UNIVERSITY OF CALIFORNIA

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PHYSICAL AND CHEMICAL DATA

CalCOFI Cruise 7712
29 November - 20 December 1977

CalCOFI Cruise 7801
5 January - 1 February 1978

CalCOFI Cruise 7803
17 February - 15 March 1978

CalCOFI Cruise 7804
29 March - 26 April 1978

CRUCERO AH-7712, JD-7712
29 de noviembre-20 de diciembre 1977

CRUCERO AH-7801, JD-7801
5 de enero-1 de febrero 1978

CRUCERO AH-7803, JD-7803
17 de febrero-15 de marzo 1978

CRUCERO AH-7804, JD-7804
29 de marzo-26 de abril 1978

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INTRODUCTION

The data in this report were collected during Cruises 7712*, 7801, 7803, and 7804 of the California Cooperative Oceanic Fisheries and Investigations (CalCOFI) program aboard the RV David Starr Jordan, National Marine Fisheries Service, and the RV Alejandro de Humboldt Instituto Nacional de Pesca of the Mexican Federal Government. The report preceding this one in the series was SIO Ref. 80-21 which included data for 1972.

These data were collected and processed by personnel of the Data Collection and Processing Group, Marine Life Research Group (DCPG**, MLRG), Scripps Institution of Oceanography, the Southwest Fisheries Center, National Marine Fisheries Service (NMFS), and the Instituto Nacional de Pesca (INP), various branches.

STANDARD PROCEDURES

Hydrographic Cast Data

Most of the hydrographic casts consisted of 18 Nansen bottles. At most stations the maximum sampling depth was 500 meters, bottom depth permitting. Temperature, salinity, oxygen, and nutrients were determined for all depths on each station.

At selected stations 10 meter bottles were cast with samples being taken for temperature, salinity, oxygen, and nutrients.

In general, paired protected reversing thermometers were used to determine temperatures which were recorded in hundredths of a Celsius degree. Unless otherwise noted, temperatures determined using unprotected (pressure) thermometers or surface "bucket" thermometers were recorded to tenths of a degree. Sample bottles used below 100 meters were equipped with unprotected thermometers for depth determination.

Salinity values on both ships for all cruises included, were determined using models 6220 and 6230 Hytech (now Grundy Environmental Systems, Inc.) inductive salinometers. A very few samples collected on the Humboldt during 7804 were analyzed on an

* The first two digits of the cruise designator represent the year and the second two digits the month of the cruise.

** Now the Physical and Chemical Oceanographic Data Facility (PACODF).

INTRODUCCION

Los datos de este informe fueron obtenidos durante los cruceros 7712*, 7801, 7803, y 7804 realizados dentro del programa de cooperación científico-técnico entre CalCOFI (California Cooperative Oceanic Fisheries Investigations) y el Instituto Nacional de Pesca del Departamento de Pesca** de México, a bordo del B/I David Starr Jordan, del National Marine Fisheries Service de los Estados Unidos y el B/I Alejandro de Humboldt, del Departamento de Pesca, México. El informe precedente a éste en la serie era el SIO Ref. 80-21, que incluye datos para 1972.

Estos datos fueron colectados y procesados por el personal del Data Collection and Processing Group del Marine Life Research Group (DCPG***, MLRG) del Scripps Institution of Oceanography, y por el personal del Southwest Fisheries Center del National Marine Fisheries Service (NMFS), y del Instituto Nacional de la Pesca (INP) del Departamento de Pesca.

METODOS

Obtención de Datos Hidrográficos

El mayor número de lances realizados se efectuaron con 18 botellas, muestreándose la mayoría de las estaciones hasta una profundidad máxima de 500 metros, cuando la profundidad lo permitía. Se determinó en todas las profundidades de cada estación temperatura, salinidad, oxígeno, y nutrientes. Se seleccionaron también estaciones para el muestreo a 10 metros de profundidad, para la toma de estos datos.

Para determinar temperatura se utilizaron por lo general termómetros de inversión dobles, registrándose ésta en grados centígrados, con aproximación centesímos. La temperatura superficial se determinó empleando termómetros de cubeta no protegidos, registrándola en décimas de grados. Para profundidades mayores de 100 metros se equiparon con termómetros no protegidos.

La salinidad fue determinada utilizando salinómetros de inducción modelos 6220 y 6230 Hytech (ahora Grundy Environmental Systems, Inc.). Algunas pocas muestras colectadas en el Humboldt durante 7804

* Los primeros dos dígitos representan el año y los dos que siguen, el mes en que se efectuó el crucero.

** Ahora llamado la Secretaría de Pesca.

*** Ahora llamado Physical and Chemical Oceanographic Data Facility (PACODF).

Autolab inductive salinometer. Except for a few major malfunctions when salinometers could no longer be used, problems consisted of bubbles in the cells, excessive drift (samples were rerun) and stirring motor breakdowns. With the exception of a few 10 meter samples, all samples were analyzed at sea.

The salinity values were recorded and 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 were reported to two decimal places.

Dissolved oxygen was determined by the Winkler method as modified by Carpenter (1965), using the equipment and procedure outlined by Anderson (1971). On Cruise 7804-J, problems associated with equipment malfunctions and at times poor pickling procedures resulted in unreliable data. Data for these stations have been omitted.

Phosphate, silicate, nitrite, and nitrate were determined using an automated analyzer consisting of the following components:

Sampler: A.H. Thomas Model 253 Little with a 20 position sampling rack.

Proportioning Pump: Technicon^{R} AutoAnalyzer^{R} II Proportioning Pump with air bar.

Detectors: Hitachi Model 100-10 spectophotometers with flow through cell adaptors.

Recorders: Hitachi Model 056 two-pen recorders with felt tip pens.

The procedures used are basically those described in Atlas et al. (1971). There were very few problems associated with the silicate and nitrate analyses. In general, these data were processed in a routine manner. Nitrite tend to vary between poor and very poor after the first week of each cruise depending on whether or not contamination occurred when the sample bottles were not routinely cleaned with hydrochloric acid. When contamination was evident, the typically "high" nitrite values were omitted for the station and the tabulated nitrate value is nitrate plus nitrite. This tabulated value is probably closer to the correct value than had a correction with the "high" nitrite been made.

se analizaron con un salinómetro de inducción Autolab. Excepto por algunos malos funcionamientos en que ya se podían utilizar los salinómetros, problemas consistían de la formación de burbujas en las celdas, excesivas partículas y mal funcionamiento del motor (estos mustreos se hicieron de nuevo). Con la excepción de algunas muestras de 10 metros, todas fueron analizadas a bordo.

Los valores de salinidad se registraron y se reportaron en milésimas de aproximación, de acuerdo con el procedimiento estándar aceptado. Cuando sólo se realizó una determinación por muestra ó había una duda respecto a la confiabilidad de los datos, la salinidad se reportó en centésimos.

El oxígeno disuelto fue determinado por el método Winkler modificado por Carpenter (1965) usando el equipo y procedimientos descritos por Anderson (1971). En el crucero 7804-J, problemas asociados con malos funcionamientos de equipo y malos métodos de fijación resultaron en datos desconfiables. Los datos para estas estaciones han sido suprimidos.

Fosfato, silicato, nitrito, y nitrato, se determinaron con la ayuda del analizador automático con las siguientes especificaciones:

Muestredor: A.H. Thomas Modelo 253 Little Dipper con una roseta muestreadora con 20 posiciones.

Bomba abastecedora: Technicon^{R} AutoAnalyzer^{R} II Bomba Abastecedora con barra de aire.

Sensores: Hitachi Modelo 100-10 espectrofotómetros con adaptadores que permiten el flujo libre por las celdas.

Registradores: Hitachi Modelo 056 dos registradores que consisten de plumas con puntas de fieltro.

Los procedimientos usados son básicamente los descritos en Atlas et al. (1971). Los silicatos y nitratos fueron procesados con poca dificultad y de manera rutinaria. Las muestras para determinar nitritos fueron contaminados en varios de los cruceros. Los nitritos tendían a variarse, siendo entre malos y muy malos, después de las primeras semanas de cada crucero,

Phosphate data are less reliable than the other measurements due to a number of problems including: poor sensitivity, poorly defined peaks, a serious memory effect and a very slow response time. Temperature control at the elevated temperature required for the analysis were also a problem at times. The initially calculated phosphate values were often unreasonable. Adjustments were made based on two factors: one expedition phosphate data show that there is very little phosphate variation at a depth of 500 meters (approx. 2.8 to 3.1 μg-at/L) and two, a plot of phospate vs. nitrate is essentially linear and constant, and the cruise nitrates are believed to be acceptable. The phosphate factors and baselines were adjusted to bring the phosphate results into reasonable agreement with the historical 500 m phosphate range and the phosphate-nitrate relationship.

The observed data have been evaluated using standard DCPG techniques (Klein, 1973). This involves consideration of their variation as functions of density or depth and their relations to each other, and comparison with concurrent bathythermogram (BT or XBT) or CTDO observations and with previous or adjacent observations.

In general, chlorophyll samples were collected from the first 12 levels of 18 bottle casts or all levels of shallow casts. However, during cruises 7712-J and 7801-J, samples were typically taken from only 7 of the top 12 levels.

Chlorophyll samples were analyzed on all cruises by fluorometer using one of two techniques: 7712-H, the technique of Yentsch and Menzel (1963); on all other cruises, the technique of Owen (1974). On 7801-H, both fluorometers became inoperable shortly after the cruise was started. As a result, data for about five stations have been lost. The remainder of the samples were filtered; the filters were frozen and returned to the lab for subsequent analysis. A comparison of frozen versus non-frozen samples (Owen, 1978, verbal communications) would suggest that samples from frozen filters could be low by as much as 25%.

Secchi disk observations were made on most stations occurring between 0900 and 1600 Pacific Standard Time (PST, +8) for all cruises except 7712-H. These data are tabulated following the chlorophyll data.

Tritium samples were collected on the Jordan during Cruises 7801 and 7804 at selected stations. Additional samples were taken on subsequent cruises. All tritium results may appear in a later report.

Data collected with an in situ Conductivity/Temperature/Depth/Oxygen recorder (CTDO) during the cruises in this report will appear in a separate report.

dependiendo de si la contaminación ocurrío cuando las botellas muestreadoras no fueron limpiadas rutinamente con ácido hidroclórico. Cuando la contaminación era muy evidente, los valores típicamente "altos" de nitrito eran suprimidos para aquella estación y el valor tabulado de nitrato es probablemente más cercano al valor correcto que si le hubiera hecho una corrección con el valor "alto" del nitrito.

Los datos de fosfatos son menos confiables que las otras medidas debido a una serie de problemas que incluyen lo siguiente: mala sensibilidad, picos mal definidos, un serio efecto de memoria, y un lento tiempo de respuesta. El mantenimiento de la temperatura a la temperatura elevada requerida por el análisis también resultó problemático a veces. Los valores de fosfatos que se calculaban inicialmente eran a menudo irrazonables. Se hicieron ajustes, basándose en dos factores: datos de fosfato de expedición muestran que hay muy poca variación de fosfato a una profundidad de 500 metros (approx. 2.8 a 3.1μg-at/L) y, un diagrama de fosfato contra nitrato es escencialmente linear y constante, y se cree que los nitratos de los cruceros son aceptables. Los factores de fosfato y las líneas de base fueron ajustados para que estuvieran los resultados de fosfato de acuerdo con el rango fosfático histórico de 500 metros y la relación fosfato-nitrato.

Los datos observados fueron evaluados usando las técnicas estándares del Data Collection and Processing Group (DCPG) (Klein, 1973). Estas técnicas consideran sus variaciones en función de la densidad ó profundidad y las relaciones de una con otra y en comparación con batitermogramas simultáneos (BT ó XBT) ó con CTDO, así como con observaciones previas.

En general las muestras fueron colectadas de los primeros 12 niveles de un lance de 18 botellas ó de todos los niveles en los muestreos realizados a poca profundidad, excepto durante los cruceros 7712-J y 7801-J donde las muestras fueron tomadas de los 7 primeros niveles.

Las muestras de clorofila en todos los cruceros se analizaron por fluorometría utilizando una u otra de las siguientes técnicas: Para el crucero 7712-H se utilizó la técnica de Yentsch y Menzel (1963) y para todos los demás la técnica de Owen (1974), excepto el crucero 7801-H en el cual ambos fluorómetros estuvieron fuera de operación poco después de iniciado el crucero. Como resultado se perdieron datos de 5 estaciones. Las muestras restantes fueron filtradas; los filtros se congelaron y fueron enviados al laboratorio para el análisis subsecuente. Una comparación entre las muestras congeladas y las no congeladas (Owen, comunicación personal, 1978), sugeriría que las

Starting with Cruise 7712, the standard CalCOFI oblique tow, 300 meters of wire out, depth permitting, was made with an open Bongo frame with a 505 μ net on the starboard side and a 333 μ net on the port side. Starboard samples were preserved in formalin; port samples were preserved in an alcohol solution for otolith studies.

Periodically a heretofore standard 1 m CalCOFI tow was taken in order to extend the comparisons between the Bongo and 1-m net tows made during the 1975 CalCOFI cruises.

