT TRAINING CRUISE 28 G

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 18.0N		114 43.0W		09/03/65		1702		97M							
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.72	33.78		23.662	424.1	0
									10	20.21	33.75		23.775	413.4	.042
									20	19.58	33.70		23.901	401.4	.083
									30	18.87	33.66		24.051	387.0	.122
									50	17.80	33.57		24.247	368.4	.198
									75	13.99	33.59		25.120	285.2	.280

RV ARGO 6508 STUDENT TRAINING CRUISE 28 H

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 18.0N		114 43.0W		09/03/65		1804		97M							
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.70	33.78		23.668	423.6	0
									10	20.16	33.75		23.788	412.2	.042
									20	19.46	33.70		23.932	398.4	.082
									30	18.80	33.65		24.061	386.1	.122
									50	17.65	33.61		24.314	362.0	.197
									75	14.07	33.60		25.111	286.1	.278

RV ARGO 6508 STUDENT TRAINING CRUISE 28 I

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 18.0N		114 43.0W		09/03/65		1904		97M		110 02KT		5		320 01	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.72	33.77		23.655	424.9	0
									10	20.22	33.75		23.772	413.7	.042
									20	19.65	33.71		23.891	402.4	.083
									30	18.99	33.65		24.014	390.7	.123
									50	17.83	33.61		24.270	366.2	.198
									75	14.36	33.57		25.028	294.1	.281

RV ARGO 6508 STUDENT TRAINING CRUISE 28 J

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 18.0N		114 43.0W		09/03/65		2004		97M							
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.92	33.77		23.601	430.0	0
									10	20.27	33.75		23.759	414.9	.042
									20	19.73	33.73		23.885	402.9	.083
									30	19.19	33.68		23.986	393.3	.123
									50	17.90	33.61		24.253	367.8	.199
									75	14.37	33.59		25.041	292.8	.282

RV ARGO 6508 STUDENT TRAINING CRUISE 28 K

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 18.0N		114 43.0W		09/03/65		2103		97M							
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.82	33.77		23.628	427.4	0
									10	20.57	33.76		23.687	421.8	.042
									20	20.02	33.72		23.802	410.8	.084
									30	19.37	33.71		23.963	395.5	.125
									50	17.70	33.51		24.225	370.5	.201
									75	14.37	33.60		25.048	292.1	.285

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6508 STUDENT TRAINING CRUISE

28 L

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 18.0N		114 43.0W		09/03/65		2247		GMT	97M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	21.07	33.767	5.39	.27		.00	.6	434.1	0	21.07	33.767	5.39	23.558	434.1	0
5	20.84	33.761	5.31	.26		.01	.0	428.6	10	20.67	33.758	5.36	23.659	424.5	.043
10	20.67	33.758	5.36	.24		.00	.0	424.5	20	20.00	33.733	5.39	23.817	409.4	.085
15	20.16	33.729	5.39	.25		.01	.0	413.7	30	19.22	33.691	5.43	23.986	393.3	.125
24	19.56	33.735	5.39	.31		.00	.0	398.3	50	17.04	33.548	5.69	24.410	352.8	.200
34	19.02	33.648	5.47	.33		.00	.0	391.5	75	14.17	33.587	5.52	25.081	289.0	.280
46	17.42	33.566	5.65	.36		.00	.0	360.0							
61	15.10	33.495	5.84	.40		.12	1.5	314.7							
75	14.17	33.587	5.52	.58		.10	10.1	289.0							
84	12.99	33.664	4.31	1.09		.09	13.0	260.5							
88	12.94	33.717	3.79	1.31		.07	16.9	255.6							
92	12.88	33.806	2.87	1.86		.12	17.2	247.9							
95	12.75	33.811	2.82	1.75				245.1							

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6508 STUDENT TRAINING CRUISE

28 M

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 18.0N		114 43.0W		09/04/65		0238		GMT	97M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.94	33.76		23.588	431.2	0
									10	20.57	33.77		23.695	421.1	.043
									20	20.51	33.74		23.688	421.7	.085
									30	19.63	33.71		23.896	401.9	.126
									50	17.80	33.50		24.194	373.5	.204
									75	14.52	33.60		25.017	295.1	.288

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6508 STUDENT TRAINING CRUISE

28 N

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 17.5N		114 43.0W		09/04/65		0304		GMT	97M	210	DBKT	1	320 02		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.92	33.76		23.594	430.7	0
									10	20.58	33.76		23.685	422.0	.043
									20	20.43	33.74		23.709	419.7	.085
									30	19.63	33.71		23.896	401.9	.126
									50	17.87	33.57		24.230	370.0	.203
									75	14.46	33.58		25.014	295.3	.287

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6508 STUDENT TRAINING CRUISE

28 O

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 17.5N		114 43.0W		09/04/65		0401		GMT	97M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.94	33.77		23.596	430.5	0
									10	20.57	33.77		23.695	421.1	.043
									20	20.54	33.77		23.703	420.3	.085
									30	19.75	33.72		23.872	404.1	.126
									50	17.60	33.57		24.295	363.8	.203
									75	14.50	33.59		25.013	295.4	.286

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6508 STUDENT TRAINING CRUISE

28 P

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 17.5N		114 43.0W		09/04/65		0501		GMT	97M						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.90	33.78		23.614	428.8	0
									10	20.62	33.78		23.689	421.6	.043
									20	20.58	33.80		23.715	419.1	.085
									30	20.08	33.70		23.771	413.8	.126
									50	17.25	33.53		24.348	358.7	.204
									75	14.71	33.55		24.938	302.6	.287

RV ARGO 6508 STUDENT TRAINING CRUISE 29

LATITUDE 28 17.5N			LONGITUDE 114 58.5W			MO/DAY/YR 08/30/65		MESSENGER TIME 0939		TIME GMT		BOTTOM 112M	WIND 340	SPEED 09KT	WEATHER 0	DOMINANT WAVES 360 01		
Z	T	S	02	PO4	SI03	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.82	33.78		23.636	426.7	0			
									10	20.80	33.79		23.649	425.5	.043			
									20	20.30	33.75		23.751	415.7	.085			
									30	19.37	33.71		23.963	395.5	.125			
									50	17.35	33.69		24.447	349.3	.200			
									75	13.45	33.61		25.247	273.2	.278			
									100	12.34	33.82		25.628	236.9	.343			

RV ARGO 6508 STUDENT TRAINING CRUISE 30 B

LATITUDE 28 17.5N			LONGITUDE 115 06.5W			MO/DAY/YR 08/30/65		MESSENGER TIME 0820		TIME GMT		BOTTOM 108M	WIND 340	SPEED 08KT	WEATHER 0	DOMINANT WAVES 360 01		
Z	T	S	02	PO4	SI03	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.30								
									10	20.31								
									20	19.12								
									30	18.02								
									50	15.56								
									75	14.43								
									100	12.91								

RV ARGO 6508 STUDENT TRAINING CRUISE 30 C

LATITUDE 28 17.5N			LONGITUDE 115 06.5W			MO/DAY/YR 08/30/65		MESSENGER TIME 0846		TIME GMT		BOTTOM 108M	WIND 340	SPEED 08KT	WEATHER 0	DOMINANT WAVES 360 01		
Z	T	S	02	PO4	SI03	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD			
									0	21.02	33.82		23.612	428.9	0			
									10	20.21	33.77		23.790	412.0	.042			
									20	19.77	33.68		23.837	407.5	.083			
									30	18.03	33.70		24.290	364.3	.122			
									50	15.62	33.55		24.739	321.5	.191			
									75	14.10	33.78		25.244	273.5	.265			
									100	12.88	33.90		25.585	241.0	.330			

RV ARGO 6508 STUDENT TRAINING CRUISE 31

LATITUDE 28 10.0N			LONGITUDE 115 06.5W			MO/DAY/YR 08/30/65		MESSENGER TIME 0710		TIME GMT		BOTTOM 86M	WIND 340	SPEED 08KT	WEATHER 0	DOMINANT WAVES 360 01		
Z	T	S	02	PO4	SI03	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.98	33.77		23.585	431.5	0			
									10	20.10	33.69		23.758	415.0	.042			
									20	18.93	33.69		24.059	386.3	.082			
									30	18.32	33.73		24.242	368.9	.120			
									50	16.50	33.71		24.662	328.9	.190			
									75	14.05	33.74		25.224	275.4	.266			

RV ARGO 6508 STUDENT TRAINING CRUISE 32

LATITUDE 28 10.5N			LONGITUDE 114 58.0W			MO/DAY/YR 08/30/65		MESSENGER TIME 0429		TIME GMT		BOTTOM 99M	WIND 340	SPEED 12KT	WEATHER 1	DOMINANT WAVES 320 02		
Z	T	S	02	PO4	SI03	NO2	NO3	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.80	33.81		23.664	424.0	0			
									10	20.79	33.80		23.659	424.5	.042			
									20	20.46	33.78		23.732	417.5	.085			
									30	20.27	33.76		23.767	414.2	.126			
									50	18.87	33.70		24.082	384.1	.206			
									75	14.72	33.74		25.082	288.9	.291			

RV ARGO

6508 STUDENT TRAINING CRUISE

32

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER		DOMINANT WAVES	
28 10.5N		114 58.0W		08/30/65		0502		GMT	99M	340	12KT	1		320 02	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	20.82	33.783	5.23	.18		.00	.0	426.5	0	20.82	33.783	5.23	23.638	426.5	0
5	20.82	33.775	5.25	.18		.00	.0	427.1	10	20.84	33.778	5.24	23.629	427.4	.043
10	20.84	33.778	5.24	.20		.00	.0	427.4	20	20.58	33.770	5.26	23.692	421.3	.085
20	20.58	33.770	5.26	.21		.00	.0	421.3	30	20.35	33.747	5.26	23.736	417.2	.127
30	20.35	33.747	5.26	.24		.00	.0	417.2	50	19.10	33.741	5.18	24.055	386.7	.208
40	20.18	33.741	5.30	.27		.00	.0	413.3	75	14.95	33.722	4.11	25.018	294.9	.294
50	19.10	33.741	5.18	.34		.02	.0	386.7							
60	17.14	33.707	5.07	.55		.65	.4	343.4							
80	14.42	33.734	3.57	1.33		.67	10.3	283.2							

RV ARGO

6508 STUDENT TRAINING CRUISE

33

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER		DOMINANT WAVES	
28 10.5N		114 43.0W		08/30/65		0257		GMT	86M	340	12KT	1		300 02	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	20.91	33.81		23.634	426.8	0
									10	20.93	33.81		23.629	427.4	.043
									20	20.35	33.80		23.776	413.3	.085
									30	20.07	33.79		23.842	407.0	.126
									50	18.65	33.77		24.190	373.8	.204
									75	17.48	33.77		24.477	346.5	.295

RV ARGO

6508 STUDENT TRAINING CRUISE

34

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER		DOMINANT WAVES	
28 10.0N		114 28.5W		08/30/65		0002		GMT	80M	330	10KT	1		320 02	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	19.44	33.676	5.46	.32		.01	.0	399.7	0	19.44	33.676	5.46	23.919	399.7	0
5	19.43	33.676	5.65	.33		.01	.0	399.4	10	19.28	33.682	5.67	23.964	395.4	.040
14	19.16	33.686	5.68	.32		.01	.0	392.1	20	18.43	33.716	5.50	24.204	372.5	.078
24	17.93	33.737	5.36	.39		.07	.0	359.2	30	17.66	33.741	5.25	24.411	352.8	.115
34	17.57	33.735	5.20	.46		1.21	.0	351.1	50	15.96	33.641	5.07	24.732	322.2	.182
43	17.28	33.723	5.06	.58		1.05	.3	345.4							
53	15.32	33.611	5.08	.66		1.05	1.3	310.8							
68	13.77	33.645	4.33	1.12		.32	8.6	276.8							
71	13.64	33.645	3.86	1.32		.22	10.5	271.1							

RV ARGO

6508 STUDENT TRAINING CRUISE

34

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER		DOMINANT WAVES	
28 10.0N		114 28.5W		08/30/65		0055		GMT	80M	330	10KT	1		320 02	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	19.76	33.70		23.855	405.8	0
									10	19.30	33.71		23.981	393.8	.040
									20	17.95	33.76		24.356	358.0	.078
									30	17.65	33.76		24.428	351.1	.113
									50	15.20	33.52		24.808	314.9	.180
									75	13.32	33.72		25.358	262.6	.253

RV ARGO

6508 STUDENT TRAINING CRUISE

35

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER		DOMINANT WAVES	
28 10.5N		114 14.5W		08/29/65		1357		GMT	19M			2		360 01	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	21.19	33.94		23.657	424.7	0
									10	21.20	33.94		23.654	424.9	.042

RV ARGO

6508 STUDENT TRAINING CRUISE

35 A

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER		DOMINANT WAVES	
28 10.0N		114 13.5W		08/29/65		2225		GMT	26M	320	09KT	1		360 01	
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									0	21.55	33.87		23.506	439.1	0
									10	20.99	33.88		23.666	423.8	.043
									20	16.30	33.66		24.669	328.1	.081

RV ARGO 6508 STUDENT TRAINING CRUISE 36

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
27	55.5N	114	28.5W	08/29/65	0932	GMT		32M	360	10KT	0	360	01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	20.91	33.81		23.634	426.8	0
									10	20.53	33.79		23.721	418.6	.042
									20	17.25	33.55		24.364	357.3	.081

RV ARGO 6508 STUDENT TRAINING CRUISE 36

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
27	55.5N	114	28.5W	08/29/65	1004	GMT		32M	360	10KT	0	360	01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
0	21.02	33.790	5.34	.21		.0	431.1	0	21.02	33.790	5.34	23.589	431.1	0	
5	21.04	33.790	5.44	.15		.0	431.6	10	21.04	33.790	5.38	23.584	431.6	.043	
10	21.04	33.790	5.38	.21		.1	431.6	20	19.16	33.691	5.65	24.002	391.8	.084	
15	20.22	33.753	5.76	.15		.0	413.4								
20	19.16	33.691	5.65	.24		.0	391.8								
25	16.29	33.667	5.26	.66		1.3	327.4								

RV ARGO 6508 STUDENT TRAINING CRUISE 37

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
27	57.0N	114	43.0W	08/29/65	0802	GMT		75M	200	04KT	0	160	01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	20.62	33.80		23.704	420.2	0
									10	20.62	33.78		23.689	421.6	.042
									20	20.21	33.76		23.783	412.7	.084
									30	19.11	33.70		24.021	389.9	.124
									50	15.99	33.51		24.625	332.4	.197

RV ARGO 6508 STUDENT TRAINING CRUISE 38

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
27	56.0N	114	59.0W	08/29/65	0539	GMT		63M	190	07KT	0	160	01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
0	20.32	33.713	5.01	.32		.01	418.9	0	20.32	33.713	5.01	23.718	418.9	0	
5	20.16	33.704	5.26	.22		.01	415.5	10	19.45	33.686	5.35	23.924	399.2	.041	
10	19.46	33.686	5.35	.23		.02	399.2	20	18.55	33.629	5.37	24.108	381.7	.080	
20	18.55	33.629	5.37	.30		.02	381.7	30	17.64	33.588	5.67	24.299	363.4	.117	
30	17.64	33.588	5.67	.34		.02	363.4								
40	16.76	33.554	5.86	.38		.02	346.0								

RV ARGO 6508 STUDENT TRAINING CRUISE 38

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
27	56.0N	114	59.0W	08/29/65	0605	GMT		63M	190	07KT	0	160	01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	20.28	33.71		23.726	418.1	0
									10	19.39	33.68		23.935	398.2	.041
									20	18.46	33.63		24.131	379.5	.080
									30	17.49	33.54		24.299	363.5	.117
									50	15.62	33.57		24.754	320.1	.186

RV ARGO 6508 STUDENT TRAINING CRUISE 39

LATITUDE		LONGITUDE		MO/DAY/YR	MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
27	56.0N	115	07.0W	08/29/65	0432	GMT		41M	300	02KT	0	01			
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	20.75	33.89		23.738	416.9	0
									10	19.01	33.86		24.168	375.9	.040
									20	16.93	33.83		24.653	329.7	.075
									30	16.51	33.82		24.744	321.1	.108

RV ARGO 6508 STUDENT TRAINING CRUISE 40

LATITUDE 28 04.0N			LONGITUDE 115 07.0W			MO/DAY/YR 08/29/65			MESSENGER TIME 0258			BOTTOM 75M	WIND 130	SPEED 03KT	WEATHER 0	DOMINANT WAVES 01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.15	33.70		23.753	415.5	0			
									10	19.06	33.68		24.019	390.2	.040			
									20	18.45	33.63		24.134	379.2	.079			
									30	17.72	33.58		24.274	365.8	.116			
									50	16.21	33.74		24.751	320.3	.185			

RV ARGO 6508 STUDENT TRAINING CRUISE 41

LATITUDE 28 04.0N			LONGITUDE 114 58.5W			MO/DAY/YR 08/29/65			MESSENGER TIME 0155			BOTTOM 75M	WIND 080	SPEED 09KT	WEATHER 0	DOMINANT WAVES 320 02		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD			
									0	21.16	33.79		23.552	434.7	0			
									10	20.12	33.75		23.799	411.2	.042			
									20	19.81	33.73		23.864	404.9	.083			
									30	18.88	33.69		24.072	385.1	.123			
									50	16.85	33.71		24.580	336.6	.195			

RV ARGO 6508 STUDENT TRAINING CRUISE 42

LATITUDE 28 04.0N			LONGITUDE 114 43.5W			MO/DAY/YR 08/29/65			MESSENGER TIME 0005			BOTTOM 65M	WIND 340	SPEED 10KT	WEATHER 0	DOMINANT WAVES 330 01 04		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.96	33.82		23.628	427.4	0			
									10	20.71	33.80		23.680	422.4	.043			
									20	20.05	33.77		23.832	408.0	.084			
									30	19.60	33.73		23.919	399.7	.125			
									50	16.38	33.72		24.697	325.5	.197			

RV ARGO 6508 STUDENT TRAINING CRUISE 43 A

LATITUDE 28 04.0N			LONGITUDE 114 27.0W			MO/DAY/YR 08/28/65			MESSENGER TIME 2130			BOTTOM 54M	WIND 310	SPEED 11KT	WEATHER 0	DOMINANT WAVES 330 01 04		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD			
									0	19.74	33.72		23.875	403.9	0			
									10	19.21	33.70		23.996	392.3	.040			
									20	17.10	33.57		24.414	352.4	.077			
									30	15.70	33.50		24.682	326.9	.111			

RV ARGO 6508 STUDENT TRAINING CRUISE 43 B

LATITUDE 28 04.0N			LONGITUDE 114 27.0W			MO/DAY/YR 08/28/65			MESSENGER TIME 2157			BOTTOM 54M	WIND 310	SPEED 11KT	WEATHER 0	DOMINANT WAVES 330 01 04		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.35	33.75		23.738	416.9	0			
									10	19.10	33.70		24.024	389.7	.040			
									20	17.19	33.58		24.401	353.7	.078			
									30	16.10	33.67		24.723	323.1	.111			
									50	14.65	33.55		24.950	301.4	.174			

RV ARGO 6508 STUDENT TRAINING CRUISE 43 C

LATITUDE 28 04.0N			LONGITUDE 114 28.0W			MO/DAY/YR 08/29/65			MESSENGER TIME 1150			BOTTOM 73M	WIND 340	SPEED 06KT	WEATHER 0	DOMINANT WAVES 360 01		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD			
									0	20.22	33.76		23.780	412.9	0			
									10	20.24	33.76		23.775	413.4	.041			
									20	19.92	33.73		23.836	407.6	.082			
									30	18.74	33.69		24.107	381.7	.122			
									50	15.29	33.50		24.773	318.3	.192			

RV ARGO										6508 STUDENT TRAINING CRUISE										50	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES			
28 03.5N		115 10.5W		09/05/65		1500		GMT		47M		220		05KT		6		180 01			
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD					
										0	19.52	33.80		23.993	392.6	0					
										10	18.49	33.72		24.192	373.6	.038					
										20	17.86	33.72		24.347	358.9	.075					
										30	17.76	33.72		24.371	356.5	.111					
										50A	15.93	33.72		24.800	315.7	.178					

RV ARGO										6508 STUDENT TRAINING CRUISE										51	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES			
28 01.5N		115 09.0W		09/05/65		1522		GMT		54M											
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD					
										0	22.51	34.30		23.564	433.6	0					
										10	19.20	33.78		24.059	386.3	.041					
										20	16.73	33.64		24.555	339.1	.077					
										30	16.24	33.68		24.698	325.4	.111					
										50	15.93	33.74		24.815	314.3	.175					

RV ARGO										6508 STUDENT TRAINING CRUISE										52	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES			
27 59.5N		115 08.0W		09/05/65		1544		GMT		45M											
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD					
										0	22.39	34.28		23.583	431.8	0					
										10	22.35	34.28		23.594	430.7	.043					
										20	21.63	34.22		23.749	415.9	.086					
										30	20.50	34.06		23.934	398.3	.126					

RV ARGO										6508 STUDENT TRAINING CRUISE										53	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES			
27 57.5N		115 07.0W		09/05/65		1604		GMT		41M											
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD					
										0	22.52	34.28		23.546	435.3	0					
										10	22.39	34.28		23.583	431.8	.043					
										20	22.32	34.28		23.602	429.9	.087					
										30	22.05	34.28		23.678	422.7	.129					

RV ARGO										6508 STUDENT TRAINING CRUISE										54	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES			
27 55.5N		115 05.5W		09/05/65		1626		GMT		37M											
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD					
										0	22.63	34.30		23.530	436.8	0					
										10	22.60	34.30		23.538	436.0	.044					
										20	22.56	34.31		23.557	434.2	.087					
										30	22.30	34.30		23.623	427.9	.130					

RV ARGO										6508 STUDENT TRAINING CRUISE										55	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES			
27 53.5N		115 04.5W		09/05/65		1651		GMT		19M											
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD					
										0	22.93	34.30		23.444	445.0	0					
										10	22.33	34.29		23.607	429.4	.044					

A) THE S/T/D ANALOG RECORDING INDICATED A DEPTH OF MORE THAN 54 METERS.