Manta (neuston) surface tows were made on all net-tow stations, weather conditions permitting, and on selected stations vertical phytoplankton tows were made to a depth of 100 m (depth permitting).

TABULATED DATA

The time for bottle casts is reported in Greenwich Mean Time. It is the time of messenger releases. Secchi disk observations are reported in local time (PST).

When more than one cast was lowered on a station, the messenger times for the first and last casts are given. Multiple casts, excluding the surface casts, are indicated by a footnote letter following the observed depth.

Bottom depths, determined acoustically, have been corrected using Mathews (1939) tables and are reported in meters. On the Humboldt, the echo sounding units had a rated maximum sounding range of 1000 meters. Depths greater than this are from the navigational charts, and after conversion to meters have been listed to the nearest five meters. The weather and dominant waves are coded using the National Oceanographic Data Center (NODC) method.

Data for all cruises presented in this report were obtained by bottle casts or from separate lowerings to obtain the Secchi disk data. The data appear in two forms:

1. Data from the sample bottle casts are tabulated with the observed levels of depth on the left of a page, and standard depth values of temperature, salinity, and oxygen interpolated from these observations on the right. Computed values of thermosteric anomaly (DT) are included with the observed levels and computed values of sigma-t (SIGT), thermosteric anomaly (DT), and geopotential anomaly (DD) are included with the interpolated levels.

muestras de filtros congelados podían resultar con una desviación del 25%.

Las observaciones con disco Secchi se efectuaron en todas las estaciones realizadas entre las 0900 y las 1600 horas tiempo del Pacífico (PST) para todos los cruceros, excepto para el 7712-H. Estos datos son tabulados por separado y siguen a los datos de clorofila.

Durante 7801-J y 7804-J se tomaron muestras de tritio en estaciones selectas. Adicionalmente se tomaron muestras en cruceros subsecuentes. Los resultados de estos datos serán reportados posteriormente en un informe por separado.

Iniciándose con el crucero 7712 se hizo un arrastre oblicuo estándar de CalCOFI, cuando ésto fuera permitido por una profundidad equivalente a un filar de 300 metros de cable. Se hizo con un marco abierto Bongo con una red de 505μ en el lado estribor y una red de 333μ en el lado babor. Las muestras del lado babor fueron preservados en una solución de alcohol para estudios de otolitos.

Periódicamente los arrastres CalCOFI de 1 metro que eran estándares hasta la fecha se hicieron para poder extender las comparaciones que se hicieron durante los cruceros CalCOFI de 1975.

También se hicieron arrastres superficiales Manta (neuston) y en estaciones selectas se hicieron arrastres verticales de fitoplancton hasta una profundidad de 100 metros (si la profundidad lo permitía).

DATOS TABULADOS

El tiempo registrado para los lances de botella fue el tiempo del meridiano de Greenwich. Es la hora del envío del mensajero. Las observaciones del disco de Secchi son registradas en tiempo local (hora del Pacífico).

Cuando se realizó más de un lance por estación se anota la hora del envío del primer mensajero y del último. Multiples lances, excluyendo a lances superficiales, se señalan con una letra al calce después de la profundidad observada.

Cuando la profundidad del fondo se determinó acústicamente, fue corregida utilizando las tablas de Matthews (1939), registrándola en metros. En el B/I Humboldt, las profundidades mayores de 1000 metros no fueron registradas por la ecosonda, así que éstas se obtuvieron de cartas de navegación y después de ser convertidas a metros, fueron listadas con aproximación a cinco metros. El tiempo y oleaje dominante se codificaron usando el método del National Oceanographic Data Center (NODC).

2. Chlorophyll, phaeophytin and Secchi disk data appear as separate sections.

With the addition of chlorophyll-a, phaeophytin and Secchi disk observations, the same parameters have been tabulated in this report as in previous reports. The decimal has been omitted from the CalCOFI station number so station 90.65 appears in the tabulated data as 90065. [The CalCOFI station designations have been in use for over twenty years. Th first part specifies a line normal to the general trend of the coast line (CalCOFI line). The second part specifies a station position relative to the coast on the CalCOFI line.] The column headings are to be interpreted as follows:

Z	Depth	Meters
T	Temperature	^{o}C
S	Salinity	‰
O2	Dissolved oxygen	ml/L
PO4	"Reactive" inorganic phosphate-phosphorous	μg-at/L
SiO3	"Reactive" inorganic silicate-silicon	μg-at/L
NO2	"Reactive" nitrate-nitrogen	μg-at/L
NO3	"Reactive" nitrate-nitrogen	μg-at/L
DT	δ_T = Thermosteric anomaly	cl/ton
SIGT	$\sigma_T = (\rho_{s,t,o} - 1)10^3$ where $\rho_{s,t,o}$ is 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
CHL.A	Chlorophyll-a	mg/m^3
PHAEO	Phaeophytin	mg/m^3

Durante el crucero 7801-H, la parte que registra velocidad en el anemómetro del barco se descompuso después de la estación 103.45. Por ésto, se empezó con la estación 103.40, y se estimó la velocidad del viento basada en el oleaje causado por el viento. Estos datos deben ser considerados menos fiables que lo normal.

Los datos de todos los cruceros presentados en este informe se obtuvieron de lances con botellas ó de bajadas separadas para obtener los datos del disco Secchi. Estos datos se registran en dos formas:

1. Los datos provenientes de lances con botellas y tabulados en niveles de profundidad se ubicaron al margen izquierdo de la página y los valores de profundidades estándares correspondientes a temperatura, salinidad, oxígeno, interpolados de estas observaciones, al lado derecho. Valores computados de la anomalía termostérica (DT) se incluyen con los niveles observados, y los valores computados de sigma-t (SIGT), anomalía termostérica (DT), y anomalía geopotencial (DD) se incluyen con los niveles interpolados.

2. Clorofila, feofitina, y datos del disco Secchi aparecen en una sección separada.

Con la adición de clorofila-a, feofitina, y observaciones del disco Secchi, los mismos parámetros son tabulados en este informe como en reportes previos. El punto decimal de las estaciones de CalCOFI se omitió, así que los datos de la estación número 90.65 se registran como 90065. [Las designaciones de estaciones CalCOFI han estado en uso durante más de veinte años. La primera parte especifica una línea normal a la tendencia general de la costa (Línea CalCOFI). La segunda parte especifica la posición de una estación relativo a la costa en la línea CalCOFI.] Los símbolos del encabezado de las columnas se deben interpretar de la siguiente manera:

Z	Profundidad	Metros
T	Temperatura	^{o}C
S	Salinidad	‰
O2	Oxígeno	ml/L
PO4	Fosfato-fósforo inorgánico "reactivo"	μg-at/L
SIO3	Silicato-Silicio inorgánico "reactivo"	μg-at/L
NO2	Nitrito-nitrógeno "reactivo"	μg-at/L
NO3	Nitrito-nitrógeno "reactivo"	μg-at/L
DT	δ_T = Anomalía termostérica	cl/ton.
SIGT	σ_T $(\rho_{s,t,0} - 1)10^3$ donde $\rho_{s,t,0}$ es la densidad que tendría la parcela si ésta se moviera isotérmicamente hasta la superficie del mar.	g/L
DD	Anomalía geopotencial, referida a la superficie del mar.	metros din.
CHL.A	Clorofila-a	mg/m^3
PHAEO	Feofitina	mg/m^3

FOOTNOTES

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

NOTAS AL CALCE

Los datos que aparecen con errores sin explicación obvia son reportados, pero se les señala con una U. Estos datos no fueron utilizados en la determinación de datos a profundidades estándares. Se utilizan las notas al calce para indicar los datos que han requerido un procesamiento especial.

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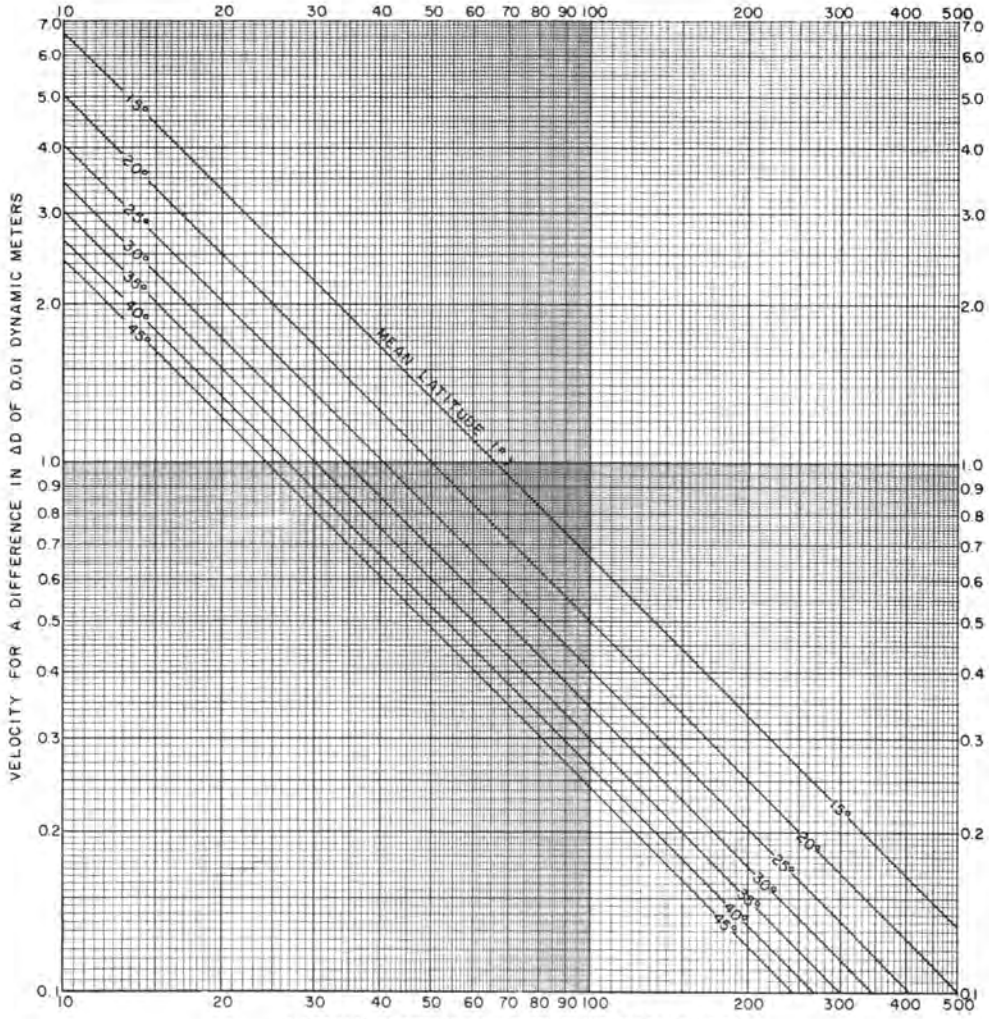

VELOCITY OF GEOSTROPHIC FLOW
(NAUTICAL MILES PER DAY)

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

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

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

FIGURES

Cruise 7803

1. CalCOFI Cruise 7803, station positions
2. Horizontal distribution of dynamic height anomaly (0 over 500 d-bar)
3. Horizontal distribution of dynamic height anomaly (200 over 500 d-bar)
4. Horizontal distribution of temperature at 10 meters
5. Horizontal distribution of salinity at 10 meters
6. Horizontal distribution of thermosteric anomaly at 10 meters
7. Horizontal distribution of temperature at 200 meters
8. Horizontal distribution of salinity at 200 meters
9. Horizontal distribution of thermosteric anomaly at 200 meters

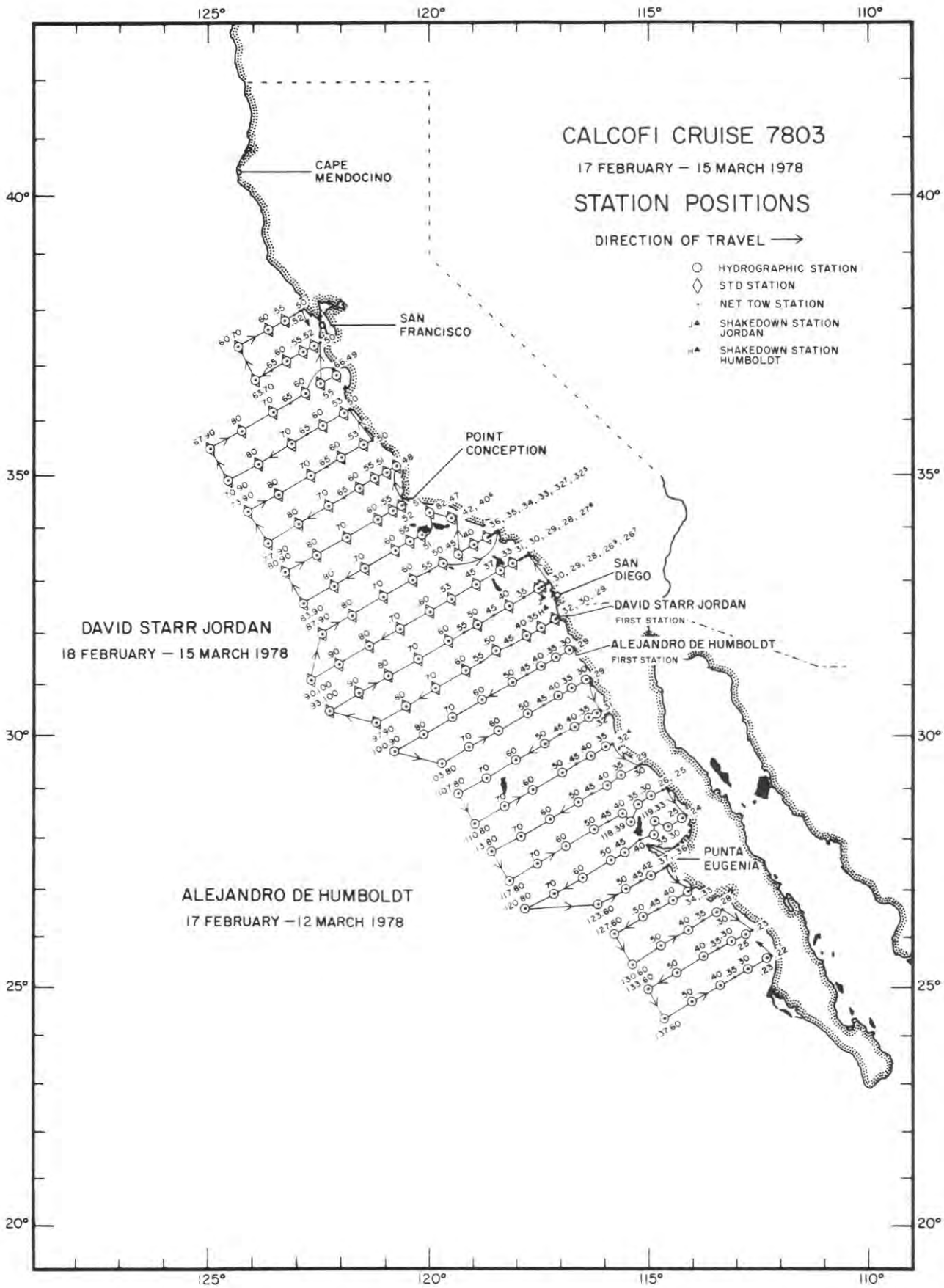
CALCOFI CRUISE 7803
17 FEBRUARY – 15 MARCH 1978
STATION POSITIONS
DIRECTION OF TRAVEL ⟶
HYDROGRAPHIC STATION
STD STATION
NET TOW STATION
SHAKEDOWN STATION JORDAN
SHAKEDOWN STATION HUMBOLDT
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
DAVID STARR JORDAN
FIRST STATION
ALEJANDRO DE HUMBOLDT
FIRST STATION
PUNTA EUGENIA
DAVID STARR JORDAN
18 FEBRUARY – 15 MARCH 1978
ALEJANDRO DE HUMBOLDT
17 FEBRUARY – 12 MARCH 1978
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 1

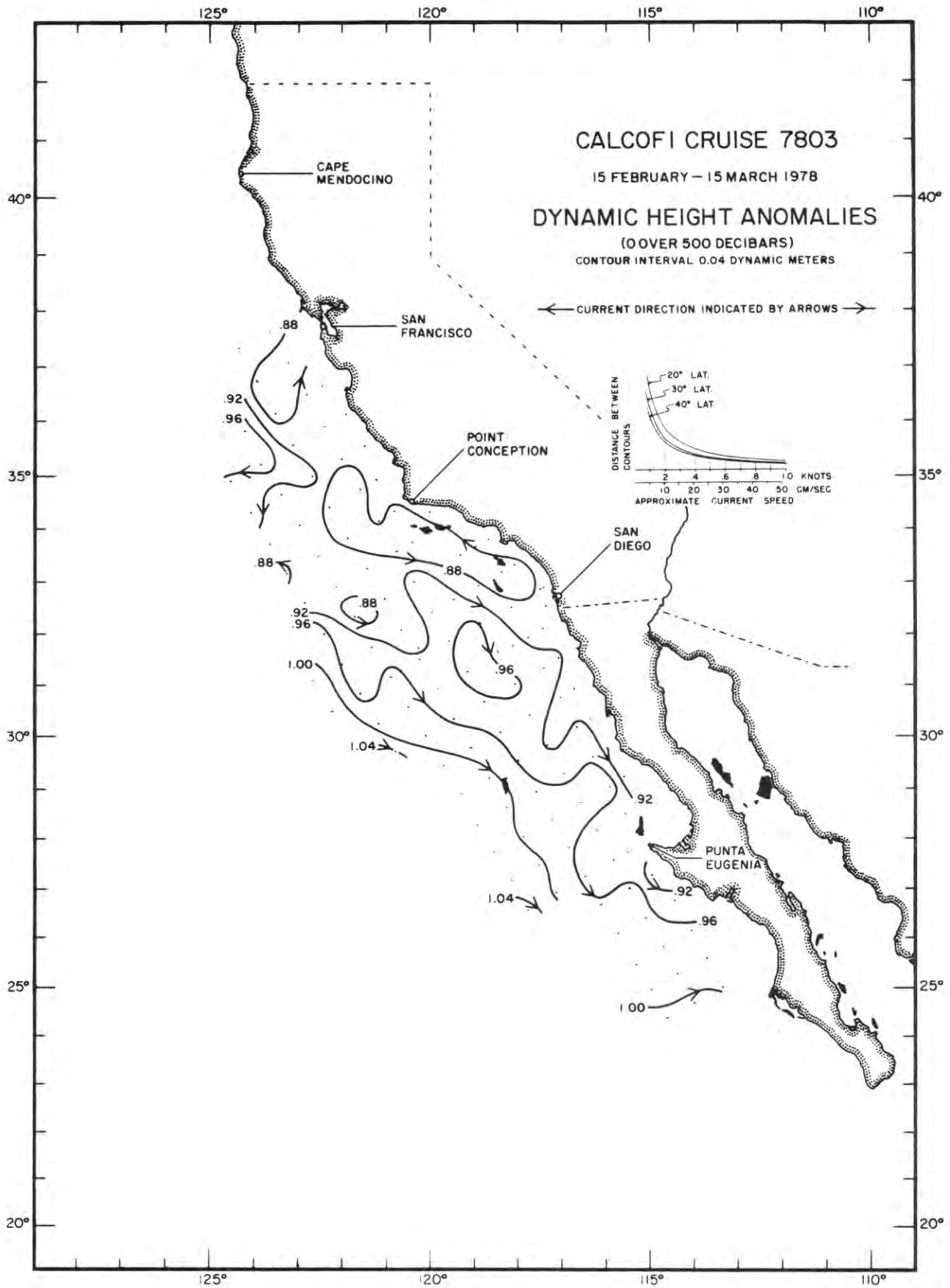
CALCOFI CRUISE 7803
15 FEBRUARY – 15 MARCH 1978
DYNAMIC HEIGHT ANOMALIES
(0 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.04 DYNAMIC METERS
CURRENT DIRECTION INDICATED BY ARROWS
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
DISTANCE BETWEEN CONTOURS
20° LAT.
30° LAT.
40° LAT.
APPROXIMATE CURRENT SPEED
KNOTS
CM/SEC
125°
120°
115°
110°
40°
35°
30°
25°
20°
.88
.92
.96
1.00
1.04

FIGURE 2

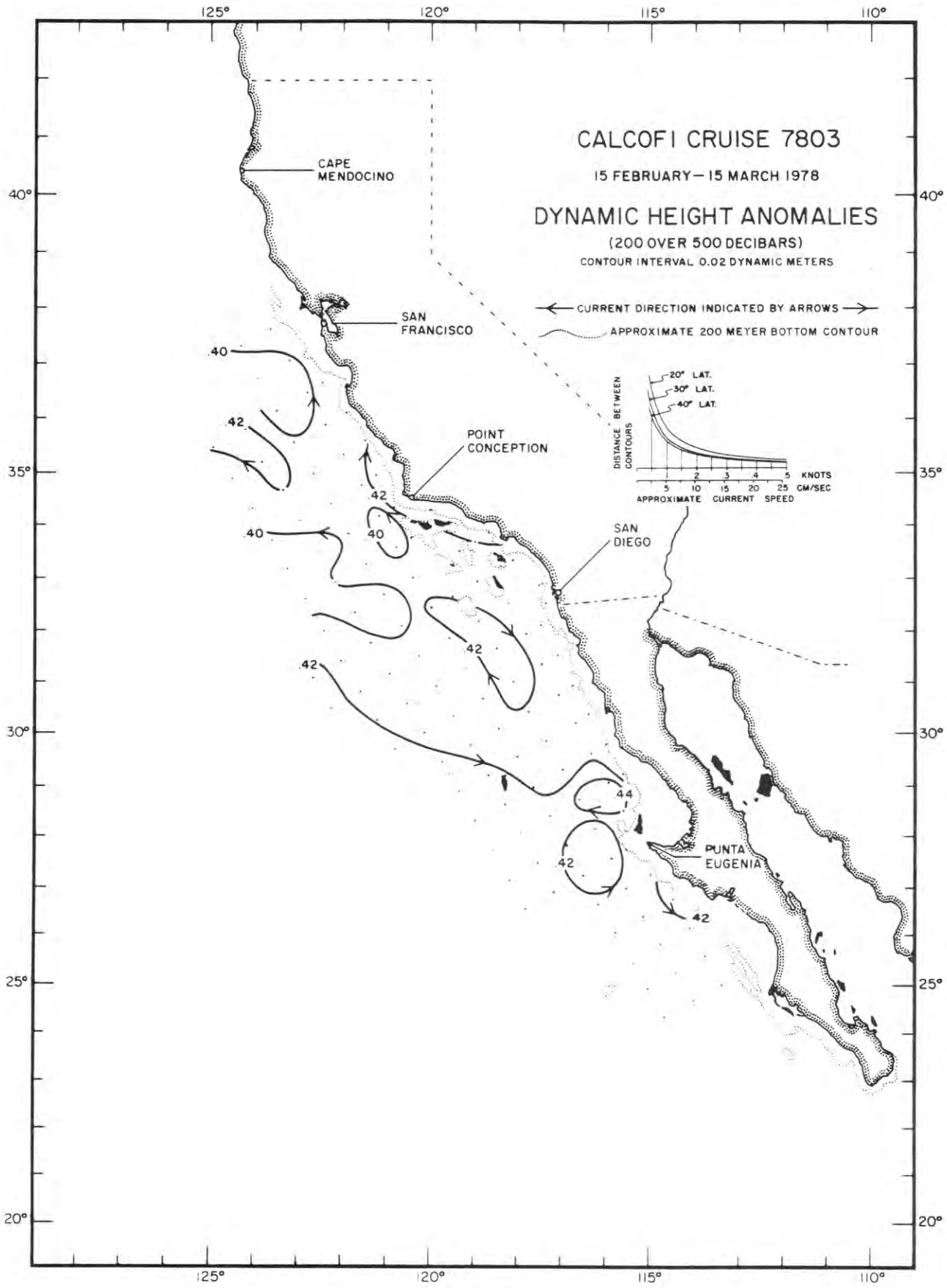
CALCOFI CRUISE 7803
15 FEBRUARY—15 MARCH 1978
DYNAMIC HEIGHT ANOMALIES
(200 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.02 DYNAMIC METERS
CURRENT DIRECTION INDICATED BY ARROWS
APPROXIMATE 200 METER BOTTOM CONTOUR
DISTANCE BETWEEN CONTOURS
20° LAT.
30° LAT.
40° LAT.
KNOTS
CM/SEC
APPROXIMATE CURRENT SPEED
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
125°
120°
115°
110°
40°
35°
30°
25°
20°
40
42
44