RV ARGO 6508 STUDENT TRAINING CRUISE 56

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 53.0N	115 04.0W	09/05/65	1705	GMT	19M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	22.85	34.30		23.467	442.8	0
							10	22.47	34.15		23.462	443.3	.044

RV ARGO 6508 STUDENT TRAINING CRUISE 57

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 46.0N	115 10.0W	09/05/65	1758	GMT	93M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.00	34.22		23.364	452.7	0
							10	23.01	34.23		23.368	452.2	.045
							20	22.00	34.13		23.578	432.2	.090
							30	18.81	33.76		24.143	378.3	.130
							50	17.34	33.88		24.595	335.3	.202
							75	15.89	33.97		25.000	296.6	.281

RV ARGO 6508 STUDENT TRAINING CRUISE 58

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 47.5N	115 11.0W	09/05/65	1818	GMT	86M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	22.98	34.22		23.369	452.1	0
							10	22.94	34.22		23.381	451.0	.045
							20	22.61	34.18		23.445	444.9	.090
							30	19.78	33.91		24.009	391.1	.132
							50	18.40	34.00		24.428	351.1	.206
							75	16.25	33.94		24.895	306.6	.289

RV ARGO 6508 STUDENT TRAINING CRUISE 59

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 49.0N	115 12.0W	09/05/65	1842	GMT	75M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.13	34.22		23.326	456.2	0
							10	22.99	34.22		23.367	452.4	.045
							20	22.79	34.21		23.416	447.6	.091
							30	21.29	34.14		23.782	412.8	.134
							50	19.17	34.15		24.349	358.7	.211
							75	15.87	34.00		25.028	294.0	.293

RV ARGO 6508 STUDENT TRAINING CRUISE 60

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 52.0N	115 13.5W	09/05/65	1907	GMT	60M	240	06KT	2					
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.15	34.26		23.351	453.9	0
							10	23.03	34.27		23.393	449.9	.045
							20	23.00	34.28		23.409	448.3	.090
							30	22.00	34.23		23.654	424.9	.134
							50	18.96	34.16		24.410	352.9	.212

RV ARGO 6508 STUDENT TRAINING CRUISE 61

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 54.0N	115 14.5W	09/05/65	1930	GMT	47M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.24	34.28		23.340	454.9	0
							10	23.02	34.30		23.419	447.4	.045
							20	22.27	34.26		23.601	430.0	.089
							30	21.18	34.22		23.872	404.1	.131

RV ARGO 6508 STUDENT TRAINING CRUISE 62

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 55.5N	115 16.0W	09/05/65	1949	GMT	39M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.14	34.29		23.376	451.4	0
							10	23.02	34.29		23.411	448.2	.045
							20	22.00	34.25		23.669	423.5	.089
							30	19.25	34.20		24.366	357.0	.128

RV ARGO 6508 STUDENT TRAINING CRUISE 63

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 58.0N	115 18.0W	09/05/65	2008	GMT	47M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.12	34.28		23.375	451.6	0
							10	23.07	34.29		23.397	449.5	.045
							20	22.38	34.27		23.578	432.2	.089
							30	22.28	34.29		23.621	428.1	.132

RV ARGO 6508 STUDENT TRAINING CRUISE 64

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 59.0N	115 19.5W	09/05/65	2028	GMT	63M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.16	34.30		23.378	451.3	0
							10	23.02	34.30		23.419	447.4	.045
							20	22.41	34.27		23.569	433.0	.089
							30	20.58	34.10		23.943	397.4	.131
							50	19.48	34.10		24.231	369.9	.208

RV ARGO 6508 STUDENT TRAINING CRUISE 65

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
28 00.5N	115 20.0W	09/05/65	2048	GMT	69M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.19	34.30		23.370	452.1	0
							10	22.31	34.28		23.605	429.6	.044
							20	21.85	34.23		23.696	421.0	.087
							30	21.29	34.21		23.835	407.7	.128
							50	18.48	34.19		24.553	339.2	.203

RV ARGO 6508 STUDENT TRAINING CRUISE 66

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
28 02.5N	115 21.0W	09/05/65	2105	GMT	71M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	23.26	34.29		23.342	454.8	0
							10	22.13	34.30		23.671	423.3	.044
							20	21.96	34.30		23.718	418.8	.086
							30	21.67	34.31		23.806	410.4	.128
							50	18.60	34.18		24.516	342.8	.203

RV ARGO 6508 STUDENT TRAINING CRUISE 67

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
28 04.0N	115 22.0W	09/05/65	2126	GMT	56M								
Z	T	S	02	P04 S103	N02 N03	DT	Z	T	S	02	SIGT	DT	DD
							0	22.82	34.30		23.476	442.0	0
							10	22.34	34.29		23.604	429.7	.044
							20	22.17	34.30		23.660	424.4	.086
							30	20.50	34.23		24.063	385.9	.127
							50	17.92	34.12		24.638	331.1	.199

RV ARGO 6508 STUDENT TRAINING CRUISE 68

LATITUDE 27 51.0N			LONGITUDE 115 00.5W			MO/DAY/YR 09/05/65		MESSENGER 2332		TIME GMT	BOTTOM 15M	WIND 290	SPEED 10KT	WEATHER 2	DOMINANT WAVES 230 02		
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD	
										0	22.24	34.11		23.496	440.0	0	
										10	21.73	34.08		23.615	428.6	.043	

RV ARGO 6508 STUDENT TRAINING CRUISE 69

LATITUDE 27 56.0N			LONGITUDE 115 00.0W			MO/DAY/YR 09/06/65		MESSENGER 0007		TIME GMT	BOTTOM 56M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD	
										0	22.76	34.30		23.493	440.3	0	
										10	22.63	34.31		23.537	436.1	.044	
										20	22.38	34.30		23.601	430.0	.087	
										30	22.17	34.30		23.660	424.4	.130	
										50	21.14	34.12		23.807	410.3	.214	

RV ARGO 6508 STUDENT TRAINING CRUISE 70

LATITUDE 28 01.0N			LONGITUDE 115 00.0W			MO/DAY/YR 09/06/65		MESSENGER 0042		TIME GMT	BOTTOM 75M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD	
										0	21.43	33.78		23.470	442.5	0	
										10	20.78	33.76		23.631	427.1	.043	
										20	19.93	33.72		23.826	408.6	.085	
										30	18.86	33.64		24.039	388.3	.125	
										50	18.32	33.71		24.227	370.3	.201	

RV ARGO 6508 STUDENT TRAINING CRUISE 71

LATITUDE 28 06.0N			LONGITUDE 115 00.0W			MO/DAY/YR 09/06/65		MESSENGER 0116		TIME GMT	BOTTOM 82M	WIND 040	SPEED 02KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD	
										0	21.38	33.78		23.484	441.2	0	
										10	21.30	33.79		23.513	438.4	.044	
										20	20.90	33.80		23.629	427.3	.087	
										30	19.98	33.70		23.797	411.3	.129	
										50	18.46	33.70		24.184	374.4	.208	
										75	13.78	33.78		25.310	267.1	.289	

RV ARGO 6508 STUDENT TRAINING CRUISE 72

LATITUDE 28 11.0N			LONGITUDE 115 00.0W			MO/DAY/YR 09/06/65		MESSENGER 0153		TIME GMT	BOTTOM 101M	WIND 340	SPEED 07KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD	
										0	21.40	33.79		23.486	441.0	0	
										10	21.12	33.80		23.570	433.0	.044	
										20	20.97	33.79		23.603	429.8	.087	
										30	20.09	33.74		23.799	411.1	.129	
										50	19.11	33.70		24.021	389.9	.209	
										75	16.90	33.91		24.722	323.2	.299	

RV ARGO 6508 STUDENT TRAINING CRUISE 73

LATITUDE 28 16.0N			LONGITUDE 115 00.0W			MO/DAY/YR 09/06/65		MESSENGER 0226		TIME GMT	BOTTOM 108M	WIND 330	SPEED 09KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD	
										0	21.57	33.90		23.523	437.5	0	
										10	21.53	33.91		23.542	435.7	.044	
										20	20.31	33.74		23.741	416.7	.086	
										30	19.97	33.74		23.830	408.1	.128	
										50	19.34	34.12		24.282	365.0	.205	
										75	15.82	33.74		24.840	311.9	.290	
										100	12.65	33.82		25.568	242.6	.360	

RV ARGO

6508 STUDENT TRAINING CRUISE

73 A

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 16.0N		115 00.0W		09/06/65		0231		GMT	108M	330	09KT	2			
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	21.52	33.91		23.544	435.4	0
									10	21.29	33.82		23.539	435.9	.044
									20	20.49	33.74		23.693	421.2	.086
									30	20.04	33.74		23.812	409.9	.128
									50	19.31	34.04		24.229	370.1	.206
									75	16.27	33.80		24.784	317.3	.293
									100	12.74	33.80		25.535	245.8	.364

RV ARGO

6508 STUDENT TRAINING CRUISE

74

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 21.0N			115 00.0W			09/06/65		0307		GMT	119M	300	10KT	2	320 02		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD		
									0	20.90	33.91A		23.713	419.3	0		
									10	20.71	33.88A		23.741	416.6	.042		
									20	20.52	33.82A		23.746	416.2	.084		
									30	19.72	33.88		24.002	391.8	.124		
									50	18.92	34.10		24.374	356.3	.199		
									75	16.05	33.60		24.680	327.1	.285		
									100	13.05	33.74		25.427	256.0	.358		

RV ARGO

6508 STUDENT TRAINING CRUISE

75

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 26.0N			115 00.0W			09/06/65		0337		GMT	125M	310	10KT				
Z	T	S	02	P04	S103	N02	N03	DT			Z	T	S	02	SIGT	DT	DD
											0	21.37	34.14		23.760	414.9	0
											10	21.35	34.13		23.758	415.1	.042
											20	20.28	34.06		23.992	392.7	.082
											30	20.23	34.07		24.013	390.7	.121
											50	19.54	34.07		24.193	373.5	.198
											75	16.32	33.88		24.833	312.5	.284
											100	13.57	33.61		25.222	275.5	.358

RV ARGO

6508 STUDENT TRAINING CRUISE

76

LATITUDE			LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 31.5N			115 00.0W		09/06/65		0415		GMT	131M	260	07KT				
Z	T	S	02	P04	S103	N02	N03	DT		Z	T	S	02	SIGT	DT	DD
										0	21.29	34.10		23.751	415.7	0
										10	19.44	33.97		24.143	378.3	.040
										20	19.07	33.97		24.237	369.3	.077
										30	18.65	33.90		24.290	364.3	.114
										50	17.57	33.93		24.578	336.9	.184
										75	15.85	33.93		24.979	298.7	.264
										100	12.89	33.65		25.390	259.6	.335
										125	11.53	33.97		25.897	211.3	.394

RV ARGO

6508 STUDENT TRAINING CRUISE

77

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
28 36.5N		115 00.0W		09/06/65		0452		GMT	129M	280	06KT				
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
									0	20.87	33.95		23.751	415.7	0
									10	20.65	34.10		23.924	399.2	.041
									20	18.24	33.92		24.407	353.2	.078
									30	17.27	34.00		24.703	324.9	.112
									50	16.47	33.96		24.860	310.0	.176
									75	15.13	33.94		25.146	282.7	.251
									100	12.67	33.66		25.441	254.8	.318
									125	11.19	34.00		25.983	203.2	.376

A) THE SALINITY RECORDING WAS ILLEGIBLE ABOVE 25 METERS. THE VALUE OF THE SURFACE SAMPLE, COLLECTED BY NANSEN BOTTLE, HAS BEEN TABULATED AND VALUES FOR 10 AND 20 METERS INTERPOLATED.

RV ARGO 6508 STUDENT TRAINING CRUISE 78

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER DOMINANT WAVES			
28 41.5N			115 00.0W			09/06/65		0527		116M	280	06KT				
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	20.87	33.94		23.744	416.4	0	
									10	19.56	33.91		24.066	385.6	.040	
									20	19.16	33.92		24.176	375.2	.078	
									30	17.00	33.62		24.476	346.5	.114	
									50	14.47	33.60		25.027	294.1	.179	
									75	13.15	33.64		25.330	265.2	.249	
									100	11.71	33.81		25.740	226.3	.311	

RV ARGO 6508 STUDENT TRAINING CRUISE 79

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER DOMINANT WAVES			
28 46.5N			115 00.0W			09/06/65		0608		101M	240	06KT				
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	19.60	33.66		23.865	404.8	0	
									10	18.55	33.68		24.147	377.9	.039	
									20	17.59	33.67		24.374	356.3	.076	
									30	16.49	33.60		24.580	336.7	.111	
									50	14.11	33.58		25.088	288.3	.173	
									75	12.57	33.72		25.506	248.5	.241	
									100	11.39	33.93		25.892	211.8	.299	

RV ARGO 6508 STUDENT TRAINING CRUISE 80

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER DOMINANT WAVES			
28 51.5N			115 00.0W			09/06/65		0645		99M	250	03KT				
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	20.43	33.74		23.709	419.7	0	
									10	19.49	33.71		23.932	398.4	.041	
									20	17.48	33.57		24.324	361.0	.079	
									30	15.75	33.63		24.771	318.5	.113	
									50	13.58	33.58		25.197	277.9	.173	
									75	11.75	33.89		25.794	221.1	.236	

RV ARGO 6508 STUDENT TRAINING CRUISE 81

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER DOMINANT WAVES			
28 51.5N			115 05.5W			09/06/65		0719		119M	250	04KT	5 320 02			
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	19.30	33.61		23.904	401.1	0	
									10	17.56	33.60		24.328	360.7	.038	
									20	17.33	33.59		24.375	356.2	.074	
									30	17.19	33.61		24.424	351.5	.109	
									50	14.60	33.57		24.977	298.9	.175	
									75	12.96	33.63		25.360	262.4	.245	
									100	12.09	33.92		25.754	225.0	.307	

RV ARGO 6508 STUDENT TRAINING CRUISE 82

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER DOMINANT WAVES			
28 51.5N			115 11.5W			09/06/65		0753		173M	280	03KT				
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	19.57	33.62		23.843	406.9	0	
									10	19.65	33.65		23.845	406.7	.041	
									20	18.16	33.60		24.182	374.6	.080	
									30	17.85	33.62		24.273	365.9	.117	
									50	15.88	33.49		24.634	331.5	.187	
									75	14.47	33.59		25.020	294.8	.266	
									100	13.55	33.88		25.435	255.3	.335	
									125	12.74	33.90		25.612	238.4	.397	
									150	12.07	33.96		25.788	221.7	.456	

RV ARGO				6508 STUDENT TRAINING CRUISE										83			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
28 46.5N		115 11.5W		09/06/65		0830		GMT	192M	290	04KT						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
									0	20.66	33.90		23.770	413.9	0		
									10	20.63	33.90		23.778	413.2	.041		
									20	19.31	33.80		24.046	387.5	.081		
									30	17.90	33.70		24.322	361.2	.119		
									50	15.34	33.64		24.870	309.1	.186		
									75	15.10	33.99		25.191	278.4	.260		
									100	13.46	33.90		25.468	252.1	.327		
									125	12.68	33.96		25.655	234.4	.389		
									150	11.95	34.00		25.842	216.5	.446		

RV ARGO				6508 STUDENT TRAINING CRUISE												84
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
28 41.5N		115 11.5W		09/06/65		0905		168M	290	04KT						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	21.35	33.91		23.591	431.0	0	
									10	21.33	33.90		23.589	431.2	.041	
									20	19.95	33.68		23.790	412.0	.085	
									30	18.92	33.76		24.115	381.0	.125	
									50	15.56	33.65		24.836	312.2	.195	
									75	13.89	33.79		25.295	268.6	.268	
									100	13.59	33.92		25.457	253.2	.333	
									125	12.59	33.91		25.650	234.9	.395	
									150	11.92	33.98		25.832	217.5	.453	

RV ARGO			6508 STUDENT TRAINING CRUISE												85	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 36.5N		115 11.5W		09/06/65		0940		GMT	153M	270	10KT					
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	21.40	33.93		23.592	430.8	0	
									10	21.18	33.88		23.614	428.7	.043	
									20	20.08	34.14		24.106	381.9	.084	
									30	18.00A	34.03		24.550	339.6	.120	
									50	16.98	34.01		24.779	317.7	.186	
									75	16.46	34.04		24.924	303.9	.264	
									100	14.27	33.82		25.239	273.9	.337	
									125	13.04	33.97		25.607	238.9	.402	

RV ARGO				6508 STUDENT TRAINING CRUISE												85 B
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
28 36.5N		115 11.5W		09/06/65		0947		GMT	153M	270	10KT					
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	21.41	33.97		23.620	428.2	0	
									10	21.08	33.90		23.657	424.7	.043	
									20	20.18	34.18		24.110	381.5	.083	
									30	17.93	34.02		24.559	338.7	.119	
									50	16.98	34.03		24.795	316.2	.185	
									75	16.44	34.06		24.944	302.0	.263	
									100	14.14	33.85		25.289	269.1	.335	
									125	12.73	33.97		25.668	233.1	.398	
									150	11.68	34.07		25.947	206.6	.454	

RV ARGO			6508 STUDENT TRAINING CRUISE													86
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
28 31.5N		115 11.5W		09/06/65		1028		145M	220	04KT						
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
									0	20.94	33.89		23.687	421.8	0	
									10	20.35	33.90		23.852	406.1	.041	
									20	19.56	34.19		24.279	365.3	.080	
									30	18.37	34.10		24.512	343.2	.116	
									50	18.32	34.14		24.555	339.1	.184	
									75	15.73	33.90		24.983	298.3	.264	
									100	14.25	33.73		25.174	280.1	.337	
									125	12.83	33.83		25.541	245.2	.404	

A) THE S/T/D TEMPERATURE RECORDING WAS OFF-SCALE BETWEEN 25 AND 40 METERS. THIS VALUE HAS BEEN DETERMINED BY COMPARING THIS RECORDING WITH THE RECORDING FROM 85B LOWERED 7 MINUTES LATER.

RV ARGO 6508 STUDENT TRAINING CRUISE 87

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 26.5N		115 11.5W		09/06/65		1105		GMT		142M		310		09KT		5		270 01	
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD				
									0	22.80	34.35		23.519	437.8	0				
									10	22.80	34.36		23.527	437.1	.044				
									20	20.21	34.14		24.071	385.1	.085				
									30	19.58	34.08		24.190	373.8	.123				
									50	18.78	34.10		24.409	352.9	.196				
									75	17.21	33.95		24.679	327.2	.281				
									100	14.95	33.86		25.124	284.8	.359				
									125	12.57	33.89		25.638	236.0	.424				

RV ARGO 6508 STUDENT TRAINING CRUISE 88

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 23.5N		115 11.5W		09/06/65		1136		GMT		101M		260		07KT		4			
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD				
									0	22.63	34.36		23.575	432.5	0				
									10	21.20	34.26		23.897	401.7	.042				
									20	20.62	34.23		24.031	389.0	.081				
									30	19.88	34.15		24.166	376.2	.120				
									50	18.77	34.00		24.336	359.9	.194				

RV ARGO 6508 STUDENT TRAINING CRUISE 89

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 27.0N		115 07.0W		09/06/65		1213		GMT		140M		300		08KT					
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD				
									0	22.18	34.28		23.642	426.1	0				
									10	20.47	34.10		23.972	394.6	.041				
									20	19.80	34.09		24.141	378.5	.080				
									30	19.57	34.12		24.223	370.7	.117				
									50	19.08	34.06		24.303	363.0	.191				
									75	16.87	34.04		24.828	313.0	.276				
									100	15.21	33.86		25.067	290.3	.352				
									125	12.98	33.68		25.395	259.1	.421				

RV ARGO 6508 STUDENT TRAINING CRUISE 90

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 31.0N		115 02.5W		09/06/65		1255		GMT		132M		310		07KT					
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD				
									0	21.30	34.04		23.703	420.3	0				
									10	20.92	34.18		23.912	400.3	.041				
									20	20.32	34.22		24.103	382.1	.080				
									30	19.43	34.12		24.259	367.2	.118				
									50	17.23	33.92		24.651	329.9	.188				
									75	16.78	34.05		24.857	310.3	.268				
									100	14.85	33.70		25.023	294.5	.344				
									125	11.97	33.80		25.683	231.7	.411				

RV ARGO 6508 STUDENT TRAINING CRUISE 91

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 35.0N		114 57.5W		09/06/65		1343		GMT		123M									
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD				
									0	20.92	33.93		23.723	418.4	0				
									10	20.92	33.98		23.761	414.8	.042				
									20	19.75	34.04		24.116	380.9	.082				
									30	19.09	34.04		24.285	364.7	.119				
									50	17.57	34.00		24.631	331.8	.189				
									75	14.91	33.80		25.087	288.4	.267				
									100	12.25	33.77		25.607	238.9	.333				

RV ARGO 6508 STUDENT TRAINING CRUISE 92

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 39.0N		114 53.5W		09/06/65		1425		116M							
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
									0	20.48	33.80		23.742	416.6	0
									10	19.68	33.70		23.875	403.8	.041
									20	17.98	33.61		24.234	369.6	.080
									30	16.05	33.51		24.611	333.7	.115
									50	14.96	33.59		24.914	304.8	.179
									75	12.41	33.68		25.506	248.5	.249
									100	11.81	33.92		25.806	220.0	.308

RV ARGO 6508 STUDENT TRAINING CRUISE 93

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 42.0N		114 49.5W		09/06/65		1503		103M		340 08KT		5		270 02	
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
									0	20.99	33.80		23.605	429.6	0
									10	20.92	33.80		23.624	427.8	.043
									20	17.12	33.64		24.463	347.8	.082
									30	15.39	33.66		24.874	308.6	.115
									50	13.14	33.62		25.317	266.5	.172
									75	12.02	33.77		25.651	234.8	.235
									100	11.28	33.98		25.951	206.2	.291

RV ARGO 6508 STUDENT TRAINING CRUISE 94

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 45.5N		114 45.0W		09/06/65		1538		91M							
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
									0	21.63	33.76		23.400	449.2	0
									10	19.95	33.70		23.805	410.5	.043
									20	17.32	33.70		24.462	347.9	.081
									30	15.00	33.62		24.929	303.4	.114
									50	13.05	33.64		25.350	263.4	.171
									75	12.27	33.88		25.688	231.2	.233

RV ARGO 6508 STUDENT TRAINING CRUISE 95

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 49.0N		114 41.0W		09/06/65		1610		84M							
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
									0	21.54	33.79		23.448	444.6	0
									10	20.82	33.78		23.636	426.7	.044
									20	18.45	33.72		24.202	372.7	.084
									30	15.23	33.62		24.879	308.2	.118
									50	13.24	33.59		25.274	270.6	.176
									75	12.63	33.81		25.564	243.0	.240

RV ARGO 6508 STUDENT TRAINING CRUISE 96

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 52.5N		114 37.0W		09/06/65		1642		76M							
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
									0	21.40	33.75		23.456	443.9	0
									10	20.64	33.74		23.653	425.0	.043
									20	18.44	33.71		24.197	373.2	.083
									30	16.22	33.63		24.665	328.6	.119
									50	14.06	33.56		25.083	288.8	.181
									75	13.21	33.75		25.403	258.3	.249

RV ARGO 6508 STUDENT TRAINING CRUISE 97

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
28 55.5N		114 34.0W		09/06/65		1715		52M							
Z	T	S	OZ	PO4	SI03	NO2	NO3	DT	Z	T	S	OZ	SIGT	DT	DD
									0	21.52	33.76		23.431	446.3	0
									10	19.96	33.75		23.840	407.2	.043
									20	18.07	33.58		24.189	373.9	.082
									30	16.79	33.64		24.541	340.4	.118
									50	15.82	33.62		24.748	320.7	.184

MUDDAUBER EXPEDITION

The MUDDAUBER Expedition, supported by the Marine Life Research Program of the University of California, was a study of the physical, chemical and biological factors affecting anaerobic sedimentation. In addition to the hydrographic cast and STD data reported herein, the expedition made 90 bathythermograph lowerings, collected 100 surface plankton samples and 19 plankton pump samples, made 66 oblique net hauls and collected 105 bottom core samples.

The depth of the 9 Nansen bottle casts varied from 600 to approximately 5900 m; the casts consisted of 18 bottles, with 20 bottles being lowered for the overlapping deep casts on 2 stations.

Temperature from the bottle casts and STD recordings agreed very well. The salinity sensor appeared to have drifted continuously. Adjustments resulted in some lowerings where no correction was needed, while others required varying corrections, the greatest being 0.2 ‰ for all ranges.

On stations 16-19 and 21-25 the recording range for temperature and salinity on the STD analog was set full scale (temperature, 0-30°C; salinity, 31-39 ‰). The accuracy of the digitized values must therefore be considered less than that at the normally used ranges.

Personnel participating in the collection of data were:

Ship's Captain:

Davis, Laurence E.
RV Alexander Agassiz

Scientific personnel:

Soutar, A. (in charge)
Bryan, W. R.
Ferreira, S. M.
Fleminger, Dr. A.
Hester, A. W.
Mead, R. V.
Rosendahl, D. V.
Sievers, H. A.

A publication utilizing MUDDAUBER data is:

Veeh, H. H., W. C. Burnett, A. Soutar, 1973. Contemporary Phosphorites on the Continental Margin of Peru. *Science*, 181: 844-845.