FIGURE 3

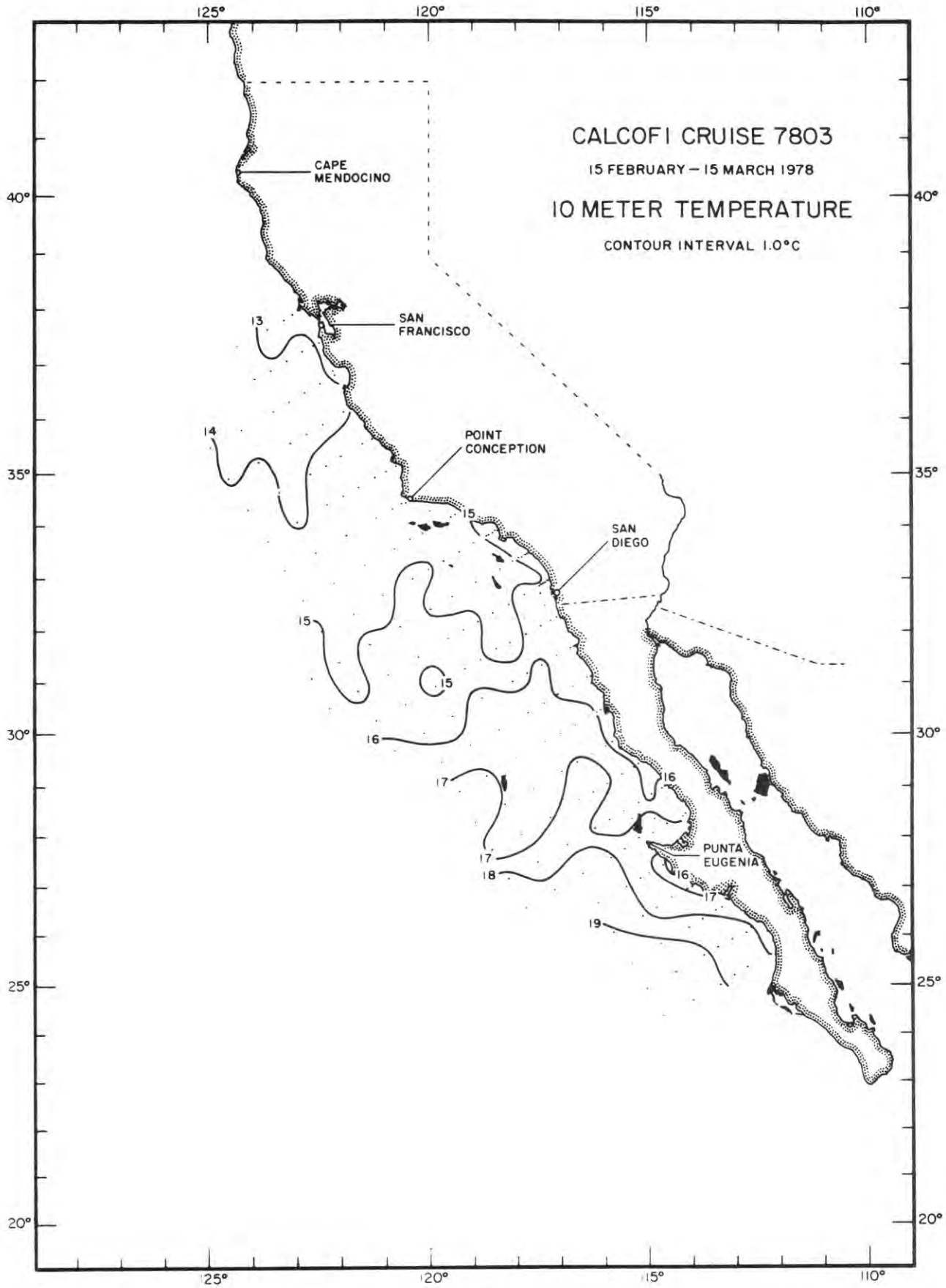
CALCOFI CRUISE 7803
15 FEBRUARY – 15 MARCH 1978
10 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
125°
120°
115°
110°
40°
35°
30°
25°
20°
13
14
15
15
15
16
17
16
17
18
16
17
19

FIGURE 4

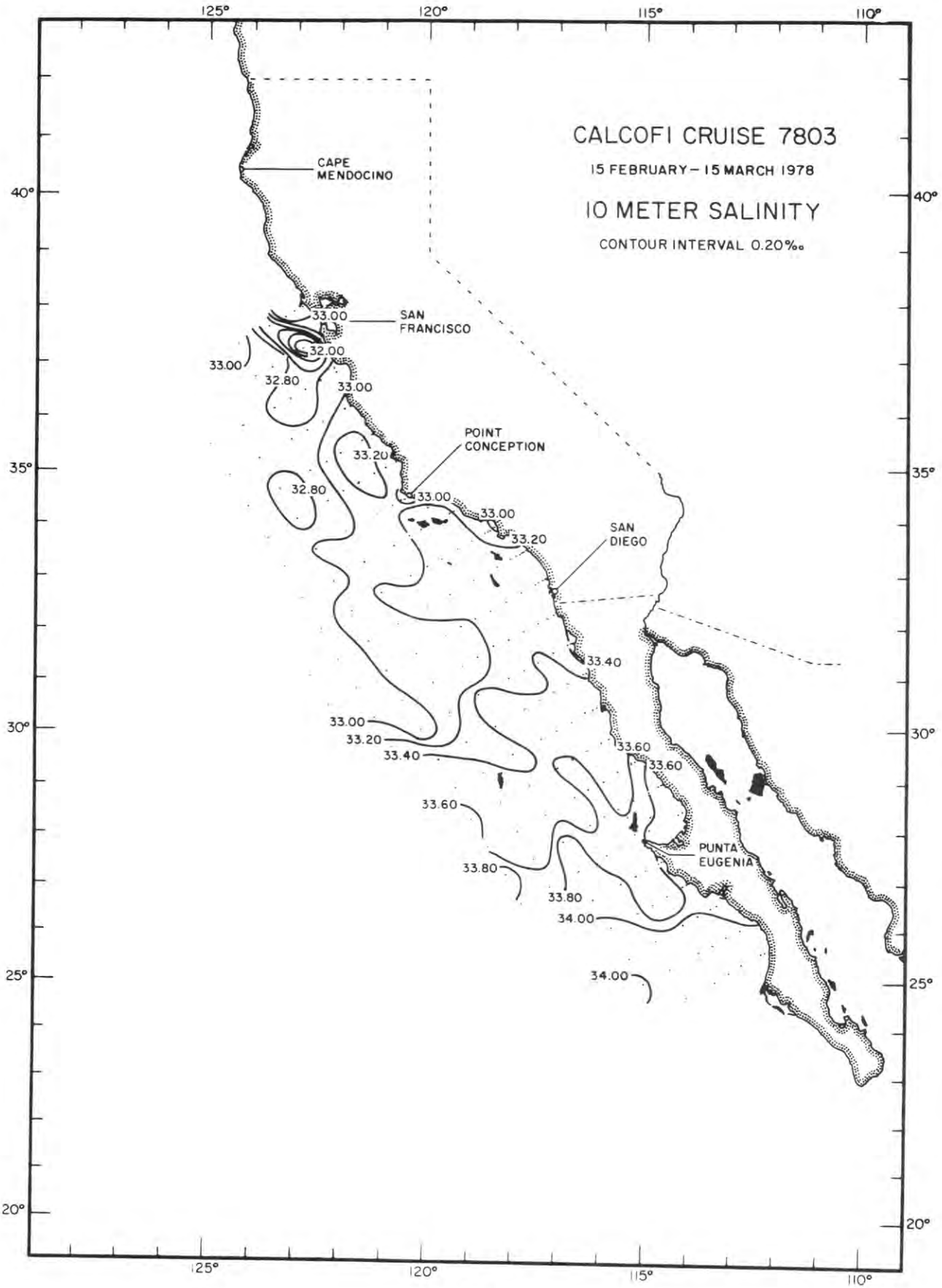
CALCOFI CRUISE 7803
15 FEBRUARY – 15 MARCH 1978
10 METER SALINITY
CONTOUR INTERVAL 0.20‰
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
33.00
32.00
32.80
33.20
33.40
33.60
33.80
34.00
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 5

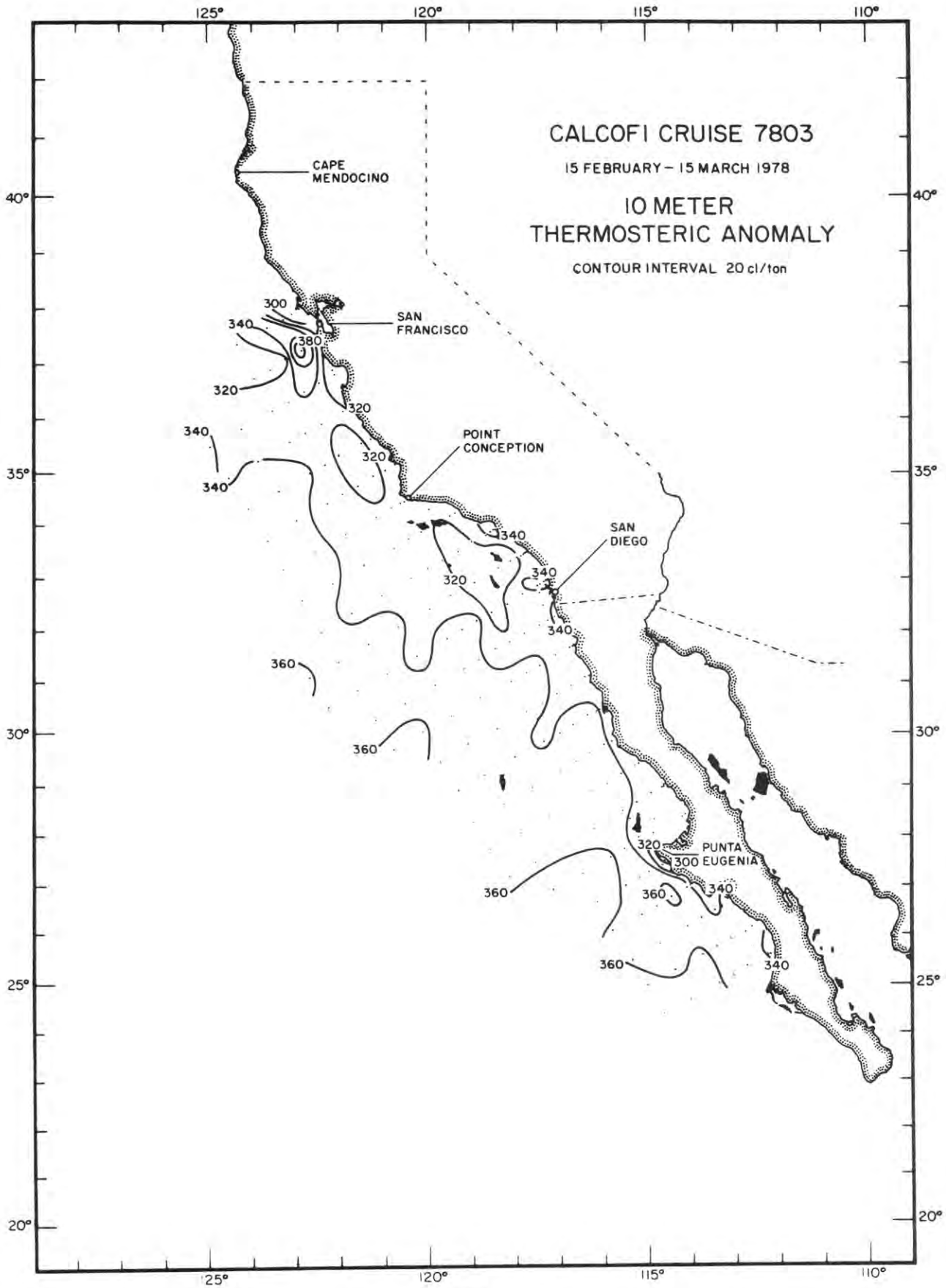
CALCOFI CRUISE 7803
15 FEBRUARY – 15 MARCH 1978
10 METER
THERMOSTERIC ANOMALY
CONTOUR INTERVAL 20 cl/ton
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
125°
120°
115°
110°
40°
35°
30°
25°
20°
300
340
380
320
320
340
340
320
340
320
340
340
360
360
320
300
340
360
360
340

FIGURE 6

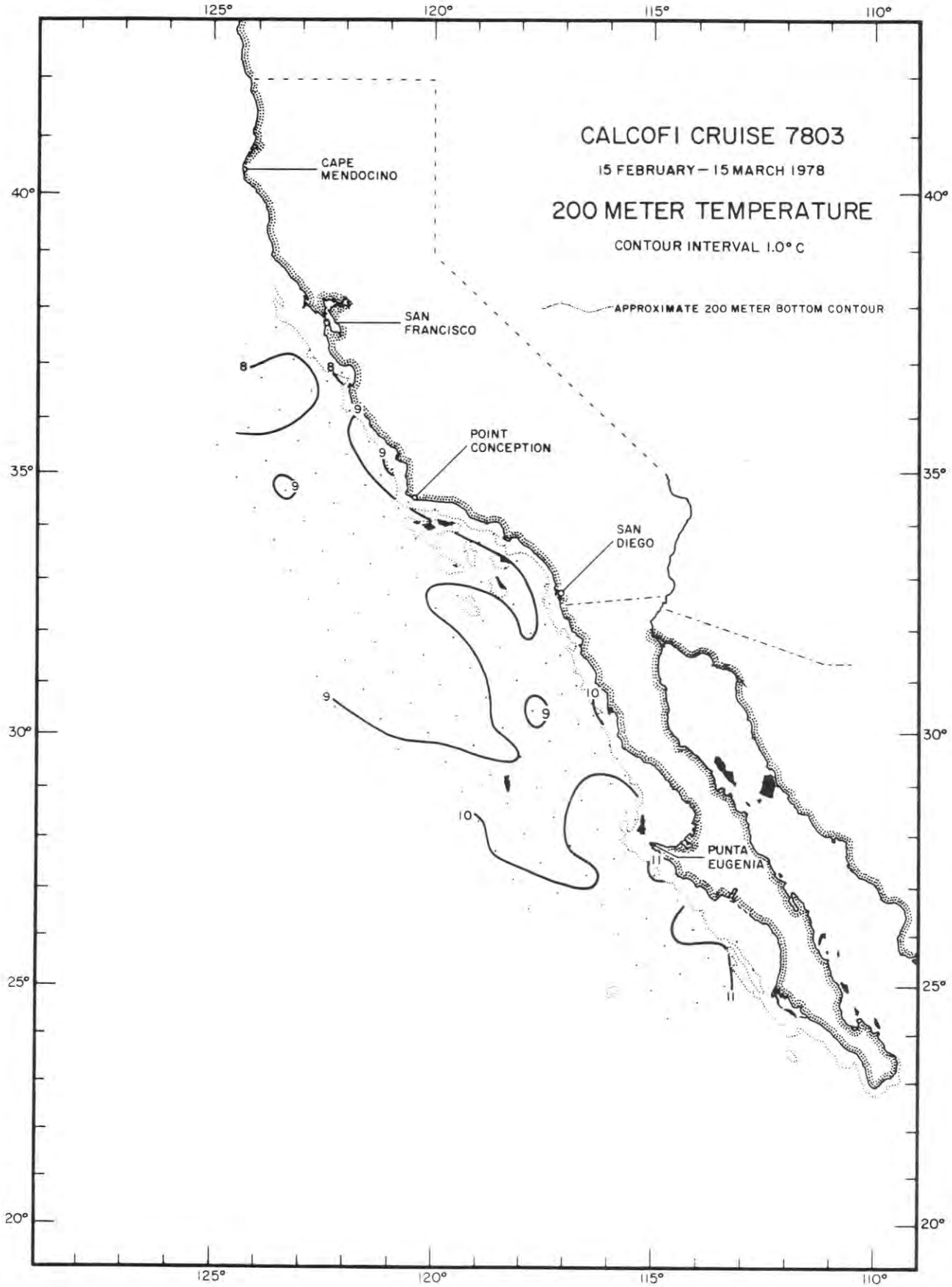
CALCOFI CRUISE 7803
15 FEBRUARY – 15 MARCH 1978
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0° C
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
125°
120°
115°
110°
40°
35°
30°
25°
20°
8
9
10
11

FIGURE 7

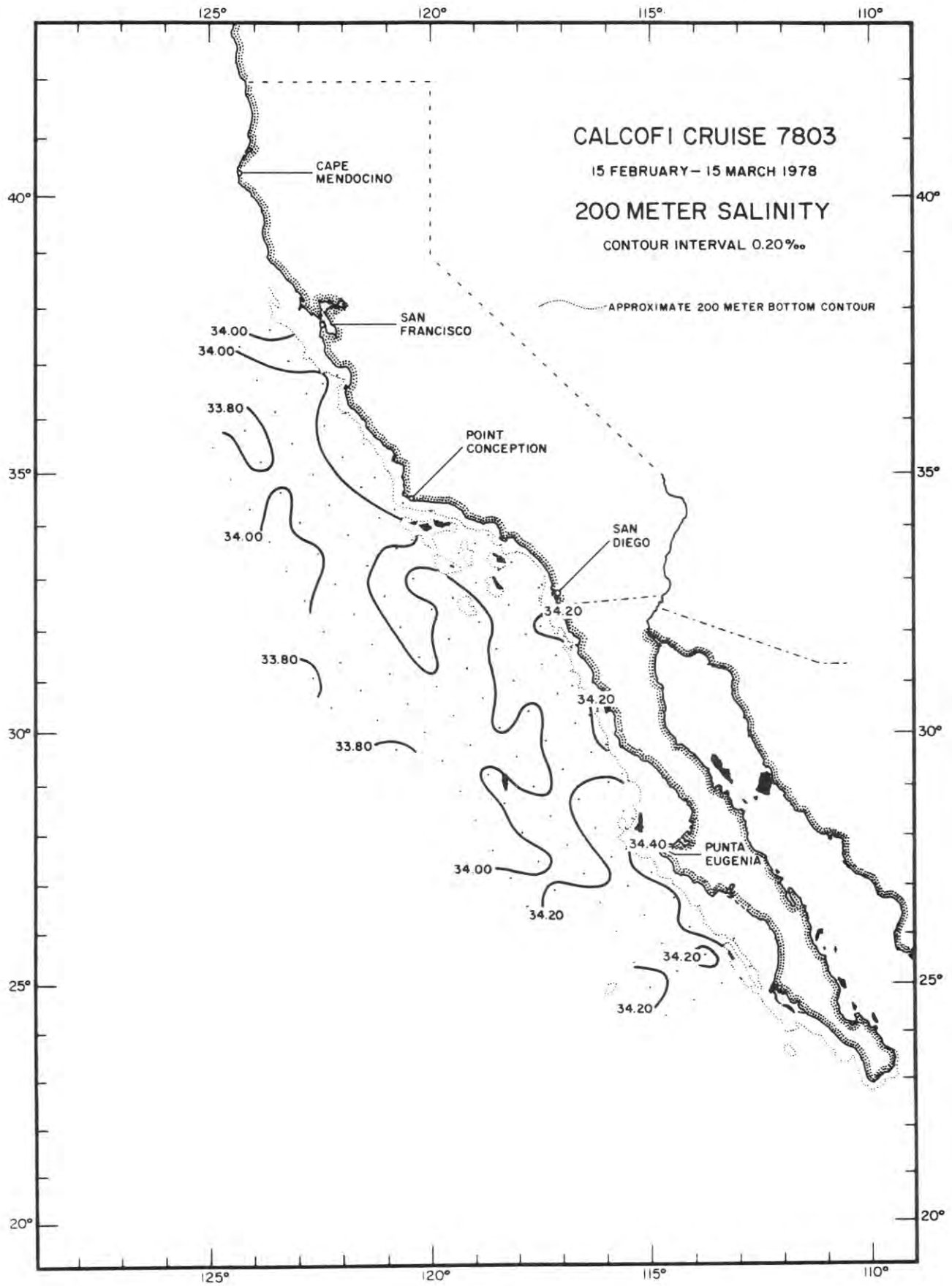
CALCOFI CRUISE 7803
15 FEBRUARY– 15 MARCH 1978
200 METER SALINITY
CONTOUR INTERVAL 0.20‰
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
34.00
34.00
33.80
34.00
33.80
33.80
34.20
34.20
34.40
34.00
34.20
34.20
34.20
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 8

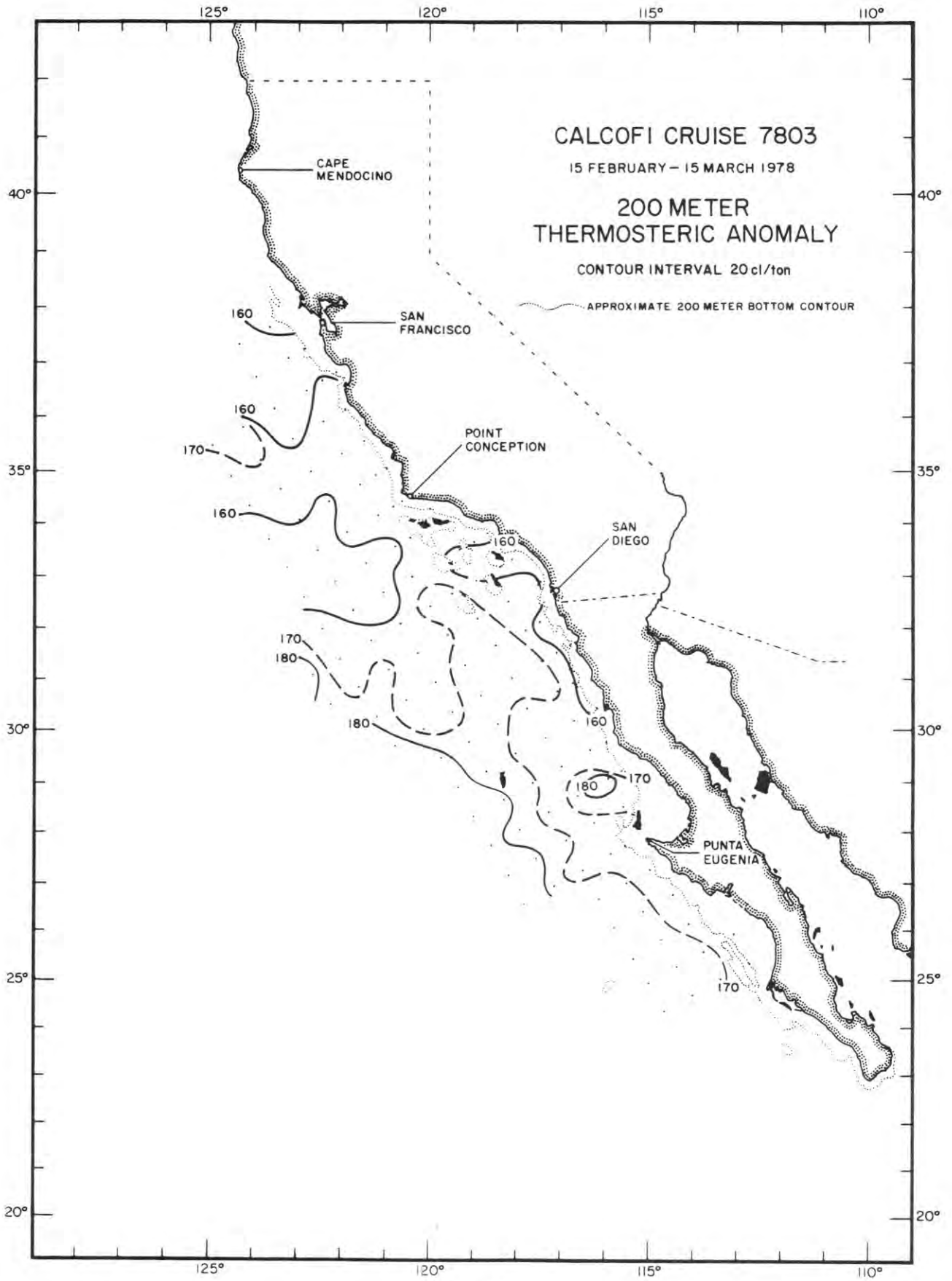
CALCOFI CRUISE 7803
15 FEBRUARY – 15 MARCH 1978
200 METER
THERMOSTERIC ANOMALY
CONTOUR INTERVAL 20 cl/ton
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
125°
120°
115°
110°
40°
35°
30°
25°
20°
160
170
180

FIGURE 9

PERSONNEL

Cruise 7803

SHIP'S CAPTAINS

Zatarain, José M. RV Alejandro de Humboldt
Roll, Milton RV David Starr Jordan

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

RV Alejandro de Humboldt:

Mead, Richard V. (in charge)	Marine Technician DCPG*
Ancheita A., Azael	Marine Technician INP
Lehmann, Virginia D.	Staff Research Associate DCPG
Martinez, Luis Arturo	Marine Technician INP
Nishimoto, Robert N.	Fishery Biologist NMFS
Patrick, Ronald G.	Marine Technician DCPG
Rowe, Raymond A.	Marine Technician DCPG
Sandoval T., Eliseo S.	Oceanologist INP
Stallard, Martha O.	Staff Research Associate DCPG
Vidal Talamantes, Ricardo J.	Oceanologist INP

RV David Starr Jordan:

Anderson, George C. (in charge)	Staff Research Associate DCPG
Beede, Timothy E.	Biological Technician NMFS
Conway, Carol	Engineering Aide DCPG
Gallegos, Eyssy	Electronics Technician INP
Johnson, Treve L.	Marine Technician DCPG
Lett, Patrick F.	Fisheries Scientist MFD/DFE-Canada
Majors, Anthony	Fishery Biologist NMFS
McConaghy, David C.	NOAA Corps Officer NMFS
Metoyer, Jack D.	Biological Lab Technician NMFS
O'Boyle, Robert N.	Systems Ecologist MFD/DFE-Canada
Plummer, Kenneth M.	Laboratory Assistant MLRG
Rasmussen, Randall C.	Biological Technician NMFS
Roberts, Penny E.	Staff Research Associate DCPG
Schmitt, James A.	Electronics Technician GOG
Sweet, Paul R.	Marine Technician DCPG

*DCPG: Now Physical & Chemical Oceanographic Data Facility (PACODF)