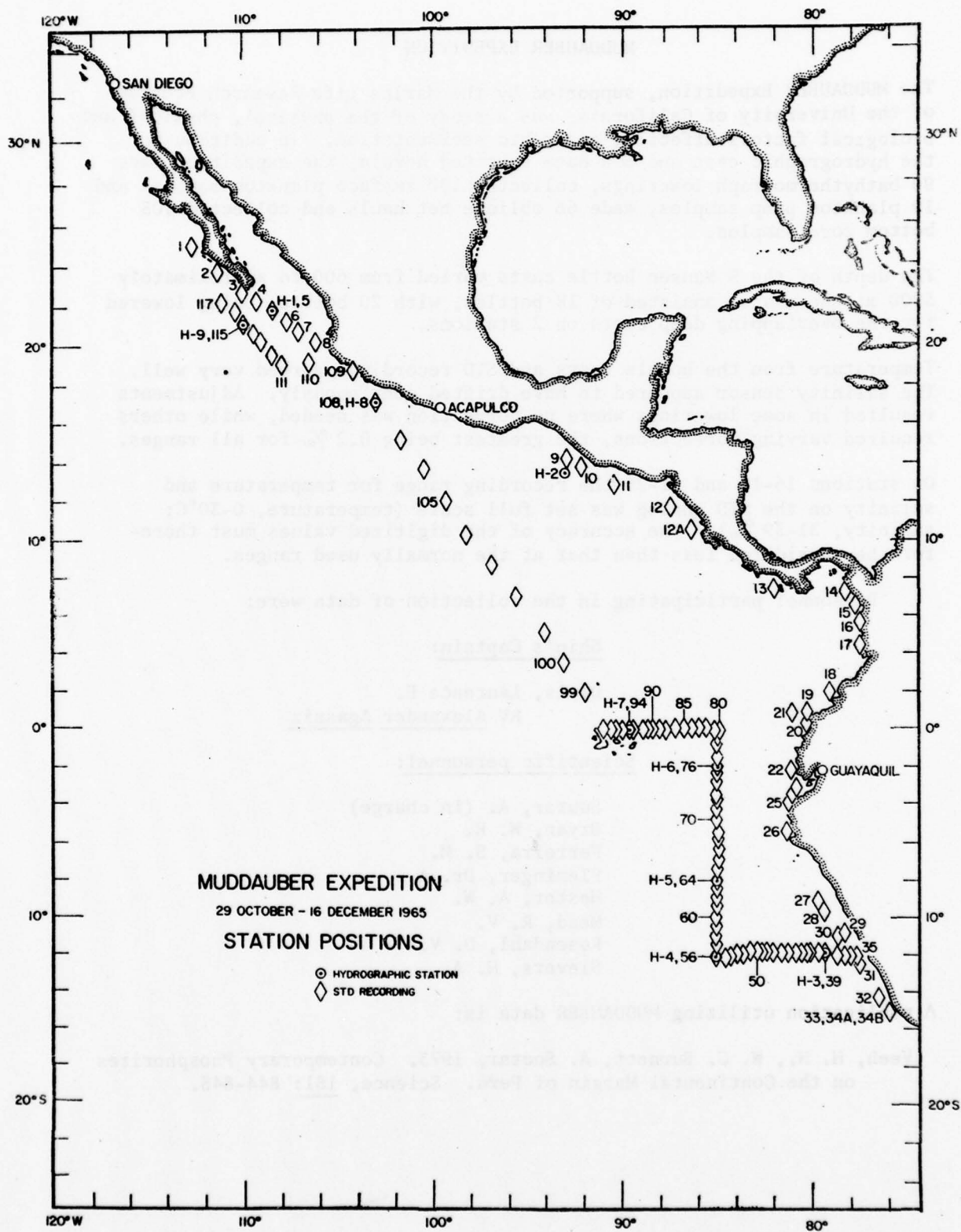


FIGURE 4

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

1

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND		SPEED	WEATHER	DOMINANT WAVES		
25 08.0N			112 43.0W			10/29/65		2311		520F	Z	T	S	O2	SIGT	DT	DD
Z	T	S	O2	P04	S103	N02	N03	DT			Z	T	S	O2	SIGT	DT	DD
											C	25.75	34.66		22.876	499.2	0
											10	25.20	34.66		23.045	483.1	.049
											20	24.92	34.65		23.122	475.7	.097
											30	24.76	34.65		23.171	471.1	.145
											50	20.04	34.06		24.055	386.7	.231
											75	16.48	34.21		25.049	292.0	.316
											100	15.56	34.48		25.466	252.3	.385
											125	14.56	34.64		25.809	219.8	.445
											150	13.45	34.65		26.049	196.9	.498
											200	12.14	34.68		26.333	170.0	.592
											250	11.62	34.66		26.416	162.1	.677
											300	11.12	34.64		26.493	154.8	.760
											400	10.62	34.61		26.559	148.5	.919

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

2

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND SPEED		WEATHER	DOMINANT WAVES		
23 46.0N			111 27.5W			10/30/65		0945		450M						
Z	T	S	O2	P04	S103	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD
										0	26.67	34.58		22.528	532.5	0
										10	26.67	34.58		22.528	532.5	.053
										20	26.62	34.58		22.544	531.0	.107
										30	22.23	34.18		23.552	434.7	.155
										50	19.28	34.10		24.283	365.0	.235
										75	16.32	34.24		25.109	286.3	.317
										100	14.19	34.43		25.726	227.6	.382
										125	13.43	34.55		25.976	203.8	.437
										150	12.89	34.74		26.232	179.5	.485
										200	12.07	34.73		26.385	165.0	.574
										250	11.45	34.70		26.479	156.1	.657
										300	10.51	34.66		26.618	142.9	.735
										400	9.54	34.61		26.745	130.9	.879

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

3

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
22 47.5N			110 00.0W			10/30/65		1900									
Z	T	S	O2	P04	S103	N02	N03	DT		Z	T	S		O2	SIGT	DT	DD
										C	27.90	34.49			22.065	576.8	0
										10	27.69	34.50			22.141	569.5	.057
										20	27.49	34.56			22.251	559.0	.114
										30	26.87	34.45			22.367	547.9	.169
										50	22.32	34.17			23.519	437.8	.268
										75	17.43	34.10			24.741	321.3	.364
										100	15.37	34.28			25.355	262.9	.437
										125	13.67	34.41			25.819	218.8	.498
										150	13.03	34.60			26.096	192.5	.551
										200	12.29	34.70			26.319	171.3	.644
										250	11.42	34.70			26.484	155.6	.728
										300	10.79	34.67			26.576	146.9	.807
										400	9.26	34.59			26.775	128.0	.952
										500	7.71	34.52			26.960	110.4	1.080
										600	6.50	34.48			27.098	97.4	1.192

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

4

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
22 20.0N			109 16.0W			10/31/65		0003		GMT							
Z	T	S	O2	P04	S103	N02	N03	DT			Z	T	S	O2	SIGT	DT	DD
											C	27.77	34.50		22.115	572.0	0
											10	27.49	34.49		22.198	564.1	.057
											20	27.42	34.47		22.206	563.3	.113
											30	26.28	34.51		22.598	525.8	.168
											50	21.88	34.12		23.604	429.7	.264
											75	15.92	34.15		25.132	284.1	.353
											100	13.75	34.30		25.718	228.4	.418
											125	12.63	34.55		26.137	188.6	.471
											150	12.67	34.74		26.276	175.4	.517
											200	12.03	34.76		26.416	162.1	.604
											250	11.27	34.73		26.535	150.8	.685
											300	10.63	34.68		26.612	143.5	.762
											400	8.95	34.56		26.802	125.5	.903
											500	7.82	34.54		26.960	110.5	1.030
											600	6.81	34.51		27.080	99.1	1.143

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

5

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
21 51.0N		108 30.8W		10/31/65		C5C5		GMT					Z T S		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									C	28.48	34.31		21.740	607.9	0
									10	28.29	34.38		21.855	596.9	.060
									20	28.02	34.38		21.944	588.4	.120
									30	27.41	34.49		22.224	561.6	.177
									50	21.85	34.40		23.825	408.7	.275
									75	18.43	34.65		24.917	304.6	.364
									100	15.82	34.65		25.538	245.5	.434
									125	14.62	34.77		25.896	211.5	.492
									150	13.62	34.84		26.161	186.3	.542
									200	12.32	34.77		26.368	166.7	.633
									250	11.80	34.75		26.452	158.7	.717
									300	11.28	34.73		26.533	150.9	.798
									400	9.82	34.63		26.713	133.9	.948
									500	8.12	34.53		26.907	115.5	1.081
									600	7.22	34.51		27.023	104.5	1.201

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

H 1

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
21 51.0N		108 30.8W		10/31/65		C545		GMT					Z T S		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
								607.9	C	28.46	34.302		21.741	607.9	0
								604.1	10	28.41	34.333	4.86	21.780	604.1	.061
								560.0	20	27.90	34.415	4.59	22.011	582.0	.120
								476.5	30	27.38	34.499	4.32	22.241	560.0	.177
								376.3	50	21.87	34.438	4.35	23.848	406.5	.274
									75	18.08	34.703	1.93	25.044	292.4	.362
								245.5	100	15.64	34.718	1.07	25.631	236.6	.429
								216.5	125	14.57	34.814	.93	25.942	207.1	.485
								197.7	150	13.48	34.806	.80	26.163	186.1	.535
								181.9	200	12.21	34.762	.20	26.384	165.1	.625
								168.1	250	11.86	34.771	.20	26.457	158.2	.709
								162.7	300	11.35	34.737	.20	26.525	151.7	.790
								158.2	400	9.95	34.658	.18	26.714	133.8	.940
								151.6	500	8.24	34.547	.21	26.902	116.0	1.074
								142.8	600	7.20	34.524	.23	27.037	103.1	1.193
								126.0							
								112.5							
								102.2							

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

6

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
21 22.0N		107 45.0W		10/31/65		1114		GMT					Z T S		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
									C	28.44	34.36		21.791	603.1	0
									10	28.43	34.36		21.794	602.8	.060
									20	28.36	34.38		21.832	599.1	.120
									30	28.03	34.41		21.963	586.6	.180
									50	25.62	34.49		22.788	507.7	.290
									75	18.44	34.35		24.685	326.6	.394
									100	16.21	34.70		25.487	250.3	.467
									125	14.22	34.74		25.958	205.5	.525
									150	13.30	34.76		26.165	185.9	.575
									200	12.33	34.80		26.389	164.6	.665
									250	11.55	34.75		26.499	154.2	.747
									300	11.00	34.72		26.577	146.8	.826
									400	9.30	34.61		26.784	127.1	.970
									500	7.83	34.54		26.959	110.6	1.098
									600	6.88	34.52		27.078	99.3	1.212

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

7

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
20 52.8N		107 00.0W		10/31/65		1618 GMT									
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD
									C	28.83	34.26		21.587	622.6	0
									10	28.83	34.26		21.587	622.6	.062
									20	28.69	34.39		21.731	608.8	.124
									30	28.72	34.50		21.803	601.9	.185
									50	23.77	34.57		23.405	448.7	.290
									75	17.52	34.38		24.934	303.0	.384
									100	15.27	34.57		25.600	239.6	.453
									125	14.02	34.72		25.985	203.0	.509
									150	13.10	34.75		26.198	182.8	.558
									200	12.18	34.78		26.403	163.4	.647
									250	11.39	34.72		26.505	153.6	.729
									300	10.73	34.69		26.602	144.4	.807
									400	8.91	34.58		26.824	123.4	.948
									500	7.56	34.52		26.982	108.4	1.072
									600	6.32	34.50		27.138	93.6	1.181

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

8

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
20 19.6N		106 13.0W		10/31/65		2125 GMT		2302M							
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD
									C	29.33	33.94		21.180	661.7	0
									10	29.33	33.94		21.180	661.7	.066
									20	29.20	34.12		21.358	644.6	.132
									30	28.82	34.16		21.515	629.5	.195
									50	26.37	34.15		22.299	554.4	.314
									75A	16.70	34.54		25.251	272.8	.418
									100	14.55	34.62		25.795	221.0	.480
									125	13.33	34.76		26.159	186.5	.532
									150	12.60	34.75		26.297	173.3	.578
									200	11.90	34.76		26.441	159.7	.664
									250	11.27	34.74		26.543	150.0	.744
									300	10.52	34.69		26.639	140.9	.820
									400	9.03	34.59		26.812	124.5	.960
									500	7.63	34.53		26.980	108.6	1.084
									600	6.66	34.52		27.108	96.4	1.195

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

9

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
14 26.0N		93 01.0W		11/04/65		1635 GMT		440M							
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	C2	SIGT	DT	CD
									0	29.40	32.65		20.190	756.6	0
									10	28.74	33.31		20.904	688.1	.072
									20	27.00	33.52		21.627	618.8	.138
									30	20.61	34.39		24.155	377.2	.188
									50	16.69	34.73		25.399	258.7	.251
									75	14.03	34.87		26.099	192.2	.308
									100	13.32	34.88		26.254	177.5	.355
									125	12.97	34.88		26.324	170.8	.399
									150	12.63	34.85		26.369	166.5	.442
									200	11.85	34.82		26.497	154.4	.525
									250	11.39	34.80		26.567	147.7	.603
									300	10.64	34.76		26.672	137.7	.678
									400	8.58	34.64		26.923	114.0	.811

A) THE S/T/D TEMPERATURE RECORDING WAS ILLEGIBLE AT THIS DEPTH. THE VALUE HAS BEEN INTERPOLATED IN ORDER THAT DYNAMIC HEIGHT CALCULATIONS COULD BE COMPLETED.

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION										H 2	
LATITUDE 13 44.0N			LONGITUDE 93 03.0W			MO/DAY/YR 11/04/65			MESSENGER TIME 2220 0115GMT		BOTTOM 5955M	WIND 290	SPEED	WEATHER 0	DOMINANT WAVES 340 07 07						
Z	T	S	C2	PC4	SI03	NO2	NO3	DT	Z	T	S	C2	SIGT	CT	CD						
0	28.36	33.480	4.46					663.8	C	28.36	33.480	4.46	21.157	663.8		0					
10	25.88	33.937	4.33					555.2	10	25.88	33.937	4.33	22.291	555.2		.061					
30	17.02	34.772	1.18					263.1	20	21.35	34.336	2.85	23.914	400.3		.109					
51	15.07	34.835	.35					216.0	30	17.02	34.772	1.18	25.353	263.1		.142					
101	13.51	34.874	.28					181.6	50	15.16	34.831	.36	25.824	218.3		.190					
149	12.92	34.864	.35					171.0	75	13.95	34.872	.32	26.109	191.2		.243					
200	12.18	34.830	.32					159.7	100	13.52	34.874	.28	26.210	181.7		.291					
250	10.98	34.762	.27					143.4	125	13.17	34.874	.31	26.281	174.9		.337					
300	9.84	34.696	.32					129.3	150	12.91	34.863	.35	26.324	170.8		.381					
399	8.18	34.619	.28					109.7	200	12.18	34.830	.32	26.441	159.7		.466					
457	7.02	34.591	.22					95.8	250	10.98	34.762	.27	26.613	143.4		.544					
595	6.18	34.570	.31					86.7	300	9.84	34.696	.32	26.761	129.3		.616					
797	5.03	34.569	.31					73.3	400	8.17	34.619	.28	26.970	109.5		.742					
993	4.32	34.574	.56					65.4	500	6.99	34.591	.22	27.118	95.5		.852					
1192	3.68	34.586	.86					58.2	600	6.14	34.571	.31	27.215	86.3		.951					
1390	3.23	34.610	1.07					52.3	700	5.51	34.567	.31	27.293	78.9		1.042					
1589	2.84	34.619	1.65					48.2	800	5.02	34.570	.31	27.353	73.2		1.127					
1679B	2.69	34.632	1.63					45.9	1000	4.30	34.575	.57	27.438	65.1		1.285					
1690	2.66	34.627	1.82					46.1	1200	3.66	34.588	.87	27.514	57.9		1.428					
1923B	2.32	34.648	2.00					41.7	1500	3.01	34.615	1.42	27.599	50.0		1.620					
2172B	2.03	34.657	2.28					38.8	2000	2.22	34.652	2.09	27.697	40.7		1.897					
2418B	1.88	34.669	2.49					36.8	2500	1.86	34.671	2.56	27.741	36.5		2.141					
2664B	1.84	34.673	2.66					36.2	3000	1.85	34.675	2.73	27.745	36.1		2.378					
2911B	1.84	34.674	2.70					36.1	3500	1.85	34.675	2.74	27.742	36.4		2.624					
3157B	1.86	34.676	2.77					36.1	4000	1.94	34.674	2.80	27.737	36.8		2.883					
3400B	1.88	34.677	2.74					36.2	4500	2.00	34.677	2.83	27.734	37.1		3.155					
3646B	1.90	34.672	2.74					36.7	5000	2.07	34.679	2.83	27.730	37.5		3.440					
3843B	1.92	34.677	2.71					36.5	5500	2.13	34.674	2.59	27.721	38.3		3.741					
4038B	1.94	34.673	2.82					36.9													
4233B	1.96	34.672	2.81					37.2													
4429B	2.00	34.677	2.83					37.1													
4627B	2.01	34.676	2.82					37.2													
4825B	2.04	34.672	2.82					37.7													
5024B	2.07	34.679	2.83					37.4													
5221B	2.09	34.676	2.87					37.8													
5418B	2.13	34.670	2.34					38.6													
5616B	2.14	34.680	2.98					37.5													
5818B	2.18	34.679	2.67					38.3													

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION										H 2	
LATITUDE 13 44.0N			LONGITUDE 93 03.0W			MO/DAY/YR 11/04/65			MESSENGER TIME 2305			BOTTOM 5624M		WIND	SPEED	WEATHER	DOMINANT WAVES				
Z	T	S	C2	PC4	SI03	NO2	NO3	DT	Z	T	S	C2	SIGT	DT	CD						
									C	28.35	33.48		21.160	663.5		0					
									10	21.80	34.49		23.907	400.8		.053					
									20	18.97	34.57		24.720	323.4		.089					
									30	17.22	34.72		25.266	271.4		.119					
									50	15.43	34.80		25.741	226.2		.169					
									75	14.12	34.86		26.072	194.7		.222					
									100	13.61	34.89		26.202	182.4		.270					
									125	13.34	34.89		26.257	177.1		.316					
									150	13.04	34.88		26.310	172.1		.360					
									200	12.36	34.85		26.422	161.5		.446					
									250	11.10	34.77		26.597	144.9		.526					
									300	10.02	34.71		26.742	131.2		.598					
									400	8.28	34.63		26.961	110.3		.725					
									500	7.07	34.59		27.107	96.5		.836					
									600	6.25	34.57		27.202	87.5		.937					
									700	5.62	34.57		27.282	80.0		1.029					
									800	5.08	34.57		27.347	73.8		1.115					
									1000	4.33	34.57		27.431	65.8		1.274					
									1200	3.70	34.58		27.505	58.9		1.419					
									1500	3.07	34.62		27.597	50.1		1.613					

A) MEAN VALUE OF 25.98 AND 25.79 DEGREES.
B) CAST II.

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

10

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
13 54.5N		92 27.7W		11/05/65		0747		468M							
Z	T	S	C2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD
									C	28.76	32.95		20.628	714.6	0
									1C	28.53	32.93		20.689	708.7	.071
									2C	27.99	33.00		20.918	686.8	.141
									3C	23.47	34.27		23.266	462.0	.159
									5C	19.05	34.68		24.783	317.3	.277
									75	15.16	34.82		25.812	219.4	.344
									10C	13.84	34.89		26.154	187.0	.356
									125	13.34	34.89		26.257	177.1	.442
									15C	13.05	34.89		26.316	171.6	.487
									20C	12.46	34.86		26.410	162.6	.572
									25C	11.94	34.83		26.487	155.3	.655
									30C	11.13	34.78		26.600	144.6	.733
									40C	9.4C	34.69		26.830	122.8	.874

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

11

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
13 06.4N		90 31.3W		11/05/65		23C4		468M							
Z	T	S	C2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD
									C	28.95	32.65		20.340	742.2	0
									1C	28.34	32.85		20.691	708.5	.073
									2C	28.08	33.00		20.889	689.6	.143
									3C	26.9C	33.34		21.523	628.7	.209
									5C	19.83	34.66		24.567	337.9	.305
									75	15.88	34.79		25.632	236.6	.378
									10C	14.01	34.85		26.088	193.3	.432
									125	13.62	34.86		26.177	184.8	.480
									15C	13.22	34.88		26.274	175.6	.526
									20C	12.8C	34.88		26.358	167.5	.614
									25C	12.2C	34.84		26.445	159.3	.699
									30C	11.44	34.80		26.558	148.6	.779
									40C	9.95	34.71		26.754	130.0	.927

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

12

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
11 50.6N		87 33.3W		11/06/65		2217		356M							
Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD
									C	28.77	32.62		20.377	738.6	0
									1C	28.37	32.66		20.539	723.1	.073
									2C	28.33	32.71		20.590	718.3	.145
									3C	27.78	33.35		21.249	655.0	.214
									5C	21.55	34.38		23.892	402.2	.320
									75	18.15	34.69		25.017	295.1	.408
									10C	15.79	34.80		25.660	233.9	.475
									125	15.05	34.85		25.855	215.4	.532
									15C	14.61	34.88		25.983	203.2	.585
									20C	13.45	34.88		26.227	180.0	.683
									25C	12.53	34.84		26.381	165.4	.772
									30C	12.18	34.82		26.434	160.4	.857

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

12 A

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
10 42.6N		86 32.3W		11/07/65		0831									
Z	T	S	C2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD
									C	28.05	32.22		20.314	744.8	0
									1C	27.60	32.88		20.954	683.3	.071
									2C	24.93	33.72		22.418	543.0	.133
									3C	22.1C	34.42		23.770	413.9	.181
									5C	19.88	34.57		24.485	345.7	.257
									75	17.32	34.81		25.311	267.1	.334
									10C	15.07	34.87		25.875	213.5	.395
									125	14.28	34.91		26.077	194.3	.447
									15C	14.02	34.91		26.132	189.1	.496
									20C	13.25	34.89		26.276	175.4	.589
									25C	12.59	34.85		26.377	165.8	.677
									30C	12.05	34.84		26.474	156.6	.761
									40C	9.94	34.71		26.755	129.9	.913

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

13

LATITUDE 7 32.0N			LONGITUDE 82 04.0W			MO/DAY/YR 11/09/65		MESSENGER TIME 1711		GMT	BOTTOM 459F	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CD		
									CA	28.2C	30.36		18.873	883.4		C	
									1CA	28.18	30.93		19.306	841.7		.086	
									2C	27.67	31.50		19.897	784.8		.168	
									3C	27.37	32.13		20.465	730.2		.244	
									5C	24.75	33.30		22.156	568.1		.374	
									75	16.75	34.72		25.377	260.8		.478	
									10C	15.42	34.84		25.774	223.1		.539	
									125	14.81	34.88		25.939	207.3		.594	
									150	14.02	34.90		26.124	189.8		.644	
									20C	13.42	34.88		26.233	179.4		.735	
									25C	12.8C	34.86		26.343	169.0		.829	
									30C	11.8C	34.79		26.483	155.7		.914	
									40C	10.28	34.72		26.705	134.7		1.067	

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

14

LATITUDE 7 25.5N			LONGITUDE 78 25.0W			MO/DAY/YR 11/13/65		MESSENGER TIME 1004		GMT	BOTTOM 580M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CD		
									CA	27.93	28.02		17.210	1043.8		0	
									1CA	27.73	29.73		18.552	914.2		.058	
									2C	27.67	31.44		19.852	789.1		.183	
									3C	27.47	32.05		20.373	739.0		.260	
									5C	16.95	34.70		25.315	266.7		.360	
									75	15.22	34.91		25.872	213.7		.421	
									10C	14.94	34.91		25.934	207.8		.474	
									125	14.87	34.91		25.949	206.4		.527	
									15C	14.66	34.89		25.980	203.5		.579	
									20C	13.99	34.89		26.123	189.9		.680	
									25C	13.39	34.87		26.232	179.6		.776	
									30C	12.08	34.80		26.437	160.1		.864	
									40C	9.31	34.65		26.814	124.3		1.014	
									50C	8.12	34.59		26.954	111.0		1.140	

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

15

LATITUDE 6 48.3N			LONGITUDE 77 45.0W			MO/DAY/YR 11/13/65		MESSENGER TIME 1847		GMT	BOTTOM 408M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CD		
									CA	27.66	27.02		16.549	1107.8		0	
									1CA	27.81	28.50		17.607	1005.5		.106	
									2CA	27.71	29.98		18.746	895.6		.201	
									3C	27.51	31.45		19.911	783.5		.285	
									5C	18.25	34.47		24.824	313.4		.395	
									75	15.83	34.91		25.735	226.7		.463	
									10C	15.31	34.93		25.868	214.1		.519	
									125	15.02	34.92		25.924	208.8		.572	
									15C	14.58	34.90		26.005	201.1		.625	
									20C	13.95	34.89		26.131	189.1		.725	
									25C	12.95	34.82		26.282	174.8		.819	
									30C	12.0C	34.79		26.445	159.3		.906	

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

16

LATITUDE 5 41.0N			LONGITUDE 77 25.2W			MO/DAY/YR 11/14/65		MESSENGER TIME C149		GMT	BOTTOM 431M	WIND 220	SPEED 02KT	WEATHER 6	DOMINANT WAVES		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
									CA	28.15B	26.98B		16.363	1125.8		0	
									1CA	27.65	28.48		17.643	1002.0		.106	
									2CA	27.60	29.98		18.781	892.2		.201	
									3C	27.35	31.48		19.984	776.4		.285	
									5C	20.25	33.66		23.696	420.9		.405	
									75	15.7C	34.96		25.803	220.3		.485	
									10C	15.25	34.98		25.920	209.2		.540	
									125	15.1C	34.98		25.953	206.1		.592	
									15C	14.9C	34.98		25.997	201.9		.644	
									20C	14.6C	34.97		26.054	196.4		.747	
									25C	13.65	34.93		26.224	180.3		.844	
									30C	12.95	34.90		26.344	168.9		.935	
									40C	10.05	34.70		26.729	132.4		1.094	

A) THE SALINITY VALUES AT THESE DEPTHS WERE LOWER THAN THE RANGE OF THE S/T/D ANALOG RECORDING.
THE VALUE OF THE WATER SAMPLE COLLECTED FROM THE SURFACE FOR CALIBRATION OF THE INSTRUMENT
WAS TABULATED AND THE VALUES FOR OTHER DEPTHS WERE INTERPOLATED.

B) THE RANGE FOR THE ANALOG RECORDER WAS SET FULL-SCALE.

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION					17
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES	
4 38.7N		77 32.2W		11/14/65		11C5				180	180	08KT	6	220 04 04	
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	C2	SIGT	DT	CO
									C	27.4CA		A			
									1C	27.65					
									2C	27.3C					
									3C	27.2C	31.38		19.957	779.0	
									5C	21.0C	33.90		23.678	422.6	
									75	15.6C	34.98		25.841	216.7	
									10C	15.35	35.00		25.913	209.9	
									125	15.35	35.01		25.920	209.1	
									15C	15.25	35.01		25.943	207.0	
									200	14.8C	34.98		26.019	199.8	
									25C	14.05	34.95		26.156	186.7	
									30C	13.2C	34.92		26.309	172.2	

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION					18
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES	
2 00.8N		79 03.0W		11/15/65		1312				971M	180	08KT	2	220 05 04	
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	C2	SIGT	DT	CO
									0	27.05A		A			
									1C	27.05					
									2C	27.05					
									3C	26.85					
									5C	16.6C	33.82		24.723	323.1	
									75	16.0C	34.98		25.750	225.3	
									10C	15.65	35.00		25.845	216.3	
									125	15.35	35.01		25.920	209.1	
									15C	14.9C	34.97		25.989	202.6	
									200	13.85	34.94		26.191	183.5	
									25C	13.15	34.90		26.304	172.7	
									30C	12.5C	34.87		26.410	162.6	
									40C	10.15	34.74		26.743	131.1	
									50C	8.75	34.65		26.904	115.8	
									60C	7.95	34.63		27.011	105.6	

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION					19
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES	
0 52.6N		80 15.3W		11/16/65		074C				468M					
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	C2	SIGT	DT	CO
									C	25.9CA	31.66A		20.573	719.9	0
									1C	25.95	31.80		20.663	711.3	.072
									2C	25.85	32.17		20.972	681.6	.141
									3C	25.85	32.25		21.032	675.8	.209
									5C	16.9C	33.54		24.439	350.1	.312
									75	16.25	35.06		25.754	224.9	.384
									100	16.1C	35.07		25.797	220.9	.441
									125	15.4C	35.02		25.917	209.5	.496
									150	15.05	35.00		25.979	203.6	.548
									20C	14.1C	34.98		26.169	185.5	.648
									25C	12.9C	34.91		26.362	167.2	.739
									30C	12.6C	34.90		26.414	162.3	.825
									40C	9.65	34.74		26.828	123.0	.976

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION					20
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES	
0 20.7N		80 23.8W		11/16/65		1227				356M					
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	C2	SIGT	DT	CO
									0	25.43	32.67A		21.476	633.2	0
									1C	25.43	32.67		21.476	633.2	.063
									2C	25.43	32.67		21.476	633.2	.127
									3C	25.43	32.70		21.499	631.1	.190
									5C	16.27	35.08		25.765	223.9	.276
									75	15.66	35.06		25.885	212.5	.331
									10C	15.46	35.04		25.914	209.7	.384
									125	15.2C	35.02		25.961	205.3	.437
									15C	14.76	34.98		26.023	199.4	.489
									20C	13.45	34.94		26.273	175.6	.585
									25C	12.6C	34.92		26.429	160.8	.672
									30C	11.5C	34.82		26.563	148.2	.753

A) THE RANGE FOR THE ANALOG RECORDER WAS SET FULL SCALE.

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

21

LATITUDE		LNGITUDE		MC/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
0 58.05		81 04.9W		11/16/65		2310		GMT	487M						
Z	T	S	C2	PG4	SI03	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CO
									C	24.1CA	33.44A		22.455	539.5	0
									1C	24.1C	33.44		22.455	539.5	.054
									2C	23.75	33.46		22.572	528.3	.107
									3C	23.65	33.48		22.617	524.0	.160
									5C	16.8C	35.06		25.626	237.1	.237
									75	16.15	35.08		25.793	221.3	.294
									10C	15.75	35.05		25.861	214.8	.349
									125	15.05	35.02		25.995	202.1	.402
									15C	14.55	34.98		26.073	194.7	.453
									200	14.05	34.98		26.179	184.5	.550
									25C	13.3C	34.94		26.304	172.7	.643
									30C	12.75	34.90		26.384	165.1	.731
									40C	1C.1C	34.76		26.767	128.8	.886

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

22

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES	
2 14.35			81 11.0W			11/17/65		0811		694M					
Z	T	S	C2	PG4	SI03	NO2	NO3	DT	Z	T	S	C2	SIGT	DT	CD
									C	23.25A	33.65A		22.861	500.7	0
									10	23.25	33.65		22.861	500.7	.050
									2C	23.25	33.65		22.861	500.7	.100
									3C	22.7C	33.86		23.177	470.5	.149
									5C	17.1C	35.08		25.570	242.4	.220
									75	15.95	35.09		25.846	216.2	.278
									100	15.55	35.07		25.922	209.0	.332
									125	14.85	35.00		26.023	199.4	.384
									150	14.35	35.01		26.139	188.4	.433
									20C	13.6C	34.97		26.266	176.4	.527
									250	13.35	34.96		26.309	172.2	.617
									30C	12.85	34.92		26.379	165.5	.705
									40C	10.1C	34.76		26.767	128.8	.861
									50C	9.15	34.70		26.879	118.1	.994
									60C	7.95	34.65		27.027	104.1	1.115

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

23

LATITUDE		LONGITUDE		MC/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
3 06.05		80 58.8W		11/17/65		1754		416M	240	05KT	2	07 07			
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CO
									G	22.35A	34.03A		23.405	448.8	0
									1C	22.35	34.03		23.405	448.8	.045
									2C	20.22	34.42		24.282	365.1	.086
									3C	17.0C	35.04		25.563	243.1	.116
									5C	16.1C	35.07		25.797	220.9	.163
									75	15.45	35.06		25.936	207.6	.217
									10C	15.1C	35.03		25.991	202.4	.269
									125	14.9C	35.04		26.043	197.5	.320
									15C	14.6C	35.02		26.093	192.8	.369
									20C	13.9C	34.98		26.211	181.5	.465
									25C	13.3C	34.96		26.320	171.2	.557
									30C	12.75	34.90		26.384	165.1	.645

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

24

LATITUDE		LONGITUDE		MC/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
3 27.75		81 00.0W		11/17/65		2036		378M	250	14KT	1	220 06 06			
Z	T	S	C2	PC4	SI03	NC2	NC3	CT	Z	T	S	O2	SIGT	DT	CO
									0	23.1CA	34.02A		23.184	469.8	0
									1C	22.15	34.11		23.521	437.6	.045
									2C	18.35	35.05		25.242	273.6	.081
									3C	17.7C	35.04		25.395	259.1	.108
									5C	16.7C	35.11		25.688	231.2	.157
									75	15.7C	35.10		25.911	210.0	.213
									10C	15.35	35.09		25.982	203.3	.265
									125	14.85	35.05		26.061	195.7	.316
									15C	14.6C	35.02		26.093	192.8	.365
									20C	13.7C	34.96		26.237	179.1	.461
									25C	13.0C	34.95		26.373	166.2	.550
									30C	12.65	34.92		26.419	161.8	.636

A) THE RANGE FOR THE ANALOG RECORDER WAS SET FULL SCALE.

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

25

LATITUDE 3 52.55			LONGITUDE 81 12.8W		MO/DAY/YR 11/18/65		MESSENGER TIME 0233			BOTTOM 490M	WIND 200	SPEED 19KT	WEATHER	DOMINANT WAVES 200 05 05		
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
									C	21.9CA	34.30A		23.735	417.2	0	
									1C	21.85	34.30		23.749	415.9	.042	
									20	17.9C	35.09		25.384	260.1	.076	
									3C	16.4C	35.12		25.766	223.9	.100	
									5C	15.6C	35.10		25.933	207.9	.143	
									75	15.2C	35.07		26.000	201.6	.195	
									100	14.65	35.04		26.097	192.3	.245	
									125	14.3C	35.02		26.157	186.7	.293	
									15C	14.15	35.00		26.174	185.1	.340	
									200	13.55	34.95		26.261	176.8	.433	
									25C	12.85	34.94		26.395	164.1	.522	
									300	12.7C	34.92		26.409	162.7	.607	
									40C	9.7C	34.76		26.835	122.3	.758	

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

26

LATITUDE 5 28.35			LONGITUDE 81 21.0W		MO/DAY/YR 11/18/65		MESSENGER TIME 1325			BOTTOM 412M	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	O2	PC4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
									C	18.03	35.10		25.360	262.5	0	
									1C	17.78	35.09		25.413	257.3	.026	
									2C	17.5C	35.10		25.489	250.1	.051	
									30	17.28	35.10		25.542	245.1	.076	
									5C	15.99	35.10		25.845	216.3	.123	
									75	15.45	35.07		25.944	206.9	.176	
									10C	14.99	35.04		26.023	199.4	.227	
									125	14.73	35.01		26.057	196.2	.278	
									150	14.41	34.99		26.111	191.1	.327	
									20C	13.95	34.97		26.184	184.1	.423	
									25C	13.22	34.93		26.313	171.9	.516	
									30C	12.46	34.90		26.441	159.7	.602	
									40C	9.62	34.71		26.809	124.8	.752	

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

27

LATITUDE 9 08.45			LONGITUDE 79 47.5W		MO/DAY/YR 11/20/65		MESSENGER TIME 0428			BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	O2	PC4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
									C	18.85	35.17		25.208	276.9	0	
									1C	18.64	35.16		25.253	272.6	.027	
									2C	18.15	35.12		25.335	264.8	.054	
									30	17.57	35.04		25.426	256.1	.081	
									5C	16.58	35.02		25.647	235.1	.130	
									75	14.93	35.00		26.005	201.1	.185	
									10C	14.32	34.98		26.122	190.0	.234	
									125	13.77	34.97		26.230	179.7	.281	
									15C	13.45	34.95		26.273	175.7	.327	
									20C	12.43	34.91		26.455	158.4	.413	
									250	11.98	34.88		26.518	152.4	.493	
									30C	11.23	34.83		26.620	142.7	.570	
									400	9.34	34.71		26.856	120.3	.710	
									50C	8.16	34.64		26.988	107.9	.832	
									60C	7.13	34.59		27.099	97.3	.944	

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

28

LATITUDE 9 42.55			LONGITUDE 79 27.0W		MO/DAY/YR 11/20/65		MESSENGER TIME 1437			BOTTOM 412M	WIND 180	SPEED 02KT	WEATHER 2	DOMINANT WAVES 150 04 07		
Z	T	S	O2	PC4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
									C	19.55	35.29		25.109	286.3	0	
									1C	19.56	35.30		25.124	284.8	.029	
									2C	19.5C	35.29		25.132	284.1	.057	
									30	19.06	35.23		25.200	277.6	.085	
									5C	16.68	35.06		25.654	234.4	.137	
									75	15.28	35.04		25.959	205.5	.192	
									10C	14.75	35.00		26.045	197.3	.243	
									125	14.40	34.99		26.113	190.9	.293	
									15C	14.18	34.99		26.160	186.4	.341	
									20C	13.55	34.97		26.268	176.2	.434	
									250	12.45	34.90		26.443	159.5	.521	
									30C	11.57	34.85		26.573	147.2	.601	

A) THE RANGE FOR THE ANALOG RECORDER WAS SET FULL SCALE.

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

29

LATITUDE 10 48.9S			LONGITUDE 78 34.0W			MO/DAY/YR 11/21/65			MESSENGER TIME 0538			BOTTOM 359M			WIND SPEED			WEATHER			DOMINANT WAVES		
Z	T	S	C2	PC4	SI03	NC2	NC3	CT	Z	T	S	O2	SIGT	DT	CD								
									0	19.62	35.30		25.109	286.3	0								
									10	19.60	35.30		25.114	285.8	.029								
									20	19.49	35.30		25.143	283.1	.057								
									30	19.43	35.29		25.151	282.3	.085								
									50	17.60	35.10		25.465	252.4	.139								
									75	16.57	35.05		25.672	232.7	.200								
									100	14.43	34.98		26.099	192.2	.254								
									125	13.50	34.95		26.271	175.9	.301								
									150	13.07	34.93		26.343	169.0	.345								
									200	12.73	34.92		26.403	163.3	.430								
									250	12.38	34.90		26.457	158.2	.514								
									300	11.75	34.86		26.547	149.7	.594								

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

30

LATITUDE 11 00.0S			LNGITUDE 78 15.0W			MO/DAY/YR 11/21/65			MESSENGER TIME 1017			BOTTOM 446M			WIND SPEED			WEATHER			DOMINANT WAVES		
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD								
									0	19.70	35.30		25.088	288.3	0								
									10	19.68	35.30		25.093	287.8	.029								
									20	19.56	35.29		25.117	285.5	.058								
									30	19.33	35.28		25.169	280.6	.086								
									50	16.08	34.92		25.686	231.4	.137								
									75	14.14	34.96		26.145	187.8	.190								
									100	13.58	34.95		26.254	177.4	.237								
									125	13.34	34.94		26.296	173.5	.281								
									150	13.10	34.94		26.345	168.8	.325								
									200	12.67	34.92		26.415	162.2	.410								
									250	12.14	34.88		26.488	155.3	.492								
									300	11.46	34.84		26.586	146.0	.571								
									400	9.92	34.74		26.782	127.3	.716								

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

31

LATITUDE 12 26.8S			LONGITUDE 77 32.9W			MO/DAY/YR 11/22/65			MESSENGER TIME 0007			BOTTOM 457M			WIND SPEED			WEATHER			DOMINANT WAVES		
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD								
									0	19.77	35.30		25.070	290.0	0								
									10	19.24	35.28		25.192	278.4	.028								
									20	18.22	35.10		25.313	266.9	.056								
									30	16.28	35.00		25.701	230.0	.081								
									50	14.70	34.95		26.017	200.0	.124								
									75	13.87	34.97		26.209	181.7	.172								
									100	13.55	34.95		26.252	177.6	.218								
									125	13.52	34.96		26.274	175.5	.263								
									150	13.18	34.94		26.329	170.4	.307								
									200	12.93	34.92		26.363	167.1	.393								
									250	12.66	34.89		26.394	164.2	.479								
									300	11.68	34.81		26.521	152.1	.562								
									400	10.03	34.74		26.763	129.1	.710								

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

32

LATITUDE 14 06.0S			LCNGITUDE 76 32.5W			PC/DAY/YR 11/22/65			MESSENGER TIME 1825			BOTTOM GMT			WIND SPEED			WEATHER			DOMINANT WAVES		
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD								
									0	17.50	35.00		25.413	257.4	0								
									10	16.06	34.98		25.737	226.6	.024								
									20	15.53	34.95		25.834	217.4	.046								
									30	14.77	34.90		25.963	205.1	.068								
									50	13.80	34.95		26.209	181.8	.107								
									75	13.52	34.95		26.267	176.2	.152								
									100	13.17	34.93		26.323	170.9	.196								
									125	12.90	34.91		26.362	167.2	.239								
									150	12.82	34.91		26.378	165.7	.281								
									200	12.54	34.90		26.425	161.2	.365								
									250	11.92	34.85		26.507	153.5	.447								

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
14 59.05		75 57.3w		11/22/65		2259		GMT											
Z	T	S	C2	PC4	SIG3	NC2	NC3	CT	Z	T	S	C2	SIGT	DF	EC				
	CA	18.01	35.03										25.311	267.1	0				
	1C	17.70	34.98										25.349	263.5	.027				
	20	16.57	35.00										25.634	236.4	.052				
	3C	15.58	34.93										25.807	219.9	.074				
	5C	13.89	34.97										26.205	182.1	.115				
	75	13.58	34.97										26.270	176.0	.160				
	10C	13.44	34.96										26.291	174.0	.204				
	125	13.32	34.94										26.300	173.1	.249				
	15C	13.01	34.94										26.363	167.1	.292				
	20C	12.37	34.90										26.459	158.0	.376				
	25C	11.87	34.86										26.524	151.8	.456				
	30C	11.53	34.85										26.580	146.5	.534				

34 A

LATITUDE 14 59.6S		LONGITUDE 75 58.6W		MO/DAY/YR 11/23/65		MESSENGER 0258		TIME GMT		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
Z	T	S	C2	PO4	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CC		
	G	18.27	35.04										25.254	272.5	0		
	1C	18.02	35.01										25.293	268.8	.027		
	20	16.80	35.01										25.588	240.8	.053		
	3C	16.13	35.00										25.736	226.7	.076		
	50	14.33	34.94										26.089	193.1	.118		
	75	13.75	34.96										26.227	180.0	.165		
	100	13.48	34.95										26.275	175.5	.210		
	125	13.37	34.95										26.298	173.3	.255		
	150	13.00	34.93										26.357	167.7	.298		
	200	12.52	34.91										26.437	160.1	.383		
	250	12.01	34.87										26.505	153.6	.464		
	300	11.57	34.84										26.565	147.9	.543		
	400	10.42	34.77										26.719	133.3	.691		

34 R

LATITUDE 14 59.65		LONGITUDE 75 58.6W		MO/DAY/YR 11/23/65		MESSENGER 0306		TIME GMT	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
Z	T	S	C2	PG4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD
	C									18.23	35.03		25.257	272.3	0
	10									18.12	35.01		25.269	271.1	.027
	20									16.90	34.98		25.541	245.2	.053
	30									16.18	34.99		25.717	228.5	.077
	50									14.60	34.96		26.047	197.2	.120
	75									13.78	34.97		26.228	179.9	.167
	100									13.49	34.95		26.273	175.7	.212
	125									13.38	34.95		26.295	173.5	.257
	150									13.00	34.93		26.357	167.7	.300
	200									12.51	34.90		26.431	160.6	.385
	250									11.97	34.87		26.513	152.9	.466
	300									11.57	34.84		26.565	147.9	.545

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LATITUDE 12 02.05			LONGITUDE 77 42.0W			PC/DAY/YR 11/27/65		MESSENGER TIME 1721		BOTTOM		WIND SPEED		WEATHER		DOMINANT WAVES	
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD		
	0								0	20.50	35.25		24.838	312.1	0		
	10								10	19.96	35.25		25.012	295.5	.030		
	20								20	19.82	35.28		25.041	292.7	.060		
	30								30	19.00	35.20		25.193	278.3	.089		
	50								50	15.96	35.07		25.829	217.9	.138		
	75								75	15.15	35.00		25.957	205.7	.192		
	100								100	13.87	34.97		26.209	181.7	.241		
	125								125	13.63	34.96		26.252	177.7	.287		
	150								150	13.61	34.96		26.256	177.3	.332		

A) THE START DOWN TIME IS QUESTIONABLE.

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
12 00.05		78 00.7W		11/27/65		2113		1620M									
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CC		
									0	20.70	35.35		24.861	309.9	0		
									10	20.12	35.35		25.016	295.2	.030		
									20	20.07	35.35		25.029	293.9	.060		
									30	20.02	35.34		25.034	293.4	.089		
									50	18.66	35.26		25.325	265.8	.145		
									75	15.60	34.98		25.841	216.7	.206		
									100	13.78	34.88		26.159	186.5	.257		
									125	13.03	34.85		26.289	174.1	.303		
									150	12.93	34.92		26.363	167.1	.347		
									200	12.41	34.89		26.443	159.5	.431		
									250	11.75	34.85		26.539	150.4	.511		
									300	11.27	34.81		26.597	144.9	.588		
									400	10.00	34.73		26.761	129.4	.733		
									500	8.37	34.62		26.940	112.4	.863		
									600	7.48	34.58		27.041	102.8	.980		
									700	6.54	34.54		27.140	95.4	1.088		
									800	5.83	34.52		27.216	86.2	1.189		
									1000	4.47	34.52		27.376	71.0	1.366		
									1200	3.77	34.54		27.466	62.5	1.520		
									1500	3.08	34.57		27.557	53.9	1.726		

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

37

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
11 59.05		78 23.0W		11/27/65		2347		2233M		140		08KT		1		170 06 06	
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CC		
									0	20.42	35.33		24.921	304.2	0		
									10	19.98	35.32		25.030	293.8	.030		
									20	19.92	35.33		25.053	291.6	.059		
									30	19.78	35.29		25.059	291.0	.088		
									50	17.35	35.00		25.449	254.0	.143		
									75	14.65	34.78		25.897	211.4	.202		
									100	13.51	34.92		26.233	179.4	.251		
									125	13.00	34.92		26.349	168.4	.296		
									150	12.71	34.90		26.392	164.4	.338		
									200	12.22	34.87		26.465	157.5	.421		
									250	11.80	34.85		26.529	151.3	.501		
									300	11.17	34.81		26.616	143.1	.578		
									400	10.14	34.75		26.749	130.5	.723		
									500	8.60	34.63		26.912	115.0	.854		
									600	7.32	34.57		27.056	101.4	.972		

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
11 59.55		78 40.0W		11/28/65		0139		3336M		160		14KT		1		150 06 06	
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CC		
									0	20.30	35.33		24.953	301.2	0		
									10	20.21	35.33		24.976	298.9	.030		
									20	19.98	35.33		25.037	293.1	.060		
									30	19.95	35.33		25.045	292.4	.089		
									50	17.70	35.05		25.402	258.4	.144		
									75	14.75	34.92		25.983	203.2	.203		
									100	13.47	34.88		26.223	180.4	.251		
									125	12.83	34.88		26.352	168.1	.295		
									150	12.64	34.91		26.404	163.3	.338		
									200	12.20	34.88		26.476	156.4	.420		
									250	11.73	34.85		26.543	150.1	.499		
									300	11.18	34.82		26.622	142.6	.576		
									400	9.96	34.73		26.768	128.7	.719		
									500	8.45	34.63		26.935	112.8	.849		
									600	7.12	34.55		27.069	100.2	.965		

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME			BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
11 58.05		79 21.7W		11/28/65		0636 1049GMT			6030M	180	14KT	2			
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CC
0	20.08	35.347	5.61					294.4	C	20.08	35.347	5.61	25.024	294.4	0
11	20.10	35.341	6.30					295.3	1C	20.10	35.341	6.26	25.015	295.3	.030
35	20.05	35.339	5.61					294.2	2C	20.08	35.340	6.04	25.018	294.9	.059
59	18.09	35.212	3.72					255.7	3C	20.06	35.339	5.75	25.023	294.5	.089
88	15.35	35.024	.70					208.1	50	18.95	35.266	4.53	25.255	272.4	.146
118	13.64	34.939	.29					179.4	75	16.54	35.100	1.94	25.719	228.3	.209
147	12.87	34.930	.27					165.2	100	14.54	34.979	.54	26.074	194.5	.262
195	12.41	34.909	.35					158.1	125	13.40	34.934	.29	26.280	175.0	.309
244	11.94	34.879	.41					151.7	150	12.83	34.928	.27	26.391	164.4	.353
292	11.29	34.839	.35					143.1	200	12.37	34.906	.36	26.464	157.5	.435
389	10.06	34.758	.24					128.3	250	11.86	34.873	.41	26.536	150.7	.515
486	8.51	34.651	.44					112.1	300	11.19	34.833	.33	26.630	141.8	.592
584	7.29	34.583	.44					100.0	400	9.88	34.745	.26	26.792	126.4	.734
777	5.56	34.541	.64					81.4	500	8.32	34.640	.44	26.963	110.2	.861
972	4.48	34.546						69.2	600	7.12	34.577	.45	27.090	98.2	.974
1166	3.82	34.568	1.61					60.9	700	6.16	34.548	.53	27.197	88.0	1.077
1363	3.27	34.588	1.88					54.3	800	5.40	34.540	.69	27.285	79.7	1.171
1388A	3.27	34.592	1.87					54.0	1000	4.37	34.549	1.19	27.410	67.8	1.338
1564	2.87	34.614	2.13					48.8	1200	3.65	34.572	1.68	27.499	59.4	1.485
1582A	2.89	34.614	2.07					49.0	1500	2.99	34.609	2.09	27.595	50.3	1.680
1775A	2.56	34.632	2.28					44.9	2000	2.27	34.647	2.47	27.688	41.4	1.961
2018A	2.25	34.658U	2.83U						2500	1.92	34.672	3.09	27.737	36.9	2.209
2260A	2.08	34.663	2.73					38.7	3000	1.80	34.682	3.26	27.754	35.3	2.445
2501A	1.92	34.672	3.09					36.9	3500	1.81	34.687	3.23	27.757	34.9	2.683
2743A	1.81	34.682	3.17					35.3	4000	1.78	34.691	3.57	27.762	34.4	2.927
2986A	1.80	34.681	3.26					35.3	4500	1.78	34.695	3.82	27.766	34.1	3.177
3227A	1.79	34.684	3.25					35.0	5000	1.81	34.697	3.84	27.765	34.2	3.435
3468A	1.81	34.687	3.22					34.9	5500	1.88	34.695	3.76	27.758	34.8	3.705
3710A	1.81	34.687	3.33					34.9							
3953A	1.78	34.690	3.54					34.5							
4195A	1.79	34.692	3.66					34.4							
4440A	1.78	34.695	3.81					34.1							
4685A	1.78	34.693	3.84					34.2							
4932A	1.80	34.696	3.84					34.2							
5178A	1.84	34.696	3.84					34.4							
5424A	1.87	34.694	3.38U					34.8							
5670A	1.89	34.696	4.08U					34.8							
5917A	1.94	34.694	3.51					35.3							

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
11 58.05		79 21.7W		11/28/65		0921		6049M							
Z	T	S	C2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	CC
									C	20.08	35.36		25.034	293.5	0
									1C	20.08	35.36		25.034	293.5	.029
									20	20.03	35.36		25.047	292.2	.059
									30	19.87	35.32		25.059	291.1	.088
									50	18.58	35.26		25.345	263.9	.144
									75	15.75	34.99		25.815	219.2	.205
									100	13.92	34.92		26.160	186.3	.256
									125	13.12	34.91		26.317	171.4	.301
									150	12.73	34.94		26.419	161.8	.344
									200	12.27	34.90		26.478	156.2	.426
									250	11.69	34.86		26.558	148.6	.505
									300	11.13	34.81		26.623	142.4	.581
									400	9.87	34.73		26.783	127.3	.724
									500	8.42	34.64		26.948	111.6	.852
									600	7.20	34.56		27.065	100.5	.967
									700	5.97	34.53		27.207	87.1	1.071
									800	5.23	34.52		27.290	79.2	1.163
									1000	4.25	34.53		27.408	68.0	1.330
									1200	3.63	34.56		27.496	59.7	1.477
									1500	2.95	34.58		27.576	52.1	1.675

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LATITUDE 12 00.05			LONGITUDE 79 39.8W			PC/DAY/YR 11/28/65			PASSENGER TIME 1449 GNT			BOTTOM 4937M		WIND 140		SPEED 08KT		WEATHER 1		DOMINANT WAVES 150 06 10		
Z	T	S	C2	PC4	SIG3	NO2	NO3	DT	Z	T	S	DT	SIGT	DT	ED							
									C	20.18	35.30		24.962	300.3	0							
									1C	20.12	35.30		24.978	298.8	.030							
									2C	20.08	35.30		24.988	297.8	.060							
									3C	19.96	35.32		25.035	293.3	.090							
									5C	18.54	35.27		25.362	262.2	.145							
									75	14.73	34.94		26.003	201.3	.204							
									10C	13.65	34.95		26.240	178.8	.252							
									125	12.98	34.91		26.346	168.8	.266							
									15C	12.62	34.91		26.417	161.9	.338							
									20C	11.99	34.88		26.517	152.5	.419							
									25C	11.52	34.85		26.582	146.3	.497							
									30C	10.93	34.80		26.652	139.7	.572							
									40C	9.56	34.70		26.812	124.5	.711							
									50C	8.23	34.62		26.961	110.4	.837							
									60C	6.92	34.55		27.096	97.5	.957							