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 60055

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
37 47.0N	123 15.0W	3/15/78	1221 GMT	172M	310	17KT	1	300 2 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	12.07	33.092	5.60	0.79	11.	0.21	6.8	285.6	0	12.07	33.092	5.60	25.117	285.6	0.000
10	12.06	33.093	5.60	0.78	10.	0.15	6.8	285.4	10	12.06	33.093	5.60	25.120	285.4	0.029
29	12.05	33.112	5.57	0.73	10.	0.21	7.1	283.8	20	12.05	33.104	5.59	25.128	284.6	0.057
39	12.05	33.123	5.55	0.73	10.	0.17	7.4	283.0	30	12.05	33.115	5.57	25.137	283.8	0.086
54	11.89	33.172	5.38	0.78	11.	0.22	8.3	276.5	50	11.95	33.155	5.46	25.186	279.1	0.142
69	11.47	33.320	4.76	0.96	12.	0.15	11.3	258.2	75	11.21	33.387	4.53	25.502	249.0	0.208
83	10.82	33.476	4.21	1.19	17.	0.11	15.0	235.6	100	9.85	33.688	3.43	25.975	204.1	0.265
100	9.85	33.688	3.43	1.60	25.	0.11	20.6	204.1							
118	8.83	33.940	2.67	1.93	34.	0.13	25.7	169.7							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 60060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
37 37.4N	123 37.0W	3/15/78	0737 GMT	3259M	330	19KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	12.96	32.464	6.24	0.46	9.	0.09	1.8	348.1	0	12.96	32.464	6.24	24.462	348.1	0.000
11	12.96	32.466	6.28	0.45	10.	0.10	2.0	348.0	10	12.96	32.469	6.28	24.463	348.0	0.035
29	12.98	32.745	6.32	0.32	7.	0.01	0.3	327.8	20	12.97	32.595	6.30	24.558	338.9	0.069
53	13.11	32.944	6.15	0.26	5.	0.00	0.2	315.6	30	12.99	32.753	6.31	24.677	327.5	0.103
62	12.80	33.062	5.76	0.39	7.	0.07	3.8	301.1	50	13.09	32.914	6.17	24.780	317.7	0.167
72	12.14	33.234	5.01	0.65	11.	0.12	7.1	276.4	75	11.98	33.265	4.93	25.267	271.4	0.241
86	11.28	33.337	4.76	0.88	13.	0.05	12.1	253.7	100	9.83	33.460	4.32	25.801	220.6	0.303
100	9.83	33.460	4.32	1.15	19.	0.02	17.4	220.6	125	9.91	33.750	3.42	26.011	200.6	0.356
123	9.93	33.736	3.46	1.40	23.	0.02	20.8	201.8	150	9.52	33.860	3.04	26.162	186.3	0.406
142	9.68	33.820	3.17	1.55	26.	0.05	22.7	191.6	200	8.50	33.969	2.80	26.411	162.6	0.494
165	9.19	33.918	2.85	1.78	31.	0.00	25.1	176.7	250	8.01	34.071	2.24	26.563	148.2	0.574
193	8.53	33.945	2.91	1.80	35.	0.04	26.0	164.9	300	7.51	34.115	1.76	26.672	137.8	0.648
221	8.45	34.039	2.41	1.95	39.		27.2	156.7	400	6.54	34.149	1.03	26.832	122.6	0.783
259	7.86	34.073	2.21	2.20	45.	0.06	30.3	145.8	500	5.84	34.200	0.61	26.962	110.3	0.906
315	7.40	34.126	1.58	2.42	53.	0.07	33.2	135.5							
385	6.66	34.139	1.12	2.64	63.	0.11	35.5	124.8							
456	6.13	34.182	0.75	2.85	75.	0.07	38.7	115.0							
533	5.64	34.207	0.55	3.00	79.	0.01	40.8	107.4							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 60070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
37 19.0N	124 17.5W	3/15/78	0128 GMT	3919M	340	23KT	1	320 10 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	13.36	33.024	6.15	0.26	4.	0.02	0.5	314.5	0	13.36	33.024	6.15	24.814	314.5	0.000
12	13.35	33.013	6.13	0.32	4.	0.02	0.5	315.1	10	13.35	33.017	6.13	24.808	315.0	0.031
29	13.33	33.010	5.97	0.30	4.	0.02	0.5	315.0	20	13.34	33.014	6.05	24.808	315.0	0.063
54	13.27	33.008	6.06	0.32	4.	0.03	0.7	314.0	30	13.33	33.012	5.97	24.810	314.9	0.095
63	13.24	33.006	6.10	0.36	5.	0.03	0.8	313.5	50	13.28	33.011	6.05	24.818	314.2	0.158
72	13.12	33.027	5.95	0.42	5.	0.06	1.4	309.7	75	12.79	33.076	5.76	24.966	300.1	0.235
86	11.27	33.273	4.99	0.92	11.	0.04	11.0	258.2	100	9.95	33.374	4.61	25.714	228.9	0.301
100	9.95	33.374	4.61	1.22	17.	0.02	16.3	228.9	125	8.98	33.439	4.47	25.922	209.1	0.357
125	8.98	33.439	4.47		21.	0.02	19.3	209.1	150	8.79	33.754	3.60	26.196	183.1	0.406
142	8.88	33.669	3.76		27.	0.01	23.7	190.5	200	8.33	34.016	2.79	26.472	156.8	0.493
166	8.61	33.880	3.38	1.50	31.	0.00	25.7	170.9	250	7.44	34.001	3.07	26.593	145.4	0.570
194	8.40	34.007	2.78	1.87	36.	0.00	28.3	158.4	300	6.65	33.993	2.75	26.695	135.7	0.643
221	8.03	34.017	2.82	2.00	38.	0.01	28.8	152.3	400	6.34	34.126	1.16	26.839	122.0	0.776
258	7.27	33.995	3.13	2.06	43.	0.00	29.5	143.5	500	5.65	34.198	0.67	26.984	108.3	0.898
313	6.52	33.997	2.54	2.34	52.	0.01	32.8	133.7							
382	6.46	34.110	1.30	2.70	62.	0.01	37.2	124.5							
450	5.96	34.156	0.92	2.93	71.	0.01	39.7	115.0							
523	5.53	34.217	0.56	3.08	81.	0.00	41.6	105.3							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 63052

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
37 19.0N	122 36.0W	3/14/78	0312 GMT	86M	320	25KT	2	250 4 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.26	31.925	6.20		13.	0.25	2.8	393.4	0	13.26	31.925	6.20	23.987	393.4	0.000
12	13.11	32.019	6.13		13.	0.27	2.7	383.6	10	13.13	32.001	6.14	24.069	385.6	0.039
20	13.06	32.429	6.13		9.	0.26	2.2	352.5	20	13.06	32.429	6.13	24.415	352.5	0.076
30	12.90	32.779	6.00		6.	0.05	0.5	323.8	30	12.90	32.779	6.00	24.716	323.8	0.110
50	11.26	33.006	5.60		8.	0.25	5.8	277.7	50	11.26	33.006	5.60	25.200	277.7	0.170
74	10.00	33.326	4.59		16.	0.22	13.2	233.2	75	9.98	33.327	4.59	25.672	232.8	0.234

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 63055

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
37 13.0N	122 50.0W	3/14/78	0558 GMT	290M	320	20KT	1	310 3 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	13.20	31.927	6.20	0.37	10.	0.13	1.9	392.1	0	13.20	31.927	6.20	24.000	392.1	0.000
10	13.21	31.937	6.23	0.33	10.	0.17	1.9	391.6	10	13.21	31.937	6.23	24.006	391.6	0.039
29	13.12	32.683	6.24	0.23	4.	0.10	0.8	335.0	20	13.16	32.298	6.24	24.291	364.4	0.077
44	12.59	32.829	6.05	0.25	4.	0.11	1.9	314.4	30	13.10	32.703	6.23	24.615	333.4	0.112
53	11.90	32.885	5.92	0.35	6.	0.12	3.9	297.8	50	12.16	32.868	5.98	24.924	304.0	0.176
67	10.20	33.070	5.31	0.71	11.	0.10	10.9	255.4	75	9.52	33.218	4.92	25.662	233.8	0.243
82	9.12	33.334	4.62	1.06	18.	0.07	16.9	219.0	100	9.15	33.461	4.33	25.911	210.1	0.299
101	9.15	33.466	4.32	1.20	20.	0.06	18.4	209.6	125	9.31	33.728	3.50	26.095	192.7	0.350
125	9.31	33.728	3.50	1.46	25.	0.06	22.1	192.7	150	9.18	33.863	3.03	26.219	180.8	0.398
144	9.24	33.832	3.13	1.62	28.	0.14	23.0	183.9	200	8.45	34.042	2.25	26.474	156.6	0.484
177	8.83	33.974	2.60	1.88	34.	0.11	26.7	167.1	250	7.73	34.104	1.66	26.632	141.7	0.560
205	8.37	34.052	2.18	2.11	41.		26.8	154.6							
244	7.79	34.102	1.88	2.20	48.		30.3	142.6							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 63060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
37 03.0N	123 12.0W	3/14/78	1005 GMT	2595M	320	21KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	13.09	32.880	6.15	0.44	7.	0.05	1.2	320.0	0	13.09	32.880	6.15	24.757	320.0	0.000
10	13.08	32.880	6.08	0.44	7.	0.00	1.2	319.8	10	13.08	32.880	6.08	24.759	319.8	0.032
29	13.09	32.880	6.13	0.46	7.	0.01	1.1	320.0	20	13.09	32.883	6.11	24.758	319.9	0.064
37	13.06	32.908	6.18	0.40	6.	0.14	0.4	317.3	30	13.09	32.886	6.14	24.760	319.7	0.096
53	12.96	32.940		0.43	7.	0.06	1.6	313.1	50	12.98	32.937	6.02	24.823	313.7	0.160
66	11.63	33.361	4.75	0.97	12.	0.03	11.3	258.0	75	11.18	33.491	4.39	25.588	240.8	0.229
90	10.72	33.554	4.10	1.35	17.	0.00	16.5	228.1	100	10.26	33.577	3.98	25.818	219.0	0.287
108	9.89	33.592	3.89	1.54	21.	0.00	19.5	211.8	125	9.19	33.708	3.58	26.097	192.4	0.339
127	9.12	33.720	3.55	1.73	26.	0.03	22.8	190.3	150	8.65	33.806	3.38	26.259	177.1	0.386
146	8.71	33.774	3.49	1.88	29.	0.00	24.4	180.2	200	8.01	34.025	2.66	26.529	151.5	0.470
174	8.38	33.988	2.68	2.03	36.		26.7	159.5	250	7.69	34.096	2.00	26.631	141.8	0.545
206	7.93	34.023	2.65	2.13	40.		29.2	150.5	300	7.37	34.142	1.49	26.713	133.9	0.616
234	7.77	34.069	2.24	2.23	44.		30.5	144.8	400	6.46	34.150	1.01	26.843	121.6	0.749
280	7.52	34.133	1.61	2.37	50.		32.5	136.6	500	5.71	34.231	0.53	27.003	106.4	0.869
332	7.09	34.143	1.36	2.57	56.		34.6	130.1							
411	6.36	34.152	0.95	2.67	66.		38.2	120.1							
492	5.76	34.225	0.56	2.77	79.		40.0	107.4							
572	5.31	34.269	0.36	2.99	87.		41.8	98.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 63070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
36 43.0N	123 55.0W	3/14/78	1737 GMT	3731M	330	24KT	1	320 6 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	13.15	32.937	6.07	0.31	5.	0.05	0.7	316.9	0	13.15	32.937	6.07	24.789	316.9	0.000
11	13.11	32.938	6.14	0.33	5.	0.03	0.8	316.1	10	13.11	32.940	6.14	24.797	316.1	0.032
30	13.12	32.945	6.07	0.32	5.	0.02	0.7	315.7	20	13.11	32.944	6.11	24.799	315.9	0.063
54	12.78	32.970	5.93	0.35	6.	0.00	1.2	307.5	30	13.12	32.945	6.07	24.801	315.7	0.095
63	10.63	33.020	5.42	0.60	9.	0.04	6.6	266.1	50	12.84	32.968	5.95	24.873	308.9	0.158
73	10.07	33.105	5.20	0.73	11.	0.03	9.3	250.7	75	9.94	33.116	5.18	25.512	248.1	0.228
87	9.30	33.164	5.08	0.96	15.	0.07	12.9	234.3	100	9.06	33.269	4.73	25.776	223.0	0.287
101	9.05	33.276	4.70	1.21	18.	0.02	16.6	222.2	125	9.03	33.524	4.11	25.981	203.5	0.341
125	9.03	33.524	4.11	1.36	22.	0.02	19.5	203.5	150	8.62	33.754	3.50	26.222	180.5	0.389
143	8.73	33.702	3.62	1.56	27.	0.02	22.7	185.8	200	7.85	33.945	3.54	26.488	155.3	0.475
167	8.37	33.844	3.35	1.73	31.	0.00	24.1	170.0	250	7.15	33.992	3.04	26.627	142.2	0.551
194	7.94	33.928	3.59	1.78	34.	0.08	24.3	157.7	300	6.53	34.002	2.36	26.717	133.6	0.622
222	7.55	33.984	3.26	1.84	39.	0.00	26.3	148.1	400	6.38	34.179	0.81	26.877	118.4	0.753
259	7.02	33.989	2.97	1.97	45.	0.02	27.8	140.7	500	5.61	34.209	0.53	26.998	106.9	0.871
315	6.41	34.012	2.10	2.21	56.	0.13	31.3	131.2							
384	6.46	34.165	0.92	2.49	64.	0.05	34.2	120.4							
455	5.97	34.197	0.64	2.65	72.		36.2	112.0							
531	5.34	34.212	0.49	2.76	84.		37.8	103.6							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 67050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
36 48.0N	122 05.0W	3/13/78	1647 GMT	270M	050	7KT	1	270 3 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	12.77	32.821	6.04	0.26	5.	0.08	2.3	318.3	0	12.77	32.821	6.04	24.774	318.3	0.000
10	12.72	32.822	6.01	0.21	5.	0.10	2.4	317.3	10	12.72	32.822	6.01	24.785	317.3	0.032
29	12.96	32.947	6.24	0.19	5.	0.15	2.6	312.6	20	12.85	32.890	6.13	24.811	314.8	0.063
42	11.62	33.086	5.54	0.35	8.	0.12	7.2	278.1	30	12.84	32.954	6.20	24.861	310.0	0.095
52	12.15 A	33.382	4.90	0.49	10.	0.07	9.5	265.7	50	12.02	33.327	5.02	25.308	267.5	0.153
66	11.67	33.412	4.66	0.60	12.	0.03	11.6	254.9	75	11.23	33.445	4.48	25.545	244.9	0.217
80	10.96	33.467	4.36	0.81	14.	0.03	14.5	238.6	100	9.88	33.617	3.78	25.915	209.8	0.274
100	9.88	33.617	3.78	1.13	21.	0.01	19.7	209.8	125	9.37	33.833	3.01	26.167	185.8	0.324
125	9.37	33.833	3.01	1.50	28.	0.03	24.2	185.8	150	8.76	33.985	2.50	26.382	165.4	0.369
144	8.87	33.961	2.59	1.71	34.	0.02	27.1	168.7	200	7.87	34.067	1.92	26.582	146.4	0.448
177	8.33	34.040	2.18	2.00	40.	0.00	29.7	154.9	250	7.41	34.112	1.55	26.684	136.7	0.521
206	7.76	34.071	1.86	2.29	47.	0.00	32.2	144.5							
244	7.48	34.104	1.61	2.49	52.	0.00	34.2	138.2							