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LATITUDE 11 59.75			LONGITUDE 80 09.9W		MO/DAY/YR 11/28/65		MESSENGER 1732		TIME GMT	BOTTOM 4688F	WIND 140	SPEED 08KT	WEATHER 1	DOMINANT WAVES 150 04 06		
Z	T	S	C2	P04	S103	NC2	NC3	DT	Z	T	S		Q2	SIGT	DT	EE
									0	20.57	35.37			24.911	305.2	0
									10	20.32	35.37			24.978	298.8	.030
									20	20.26	35.37			24.994	297.3	.060
									30	19.83	35.34			25.084	288.6	.089
									50	17.63	35.11			25.465	252.4	.144
									75	16.55	35.07			25.692	230.8	.205
									100	14.75	34.94			25.999	201.7	.259
									125	13.31	34.90			26.271	175.8	.307
									150	12.78	34.90			26.378	165.7	.351
									200	12.25	34.89			26.474	156.5	.434
									250	11.47	34.83			26.576	146.9	.513
									300	10.93	34.80			26.652	139.7	.588
									400	9.55	34.70			26.813	124.4	.727
									500	8.03	34.61			26.984	108.2	.852
									600	6.92	34.55			27.096	97.5	.964

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LATITUDE 11 59.75			LONGITUDE 80 18.9W			MO/DAY/YR 11/28/65			MESSENGER 1918		TIME GMT	BOTTOM 4713M	WIND 150	SPEED 14KT	WEATHER 2	DOMINANT WAVES 160 04 08		
Z	T	S	C2	P04	S103	NC2	NC3	DT	Z	T	S	02	SIGT	DT	ED			
									0	20.42	35.36		24.943	302.1	0			
									10	20.17	35.35		25.002	296.4	.030			
									20	19.07	35.24		25.205	277.1	.059			
									30	18.17	35.17		25.378	260.7	.086			
									50	17.53	35.18		25.543	245.0	.136			
									75	15.53	34.99		25.865	214.4	.194			
									100	14.22	34.92		26.097	192.4	.246			
									125	13.48	34.90		26.236	179.1	.293			
									150	12.66	34.84		26.355	167.8	.337			
									200	11.92	34.86		26.514	152.7	.420			
									250	11.22	34.82		26.614	143.3	.497			
									300	10.52	34.77		26.701	135.0	.569			
									400	9.28	34.69		26.850	120.9	.705			
									500	8.05	34.61		26.981	108.5	.828			
									600	6.98	34.56		27.096	97.6	.948			

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LATITUDE 11 59.75			LONGITUDE 80 36.0w		MC/DAY/YR 11/28/65		MESSENGER TIME 2128		BOTTOM 4564F		WIND 150		SPEED 14KT		WEATHER 1		DOMINANT WAVES 150 10 11	
Z	T	S	C2	PO4	SIO3	NC2	NC3	CT	Z	T	S	C2	SIGT	DT	ED			
	0		20.25						0	20.25	35.34		24.973	299.2	0			
	10		20.18						10	20.18	35.32		24.977	298.9	.030			
	20		19.50						20	19.50	35.27		25.117	285.5	.059			
	30		18.51						30	18.51	35.19		25.309	267.3	.087			
	50		17.63						50	17.63	35.24		25.565	242.9	.138			
	75		16.04						75	16.04	35.04		25.787	221.8	.197			
	100		13.54						100	13.54	34.91		26.232	179.6	.248			
	125		13.05						125	13.05	34.91		26.324	170.9	.292			
	150		12.67						150	12.67	34.87		26.377	165.8	.335			
	200		12.13						200	12.13	34.87		26.482	155.8	.418			
	250		11.38						250	11.38	34.81		26.577	146.8	.496			
	300		10.90						300	10.90	34.80		26.657	139.2	.571			
	400		9.30						400	9.30	34.69		26.847	121.2	.709			
	500		7.98						500	7.98	34.61		26.991	107.5	.832			
	600		6.91						600	6.91	34.56		27.106	96.7	.940			

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LATITUDE 11 59.05		LONGITUDE 80 57.1W		PC/DAY/YR 11/28/65		MESSENGER 2345		TIME GMT	BOTTOM 4564M	WIND 160	SPEED 14KT	WEATHER 1	DOMINANT WAVES 160 10		
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	C2	SIG1	DT	EE
	C		2C.30							2C.30	35.37		24.983	298.3	0
	1C		2C.32							2C.32	35.37		24.978	298.8	.030
	2C		2C.25							2C.25	35.38		24.993	297.3	.060
	3C		2C.18							2C.18	35.38		25.023	294.5	.089
	5C		19.2C							19.2C	35.33		25.240	273.8	.147
	75		16.48							16.48	35.10		25.732	227.1	.210
	10C		13.75							13.75	34.91		26.188	183.7	.262
	125		13.18							13.18	34.90		26.298	173.3	.307
	15C		12.72							12.72	34.91		26.398	163.8	.350
	20C		11.93							11.93	34.87		26.520	152.2	.431
	25C		11.32							11.32	34.85		26.619	142.8	.508
	30C		10.7E							10.7E	34.81		26.686	136.4	.581
	40C		5.47							5.47	34.71		26.834	122.4	.718
	50C		8.17							8.17	34.63		26.978	108.7	.842
	60C		6.92							6.92	34.57		27.112	96.0	.954

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	LATITUDE 11 58.0S	LONGITUDE 81 21.0W	PC/DAY/YR 11/29/65	MESSENGER TIME 0245	TIME GMT	BOTTOM 4599M	WIND 140	SPEED 14KT	WEATHER Z	DOMINANT WAVES 160 10 10
Z	T	S	02	PC4	SIO3	NC2 NC3	DT			
						Z	T	S	02	SIGT DT CD
						C	2C.32			
						10	2C.32			
						20	2C.30			
						30	2C.24			
						50	19.19			
						75	15.80			
						100	13.90			
						125	13.08			
						150	12.72			
						200	11.82			
						250	11.30			
						300	10.79			
						400	9.42			
						500	8.03			
						600	6.85			

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	LATITUDE 11 58.0S	LONGITUDE 81 21.0W	MO/DAY/YR 11/29/65	MESSENGER 0302	TIME GMT	BOTTOM 4599M	WIND 140	SPEED 14KT	WEATHER 2	DOMINANT WAVES 160 10 10					
Z	T	S	C2	P04	SIG3	N02	N03	OT	Z	T	S	OZ	SIGT	DT	CD
									C	2C.32	35.30		24.924	303.9	0
									1C	2C.32	35.30		24.924	303.9	.030
									2C	2C.30	35.30		24.930	303.4	.061
									3C	2C.22	35.29		24.943	302.1	.091
									5C	19.13	35.36		25.281	269.9	.149
									75	15.63	35.02		25.865	214.4	.210
									10C	13.80	34.91		26.178	184.7	.260
									125	13.02					
									15C	12.65					
									200	11.81					
									25C	11.28					
									30C	1C.8C					

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LATITUDE 11 57.45			LONGITUDE 81 42.0W			MO/DAY/YR 11/29/65		MESSENGER TIME C602		BOTTOM 4690M		WIND 170		SPEED 14KT		WEATHER 1		DOMINANT WAVES 170 08	
Z	T	S	02	P04	S103	N02	NC3	DT	Z	T	S	02	SIGT	DT	ED				
									C	20.34	35.40		24.995	297.1	0				
									10	20.34	35.40		24.995	297.1	.030				
									20	18.77	35.18		25.236	274.2	.058				
									30	18.32	35.23		25.387	259.8	.085				
									50	17.78	35.26		25.543	245.0	.136				
									75	16.40	35.04		25.704	229.7	.196				
									100	14.00	34.79		26.043	197.5	.250				
									125	13.24	34.92		26.301	173.0	.297				
									150	12.75	34.91		26.392	164.4	.340				
									200	11.88	34.84		26.507	153.5	.422				
									250	11.32	34.83		26.604	144.3	.499				
									300	10.81	34.80		26.673	137.7	.573				
									400	9.43	34.72		26.849	121.0	.710				
									500	8.06	34.65		27.010	105.7	.831				
									600	6.84	34.61		27.155	92.0	.939				

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	LATITUDE 11 56.65	LONGITUDE 82 02.0W	PC/DAY/YR 11/29/65	PASSENGER 0813	TIME GMT	BCTGM 4724M	WIND 140	SPEED 14KT	WEATHER 2	DOMINANT WAVES 160 08				
Z	T	S	02	P04	S103	N02 N03	DT	Z	T	S	02	SIGT	DT	LD
								C	20.25	35.35		25.012	295.6	0
								10	20.25	35.39		25.012	295.6	.030
								20	20.25	35.35		25.012	295.6	.059
								30	18.90	35.25		25.256	272.3	.086
								50	17.87	35.21		25.483	250.7	.140
								75	16.69	35.13		25.705	229.6	.201
								100	13.92	34.88		26.130	189.3	.254
								125	12.87	34.86		26.329	170.3	.300
								150	12.40	34.88		26.437	160.1	.342
								200	11.85	34.88		26.543	150.0	.421
								250	11.33	34.86		26.625	142.2	.497
								300	10.82	34.81		26.679	137.1	.570
								400	5.64	34.75		26.837	122.1	.708
								500	8.35	34.65		26.966	109.9	.832
								600	7.00	34.58		27.109	96.3	.945

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LATITUDE 11 55.35			LONGITUDE 82 22.4W			MC/DAY/YR 11/29/65		MESSENGER TIME 1052		BOTTOM 4517M		WIND 160		SPEED 14KT		WEATHER 2		DOMINANT WAVES 160 08 08	
Z	T	S	C2	PG4	S103	NO2	NC3	DT	Z	T	S	O2	SGT	DT	CO				
									C	20.24	35.29			24.938	302.6	0			
									10	20.24	35.29			24.938	302.6	.030			
									20	20.24	35.29			24.938	302.6	.061			
									30	19.87	35.28			25.028	294.0	.091			
									50	19.55	35.38			25.188	278.8	.148			
									75	18.14	35.28			25.470	252.0	.215			
									100	14.51	34.92			26.035	198.2	.272			
									125	13.28	34.88			26.262	176.7	.320			
									150	12.61	34.87			26.388	164.7	.363			
									200	11.70	34.84			26.541	150.3	.444			
									250	11.33	34.85			26.617	143.0	.520			
									300	10.86	34.82			26.680	137.0	.593			
									400	9.66	34.73			26.818	123.9	.732			
									500	8.26	34.64			26.972	109.3	.857			
									600	7.02	34.58			27.106	96.6	.969			

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	LATITUDE 11 54.35	LCNGITUDE 82 43.3W	PC/DAY/YR 11/29/65	MESSNGER 1319	TIME GMT	BOTTOM 4688F	WIND 140	SPEED 14KT	WEATHER 2	DOMINANT WAVES 160 08 08					
Z	T	S	C2	PC4	SIC3	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	DD
									C	20.27	35.40		25.014	295.4	0
									10	20.27	35.40		25.014	295.4	.030
									20	20.28	35.41		25.019	294.9	.059
									30	20.17	35.41		25.048	292.1	.089
									50	19.45	35.35		25.191	278.5	.146
									75	16.92	35.12		25.643	235.5	.211
									100	14.47	34.91		26.036	198.2	.266
									125	13.34	34.89		26.257	177.1	.313
									150	12.47	34.86		26.408	162.8	.357
									200	11.72	34.87		26.560	148.4	.437
									250	11.12	34.84		26.648	140.0	.512
									300	10.42	34.78		26.727	132.6	.583
									400	9.11	34.70		26.886	117.5	.715
									500	7.80	34.61		27.018	105.0	.835
									600	6.83	34.57		27.125	94.9	.944

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LATITUDE 11 54.05			LONGITUDE 82 57.5W			PC/DAY/YR 11/29/65			MESSENGER TIME 1455			BOTTOM 4366M		WIND 140		SPEED 08KT		WEATHER 2		DOMINANT WAVES 160 08 08	
Z	T	S	C2	PC4	SIC3	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	ED						
									0	20.17	35.40		25.040	292.8	0						
									10	20.17	35.40		25.040	292.8	.029						
									20	20.17	35.41		25.048	292.1	.059						
									30	20.17	35.41		25.048	292.1	.088						
									50	16.50	35.27		25.372	261.2	.144						
									75	15.12	34.96		25.933	208.0	.203						
									100	13.47	34.87		26.215	181.1	.252						
									125	12.80	34.87		26.351	168.3	.296						
									150	12.15	34.86		26.470	156.9	.338						
									200	11.55	34.85		26.577	146.8	.416						
									250	11.10	34.84		26.652	139.7	.490						
									300	10.63	34.81		26.713	133.9	.562						
									400	9.46	34.72		26.844	121.5	.697						
									500	8.08	34.64		27.000	106.7	.820						
									600	6.75	34.57		27.135	93.8	.929						

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	LATITUDE 11 52.75	LCNGITUDE 83 18.8h	PG/DAY/YR 11/29/65	MESSENGER 1727	TIME GMT	BOTTOM 4351M	WIND 140	SPEED 14K1	WEATHER 1	DOMINANT WAVES 160 07 08					
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	ED
									C	2C.42	35.42		24.989	297.7	0
									1C	2C.3C	35.42		25.021	294.7	.030
									2C	2C.3C	35.42		25.021	294.7	.059
									3C	2C.25	35.42		25.024	294.4	.089
									50	19.53	35.39		25.201	277.6	.146
									75	15.54	34.97		25.847	216.1	.208
									100	13.67	34.91		26.205	182.1	.259
									125	12.95	34.9C		26.344	168.9	.303
									150	12.50	34.90		26.433	160.4	.346
									20C	11.82	34.87		26.541	150.2	.425
									25C	11.31	34.85		26.621	142.6	.501
									30C	1C.73	34.81		26.695	135.6	.574
									40C	9.43	34.73		26.857	120.3	.710
									50C	8.17	34.65		26.994	107.3	.832
									60C	7.11	34.59		27.101	97.1	.944

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LATITUDE 12 00.05			LONGITUDE 83 41.0W			PG/DAY/YR 11/29/65			MESSENGER TIME 1958 GMT			BOTTOM 4965P		WIND 130		SPEED 08KT		WEATHER I		DOMINANT WAVES 160 08 09		
Z	T	S	C2	PD4	S103	NC2	NC3	CT	Z	T	S	O2	SIGT	DT	ED							
									C	20.26	35.42		25.032	293.7	0							
									10	20.16	35.41		25.045	292.4	.029							
									20	20.08	35.41		25.072	289.8	.058							
									30	19.20	35.34		25.248	273.1	.087							
									50	18.35	35.30		25.433	255.5	.140							
									75	17.68	35.26		25.568	242.7	.203							
									100	16.25	35.06		25.754	224.9	.262							
									125	13.75	34.91		26.180	184.5	.314							
									150	12.98	34.91		26.346	168.8	.359							
									200	11.78	34.86		26.541	150.2	.441							
									250	11.29	34.86		26.633	141.5	.517							
									300	10.87	34.83		26.686	136.5	.589							
									400	5.26	34.72		26.877	118.4	.724							
									500	7.75	34.63		27.041	102.8	.843							
									600	6.81	34.59		27.143	93.1	.950							

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Z	LATITUDE 12 02.05			LONGITUDE 83 57.2w			MC/DAY/YR 11/29/65			MESSENGER 2134			TIME GMT	BOTTOM 4198M	WIND 110	SPEED 14KT	WEATHER 1	DOMINANT WAVES 160 08 09		
	T	S	C2	P04	S103	N02	N03	CT	Z	T	S	O2						DT	CD	
														0	20.30	35.41		25.013	295.4	0
														10	20.28	35.41		25.019	294.9	.030
														20	20.10	35.41		25.067	290.3	.059
														30	20.08	35.41		25.072	289.8	.088
														50	19.03	35.34		25.292	268.9	.144
														75	17.98	35.27		25.502	248.9	.209
														100	15.30	34.93		25.870	213.9	.268
														125	13.67	34.93		26.220	180.7	.318
														150	12.79	34.86		26.345	168.8	.363
														200	12.02	34.89		26.519	152.3	.445
														250	11.38	34.86		26.616	143.1	.522
														300	10.83	34.84		26.701	135.1	.595
														400	9.35	34.74		26.878	118.3	.729
														500	7.95	34.65		27.027	104.1	.849
														600	6.83	34.60		27.148	92.6	.956

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LATITUDE 12 05.55			LNGITUDE 84 21.2W			MO/DAY/YR 11/30/65			MESSENGER C016		TIME GMT		BOTTOM 4364M		WIND 120		SPEED 08KT		WEATHER 2		DOMINANT WAVES 160 08 09	
Z	T	S	C2	PG4	S103	NO2	NO3	CT	Z	T	S	O2	SIGT	DT	ED							
									0	20.28	35.39		25.004	296.3	0							
									10	20.27	35.39		25.006	296.1	.030							
									20	20.15	35.39		25.038	293.0	.059							
									30	20.02	35.38		25.065	290.5	.088							
									50	18.65	35.37		25.411	257.6	.144							
									75	17.53	35.20		25.558	243.5	.207							
									100	13.95	34.88		26.123	189.9	.262							
									125	13.07	34.91		26.328	170.5	.307							
									150	12.75	34.91		26.392	164.4	.350							
									200	11.83	34.88		26.547	149.6	.431							
									250	11.37	34.87		26.626	142.2	.507							
									300	10.75	34.84		26.715	133.7	.579							
									400	9.30	34.75		26.894	116.8	.712							
									500	7.94	34.67		27.044	102.5	.830							
									600	6.92	34.63		27.159	91.6	.936							

RV ALEXANDER AGASSIZ

MUCCAUBER EXPECTION

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LATITUDE 12 07.05				LONGITUDE 84 32.8W		MO/DAY/YR 11/30/65		MESSENGER TIME 0226		BOTTOM 4445M	WIND 130	SPEED 14KT	WEATHER	DOMINANT WAVES 160 09		
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT		Z	T	S	C2	SIGT	DT	CC
										0	20.08	35.40		25.064	290.6	0
										10	20.08	35.40		25.064	290.6	.029
										20	19.64	35.37		25.157	281.7	.058
										30	19.01	35.38		25.327	265.5	.085
										50	18.76	35.36		25.376	260.9	.138
										75	18.21	35.28		25.453	253.6	.203
										100	14.93	34.91		25.936	207.6	.261
										125	13.50	34.90		26.232	179.5	.311
										150	12.97	34.93		26.363	167.1	.355
										200	11.92	34.86		26.514	152.7	.437
										250	11.06	34.85		26.667	138.3	.512
										300	10.47	34.82		26.749	130.5	.583
										400	9.48	34.76		26.872	118.8	.715
										500	8.12	34.68		27.025	104.3	.835
										600	7.02	34.64		27.153	92.1	.943

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MUCCAUBER EXPECTION

H 4

LATITUDE 12 08.25				LONGITUDE 85 04.0W		MO/DAY/YR 11/30/65		MESSENGER TIME 0500		BOTTOM 4580M	WIND 140	SPEED 19KT	WEATHER	DOMINANT WAVES 160 06 07		
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT		Z	T	S	C2	SIGT	DT	CC
1	20.18	35.418	5.50					291.8		0	20.18	35.418	5.50	25.051	291.8	0
10	20.19	35.413	5.51					292.4		10	20.19	35.413	5.51	25.045	292.4	.029
20	20.19	35.412	5.47					292.5		20	20.19	35.412	5.49	25.045	292.4	.059
56	19.39	35.347	5.14					277.2		30	20.16	35.405	5.47	25.051	291.8	.088
74	18.65	35.295	4.44					263.0		50	19.62	35.364	5.26	25.158	281.6	.145
89	17.06	35.151	3.33					236.4		75	18.57	35.288	4.39	25.369	261.5	.214
102	15.18	34.979	1.59					207.8		100	15.46	35.002	1.86	25.889	212.1	.274
129	13.20	34.908	.22					173.1		125	13.36	34.907	.28	26.266	176.3	.323
151	12.70	34.875	.32					166.0		150	12.71	34.876	.32	26.373	166.2	.367
178	11.93	34.844	.34					154.1		200	11.62	34.841	.41	26.556	148.8	.448
209	11.54	34.842	.44					147.3		250	11.17	34.826	.45	26.629	141.9	.523
271	11.00	34.815	.45					139.8		300	10.71	34.798	.40	26.690	136.1	.596
372	9.88	34.745	.33					126.2		400	9.50	34.718	.42	26.836	122.2	.733
470	8.54	34.654	.67					112.4		500	8.17	34.632	.65	26.979	108.7	.857
595	7.12	34.575	.60					98.3		600	7.07	34.574	.60	27.094	97.8	.969
740	5.81	34.532	.80					85.0		700	6.13	34.539	.73	27.193	88.3	1.072
896	5.02	34.546	.99					74.9		800	5.46	34.535	.85	27.274	80.7	1.166
1098	4.14	34.549	1.74					65.5		1000	4.55	34.548	1.31	27.390	69.7	1.337

RV ALEXANDER AGASSIZ

MUCCAUBER EXPECTION

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LATITUDE 12 08.25				LONGITUDE 85 04.0W		MO/DAY/YR 11/30/65		MESSENGER TIME 0550		BOTTOM 4580M	WIND 140	SPEED 19KT	WEATHER	DOMINANT WAVES 160 06 07		
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT		Z	T	S	C2	SIGT	DT	CC
										0	20.11	35.42		25.072	289.9	0
										10	20.12	35.42		25.069	290.1	.029
										20	20.12	35.42		25.069	290.1	.058
										30	20.08	35.41		25.072	289.8	.087
										50	19.35	35.37		25.222	275.6	.144
										75	17.65	35.23		25.552	244.1	.209
										100	14.50	34.84		25.976	203.9	.266
										125	13.45	34.97		26.297	173.4	.314
										150	12.55	34.89		26.408	162.9	.357
										200	11.71	34.88		26.570	147.5	.437
										250	11.12	34.86		26.664	138.6	.511
										300	10.64	34.84		26.735	131.8	.582
										400	9.35	34.73		26.870	119.0	.715
										500	8.06	34.68		27.034	103.5	.835
										600	6.94	34.62		27.149	92.6	.942

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

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LATITUDE 11 36.8S			LONGITUDE 85 03.4W			MO/DAY/YR 11/30/65			MESSENGER TIME C911			BOTTOM 5023M	WIND 140	SPEED 19KT	WEATHER	DOMINANT WAVES 160 06 06		
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT	Z	T	S	Z	T	S	O2	SIGT	DT	DD
												C	20.12	35.41		25.061	290.8	0
												10	20.12	35.41		25.061	290.8	.029
												20	20.08	35.39		25.057	291.3	.058
												30	19.30	35.39		25.260	271.9	.087
												50	19.07	35.39		25.320	266.3	.141
												75	18.65	35.33		25.370	261.4	.207
												100	18.07	35.03		25.773	223.2	.268
												125	17.54	34.89		26.216	181.0	.320
												150	12.65	34.87		26.373	166.2	.364
												200	11.54	34.86		26.586	145.9	.444
												250	11.08	34.85		26.663	138.6	.518
												300	10.48	34.81		26.740	131.4	.589
												400	9.33	34.74		26.881	118.0	.721
												500	8.13	34.67		27.016	105.2	.841
												600	7.00	34.61		27.133	94.1	.950

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

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LATITUDE 11 04.4S			LONGITUDE 85 03.4W			MO/DAY/YR 11/30/65			MESSENGER TIME 1218			BOTTOM 4422M	WIND 110	SPEED 08KT	WEATHER 2	DOMINANT WAVES 110 08 06		
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	Z	T	S	O2	SIGT	DT	DD
												C	20.44	35.39		24.961	300.4	0
												10	20.45	35.39		24.958	300.7	.030
												20	20.45	35.39		24.958	300.7	.060
												30	20.03	35.40		25.077	289.3	.090
												50	19.83	35.41		25.138	283.6	.147
												75	18.56	35.26		25.345	263.9	.216
												100	14.67	34.93		26.008	200.8	.275
												125	13.12	34.88		26.294	173.6	.323
												150	12.78	34.82		26.393	164.2	.366
												200	11.90	34.90		26.549	149.4	.447
												250	11.37	34.87		26.626	142.2	.522
												300	10.92	34.84		26.685	136.6	.595
												400	9.68	34.76		26.838	122.0	.732
												500	8.25	34.67		26.997	106.9	.855
												600	7.12	34.63		27.132	94.2	.965

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

59

LATITUDE 10 32.1S			LONGITUDE 85 03.4W			MO/DAY/YR 11/30/65			MESSENGER TIME 1545			BOTTOM 4507M	WIND 130	SPEED 08KT	WEATHER 1	DOMINANT WAVES 140 06 05		
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	Z	T	S	O2	SIGT	DT	DD
												C	20.56	35.37		24.913	304.9	0
												10	20.54	35.37		24.919	304.4	.030
												20	20.43	35.36		24.941	302.3	.061
												30	19.96	35.34		25.050	291.9	.091
												50	19.85	35.36		25.094	287.7	.149
												75	16.50	35.09		25.719	228.3	.214
												100	14.71	35.01		26.061	195.8	.268
												125	13.35	34.97		26.317	171.5	.314
												150	12.93	34.95		26.387	164.9	.357
												200	12.35	34.92		26.470	156.9	.440
												250	11.98	34.90		26.534	150.9	.520
												300	11.26	34.85		26.630	141.7	.596
												400	9.87	34.76		26.806	125.0	.738
												500	8.14	34.65		26.998	106.8	.862
												600	7.10	34.62		27.126	94.7	.972

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

60

LATITUDE 10 00.2S			LONGITUDE 85 03.4W			MO/DAY/YR 11/30/65			MESSENGER TIME 1855			BOTTOM 4391M	WIND 140	SPEED 10KT	WEATHER 1	DOMINANT WAVES 140 06 05		
Z	T	S	C2	PC4	SIO3	NO2	NO3	DT	Z	T	S	Z	T	S	O2	SIGT	DT	DD
												C	21.28	35.24		24.619	332.9	0
												10	21.04	35.25		24.692	325.9	.033
												20	21.00	35.25		24.703	324.9	.066
												30	20.28	35.26		24.905	305.7	.097
												50	19.75	35.30		25.075	289.5	.157
												75	17.00	35.06		25.579	241.6	.224
												100	14.18	34.97		26.144	187.9	.278
												125	13.35	34.95		26.302	172.9	.324
												150	12.93	34.94		26.379	165.6	.367
												200	12.32	34.91		26.476	156.4	.450
												250	11.75	34.88		26.555	148.9	.529
												300	11.22	34.84		26.630	141.8	.605
												400	9.93	34.75		26.788	126.8	.748
												500	8.25	34.66		26.983	108.3	.874
												600	7.05	34.60		27.118	95.5	.985

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

61

LATITUDE 9 33.05			LONGITUDE 85 00.0W			MO/DAY/YR 11/30/65			MESSENGER 2203		TIME GMT	BOTTOM 5155M	WIND 140	SPEED 14KT	WEATHER 1	DOMINANT WAVES 140 05 07		
Z	T	S	C2	P04	S103	N02	N03	DT				Z	T	S	O2	SIGT	DT	CD
												C	21.84	35.29		24.502	344.1	0
												10	21.68	35.29		24.547	339.8	.034
												20	21.50	35.28		24.589	335.8	.068
												30	20.75	35.32		24.824	313.4	.101
												50	18.50	35.17		25.296	268.5	.159
												75	15.85	35.06		25.846	216.2	.220
												100	14.38	34.99		26.117	190.5	.272
												125	13.54	34.95		26.263	176.6	.318
												150	13.01	34.93		26.355	167.9	.362
												200	12.38	34.91		26.464	157.5	.446
												250	11.76	34.87		26.553	149.1	.525
												300	11.20	34.83		26.626	142.2	.602
												400	9.78	34.73		26.798	125.8	.743
												500	8.13	34.62		26.976	108.9	.870
												600	7.02	34.58		27.106	96.6	.982

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

62

LATITUDE 9 00.05			LONGITUDE 85 00.0W			MO/DAY/YR 12/01/65			MESSENGER 0135		TIME GMT	BOTTOM 5038M	WIND 150	SPEED 12KT	WEATHER 1	DOMINANT WAVES 140 05 07		
Z	T	S	C2	P04	S103	N02	N03	DT				Z	T	S	O2	SIGT	DT	CD
												C	22.12	35.32		24.447	349.4	0
												10	22.03	35.32		24.472	347.0	.035
												20	21.91	35.32		24.506	343.8	.069
												30	21.67	35.30		24.557	338.8	.104
												50	18.05	35.14		25.385	260.0	.164
												75	14.35	34.99		26.123	189.9	.221
												100	13.71	34.97		26.243	178.5	.267
												125	13.14	34.94		26.337	169.6	.311
												150	12.77	34.93		26.403	163.3	.354
												200	12.37	34.91		26.466	157.3	.436
												250	11.80	34.88		26.553	149.1	.516
												300	11.28	34.85		26.627	142.1	.592
												400	9.80	34.73		26.795	126.1	.734
												500	8.22	34.63		26.971	109.5	.861
												600	6.91	34.58		27.121	95.2	.972

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

63

LATITUDE 8 32.65			LONGITUDE 85 00.0W			MO/DAY/YR 12/01/65			MESSENGER 0454		TIME GMT	BOTTOM 4410M	WIND 120	SPEED 08KT	WEATHER 1	DOMINANT WAVES		
Z	T	S	C2	P04	S103	N02	N03	DT				Z	T	S	O2	SIGT	DT	CD
												C	21.93	35.33		24.508	343.6	0
												10	21.85	35.30		24.507	343.6	.034
												20	21.68	35.31		24.562	338.4	.069
												30	21.03	35.33		24.756	319.9	.102
												50	18.75	35.23		25.279	270.1	.161
												75	14.65	35.00		26.066	195.3	.219
												100	13.42	34.95		26.287	174.3	.266
												125	12.86	34.95		26.401	163.5	.309
												150	12.62	34.94		26.441	159.7	.351
												200	12.11	34.91		26.517	152.5	.431
												250	11.75	34.88		26.555	148.9	.509
												300	10.93	34.82		26.667	138.2	.584
												400	9.28	34.71		26.866	119.4	.721
												500	7.93	34.63		27.014	105.3	.841
												600	6.87	34.58		27.127	94.6	.951

RV ALEXANDER AGASSIZ					MUCCAUBER EXPEDITION										H 5	
LATITUDE 8 04.8S		LONGITUDE 85 00.0W		MO/DAY/YR 12/01/65		MESSENGER 0830		TIME GMT	BOTTOM 4275M	WIND 110	SPEED 14KT	WEATHER 1	DOMINANT WAVES 160 04 04			
Z	T	S	C2	PC4	S103	NC2	NC3	CT	Z	T	S	O2	SIGT	DT	CC	
1	22.10	35.298	5.30					350.4	0	22.10	35.298	5.30	24.436	350.4	0	
10	22.11	35.298	5.32					350.7	10	22.11	35.298	5.32	24.433	350.7	.035	
30	22.02	35.299	5.29					348.2	20	22.06	35.298	5.30	24.446	349.4	.070	
59	18.02	35.216	2.54					253.8	30	22.02	35.299	5.29	24.459	348.2	.105	
79	15.41	35.033	.76					208.7	50	19.49	35.247	3.55	25.102	287.0	.169	
93	14.18	34.994	.64					186.1	75	15.85	35.067	1.04	25.843	216.5	.232	
107	13.60	34.976	.64					175.9	100	13.83	34.984	.64	26.228	179.9	.283	
136	13.20	34.951	.43					170.0	125	13.27	34.953	.51	26.320	171.2	.327	
160	13.04	34.941	.41					167.6	150	13.11	34.946	.42	26.347	168.7	.371	
189	12.70	34.922	.34					162.6	200	12.61	34.916	.35	26.425	161.2	.455	
223	12.42	34.906	.39					158.5	250	12.13	34.889	.47	26.497	154.4	.537	
290	11.66	34.864	.56					147.8	300	11.56	34.858	.54	26.582	146.4	.616	
357	10.40	34.789	.25					131.6	400	10.34	34.785	.25	26.744	131.0	.763	
504	8.38	34.656	.22					109.9	500	8.46	34.661	.22	26.958	110.7	.893	
643	6.54	34.578	.33					90.6	600	7.02	34.595	.30	27.117	95.6	1.005	
801	5.36	34.552	1.08					78.3	700	6.03	34.564	.59	27.225	85.3	1.105	
969	4.56	34.557	1.29					69.2	800	5.37	34.552	1.08	27.299	78.4	1.197	
1178	3.82	34.575	1.67					60.4	1000	4.43	34.559	1.34	27.411	67.7	1.363	

RV ALEXANDER AGASSIZ					MUCCAUBER EXPEDITION										64	
LATITUDE 8 04.8S			LONGITUDE 85 00.0W		MO/DAY/YR 12/01/65		MESSENGER 0918		TIME GMT	BOTTOM 4275M	WIND 110	SPEED 14KT	WEATHER 1	DOMINANT WAVES 160 04 04		
Z	T	S	C2	PC4	S103	NC2	NC3	CT	Z	T	S		C2	SIGT	DT	CD
									0	22.10	35.33			24.460	348.1	0
									10	22.10	35.33			24.460	348.1	.035
									20	22.08	35.33			24.466	347.6	.070
									30	21.28	35.29			24.657	329.3	.104
									50	17.82	35.20			25.488	250.3	.162
									75	14.90	35.00			26.012	200.4	.219
									100	13.67	34.98			26.259	177.0	.266
									125	13.27	34.97			26.333	169.9	.311
									150	13.05	34.95			26.363	167.2	.354
									200	12.61	34.94			26.443	159.6	.438
									250	12.14	34.91			26.511	153.1	.519
									300	11.63	34.88			26.585	146.1	.597
									400	10.41	34.79			26.736	131.7	.744
									500	8.60	34.66			26.935	112.8	.875
									600	7.00	34.60			27.125	94.9	.989

RV ALEXANDER AGASSIZ					MUCCAUBER EXPEDITION										65	
LATITUDE 7 32.0S		LONGITUDE 84 59.2W		MO/DAY/YR 12/01/65		MESSENGER 1300		TIME GMT	BOTTOM 4352M	WIND 130	SPEED 15KT	WEATHER 1	DOMINANT WAVES 160 06 07			
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD	
									0	22.09	35.31		24.448	349.3	0	
									10	22.09	35.31		24.448	349.3	.035	
									20	22.09	35.31		24.448	349.3	.070	
									30	22.09	35.32		24.455	348.6	.105	
									50	20.25	35.21		24.875	308.6	.171	
									75	14.82	35.00		26.030	198.8	.235	
									100	13.88	34.99		26.223	180.4	.283	
									125	13.44	34.97		26.299	173.2	.328	
									150	13.12	34.96		26.356	167.8	.371	
									200	12.77	34.94		26.411	162.6	.456	
									250	12.36	34.92		26.476	156.4	.539	
									300	12.00	34.90		26.530	151.2	.619	
									400	10.57	34.79		26.708	134.3	.771	
									500	8.64	34.67		26.937	112.7	.903	
									600	7.40	34.61		27.076	99.5	1.019	

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

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LATITUDE 7 03.6S			LONGITUDE 84 58.1W			MO/DAY/YR 12/01/65		MESSENGER 1602		TIME GMT	BOTTOM 4198M	WIND 150	SPEED 15KT	WEATHER 0	DOMINANT WAVES 160 07 07		
Z	T	S	O2	P04	S103	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD		
									C	22.33	35.31		24.380	355.7	0		
									1C	22.31	35.31		24.386	355.2	.036		
									2C	22.27	35.32		24.404	353.4	.071		
									30	22.24	35.32		24.413	352.6	.106		
									5C	17.10	35.06		25.555	243.9	.166		
									75	15.17	35.05		25.991	202.4	.223		
									10C	14.78	35.04		26.069	195.0	.273		
									125	13.97	34.99		26.204	182.2	.321		
									150	13.63	34.98		26.267	176.2	.367		
									20C	13.17	34.95		26.338	169.5	.456		
									25C	12.73	34.93		26.411	162.5	.542		
									30C	12.35	34.91		26.470	156.9	.625		
									40C	11.00	34.81		26.647	140.2	.782		
									50C	8.81	34.67		26.910	115.2	.919		
									60C	7.40	34.62		27.084	98.7	1.036		

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

67

LATITUDE 6 27.8S			LONGITUDE 84 58.2W			MO/DAY/YR 12/01/65		MESSENGER 1944		TIME GMT	BOTTOM 4813M	WIND 140	SPEED 17KT	WEATHER 1	DOMINANT WAVES 160 06 07		
Z	T	S	O2	P04	S103	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD		
									C	22.57	35.12		24.168	375.9	0		
									10	22.53	35.13		24.187	374.1	.038		
									2C	22.42	35.13		24.218	371.2	.075		
									30	21.90	35.23		24.440	350.0	.111		
									5C	18.63	35.17		25.263	271.6	.173		
									75	15.60	35.02		25.872	213.7	.235		
									10C	14.45	35.00		26.110	191.2	.286		
									125	13.93	34.99		26.212	181.4	.333		
									150	13.68	34.98		26.257	177.2	.379		
									20C	13.22	34.95		26.328	170.4	.468		
									25C	12.67	34.92		26.415	162.2	.554		
									30C	12.17	34.89		26.490	155.1	.637		
									40C	10.75	34.78		26.668	138.1	.792		
									50C	8.76	34.68		26.926	113.7	.928		
									60C	7.27	34.59		27.079	99.2	1.044		

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

68

LATITUDE 5 56.0S			LONGITUDE 84 59.1W			MO/DAY/YR 12/01/65		MESSENGER 2253		TIME GMT	BOTTOM 4002M	WIND 150	SPEED 17KT	WEATHER 2	DOMINANT WAVES 160 07 07		
Z	T	S	O2	P04	S103	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD		
									C	22.20	34.94		24.136	379.0	0		
									10	22.21	34.95		24.141	378.5	.038		
									2C	22.21	34.95		24.141	378.5	.076		
									30	22.14	34.95		24.161	376.6	.114		
									5C	21.89	35.28		24.481	346.1	.186		
									75	18.12	35.13		25.360	262.4	.263		
									10C	15.30	35.01		25.931	208.1	.322		
									125	14.12	35.00		26.180	184.5	.372		
									150	13.62	34.98		26.269	176.0	.418		
									20C	13.25	34.97		26.329	170.3	.507		
									25C	12.89	34.94		26.387	164.8	.594		
									30C	12.31	34.91		26.478	156.2	.678		
									40C	10.49	34.77		26.707	134.5	.832		
									50C	8.11	34.62		26.979	108.6	.962		
									60C	7.18	34.60		27.099	97.2	1.074		

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

69

LATITUDE 5 35.0S			LONGITUDE 84 59.9W			MO/DAY/YR 12/02/65		MESSENGER 0127		TIME GMT	BOTTOM 3984M	WIND 160	SPEED 19KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	O2	P04	S103	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD		
									C	22.09	35.07		24.266	366.6	0		
									10	22.09	35.07		24.266	366.6	.037		
									2C	22.09	35.08		24.273	365.9	.073		
									30	22.06	35.09		24.289	364.4	.110		
									5C	21.20	35.00		24.459	348.2	.182		
									75	18.70	35.04		25.147	282.7	.261		
									10C	14.88	34.99		26.009	200.8	.322		
									125	13.93	34.99		26.212	181.4	.371		
									150	13.62	34.98		26.269	176.0	.416		
									20C	13.27	34.97		26.333	169.9	.505		
									25C	12.79	34.94		26.407	162.9	.591		
									30C	12.13	34.90		26.505	153.6	.674		
									40C	10.77	34.79		26.673	137.7	.828		
									50C	8.18	34.63		26.977	108.9	.961		
									60C	7.08	34.61		27.121	95.2	1.072		

RV ALEXANDER AGASSIZ						MUDDAUBER EXPEDITION										70	
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
4 53.1S		85 00.0W		12/02/65		0530		4009M		150		14KT		1			
Z	T	S	C2	PC4	SIG3	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CC		
									C	22.17	35.08		24.251	368.0		0	
									1C	22.17	35.08		24.251	368.0		.037	
									2C	22.13	35.08		24.262	367.0		.074	
									3C	21.58	35.12		24.446	349.5		.110	
									5C	21.27	35.09		24.508	343.5		.179	
									7S	20.71	35.05		24.630	331.9		.264	
									10C	16.00	35.05		25.804	220.2		.334	
									12S	14.58	35.02		26.097	192.4		.386	
									15C	14.02	35.00		26.201	182.5		.434	
									20C	13.30	34.96		26.320	171.2		.525	
									25C	12.74	34.93		26.409	162.7		.612	
									30C	12.12	34.90		26.507	153.4		.694	
									40C	10.08	34.75		26.763	129.2		.844	
									50C	8.31	34.66		26.980	108.5		.971	
									60C	7.25	34.60		27.090	98.2		1.084	

RV ALEXANDER AGASSIZ					MUDDAUBER EXPEDITION										71		
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
4 22.0S		85 01.0W		12/02/65		0902		3470M		170		15KT		2			
Z	T	S	C2	PC4	SIG3	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CC		
									C	21.70	35.05		24.359	357.7		0	
									1C	21.70	35.05		24.359	357.7		.036	
									2C	21.65	35.07		24.388	354.9		.071	
									3C	21.22	35.09		24.522	342.2		.106	
									50	20.50	35.09		24.717	323.6		.173	
									75	19.63	35.11		24.962	300.3		.252	
									100	17.28	35.16		25.588	240.7		.320	
									125	14.47	35.04		26.136	188.6		.375	
									150	13.75	34.99		26.250	177.8		.422	
									200	13.15	34.96		26.350	168.3		.511	
									250	12.76	34.94		26.413	162.4		.596	
									300	12.28	34.90		26.476	156.4		.679	
									400	10.53	34.79		26.715	133.7		.833	
									500	8.62	34.68		26.948	111.6		.965	
									600	7.48	34.62		27.072	99.8		1.080	

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION										72
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES				
3 53.0S		85 01.4W		12/02/65		1144		3423M		180		16KT		1		160 07 08				
Z	T	S	C2	PC4	SIG3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CD					
									0	21.54	35.18		24.502	344.1		0				
									10	21.54	35.19		24.510	343.4		.034				
									20	21.54	35.18		24.502	344.1		.069				
									30	21.45	35.18		24.527	341.7		.103				
									50	20.82	35.10		24.638	331.1		.171				
									75	19.03	35.10		25.109	286.3		.249				
									100	15.80	35.07		25.865	214.4		.312				
									125	14.18	35.01		26.175	185.0		.363				
									150	13.67	34.98		26.259	177.0		.409				
									200	12.97	34.95		26.379	165.6		.497				
									250	12.49	34.91		26.443	159.5		.581				
									300	11.64	34.86		26.567	147.7		.661				
									400	9.80	34.75		26.810	124.7		.805				
									500	8.25	34.66		26.989	107.7		.930				
									600	7.08	34.61		27.121	95.2		1.041				

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION										73
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES				
3 37.0S		85 02.3W		12/02/65		1428		3357M		160		08KT		1		160 07 08				
Z	T	S	C2	PC4	SIG3	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CC					
									C	21.32	35.09		24.494	344.8	0					
									1C	21.28	35.09		24.505	343.8	.034					
									2C	21.25	35.09		24.514	343.0	.069					
									3C	21.08	35.08		24.552	339.3	.103					
									5C	19.14	35.09		25.073	289.7	.166					
									7S	18.13	35.08		25.320	266.3	.236					
									10C	16.78	35.13		25.684	231.6	.299					
									12S	15.03	35.07		26.037	198.0	.354					
									15C	14.24	35.01		26.162	186.2	.403					
									20C	13.02	34.95		26.369	166.6	.493					
									25C	12.47	34.91		26.447	159.1	.578					
									30C	11.03	34.82		26.649	140.0	.656					
									40C	9.50	34.71		26.829	122.9	.795					
									50C	8.33	34.66		26.977	108.8	.920					
									60C	7.03	34.60		27.121	95.3	1.031					

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

74

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
2 52.9S			85 03.8W			12/02/65		1729		3227M		150		09KT		1		160 07 08	
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CC				
									0	21.67	35.06		24.375	356.2	0				
									10	21.45	35.06		24.436	350.4	.035				
									20	20.88	35.05		24.584	336.3	.070				
									30	19.73	35.03		24.875	308.6	.102				
									50	18.42	35.11		25.270	270.9	.160				
									75	17.57	35.12		25.488	250.3	.226				
									100	16.98	35.10		25.614	238.3	.288				
									125	16.03	35.06		25.805	220.1	.346				
									150	14.50	35.03		26.122	190.0	.398				
									200	13.39	34.94		26.286	174.4	.492				
									250	12.62	34.91		26.417	161.9	.579				
									300	11.47	34.79		26.545	149.9	.660				
									400	9.52	34.71		26.826	123.2	.805				
									500	8.27	34.64		26.971	109.5	.930				
									600	7.51	34.60		27.052	101.7	1.045				

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

75

LATITUDE			LONGITUDE			MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
2 28.2S			85 03.8W			12/02/65		2049		2779M		170		09KT		1		160 06 08	
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CC				
									C	21.98	35.08		24.304	363.0	0				
									10	21.82	35.08		24.349	358.7	.036				
									20	21.54	35.09		24.434	350.6	.072				
									30	20.10	35.02		24.770	318.6	.105				
									50	18.63	35.10		25.210	276.7	.165				
									75	17.72	35.10		25.436	255.2	.232				
									100	16.37	35.07		25.734	226.8	.293				
									125	15.86	35.06		25.844	216.4	.349				
									150	15.29	35.08		25.988	202.8	.403				
									200	13.97	34.97		26.189	183.7	.502				
									250	13.27	34.93		26.302	172.9	.594				
									300	12.17	34.87		26.474	156.6	.680				
									400	9.63	34.70		26.800	125.6	.829				
									500	8.35	34.64		26.958	110.6	.956				
									600	7.47	34.39		27.050	101.9	1.072				

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

M 6

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
1 58.0S		85 02.2W		12/03/65		C005		GMT	2522M	170	14KT	1	150 05 05		
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	DD
1	21.96	35.106	5.34					360.5	0	21.96	35.106	5.34	24.329	360.5	0
10	21.94	35.102	5.38					360.3	10	21.94	35.102	5.38	24.332	360.3	.036
30	21.39	35.099	5.16					346.0	20	21.67	35.100	5.27	24.406	353.3	.072
59	17.92	35.118	3.01					258.6	30	21.39	35.099	5.16	24.482	346.0	.107
79	16.94	35.095	2.57					237.7	50	19.08	35.102	3.73	25.098	287.4	.170
94	16.10	35.104	2.50					218.4	75	17.10	35.101	2.61	25.587	240.8	.237
108	15.78	35.094	2.53					212.2	100	15.93	35.101	2.51	25.859	214.9	.295
138	15.42	35.080	2.54					205.5	125	15.57	35.089	2.54	25.932	208.0	.348
163	14.88	35.028	2.37					198.0	150	15.15	35.055	2.46	25.999	201.7	.401
192	14.70	35.014	2.42					195.3	200	14.50	35.005	2.21	26.103	191.8	.502
227	13.70	34.973	1.35					178.1	250	13.22	34.950	.92	26.328	170.4	.595
296	12.35	34.897	.46					157.9	300	12.25	34.889	.46	26.475	156.5	.681
404	9.72	34.739	.49					124.2	400	9.81	34.744	.49	26.803	125.3	.830
513	8.25	34.662	.62					107.5	500	8.38	34.670	.60	26.976	108.9	.956
651	6.90	34.604	.72					93.2	600	7.37	34.623	.66	27.090	98.1	1.069
809	5.36	34.579	1.41					76.3	700	6.38	34.592	.92	27.201	87.6	1.172
977	4.51	34.576	1.80					67.2	800	5.44	34.580	1.37	27.312	77.1	1.264
1187	3.76	34.596	1.88					58.2	1000	4.41	34.578	1.81	27.428	66.1	1.427

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION										76
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES							
1 58.05		85 02.2W		12/03/65		C051		GMT	2522M	170	14KT	1	150 05 05							
Z	T	S	O2	PO4	SI03	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CG					
									C	21.85	35.10		24.355	358.1	0					
									1C	21.83	35.10		24.361	357.5	.036					
									2C	21.66	35.10		24.403	353.6	.071					
									3C	21.22	35.10		24.529	341.5	.106					
									5C	18.81	35.13		25.187	278.8	.169					
									75	17.24	35.11		25.560	243.4	.234					
									10C	15.92	35.09		25.853	215.5	.292					
									125	15.63	35.10		25.927	208.5	.346					
									15C	14.93	35.04		26.036	198.1	.398					
									20C	14.65	35.01		26.074	194.5	.499					
									25C	13.42	34.95		26.287	174.3	.594					
									30C	12.54	34.91		26.433	160.5	.682					
									40C	9.68	34.73		26.815	124.2	.832					
									50C	8.34	34.65		26.968	109.7	.958					
									60C	7.53	34.61		27.057	101.2	1.073					

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION										77
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES							
1 27.85		85 02.9W		12/03/65		0410		GMT	2219M	160	15KT	1								
Z	T	S	O2	PO4	SI03	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CD					
									C	21.93	35.14		24.363	357.3	0					
									1C	21.93	35.14		24.363	357.3	.036					
									2C	21.92	35.15		24.374	356.3	.071					
									3C	21.10	35.09		24.555	339.1	.106					
									5C	15.62	35.11		24.964	300.1	.171					
									75	17.04	35.14		25.630	236.7	.238					
									10C	16.06	35.11		25.837	217.1	.296					
									125	15.37	35.08		25.970	204.5	.349					
									15C	14.95	35.01		26.009	200.7	.401					
									20C	14.36	35.01		26.132	189.0	.501					
									25C	13.48	34.98		26.298	173.3	.595					
									30C	12.56	34.93		26.445	159.4	.681					
									40C	9.65	34.73		26.813	124.4	.831					
									50C	8.15	34.66		27.005	106.2	.955					
									60C	7.38	34.62		27.087	98.4	1.067					

RV ALEXANDER AGASSIZ					MUCCAUBER EXPEDITION										78
LATITUDE		LNGITUDE		MC/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
0 57.05		85 01.2W		12/03/65		C7C2		GMT	2182M	170	17KT				
Z	T	S	C2	PO4	SIQ3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	CG
									C	22.37	34.32		23.619	428.3	0
									10	22.37	34.33		23.626	427.6	.043
									20	22.35	34.34		23.639	426.3	.086
									30	22.24	34.47		23.769	414.0	.128
									50	20.49	34.94		24.605	334.3	.203
									75	17.55	35.07		25.454	253.5	.277
									100	15.99	35.10		25.845	216.3	.336
									125	15.60	35.10		25.933	207.9	.390
									150	15.33	35.08		25.979	203.6	.443
									200	14.18	34.98		26.152	187.2	.543
									250	13.03	34.93		26.351	168.2	.635
									300	11.65	34.85		26.558	148.6	.718
									400	9.25	34.72		26.878	118.2	.859
									500	7.82	34.64		27.038	103.0	.978
									600	7.07	34.63		27.139	93.5	1.085