A) TEMPERATURE, GOOD TO 0.05 DEGREES, INFERRED FROM PRESSURE THEROMETER AND WIRE DEPTH. THE GRADIENT IS CONFIRMED BY THE CTDO LOWERING ON THE STATION.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 67055

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
36 39.0N	122 26.0W	3/13/78	2023 GMT	2037M	320	9KT	2	310 3 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.36	32.832	6.10	0.47	4.	0.11	0.6	328.6	0	13.36	32.832	6.10	24.666	328.6	0.000
11	13.28	32.827	6.13	0.47	4.	0.11	0.7	327.4	10	13.29	32.830	6.13	24.677	327.6	0.033
30	13.24	32.833	6.29	0.42	4.	0.11	0.7	326.3	20	13.26	32.836	6.24	24.687	326.6	0.066
39	13.25	32.833	6.12	0.44	4.	0.10	0.7	326.4	30	13.24	32.833	6.29	24.691	326.3	0.098
49	13.20	32.846	6.12	0.34	4.	0.10	0.9	324.5	50	13.09	32.853	6.10	24.735	322.1	0.163
63	11.22	32.919	5.77	0.58	6.	0.11	5.2	283.5	75	9.99	32.938	5.67	25.365	262.0	0.237
77	9.87	32.947	5.64	0.72	9.	0.04	8.1	259.2	100	10.51	33.475	4.28	25.695	230.7	0.299
95	10.56	33.416	4.48	1.05	14.	0.03	13.1	235.7	125	10.14	33.669	3.72	25.910	210.2	0.354
118	10.34	33.641	3.83	1.30	18.	0.03	17.1	215.4	150	9.04	33.728	3.65	26.137	188.6	0.405
137	9.70	33.694	3.62	1.49	22.	0.03	19.3	201.2	200	8.21	33.894	3.43	26.395	164.1	0.495
165	8.38	33.770	3.68	1.64	29.	0.02	22.2	175.7	250	7.33	33.969	3.13	26.582	146.4	0.574
193	8.29	33.860	3.55	1.69	31.	0.01	23.5	167.7	300	7.34	34.072	2.07	26.661	138.9	0.648
220	7.91	33.971	3.11	1.83	37.	0.01	25.9	154.1	400	6.73	34.183	0.86	26.833	122.5	0.784
258	7.20 A	33.961	3.13	1.94	42.	0.02	27.3	145.1	500	6.01	34.222	0.55	26.958	110.7	0.907
314	7.39	34.103	1.65	2.28	50.	0.02	31.1	137.1							
384	6.85	34.175	0.94	2.58	60.	0.02	34.3	124.6							
454	6.34	34.199	0.69	2.74	69.	0.02	36.2	116.4							
532	5.79	34.239	0.46	2.80	77.	0.01	37.8	106.7							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 67060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
36 28.0N	122 47.0W	3/11/78	2329 GMT	2879M	320	16KT	6	310 3 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.80	32.745	6.17	0.33	3.	0.01	0.0	343.5	0	13.80	32.745	6.17	24.510	343.5	0.000
11	13.65	32.738	6.12	0.56	3.	0.01	0.0	341.1	10	13.66	32.741	6.12	24.533	341.3	0.034
30	13.59	32.750	6.23	0.35	3.	0.01	0.0	339.0	20	13.62	32.746	6.17	24.545	340.1	0.068
54	13.40	33.036	6.09	0.32	3.	0.26	0.3	314.4	30	13.59	32.750	6.23	24.557	339.0	0.102
63	13.42	33.131	5.97	0.38	3.	0.37	0.8	307.8	50	13.42	32.982	6.11	24.767	319.0	0.168
72	13.43	33.345	5.56	0.45	5.	0.23	2.8	292.3	75	13.14	33.320	5.55	25.085	288.7	0.245
87	11.50	33.099	5.52	0.58	7.	0.08	5.9	275.0	100	9.89	33.030	5.48	25.454	253.6	0.313
101	9.79	33.028	5.47	0.74	10.	0.04	10.1	252.0	125	9.47	33.232	4.97	25.680	232.1	0.374
124	9.51	33.219	4.99	1.02	14.	0.03	13.6	233.5	150	8.82	33.541	4.28	26.026	199.2	0.429
143	8.84	33.440	4.54	1.20	20.	0.02	17.4	206.9	200	7.94	33.930	3.49	26.464	157.6	0.520
166	8.76	33.734	3.74	1.47	25.	0.02	21.9	183.9	250	7.23	34.005	2.76	26.625	142.3	0.596
194	8.07	33.909	3.56	1.67	32.	0.02	23.9	160.9	300	6.57	33.997	2.32	26.708	134.4	0.668
222	7.52	33.973	3.19	1.81	39.	0.04		148.5	400	5.56	34.039	1.36	26.870	119.1	0.799
260	7.14	34.008	2.62	1.99	45.	0.01	29.2	140.8	500	5.26	34.158	0.67	26.999	106.8	0.917
316	6.34	33.989	2.23	2.15	55.	0.00	32.0	132.0							
386	5.64	34.026	1.48	2.52	68.	0.02	36.0	120.9							
456	5.35	34.097	0.95	2.75	77.	0.01	39.1	112.3							
531	5.24	34.207	0.50	2.98	85.	0.00	40.6	102.8							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 67070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
36 08.0N	123 29.5W	3/11/78	1633 GMT	3447M	280	12KT	1	280 5 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	13.26	32.745	6.14	0.26	3.	0.03	0.2	333.1	0	13.26	32.745	6.14	24.619	333.1	0.000
11	13.26	32.740	6.16	0.23	3.	0.02	0.1	333.5	10	13.26	32.743	6.16	24.615	333.4	0.033
29	13.27	32.740	6.30	0.20	3.	0.02	0.1	333.7	20	13.27	32.743	6.24	24.614	333.6	0.067
53	13.01	32.921	6.03	0.19	4.	0.40	0.6	315.4	30	13.26	32.750	6.29	24.621	332.9	0.100
62	12.07	33.038	5.70	0.39	6.	0.17	4.9	289.6	50	13.04	32.901	6.06	24.780	317.7	0.165
72	10.79	33.118	5.19	0.74	10.	0.05	9.9	261.5	75	10.45	33.155	5.06	25.457	253.3	0.237
86	9.44	33.284	4.68	1.03	17.	0.06	15.8	227.6	100	8.88	33.400	4.37	25.907	210.5	0.295
100	8.88	33.400	4.37	1.28	22.	0.16	19.0	210.5	125	8.57	33.659	3.74	26.156	186.8	0.346
123	8.58	33.640	3.78	1.40	27.	0.07	22.7	188.2	150	8.39	33.828	3.27	26.316	171.6	0.391
142	8.49	33.783	3.40	1.65	30.	0.07	24.5	176.3	200	7.63	33.977	3.00	26.546	149.8	0.473
165	8.17	33.892	3.08	1.83	34.	0.02	27.0	163.6	250	7.01	34.020	2.57	26.667	138.3	0.547
193	7.80	33.974	2.90	1.94	39.	0.04	28.0	152.3	300	6.73	34.068	1.65	26.743	131.1	0.616
221	7.15	33.975	3.22	1.97	42.	0.01	28.2	143.4	400	5.98	34.118	0.99	26.880	118.1	0.745
260	6.96	34.028	2.26	2.24	49.	0.05	31.5	137.0	500	5.34	34.164	0.65	26.995	107.2	0.864
315	6.63	34.078	1.49	2.40	57.	0.06	35.0	129.0							
385	6.07	34.111	1.05	2.68	66.	0.04	37.8	119.6							
456	5.65	34.140	0.79	2.81	74.	0.06	39.4	112.5							
533	5.08	34.183	0.55	2.99	85.		41.2	102.8							

A) TEMPERATURE, GOOD TO 0.05 DEGREES, INFERRED FROM PRESSURE THEROMETER AND WIRE DEPTH. THE GRADIENT IS CONFIRMED BY THE CTDO LOWERING ON THE STATION.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 67080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 48.0N	124 12.0W	3/11/78	1054 GMT	3919M	230	20KT	5	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.91	32.916	5.98	0.35	3.	0.03	0.0	333.1	0	13.91	32.916	5.98	24.619	333.1	0.000
11	13.91	32.922	6.00	0.35	2.	0.03	0.0	332.6	10	13.91	32.924	6.00	24.623	332.7	0.033
29	13.93	32.922	6.09	0.34	2.	0.02	0.0	333.0	20	13.92	32.926	6.05	24.623	332.7	0.067
52	13.94	32.921	6.01	0.33	2.	0.02	0.0	333.3	30	13.93	32.925	6.09	24.620	333.0	0.100
61	13.92	32.925	6.01	0.31	2.	0.02	0.0	332.6	50	13.94	32.924	6.02	24.617	333.3	0.167
70	13.88	32.918	5.99	0.31	2.	0.01	0.0	332.3	75	13.76	32.908	5.99	24.642	330.9	0.250
83	13.33	32.896	6.00	0.31	2.	0.04	0.2	323.3	100	11.46	32.991	5.92	25.151	282.4	0.327
97	11.71	32.982	5.95	0.43	4.	0.05	2.5	287.3	125	9.74	33.054	5.55	25.497	249.5	0.394
119	10.16	33.025	5.66	0.64	8.	0.03	7.1	258.1	150	8.69	33.267	5.04	25.831	217.8	0.454
137	9.04	33.130	5.32	0.91	14.	0.10	12.0	232.9	200	7.98	33.712	4.21	26.287	174.4	0.553
160	8.55	33.375	4.84	1.16	20.	0.07	16.4	207.5	250	7.64	33.945	3.37	26.519	152.4	0.637
187	8.06	33.594	4.45	1.36	26.	0.03	19.8	184.2	300	6.86	33.970	2.82	26.648	140.2	0.712
215	7.92	33.828	3.93	1.55	31.		22.9	164.8	400	5.97	34.024	1.70	26.806	125.1	0.849
251	7.63	33.945	3.36	1.80	38.		26.6	152.1	500	5.19	34.080	0.99	26.947	111.8	0.973
306	6.76	33.966 A	2.76	2.07	48.		30.8	139.0							
376	6.07	33.984	2.07	2.32	60.		34.2	129.1							
446	5.77	34.088	1.11	2.68	72.		38.5	117.8							
521	4.89	34.076	0.94	2.95	86.		41.4	108.8							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 67090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 28.0N	124 55.0W	3/11/78	0445 GMT	4309M	270	23KT	2	260 10 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.04	32.842	6.00	0.24	3.	0.02	0.1	341.1	0	14.04	32.842	6.00	24.535	341.1	0.000
11	14.03	32.844	5.99	0.25	3.	0.02	0.1	340.7	10	14.03	32.846	5.99	24.539	340.7	0.034
30	14.04	32.845	6.05	0.28	2.	0.02	0.1	340.8	20	14.03	32.847	6.02	24.538	340.8	0.068
54	14.06	32.842	6.01	0.27	2.	0.01	0.1	341.5	30	14.04	32.845	6.05	24.538	340.8	0.102
63	14.04	32.846	6.00	0.25	2.	0.01	0.1	340.8	50	14.06	32.845	6.02	24.532	341.3	0.171
73	14.02	32.851	5.98	0.25	2.	0.02	0.1	340.0	75	13.83	32.874	5.97	24.601	334.8	0.256
87	12.37	32.997	5.88	0.36	4.	0.11	1.5	298.0	100	11.18	32.980	5.76	25.193	278.5	0.333
101	11.10	32.974	5.75	0.51	6.	0.06	5.6	277.4	125	9.76	33.117	5.23	25.543	245.1	0.399
124	9.81	33.109	5.24	0.75	12.	0.05	11.9	246.3	150	9.18	33.396	4.56	25.855	215.5	0.457
143	9.15	33.270	4.88	1.03	18.	0.04	15.8	224.2	200	8.83	33.863	3.20	26.275	175.6	0.557
167	9.26	33.667	3.78	1.35	23.	0.03	21.7	196.4	250	8.15	34.013	2.71	26.498	154.3	0.641
195	8.89	33.835	3.28	1.62	29.	0.03	24.4	178.3	300	7.58	34.086	2.01	26.639	141.0	0.717
223	8.57	33.959	2.89	1.71	34.		24.7	164.4	400	6.38	34.101	1.23	26.816	124.2	0.855
260	7.99	34.024	2.65	1.99	40.		29.2	151.2	500	5.67	34.149	0.72	26.943	112.1	0.979
316	7.43	34.102	1.74	2.30	51.		33.0	137.7							
386	6.51	34.098	1.31	2.58	63.		36.3	126.0							
457	5.94	34.121	0.92	2.85	73.		39.5	117.3							
534	5.49	34.175	0.58	3.11	83.		41.6	108.0							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 70053