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION										79
LATITUDE		LONGITUDE		MO/DAY/YR		PASSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES							
0 26.35		85 00.9W		12/03/65		1020		GMT	2380M	170	19KT		160 05 04							
Z	T	S	O2	PO4	SI03	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	ED					
									C	24.40	33.43		22.358	548.8	0					
									1C	24.40	33.43		22.358	548.8	.055					
									2C	24.41	33.43		22.355	549.0	.110					
									3C	22.50	33.56		23.007	486.8	.162					
									5C	20.33	34.93		24.640	330.9	.244					
									75	17.72	35.11		25.443	254.5	.317					
									100	17.25	35.12		25.565	242.9	.380					
									125	15.93	35.09		25.851	215.7	.439					
									150	15.38	35.04		25.937	207.6	.493					
									200	13.98	34.99		26.202	182.4	.593					
									250	12.85	34.93		26.387	164.8	.683					
									300	11.82	34.87		26.541	150.2	.765					
									400	9.24	34.71		26.872	118.8	.907					
									500	7.84	34.64		27.035	103.3	1.027					
									600	7.07	34.61		27.123	95.0	1.135					

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

80

LATITUDE 0 03.0N			LONGITUDE 84 59.9W			MO/DAY/YR 12/03/65			MESSENGER TIME 1311			BOTTOM 3323M	WIND 180	SPEED 18KT	WEATHER 2	DOMINANT WAVES 170 09 09		
Z	T	S	C2	PC4	SI03	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CC			
									C	25.29	32.94		21.722	609.7	0			
									1C	25.29	32.94		21.722	609.7	.061			
									2C	23.25	33.46		22.717	514.4	.117			
									3C	20.95	34.45		24.109	381.5	.162			
									50	19.70	34.84		24.738	321.6	.233			
									75	18.04	35.08		25.342	264.1	.306			
									100	17.05	35.10		25.597	239.9	.370			
									125	15.82	35.07		25.861	214.8	.428			
									150	15.56	35.09		25.930	208.2	.482			
									200	13.90	34.59		26.219	180.8	.582			
									250	12.76	34.93		26.405	163.1	.671			
									300	11.90	34.87		26.526	151.6	.753			
									400	9.31	34.72		26.869	119.1	.896			
									500	8.12	34.66		27.009	105.8	1.017			
									600	7.35	34.62		27.091	98.0	1.129			

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

81

LATITUDE 0 04.0N			LONGITUDE 85 19.4W			MO/DAY/YR 12/03/65			MESSENGER TIME 1537			BOTTOM 3361M	WIND 190	SPEED 14KT	WEATHER 2	DOMINANT WAVES 180 06 05		
Z	T	S	C2	PC4	SI03	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CC			
									C	25.12	33.17		21.947	588.2	0			
									1C	25.12	33.17		21.947	588.2	.059			
									2C	24.80	33.25		22.103	573.2	.117			
									3C	20.59	34.57		24.297	363.6	.164			
									50	19.65	34.66		24.614	333.5	.234			
									75	17.70	35.03		25.387	259.8	.309			
									100	16.95	35.13		25.644	235.4	.371			
									125	15.72	35.09		25.899	211.2	.428			
									150	15.31	35.06		25.968	204.7	.481			
									200	14.17	35.00		26.169	185.5	.581			
									250	13.02	34.93		26.353	168.0	.673			
									300	11.89	34.87		26.528	151.5	.756			
									400	9.37	34.71		26.851	120.8	.900			
									500	8.00	34.65		27.019	104.8	1.021			
									600	7.19	34.61		27.106	96.6	1.131			

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

82

LATITUDE 0 07.0N			LONGITUDE 85 38.8W			MO/DAY/YR 12/03/65			MESSENGER TIME 1748			BOTTOM 3135M	WIND 190	SPEED 19KT	WEATHER 1	DOMINANT WAVES 180 07 06		
Z	T	S	C2	PC4	SI03	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CC			
									C	24.92	33.22		22.045	578.8	0			
									1C	24.90	33.22		22.051	578.2	.058			
									20	24.82	33.24		22.090	574.5	.116			
									3C	20.95	34.60		24.223	370.7	.163			
									50	19.85	34.96		24.790	316.7	.232			
									75	17.85	35.05		25.366	261.9	.305			
									100	17.08	35.09		25.582	241.3	.368			
									125	15.70	35.11		25.919	209.3	.426			
									150	15.12	35.05		26.002	201.4	.478			
									200	14.03	34.99		26.191	183.4	.577			
									250	12.84	34.92		26.381	165.4	.667			
									300	11.75	34.86		26.547	149.7	.749			
									400	9.36	34.72		26.860	119.9	.892			
									500	7.91	34.64		27.025	104.3	1.012			
									600	7.21	34.61		27.103	96.9	1.122			

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

83

LATITUDE 0 01.0N			LONGITUDE 85 58.6W			MO/DAY/YR 12/03/65			MESSENGER TIME 2033			BOTTOM 2832M	WIND 180	SPEED 16KT	WEATHER 1	DOMINANT WAVES 180 07 06		
Z	T	S	C2	PC4	SI03	NO2	NC3	DT	Z	T	S	O2	SIGT	DT	CC			
									C	24.64	33.53		22.362	548.4	0			
									1C	24.59	33.53		22.377	547.0	.055			
									2C	24.40	33.54		22.441	540.8	.109			
									3C	22.90	33.80		23.075	480.3	.160			
									50	20.80	34.86		24.461	348.0	.243			
									75	17.76	35.05		25.388	259.8	.320			
									100	16.97	35.06		25.586	241.0	.383			
									125	16.24	35.09		25.780	222.5	.442			
									150	15.60	35.07		25.910	210.1	.497			
									200	14.60	35.02		26.093	192.8	.601			
									250	12.98	34.92		26.353	168.0	.694			
									300	11.96	34.86		26.507	153.5	.778			
									400	9.48	34.72		26.841	121.8	.923			
									500	7.83	34.64		27.037	103.2	1.044			
									600	7.10	34.61		27.119	95.4	1.153			

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

84

LATITUDE 0 02.0N			LONGITUDE 86 22.0W		PC/DAY/YR 12/03/65		MESSENGER TIME 2318		BOTTOM 3003M	WIND 170	SPEED 18KT	WEATHER 2	DOMINANT WAVES 180 10 11		
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD
									0A	24.43	33.55		22.440	541.0	0
									1CA	24.43	33.55		22.440	541.0	.054
									2CA	24.35	33.77		22.630	522.8	.107
									30	22.68	34.03		23.311	457.7	.156
									5C	19.50	35.01		24.919	304.4	.233
									75	17.50	35.04		25.443	254.5	.303
									10C	16.74	35.09		25.663	233.6	.365
									125	15.95	35.10		25.854	215.5	.422
									15C	15.81	35.10		25.886	212.4	.477
									20C	14.65	35.03		26.090	193.1	.581
									25C	13.12	34.94		26.341	169.2	.674
									30C	12.25	34.88		26.467	157.3	.760
									40C	9.42	34.72		26.850	120.9	.907
									50C	7.72	34.63		27.045	102.4	1.027
									600	6.95	34.61		27.134	94.0	1.134

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

85

LATITUDE 0 03.0N			LONGITUDE 86 43.3W		PC/DAY/YR 12/04/65		MESSENGER TIME 0127		BOTTOM 2813M	WIND 180	SPEED 15KT	WEATHER 1	DOMINANT WAVES 180 10 11		
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD
									C	24.23	33.70		22.612	524.5	0
									1C	24.12	33.70		22.645	521.3	.052
									2C	23.28	33.88		23.026	484.9	.103
									3C	21.60	34.88		24.258	367.3	.145
									5C	18.72	35.08		25.172	280.3	.210
									75	17.12	35.04		25.535	245.8	.277
									100	16.53	35.11		25.728	227.5	.337
									125	16.10	35.14		25.850	215.8	.393
									150	15.50	35.08		25.941	207.2	.447
									20C	14.74	35.00		26.047	197.1	.551
									250	13.34	34.94		26.296	173.5	.646
									30C	12.68	34.91		26.406	163.1	.734
									40C	9.60	34.72		26.821	123.7	.886
									50C	8.07	34.65		27.009	105.8	1.009
									60C	6.91	34.60		27.137	93.7	1.118

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

86

LATITUDE 0 03.5N			LONGITUDE 87 07.0W		PC/DAY/YR 12/04/65		MESSENGER TIME 0337		BOTTOM 2583M	WIND 180	SPEED 12KT	WEATHER 1	DOMINANT WAVES 180 10 11		
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD
									C	24.00	33.84		22.786	507.9	0
									10	24.00	33.84		22.786	507.9	.051
									20	23.72	33.89		22.906	496.4	.101
									30	22.30	34.46		23.744	416.3	.147
									50	19.58	35.06		24.936	302.7	.219
									75	17.38	35.01		25.449	253.9	.289
									100	16.55	34.98		25.623	237.4	.351
									125	16.23	35.10		25.790	221.6	.409
									150	15.66	35.01		25.851	215.8	.465
									20C	15.18	35.04		25.981	203.4	.573
									250	13.51	34.96		26.277	175.3	.671
									30C	12.82	34.93		26.393	164.2	.759
									40C	9.52	34.73		26.842	121.7	.910
									50C	7.67	34.62		27.045	102.4	1.031
									60C	6.96	34.60		27.130	94.3	1.138

A1 THE SALINITY VALUES AT THESE DEPTHS WERE CFF-SCALE ON THE S/T/D ANALOG RECORDING. THE VALUE OF THE WATER SAMPLE COLLECTED FROM THE SURFACE FOR CALIBRATION OF THE INSTRUMENT WAS TABULATED AND THE VALUES FOR OTHER DEPTHS WERE INTERPOLATED.

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION				87			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		GMT		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
C 04.1N		87 26.2W		12/04/65		0611				2602M	190	10KT	1	180 06			
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD		
									C	23.95	33.94		22.876	499.2	0		
									1C	23.96	33.95		22.881	498.8	.050		
									2C	23.88	33.96		22.912	495.8	.100		
									3C	23.47	34.05		23.100	477.9	.148		
									5C	20.40	34.83		24.546	339.9	.231		
									75	18.44	35.06		25.227	275.1	.308		
									100	16.73	34.99		25.589	240.7	.373		
									125	16.04	35.03		25.780	222.5	.432		
									150	15.80	35.04		25.842	216.6	.488		
									200	14.50	35.02		26.114	190.7	.592		
									250	13.47	34.97		26.292	173.8	.687		
									300	12.80	34.93		26.397	163.9	.775		
									400	10.00	34.75		26.776	127.9	.929		
									500	7.92	34.64		27.024	104.4	1.054		
									600	7.00	34.60		27.125	94.9	1.163		

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION				88			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		GMT		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
C 05.0N		87 42.0W		12/04/65		0828				2574M	180	15KT	2	180			
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD		
									C	23.90	33.89		22.853	501.4	0		
									1C	23.92	33.90		22.855	501.3	.050		
									2C	23.87	33.92		22.885	498.4	.100		
									3C	23.63	33.98		23.000	487.4	.150		
									5C	19.75	34.83		24.717	323.6	.231		
									75	18.35	35.00		25.204	277.3	.307		
									100	17.50	35.01		25.420	256.7	.374		
									125	15.94	34.96		25.749	225.4	.435		
									150	15.28	35.04		25.959	205.5	.490		
									200	14.56	35.01		26.089	193.1	.592		
									250	13.28	34.95		26.316	171.6	.687		
									300	12.68	34.92		26.413	162.3	.774		
									400	9.93	34.75		26.788	126.8	.927		
									500	8.05	34.65		27.012	105.5	1.052		
									600	6.91	34.61		27.145	92.9	1.160		

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION				89			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		GMT		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
C 05.5N		88 07.8W		12/04/65		1046				2473M	170	16KT	2	180			
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD		
									0	23.93	33.87		22.829	503.7	0		
									1C	23.92	33.87		22.832	503.4	.050		
									2C	23.92	33.87		22.832	503.4	.101		
									3C	23.87	33.89		22.862	500.6	.151		
									5C	19.50	34.77		24.736	321.8	.234		
									75	18.52	35.00		25.161	281.3	.310		
									100	17.58	35.01		25.401	258.5	.378		
									125	15.53	34.99		25.865	214.4	.438		
									150	15.09	35.04		26.001	201.5	.491		
									200	14.57	35.02		26.099	192.2	.592		
									250	13.43	34.96		26.293	173.8	.686		
									300	12.29	34.86		26.443	159.5	.773		
									400	9.30	34.73		26.878	118.2	.920		
									500	8.09	34.65		27.006	106.1	1.041		
									600	7.04	34.61		27.127	94.6	1.151		

RV ALEXANDER AGASSIZ										MUDDAUBER EXPEDITION				90			
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		GMT		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
C 07.0N		88 25.6W		12/04/65		1318				2413M	160	14KT	2	170 08 07			
Z	T	S	C2	PC4	S103	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD		
									0	24.07	33.81		22.743	512.0	0		
									1C	24.07	33.81		22.743	512.0	.051		
									2C	23.95	33.82		22.774	509.0	.102		
									3C	23.74	33.89		22.900	497.0	.153		
									5C	19.07	34.99		25.014	295.3	.232		
									75	18.58	35.19		25.291	269.0	.303		
									100	16.18	34.96		25.694	230.7	.366		
									125	15.20	35.03		25.969	204.5	.422		
									150	15.05	35.06		26.025	199.2	.473		
									200	13.90	34.96		26.195	183.0	.571		
									250	13.28	34.95		26.316	171.6	.663		
									300	11.97	34.85		26.497	154.4	.748		
									400	9.22	34.70		26.868	119.2	.893		
									500	8.28	34.66		26.985	108.1	1.015		
									600	7.08	34.61		27.121	95.2	1.126		

91

LATITUDE 0 07.7N			LONGITUDE 88 38.5W			PC/DAY/YR 12/04/65			MESSENGER TIME 1441 GRT			BOTTOM 2425M			WIND 19C			SPEED 13KT			WEATHER 2			DOMINANT WAVES 190 06 06		
Z	T	S	C2	PC4	SIO3	NC2	NC3	CT	Z	T	S	Q2	SIGT	DT	EE											
									0	24.21	33.80		22.694	516.7	0											
									10	24.20	33.80		22.697	516.4	.052											
									20	24.20	33.81		22.704	515.7	.103											
									30	23.90	33.82		22.800	506.5	.155											
									50	19.46	34.98		24.907	305.6	.236											
									75	18.93	35.20		25.210	276.7	.309											
									100	16.98	35.08		25.599	239.7	.375											
									125	15.45	35.03		25.904	210.7	.432											
									150	14.98	35.04		26.025	199.2	.484											
									200	14.33	35.02		26.151	187.3	.583											
									250	13.34	34.96		26.311	172.0	.676											
									300	12.32	34.90		26.468	157.1	.762											
									400	5.72	34.75		26.824	123.4	.910											
									500	8.41	34.66		26.965	110.0	1.036											
									600	7.10	34.60		27.111	96.2	1.149											

92

LATITUDE 0 08.0N			LONGITUDE 88 58.8W		PC/DAY/YR 12/04/65		PASSENGER 1653		TIME GMT		BOTTOM 1956F		WIND 180		SPEED 16KT		WEATHER 1		DOMINANT WAVES 170 08 08	
Z	T	S	C2	PC4	S103	NC2	NC3	CT	Z	T	S	C2	SIGT	DT	ED					
	0								0	24.43	33.89		22.696	516.4	0					
	10								10	24.42	33.89		22.699	516.1	.052					
	20								20	24.40	33.89		22.705	515.6	.103					
	30								30	24.28	33.90		22.749	511.4	.155					
	50								50	19.86	34.97		24.790	316.7	.238					
	75								75	19.06	35.05		25.063	290.7	.314					
	100								100	16.25	35.12		25.800	220.5	.379					
	125								125	15.75	35.06		25.869	214.0	.434					
	150								150	15.12	35.03		25.987	202.8	.487					
	200								200	14.37	35.01		26.134	188.8	.588					
	250								250	13.45	34.96		26.281	174.9	.682					
	300								300	12.32	34.87		26.445	159.3	.769					
	400								400	9.38	34.71		26.849	121.0	.917					
	500								500	7.84	34.61		27.012	105.5	1.039					
	600								600	6.72	34.59		27.155	92.0	1.147					

93

LATITUDE 0 02.5N			LONGITUDE 89 29.1W			MO/DAY/YR 12/04/65			MESSENGER 1940		TIME GMT	BOTTOM 1863M	WIND 200	SPEED 18KT	WEATHER 1	DOMINANT WAVES 180 07 07		
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	DD			
	C		24.28		34.08								22.884	498.5	0			
	10		24.07		34.09								22.954	491.8	.050			
	20		23.98		34.10								22.988	488.5	.099			
	30		23.92		34.09								22.998	487.6	.148			
	50		20.37		34.91								24.614	333.4	.230			
	75		17.92		35.07								25.364	262.1	.305			
	100		15.72		35.10								25.906	210.5	.365			
	125		15.38		35.06								25.952	206.1	.418			
	150		14.98		35.02								26.010	200.6	.469			
	200		14.30		35.01								26.149	187.4	.569			
	250		13.47		34.96								26.285	174.5	.663			
	300		12.28		34.87								26.453	158.6	.750			
	400		9.67		34.73								26.817	124.1	.899			
	500		8.27		34.66								26.986	108.0	1.024			
	600		7.02		34.61								27.130	94.4	1.134			

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

P 7

LATITUDE		LONGITUDE		MC/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
C 00.0		89 40.0W		12/04/65		2244		GMT	1715M	180	19KT	1	190 06 06		
Z	T	S	O2	PC4	SI03	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD
0	23.86	34.172	5.54					480.0	0	23.86	34.172	5.54	23.078	480.0	0
10	23.78	34.170	5.00					477.9	10	23.78	34.170	5.00	23.100	477.9	.048
35	22.47	34.451	4.29					421.6	20	23.72	34.180	4.65	23.125	475.5	.096
66	19.66	34.936	3.66					313.7	30	23.66	34.189	4.39	23.150	473.0	.143
90	17.16	35.068	2.85					244.7	50	21.11	34.676	4.00	24.237	369.4	.228
105	15.77	35.033	2.79					216.4	75	19.08	34.958	3.32	24.989	297.7	.312
119	15.38	35.059	2.68					206.2	100	16.14	35.050	2.81	25.771	223.3	.377
155	14.92	35.018	2.73					199.5	125	15.27	35.042	2.68	25.963	205.1	.432
180	14.71	35.013	2.55					195.5	150	14.95	35.015	2.72	26.012	200.5	.484
214	13.58	34.959	1.90					176.8	200	14.05	34.980	2.15	26.179	184.6	.582
249	13.31	34.945	2.03					172.5	250	13.25	34.943	2.02	26.310	172.2	.675
319	11.33	34.832	.74					144.3	300	11.92	34.861	1.15	26.516	152.6	.759
438	9.00	34.701	.55					115.8	400	10.23	34.782	.61	26.761	129.3	.909
566	7.42	34.628	1.02					98.4	500	7.95	34.649	.75	27.026	104.2	1.034
710	6.13	34.589	1.29					84.6	600	7.09	34.616	1.09	27.125	94.9	1.143
874	4.76	34.590	1.73					68.8	700	6.21	34.592	1.27	27.224	85.5	1.243
1044	4.28	34.600	1.86					63.1	800	5.32	34.586	1.54	27.331	75.3	1.333
1259	3.69	34.601	1.99					57.2	1000	4.36	34.599	1.84	27.451	63.9	1.492
									1200	3.90	34.600	1.95	27.500	59.3	1.636

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

94

LATITUDE 0 00.0			LONGITUDE 89 40.0W			PC/DAY/YR 12/04/65		MESSENGER TIME 2325 GMT		BOTTOM 1715M	WIND 180	SPEED 18KT	WEATHER 1	DOMINANT WAVES 190 06 06		
Z	T	S	C2	PO4	SI03	NC2	NC3	CT	Z	T	S		C2	SIGT	DT	CD
									0	23.86	34.18			23.084	479.4	0
									10	23.86	34.18			23.084	479.4	.048
									20	23.73	34.19			23.130	475.0	.096
									30	23.67	34.19			23.147	473.4	.143
									50	21.33	34.71			24.203	372.6	.228
									75	19.45	34.92			24.863	309.7	.314
									100	16.05	35.04			25.785	222.0	.381
									125	15.35	35.07			25.966	204.8	.435
									150	15.00	35.04			26.021	199.6	.487
									200	13.73	34.94			26.216	181.1	.585
									250	13.21	34.94			26.322	171.0	.676
									300	11.91	34.86			26.516	152.6	.760
									400	10.15	34.75			26.751	130.3	.910
									500	8.30	34.66			26.982	108.4	1.038
									600	7.12	34.61			27.116	95.7	1.150

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

95

LATITUDE 0 00.0			LONGITUDE 90 02.6W			MC/DAY/YR 12/05/65		MESSENGER C152		TIME GMT	BOTTOM 843M	WIND 160	SPEED 17KT	WEATHER 1	DOMINANT WAVES	
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CD	
									0	23.76	34.29		23.196	468.7	0	
									10	23.77	34.29		23.193	468.9	.047	
									20	23.70	34.29		23.214	467.0	.094	
									30	22.68	34.45		23.629	427.3	.139	
									50	19.77	34.91		24.773	318.3	.213	
									75	18.45	34.96		25.148	282.6	.289	
									100	16.74	35.06		25.640	235.8	.355	
									125	15.18	35.04		25.981	203.4	.410	
									150	14.85	35.01		26.031	198.7	.462	
									200	14.00	34.99		26.198	182.8	.560	
									250	13.25	34.96		26.330	170.3	.651	
									300	12.01	34.87		26.505	153.6	.735	
									400	9.87	34.72		26.775	128.0	.884	
									500	8.32	34.67		26.987	107.9	1.011	
									600	6.97	34.61		27.137	93.7	1.121	

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

96

LATITUDE 0 00.0			LONGITUDE 90 20.0W		MO/DAY/YR 12/05/65		MESSENGER TIME 0423		BOTTOM 676M	WIND 170	SPEED 09KT	WEATHER 1	DOMINANT WAVES 180 05 06		
Z	T	S	02	PC4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	CD
									C	23.50	34.34		23.310	457.8	0
									10	23.46	34.33		23.314	457.4	.046
									20	23.36	34.34		23.351	453.9	.091
									30	23.28	34.35		23.381	451.0	.137
									50	20.17	34.94		24.690	326.2	.215
									75	19.15	34.92		24.941	302.3	.294
									100	17.45	35.04		25.446	254.3	.364
									125	15.33	35.02		25.932	208.0	.423
									150	14.97	35.03		26.020	199.7	.475
									200	14.30	35.00		26.142	188.1	.574
									250	13.22	34.95		26.328	170.4	.667
									300	12.28	34.88		26.461	157.8	.753
									400	9.31	34.71		26.861	119.9	.900
									500	8.43	34.66		26.962	110.3	1.023
									600	7.20	34.62		27.112	96.0	1.136

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

97

LATITUDE 0 00.0			LONGITUDE 90 39.0W		MO/DAY/YR 12/05/65		MESSENGER TIME 0629		BOTTOM 2210M	WIND 170	SPEED 14KT	WEATHER 1	DOMINANT WAVES 180 05		
Z	T	S	02	PD4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	CD
									C	23.51	34.34		23.307	458.1	0
									10	22.95	34.37		23.492	440.5	.045
									20	22.77	34.45		23.604	429.8	.089
									30	22.18	34.60		23.884	403.0	.130
									50	20.18	35.00		24.733	322.1	.203
									75	18.85	34.92		25.017	295.0	.281
									100	17.43	35.02		25.445	254.3	.350
									125	15.43	35.04		25.926	208.7	.409
									150	14.87	35.02		26.034	198.3	.461
									200	14.40	35.00		26.120	190.1	.560
									250	12.98	34.94		26.369	166.6	.653
									300	12.01	34.88		26.513	152.9	.736
									400	9.13	34.71		26.890	117.1	.879
									500	8.00	34.65		27.019	104.8	.998
									600	7.07	34.62		27.131	94.3	1.107

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

98

LATITUDE 0 00.0			LONGITUDE 91 00.2W		MO/DAY/YR 12/05/65		MESSENGER TIME 0843		BOTTOM 2611M	WIND 170	SPEED 18KT	WEATHER 1	DOMINANT WAVES 180 05		
Z	T	S	02	PC4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	CD
									C	23.26	34.34		23.380	451.1	0
									10	23.24	34.35		23.393	449.9	.045
									20	23.13	34.40		23.463	443.2	.090
									30	22.91	34.47		23.579	432.1	.134
									50	20.00	34.96		24.750	320.4	.209
									75	18.73	35.05		25.147	282.7	.285
									100	17.25	35.04		25.504	248.8	.352
									125	16.22	35.11		25.800	220.6	.412
									150	14.93	35.03		26.029	198.9	.465
									200	14.35	35.01		26.130	189.2	.565
									250	12.69	34.92		26.411	162.5	.656
									300	11.78	34.83		26.518	152.4	.738
									400	9.58	34.73		26.832	122.6	.884
									500	8.27	34.66		26.986	108.0	1.008
									600	7.13	34.62		27.122	95.1	1.119

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

99

LATITUDE 2 00.0N			LONGITUDE 92 00.0W		MO/DAY/YR 12/06/65		MESSENGER TIME 1332		BOTTOM 2275M	WIND 180	SPEED 12KT	WEATHER 2	DOMINANT WAVES 180 05 07		
Z	T	S	02	PC4	S103	NO2	NO3	DT	Z	T	S	02	SIGT	DT	CD
									C	26.25	33.72		22.013	581.8	0
									10	26.25	33.72		22.013	581.8	.058
									20	26.25	33.73		22.021	581.1	.116
									30	26.26	33.73		22.018	581.4	.175
									50	24.53	34.10		22.825	504.1	.283
									75	18.90	34.90		24.989	297.7	.384
									100	15.90	34.97		25.766	223.9	.450
									125	14.74	34.93		25.993	202.2	.504
									150	14.50	35.00		26.099	192.2	.555
									200	14.05	34.99		26.167	183.8	.651
									250	13.00	34.91		26.342	169.1	.742
									300	11.97	34.83		26.482	155.9	.827
									400	9.34	34.70		26.848	121.1	.974
									500	7.80	34.63		27.034	103.5	1.094
									600	6.85	34.60		27.145	92.9	1.201

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

100

LATITUDE 3 42.1N			LONGITUDE 93 11.2W			MO/DAY/YR 12/07/65		MESSENGER TIME 0131			BOTTOM 2798M	WIND 150	SPEED 18KT	WEATHER 5	DOMINANT WAVES 190 09 09		
Z	T	S	C2	PC4	SI03	NO2	NC3	CT	Z	T	S	O2	SIGT	DT	CD		
									C	26.62	33.91		22.040	579.2	0		
									1C	26.62	33.92		22.047	578.5	.058		
									2C	26.62	33.92		22.047	578.5	.116		
									3C	26.62	33.92		22.047	578.5	.174		
									50	26.59	33.93		22.064	576.9	.290		
									75	20.25	34.88		24.624	332.5	.404		
									100	17.67	35.03		25.394	259.1	.479		
									125	16.00	34.97		25.743	226.0	.540		
									150	14.52	34.94		26.048	197.0	.594		
									200	13.58	34.95		26.254	177.4	.690		
									250	13.08	34.92		26.333	169.9	.780		
									300	12.38	34.87		26.433	160.4	.866		
									400	10.51	34.75		26.688	136.3	1.023		
									500	8.20	34.63		26.974	109.2	1.155		
									600	6.82	34.58		27.134	94.0	1.265		

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

101

LATITUDE 5 16.8N			LONGITUDE 94 08.4W			MO/DAY/YR 12/07/65		MESSENGER TIME 1332			BOTTOM 3611M	WIND 200	SPEED 13KT	WEATHER 6	DOMINANT WAVES 180 08 06		
Z	T	S	C2	PC4	SI03	NO2	NC3	CT	Z	T	S	O2	SIGT	DT	CD		
									C	27.15	33.11		21.271	652.9	0		
									1C	27.16	33.11		21.268	653.2	.065		
									2C	27.16	33.11		21.268	653.2	.131		
									3C	27.17	33.12		21.272	652.8	.196		
									50	18.50	34.48		24.769	318.6	.294		
									75	14.95	34.81		25.855	215.4	.361		
									100	13.86	34.94		26.188	183.7	.411		
									125	13.40	34.93		26.276	175.4	.457		
									150	13.18	34.91		26.305	172.6	.501		
									200	12.60	34.87		26.390	164.5	.588		
									250	11.97	34.83		26.482	155.9	.671		
									300	11.12	34.76		26.586	145.9	.750		
									400	9.45	34.69		26.822	123.6	.892		
									500	8.06	34.64		27.003	106.4	1.016		
									600	7.12	34.60		27.108	96.4	1.126		

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

102

LATITUDE 7 05.2N			LONGITUDE 95 36.5W			MO/DAY/YR 12/08/65		MESSENGER TIME 0331			BOTTOM 3630M	WIND 040	SPEED 09KT	WEATHER 6	DOMINANT WAVES		
Z	T	S	C2	PC4	SI03	NO2	NC3	CT	Z	T	S	O2	SIGT	DT	CD		
									0	27.94	32.99		20.927	685.9	0		
									1C	27.96	33.09		20.995	679.3	.068		
									2C	24.75	33.54		22.337	550.8	.130		
									3C	20.25	34.38		24.243	368.7	.176		
									50	14.43	34.74		25.914	209.8	.234		
									75	13.49	34.82		26.173	185.2	.284		
									100	13.00	34.83		26.280	175.0	.329		
									125	12.68	34.81		26.328	170.4	.373		
									150	12.49	34.84		26.389	164.7	.416		
									200	11.97	34.80		26.458	156.1	.499		
									250	11.25	34.76		26.562	148.2	.578		
									300	10.75	34.73		26.630	141.8	.654		
									400	9.66	34.68		26.779	127.6	.796		
									500	8.41	34.63		26.941	112.2	.925		
									600	7.23	34.58		27.077	99.4	1.040		

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

103

LATITUDE 8 46.0N			LONGITUDE 96 49.2W			MO/DAY/YR 12/08/65		MESSENGER TIME 1538			BOTTOM 3781M	WIND 090	SPEED 16KT	WEATHER 1	DOMINANT WAVES 090 12 08		
Z	T	S	C2	PC4	SI03	NO2	NC3	CT	Z	T	S	O2	SIGT	DT	CD		
									0	27.57	33.17		21.181	661.5	0		
									1C	27.57	33.17		21.181	661.5	.066		
									2C	27.50	33.48		21.754	606.6	.130		
									3C	23.10	33.99		23.154	472.7	.184		
									50	15.77	34.71		25.596	240.0	.255		
									75	13.28	34.78		26.185	184.1	.309		
									100	12.84	34.84		26.320	171.2	.354		
									125	12.48	34.82		26.375	165.9	.397		
									150	12.15	34.82		26.432	160.6	.438		
									200	11.58	34.77		26.509	153.3	.519		
									250	11.08	34.75		26.586	146.0	.596		
									300	10.78	34.74		26.632	141.6	.672		
									400	9.88	34.68		26.742	131.1	.816		
									500	8.53	34.61		26.907	115.5	.948		
									600	7.27	34.57		27.063	100.7	1.065		

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RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

104

LATITUDE 10 27.0N			LONGITUDE 98 11.9W		MO/DAY/YR 12/09/65	MESSENGER TIME 0406		GMT	BOTTOM 4091M	WIND C60	SPEED 11KT	WEATHER 1	DOMINANT WAVES 060 12 08		
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CG
									0	26.98	33.60		21.693	612.5	0
									10	26.96	33.60		21.699	611.8	.061
									20	22.05	34.27		23.670	423.4	.113
									30	17.80	34.53		24.980	298.5	.149
									50	14.08	34.75		25.996	202.0	.200
									75	13.04	34.76		26.218	180.9	.248
									100	12.41	34.75		26.335	169.8	.292
									125	12.16	34.77		26.399	163.7	.335
									150	11.79	34.77		26.469	157.0	.376
									200	11.25	34.76		26.562	148.2	.454
									250	10.77	34.73		26.626	142.2	.529
									300	10.28	34.71		26.697	135.4	.602
									400	9.02	34.63		26.845	121.3	.737
									500	7.83	34.59		26.998	108.9	.860
									600	6.91	34.56		27.106	96.7	.971

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

105

LATITUDE 12 08.0N			LONGITUDE 99 14.7W		MO/DAY/YR 12/09/65	MESSENGER TIME 1550		GMT	BOTTOM 3549M	WIND C80	SPEED 16KT	WEATHER 1	DOMINANT WAVES 10 08		
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CG
									0	28.64	33.88		21.365	643.9	0
									10	28.64	33.88		21.365	643.9	.064
									20	28.64	33.88		21.365	643.9	.129
									30	28.64	33.88		21.365	643.9	.193
									50	26.42	33.84		22.050	578.2	.316
									75	23.83	34.10		23.032	484.3	.449
									100	17.05	34.64		25.245	273.4	.545
									125	13.82	34.80		26.089	193.1	.604
									150	13.04	34.81		26.256	177.2	.651
									200	12.33	34.79		26.381	165.4	.739
									250	11.71	34.77		26.484	155.6	.822
									300	10.98	34.73		26.588	145.7	.901
									400	9.14	34.63		26.826	123.2	1.043
									500	8.00	34.59		26.972	109.3	1.167
									600	6.95	34.56		27.100	97.2	1.280

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

106

LATITUDE 13 50.0N			LONGITUDE 100 28.1W		MO/DAY/YR 12/10/65	MESSENGER TIME 0352		GMT	BOTTOM 3342M	WIND C60	SPEED 06KT	WEATHER 1	DOMINANT WAVES 090 06 06		
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CG
									0	28.49	33.81		21.362	644.2	0
									10	28.23	33.80		21.440	636.7	.064
									20	28.18	33.81		21.464	634.4	.128
									30	27.90	33.77		21.525	628.6	.191
									50	25.67	33.78		22.238	560.3	.310
									75	25.20	33.82		22.412	543.6	.449
									100	24.92	33.85		22.519	533.4	.584
									125	24.03	33.95		22.860	500.8	.715
									150	16.65	34.62		25.324	265.8	.812
									200	13.32	34.82		26.207	181.9	.926
									250	12.51	34.81		26.362	167.2	1.016
									300	11.88	34.78		26.460	157.9	1.101
									400	10.55	34.70		26.642	140.7	1.259
									500	8.66	34.60		26.879	118.1	1.397
									600	7.35	34.56		27.044	102.5	1.517

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

107

LATITUDE 15 31.0N			LONGITUDE 101 42.2W		MO/DAY/YR 12/10/65	MESSENGER TIME 1653		GMT	BOTTOM 3496M	WIND 320	SPEED 04KT	WEATHER 0	DOMINANT WAVES 320 02 08		
Z	T	S	C2	PC4	SI03	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CG
									0	29.12	33.71		21.078	671.4	0
									10	28.93	33.72		21.149	664.6	.067
									20	28.96	33.87		21.251	654.8	.133
									30	28.96	33.88		21.258	654.1	.198
									50	28.87	33.99		21.371	643.3	.328
									75	21.75	34.46		23.898	401.7	.460
									100	15.80	34.66		25.550	244.3	.541
									125	14.32	34.81		25.991	202.4	.598
									150	13.44	34.82		26.183	184.2	.647
									200	12.48	34.81		26.367	166.7	.737
									250	11.82	34.77		26.464	157.6	.821
									300	11.17	34.72		26.546	149.8	.901
									400	9.72	34.63		26.730	132.3	1.050
									500	8.37	34.56		26.893	116.8	1.183
									600	7.13	34.52		27.044	102.5	1.302

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

H 8

LATITUDE 17 15.3N			LONGITUDE 103 00.0W			PC/DAY/YR 12/11/65			PASSENGER 0516			TIME GMT		BOTTOM 4270M		WIND 300		SPEED 08KT		WEATHER 1		DOMINANT WAVES		
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD									
0	28.47	34.099						622.8	C	28.47	34.099			21.585	622.8	0								
11	28.46	34.088						623.3	10	28.46	34.088			21.581	623.2	.062								
39	28.26	34.142						613.1	20	28.40	34.106			21.614	620.0	.125								
64	21.73	34.428						403.5	30	28.32	34.125			21.652	616.4	.186								
82	18.44	34.511						314.9	50	25.62	34.231			22.594	526.3	.301								
96	16.38	34.597						261.5	75	15.61	34.487			24.493	344.9	.411								
109	15.14	34.727						225.4	100	15.95	34.640			25.500	249.1	.465								
128	13.76	34.783						193.2	125	13.93	34.780			26.050	196.8	.542								
147	13.33	34.830						181.4	150	13.25	34.832			26.231	179.6	.590								
170	12.76	34.833						170.2	200	12.36	34.815			26.396	164.0	.678								
193	12.42	34.817						165.1	250	11.90	34.797			26.469	157.1	.761								
216	12.23	34.814						161.8	300	11.30	34.765			26.557	148.7	.841								
244	11.96	34.800						157.9																
278	11.60	34.781						152.8																
326	10.88	34.743						143.1																

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

108

LATITUDE 17 15.3N			LONGITUDE 103 00.0W			PC/DAY/YR 12/11/65			MESSENGER TIME 0539			BOTTOM 4270M			WIND 300			SPEED 08KT			WEATHER 1			DOMINANT WAVES			
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	LC												
									0	28.52	34.10			21.569	624.3	0											
									10	28.52	34.11			21.577	623.6	.062											
									20	28.47	34.12			21.601	621.3	.125											
									30	28.45	34.13			21.615	619.9	.187											
									50	26.22	34.18			22.369	547.8	.304											
									75	15.80	34.51			24.460	348.1	.417											
									100	16.05	34.61			25.455	253.4	.492											
									125	13.98	34.77			26.032	198.5	.550											
									150	13.24	34.82			26.224	180.3	.598											
									200	12.44	34.82			26.383	165.2	.687											
									250	12.02	34.80			26.449	159.0	.771											
									300	11.44	34.76			26.527	151.5	.852											
									400	10.13	34.67			26.692	135.9	1.003											
									500	8.58	34.57			26.868	119.2	1.140											
									600	7.35	34.56			27.044	102.5	1.260											

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

109

LATITUDE 18 54.1N			LONGITUDE 104 16.5W			PC/DAY/YR 12/11/65			MESSENGER TIME 1747			BOTTOM 464M			WIND 130			SPEED 04KT			WEATHER 1			DOMINANT WAVES			
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD												
									C	27.81	34.21			21.884	594.1	0											
									10	27.75	34.21			21.904	592.2	.059											
									20	27.28	34.21			22.056	577.7	.118											
									30	24.67	34.32			22.949	492.3	.171											
									50	21.18	34.39			24.001	391.8	.260											
									75	17.28	34.50			25.083	288.8	.346											
									100	15.14	34.63			25.675	232.5	.412											
									125	13.85	34.76			26.052	196.7	.466											
									150	13.34	34.78			26.172	185.2	.515											
									200	12.78	34.78			26.285	174.5	.607											
									250	12.15	34.76			26.385	165.0	.695											
									300	11.83	34.74			26.438	159.9	.779											
									400	10.74	34.68			26.592	145.3	.940											

RV ALEXANDER AGASSIZ

MUDDAUBER EXPEDITION

110

LATITUDE 19 17.6N			LONGITUDE 106 35.0W			PC/DAY/YR 12/14/65			MESSENGER TIME 0609			BOTTOM 3603M			WIND C10			SPEED 11KT			WEATHER 1			DOMINANT WAVES			
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	CD												
									0	27.77	34.29			21.958	587.1	0											
									10	27.78	34.29			21.954	587.4	.059											
									20	27.78	34.29			21.954	587.4	.118											
									30	27.78	34.29			21.954	587.4	.176											
									50	23.65	34.40			23.312	457.6	.281											
									75	17.90	34.41			24.845	311.5	.378											
									100	15.17	34.57			25.622	237.5	.447											
									125	13.89	34.65			25.958	205.5	.503											
									150	13.18	34.75			26.182	184.3	.553											
									200	12.33	34.80			26.389	164.6	.643											
									250	11.60	34.77			26.505	151.6	.725											
									300	10.89	34.73			26.604	144.2	.803											
									400	9.35	34.64			26.800	125.7	.945											
									500	7.86	34.55			26.962	110.3	1.072											
									600	6.98	34.53			27.072	99.8	1.186											

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LATITUDE 19 05.0N		LONGITUDE 108 00.2W		PC/DAY/YR 12/14/65		PASSENGER 1533		TIME GMT	BOTTOM 3832M	WIND 110	SPEED 07KT	WEATHER 2	DOMINANT WAVES 320 GT 66		
Z	T	S	C2	PC4	SIO3	NC2	NC3	DT	Z	T	S	C2	SIGT	DT	EE
	0								0	27.37	34.32		22.109	572.6	0
	10								10	27.36	34.32		22.106	572.9	.057
	20								20	27.36	34.32		22.106	572.9	.115
	30								30	27.36	34.33		22.114	572.2	.172
	50								50	25.80	34.45		22.702	515.8	.261
	75								75	20.20	34.25		24.158	376.9	.393
	100								100	15.68	34.45		25.416	257.1	.473
	125								125	14.35	34.62		25.838	216.9	.533
	150								150	13.63	34.70		26.051	196.7	.586
	200								200	12.43	34.78		26.354	168.0	.679
	250								250	11.66	34.76		26.486	155.4	.763
	300								300	10.89	34.72		26.597	144.9	.842
	400								400	5.27	34.62		26.797	125.0	.964
	500								500	7.83	34.56		26.974	109.1	1.110
	600								600	6.82	34.53		27.094	97.7	1.223

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LATITUDE 19 37.8N		LONGITUDE 108 31.0W		PG/DAY/YR 12/14/65		MESSENGER 2105		TIME GMT		BOTTOM 285FM		WIND 35C		SPEED 29KT		WEATHER 5		DOMINANT WAVES 350 10 05	
Z	T	S	O2	PC4	S103	NO2	NC3	DT	Z	T	S	O2	S1GT	DT	CG				
	C									27.19	34.15		22.039	579.3	0				
	1C									27.17	34.16		22.053	578.0	.058				
	2C									27.15	34.16		22.060	577.3	.116				
	3C									27.14	34.16		22.063	577.0	.174				
	5C									23.65	34.29		23.228	465.6	.278				
	75									18.22	34.27		24.679	327.3	.378				
	10C									15.83	34.41		25.352	263.2	.452				
	125									14.16	34.61		25.871	213.8	.513				
	15C									13.42	34.71		26.102	191.9	.564				
	20C									12.41	34.77		26.350	168.3	.657				
	25C									11.72	34.76		26.475	156.5	.741				
	30C									10.82	34.70		26.594	145.2	.819				
	40C									9.43	34.61		26.763	129.2	.964				
	50C									8.30	34.56		26.904	115.8	1.095				
	60C									7.00	34.50		27.046	102.3	1.214				

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	LATITUDE 20 16.0N	LONGITUDE 109 07.0W	PC/DAY/YR 12/15/65			PASSENGER 0540	TIME GMT	BOTTOM 2546M	WIND C10	SPEED 19KT	WEATHER 6	DOMINANT WAVES 360 07			
Z	T	S	G2	PG4	S103	N02	N03	DT	Z	T	S	G2	SIGT	DT	LD
	C	26.27	34.49										22.586	527.0	0
	10	26.27	34.49										22.586	527.0	.053
	20	26.27	34.49										22.586	527.0	.105
	30	26.27	34.50										22.594	526.2	.158
	50	24.00	34.15										23.020	485.5	.260
	75	18.60	34.44										24.714	323.9	.361
	100	15.43	34.57										25.564	243.0	.433
	125	14.26	34.67										25.896	211.5	.491
	150	13.38	34.68										26.087	193.3	.542
	200	12.34	34.77										26.364	167.0	.635
	250	11.62	34.75										26.486	155.5	.718
	300	10.75	34.70										26.606	144.0	.796
	400	9.13	34.60										26.804	125.3	.938
	500	7.58	34.53										26.987	107.9	1.063
	600	6.45	34.51										27.128	94.5	1.173

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LATITUDE 20 38.0N		LONGITUDE 109 28.0W		PC/DAY/YR 12/15/65		PASSENGER 0916		TIME GMT		BOTTOM 2866P		WIND C80		SPEED GKT		WEATHER 6		DOMINANT WAVES		
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	ED					
	C	26.02	34.59										22.740	512.3	0					
	10	26.03	34.60										22.744	511.9	.051					
	20	26.05	34.60										22.738	512.5	.103					
	30	26.05	34.60										22.738	512.5	.154					
	50	22.60	34.25										23.501	439.6	.249					
	75	17.40	34.39										24.970	299.5	.342					
	100	15.87	34.72										25.581	241.4	.411					
	125	13.42	34.35										25.824	218.3	.469					
	150	12.71	34.55										26.121	190.1	.521					
	200	12.26	34.79										26.395	164.1	.612					
	250	11.82	34.78										26.471	156.8	.695					
	300	11.02	34.70										26.558	148.6	.774					
	400	5.78	34.63										26.720	133.2	.923					
	500	6.13	34.55										26.922	114.1	1.055					
	600	6.83	34.52										27.085	98.6	1.171					

RV ALEXANDER AGASSIZ

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LATITUDE		LNGITUDE		PC/DAY/YR		PASSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
21 09.5N		109 57.5W		12/15/65		1446		GMT	3191P	C20	14KT	6	330 05 10		
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CC
0	25.65	34.511	5.32					507.0	0	25.65	34.511	5.32	22.795	507.0	0
9	25.66	34.505	5.07					507.8	10	25.66	34.506	5.07	22.787	507.7	.051
29	25.66	34.513	5.09					507.2	20	25.66	34.510	5.08	22.790	507.4	.102
39	23.16	34.416	5.48					442.9	30	25.44	34.505	5.13	22.855	501.3	.152
53	20.28	34.151	5.62					386.1	50	20.84	34.210	5.61	23.956	396.2	.242
68	17.81	33.999	5.72					337.4	75	17.65	34.060	4.66	24.658	329.3	.333
91	17.29	34.741	1.99					271.4	100	16.48	34.740	1.56	25.456	253.3	.407
109	15.60	34.759	1.41					232.8	125	14.52	34.744	1.01	25.898	211.3	.466
128	14.38	34.741	.95					208.7	150	13.92	34.817	.96	26.079	194.1	.517
147	13.99	34.810	.95					195.8	200	12.78	34.796	.72	26.297	173.4	.612
175	13.42	34.845	1.00					182.0	250	12.03	34.772	.40	26.426	161.2	.698
208	12.60	34.779	.61					171.2	300	11.05	34.723	.40	26.562	148.2	.779
236	12.28	34.782	.39					165.0							
283	11.38	34.739	.42					152.0							
336	10.56	34.688	.36					141.7							
417		34.626	.35												
459		34.563	.34												
577		34.534	.35												

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

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LATITUDE			LONGITUDE			MO/DAY/YR		PASSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES	
21 09.5N			109 57.5W			12/15/65		1508		GMT	3191M	C20	13KT	6	330 05 10	
Z	T	S	C2	PC4	SIG3	NC2	NC3	CT	Z	T	S	O2	SIGT	DT	CD	
									0	25.63	34.52		22.808	505.8		0
									10	25.65	34.52		22.801	506.4		.051
									20	25.65	34.52		22.801	506.4		.101
									30	25.65	34.52		22.801	506.4		.152
									50	21.03	34.18		23.883	403.1		.243
									75	17.65	34.00		24.612	333.6		.336
									100	16.72	34.77		25.423	256.5		.410
									125	14.97	34.77		25.820	218.7		.471
									150	14.15	34.88		26.081	193.9		.523
									200	12.84	34.80		26.289	174.2		.618
									250	12.00	34.76		26.422	161.5		.704
									300	11.29	34.74		26.539	150.4		.786
									400	9.84	34.63		26.710	134.2		.936
									500	8.39	34.56		26.890	117.1		1.070
									600	7.38	34.53		27.016	105.2		1.191

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

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LATITUDE		LONGITUDE		MO/DAY/YR		PASSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
21 47.4N		110 34.8W		12/15/65		2049		GMT	3169M				360 10 11		
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CC
									0	25.57	34.37		22.713	514.8	0
									10	25.55	34.37		22.719	514.2	.051
									20	24.42	34.57		23.212	467.1	.101
									30	24.37	34.58		23.235	465.0	.147
									50	23.74	34.54		23.391	450.1	.239
									75	17.03	33.82		24.622	332.6	.337
									100	15.08	34.15		25.319	266.3	.413
									125	13.72	34.39		25.793	221.2	.475
									150	12.75	34.42		26.013	200.4	.528
									200	12.10	34.70		26.356	167.8	.623
									250	11.36	34.70		26.495	154.5	.706
									300	10.38	34.60		26.594	145.2	.784
									400	8.98	34.55		26.789	126.7	.927
									500	7.62	34.48		26.942	112.2	1.055
									600	6.81	34.48		27.056	101.3	1.170

RV ALEXANDER AGASSIZ

MUCCAUBER EXPEDITION

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LATITUDE		LONGITUDE		PC/DAY/YR		PASSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
22 20.5N		111 07.3W		12/16/65		0144		GMT	3282M	360	11KT				
Z	T	S	C2	PC4	SIG3	NC2	NC3	DT	Z	T	S	O2	SIGT	DT	CC
									0	24.21	34.62		23.313	457.5	0
									10	24.20	34.62		23.316	457.2	.046
									20	24.17	34.61		23.317	457.1	.092
									30	23.83	34.57		23.387	450.4	.137
									50	18.60	33.85		24.264	366.8	.219
									75	15.97	33.74		24.806	315.1	.305
									100	13.83	33.93		25.416	257.1	.377
									125	13.22	34.40		25.903	210.8	.436
									150	12.62	34.45		26.061	195.8	.488
									200	11.78	34.67		26.394	164.2	.580
									250	10.83	34.60		26.514	152.8	.662
									300	10.03	34.57		26.631	141.7	.739
									400	8.80	34.55		26.818	123.9	.878
									500	7.63	34.50		26.956	110.8	1.004
									600	6.71	34.50		27.086	98.5	1.117

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