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
36 06.5N	121 54.0W	3/ 9/78	2030 GMT	944M	310	27KT	2	310 6 4

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.79	33.021	6.17	0.16	4.	0.07	0.3	323.8	0	13.79	33.021	6.17	24.725	323.0	0.000
11	13.79	33.023	6.18	0.10	3.	0.05	0.2	322.9	10	13.79	33.025	6.18	24.726	322.9	0.032
28	13.73	33.199	6.09	0.07	3.	0.13	0.9	308.8	20	13.79	33.023	6.13	24.726	322.9	0.065
38	13.57	33.258	5.91	0.08	4.	0.22	1.8	301.3	30	13.71	33.220	6.07	24.892	307.1	0.096
52	12.89	33.348	5.34	0.27	7.	0.29	5.7	281.8	50	13.01	33.337	5.43	25.123	285.0	0.156
65	12.04	33.431	4.77	0.49	10.	0.09	10.1	260.1	75	11.56	33.501	4.44	25.527	246.6	0.222
88	11.11	33.579	4.11	0.79	15.	0.06	14.7	232.9	100	10.82	33.633	3.90	25.764	224.1	0.282
106	10.69	33.650	3.82	1.00	18.	0.05	17.1	220.5	125	10.19	33.690	3.61	25.917	209.6	0.337
124	10.22	33.682	3.63	1.12	20.	0.04	18.9	210.4	150	9.65	33.846	3.16	26.129	189.4	0.387
142	9.79	33.807	3.27	1.32	24.	0.04	21.6	194.3	200	8.98	34.013	2.49	26.368	166.7	0.478
169	9.39	33.912	2.92	1.55	28.	0.03	24.2	180.2	250	8.25	34.090	2.12	26.543	150.1	0.559
201	8.97	34.014	2.48	1.74	34.	0.03	26.7	166.3	300	7.79	34.123	1.83	26.637	141.2	0.634
228	8.55	34.059	2.29	1.94	38.	0.04	28.6	156.7	400	6.90	34.206	0.87	26.829	123.0	0.772
273	7.99	34.113	1.96	2.15	44.	0.03	31.1	144.6	500	5.93	34.237	0.51	26.981	108.5	0.894
323	7.64	34.126	1.70	2.30	49.	0.02	32.9	138.8							
399	6.91	34.205	0.88	2.69	63.	0.02	37.1	123.1							
475	6.13	34.229	0.58	2.92	75.	0.02	40.4	111.5							
552	5.58	34.249	0.41	3.12	84.	0.02	42.5	103.5							

A) AN ERROR OF -0.01 IN CONDUCTIVITY RATIO, 0.39 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 70060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 53.0N	122 22.5W	3/10/78	0107 GMT	1018M	300	32KT	1	310 8 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.57	32.799	6.18	0.31	3.	0.01	0.1	335.0	0	13.57	32.799	6.18	24.598	335.0	0.000
12	13.57	32.801	6.18	0.32	3.	0.01	0.1	334.9	10	13.57	32.803	6.18	24.600	334.9	0.034
31	13.52	32.827	6.22	0.26	3.	0.02	0.1	332.0	20	13.55	32.815	6.20	24.613	333.7	0.067
40	12.67	33.041	5.89	0.38	5.	0.24	2.6	300.3	30	13.52	32.828	6.22	24.628	332.2	0.100
54	11.57	33.060	5.67	0.54	7.	0.10	5.4	279.1	50	11.81	33.058	5.75	25.138	283.7	0.162
68	11.66	33.432	4.67	0.85	11.	0.03	10.9	253.3	75	11.45	33.511	4.40	25.555	244.0	0.228
91	10.83	33.589	4.02	1.14	16.	0.02	15.7	227.4	100	10.61	33.656	3.80	25.818	219.0	0.287
110	10.41	33.721	3.57	1.37	20.	0.02	18.8	210.7	125	10.12	33.800	3.29	26.016	200.2	0.340
129	10.05	33.815	3.23	1.57	23.	0.02	21.0	197.9	150	9.81	33.880	2.99	26.130	189.3	0.389
148	9.83	33.874	3.01	1.68	26.	0.02	22.6	190.0	200	8.97	34.023	2.47	26.378	165.7	0.480
176	9.50	33.939	2.78	1.83	29.	0.03	24.3	180.0	250	8.30	34.107	1.99	26.549	149.5	0.560
208	8.79	34.048	2.36	2.03	36.	0.03	27.5	161.1	300	7.90	34.143	1.67	26.636	141.2	0.636
236	8.43	34.091	2.09	2.18	40.	0.03	28.8	152.6	400	6.89	34.191	0.98	26.818	124.0	0.774
282	8.04	34.131	1.78	2.32	45.	0.02	31.2	144.0	500	6.13	34.248	0.55	26.963	110.2	0.897
333	7.63	34.158	1.47	2.49	50.	0.03	32.8	136.3							
412	6.76	34.196	0.90	2.74	63.	0.03	36.7	121.9							
490	6.21	34.243	0.58	2.92	71.	0.00	39.4	111.5							
568	5.55	34.266	0.39	3.04	81.	0.05	41.5	101.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 70070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 33.0N	123 06.0W	3/10/78	0900 GMT	3825M	320	30KT		320 10 4

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.59	32.855	6.14	0.32	3.	0.07	0.0	331.3	0	13.59	32.855	6.14	24.637	331.3	0.000
12	13.57	32.854	6.14	0.30	3.	0.05	0.0	331.0	10	13.57	32.857	6.14	24.641	331.0	0.033
30	13.60	32.853	6.25	0.30	3.	0.07	0.0	331.7	20	13.59	32.858	6.20	24.638	331.3	0.066
40	13.54	32.872	6.14	0.23	3.	0.07	0.1	329.1	30	13.60	32.853	6.25	24.634	331.7	0.100
49	13.38	32.934	6.11	0.29	4.	0.08	0.0	321.5	50	13.36	32.939	6.10	24.746	321.0	0.165
64	13.08	33.033	5.84	0.43	5.	0.26	1.9	308.5	75	11.90	33.067	5.56	25.129	284.6	0.241
78	11.53	33.076	5.48	0.68	7.	0.10	7.2	277.2	100	9.72	33.221	4.99	25.631	236.7	0.307
97	9.99	33.220	4.97	1.06	13.	0.07	13.9	240.9	125	8.46	33.317	4.92	25.905	210.7	0.363
120	8.41	33.249	5.08	1.19	19.	0.06	16.3	214.8	150	8.67	33.635	3.81	26.121	190.2	0.414
139	8.60	33.487	4.32	1.70	23.	0.09	20.8	199.9	200	8.20	33.957	2.93	26.446	159.3	0.503
167	8.79	33.844	3.16	1.86	29.	0.06	25.7	176.2	250	7.29	33.979	3.21	26.596	145.1	0.581
195	8.32	33.947	2.91	2.02	34.	0.04	27.7	161.7	300	6.77	34.011	2.45	26.692	135.9	0.653
223	7.65	33.975	3.01	2.12	39.		28.8	150.2	400	5.58	34.013	1.66	26.846	121.3	0.786
261	7.18	33.977	3.24	2.16	43.		28.9	143.7	500	4.99	34.114	0.94	26.996	107.1	0.906
316	6.61	34.024	2.05	2.47	53.		34.1	132.8							
386	5.75	34.010	1.73	2.64	64.		36.3	123.4							
455	5.07	34.043	1.31	2.89	77.		40.2	113.2							
529	4.94	34.156	0.67	3.08	88.		42.1	103.3							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 70080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 12.0N	123 49.0W	3/10/78	1546 GMT	3926M	320	25KT	2	320 10 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
3	14.01	32.847	5.99	0.31	2.	0.03	0.2	340.1	0	14.01	32.847	5.99	24.545	340.1	0.000
12	14.02	32.851	5.99	0.25	2.	0.01	0.1	340.0	10	14.02	32.853	5.99	24.546	340.0	0.034
31	14.03	32.850	6.00	0.23	2.	0.01	0.1	340.3	20	14.02	32.853	5.99	24.545	340.1	0.068
40	14.04	32.848	6.01	0.21	2.	0.01	0.0	340.6	30	14.03	32.853	6.00	24.544	340.3	0.102
54	13.99	32.848	6.03	0.23	2.	0.00	0.1	339.6	50	14.00	32.851	6.02	24.547	339.9	0.170
68	13.46	32.841	6.05	0.18	3.	0.00	0.1	329.9	75	13.13	32.904	6.02	24.765	319.1	0.253
91	12.03	33.021	5.96	0.29	4.	0.08	1.5	290.1	100	11.01	32.982	5.84	25.224	275.5	0.328
109	10.02	32.952	5.69	0.60	9.	0.03	7.3	261.2	125	9.06	33.091	5.39	25.636	236.3	0.392
128	8.95	33.123	5.32	0.95	15.	0.02	12.5	232.1	150	8.55	33.338	4.73	25.909	210.3	0.449
146	8.59	33.290	4.83	1.18	20.	0.02	16.9	214.4	200	8.16	33.782	3.78	26.315	171.7	0.546
174	8.38	33.601	4.20	1.31	25.	0.58	18.9	188.2	250	7.79	33.978	3.51	26.523	151.9	0.629
206	8.11	33.812	3.71	1.68	31.	0.03	24.0	168.7	300	7.35	34.019	2.75	26.618	143.0	0.705
234	7.96	33.954	3.59	1.79	34.	0.03	24.4	156.0	400	6.56	34.110	1.24	26.798	125.9	0.844
280	7.46	33.986	3.21	1.85	40.	0.17	26.2	146.7	500	5.71	34.175	0.66	26.958	110.6	0.969
332	7.20	34.068	1.98	2.35	49.	0.10	32.1	137.2							
410	6.46	34.112	1.18	2.75	62.	0.00	37.0	124.3							
489	5.78	34.164	0.71	2.96	74.		38.7	112.2							
568	5.40	34.246	0.40	3.24	84.		40.2	101.7							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 70090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 53.0N	124 30.0W	3/10/78	2142 GMT	4309M	320	22KT	1	330 10 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	13.97	32.845	5.89	0.32	2.	0.01	0.0	339.5	0	13.97	32.845	5.89	24.552	339.5	0.000
11	13.95	32.843	6.01	0.32	2.	0.01	0.0	339.2	10	13.95	32.846	6.00	24.555	339.2	0.034
29	13.96	32.841	6.08	0.34	3.	0.00	0.0	339.6	20	13.96	32.845	6.05	24.553	339.3	0.068
51	13.96	32.843	6.03	0.28	3.	0.01	0.0	339.4	30	13.96	32.844	6.08	24.551	339.5	0.102
60	13.88	32.848	6.04	0.30	2.	0.01	0.0	337.5	50	13.96	32.846	6.03	24.553	339.4	0.170
69	13.58	32.851	6.04	0.28	3.	0.01	0.0	331.4	75	13.12	32.898	6.01	24.762	319.4	0.253
83	12.31	32.957	5.94	0.30	4.	0.13	1.6	299.9	100	10.36	32.962	5.78	25.322	266.1	0.326
97	10.62	32.962	5.80	0.57	7.	0.04	5.2	270.2	125	9.23	33.106	5.31	25.622	237.6	0.390
120	9.27	33.026	5.47	0.85	12.	0.02	10.9	244.1	150	9.05	33.491	4.37	25.950	206.4	0.446
138	9.11	33.307	4.82	1.15	17.	0.01	15.6	220.8	200	8.61	33.937	2.93	26.368	166.7	0.541
161	8.99	33.638	3.98	1.39	23.	0.14	19.9	194.5	250	8.10	34.058	2.32	26.541	150.3	0.622
189	8.64	33.873	3.25	1.69	30.	0.02	24.8	171.8	300	7.38	34.068	2.01	26.653	139.7	0.697
218	8.56	34.008	2.49	1.96	35.	0.03	27.8	160.6	400	6.07	34.082	1.32	26.840	121.9	0.833
255	8.01	34.059	2.29	2.18	41.	0.04	29.6	148.9	500	5.39	34.153	0.83	26.980	108.6	0.954
312	7.22	34.065	1.93	2.40	50.	0.03	32.9	137.7							
383	6.28	34.083	1.38	2.71	62.	0.01	37.3	124.3							
454	5.53	34.089	1.13	2.90	74.	0.03	39.6	114.9							
530	5.30	34.194	0.57	3.12	84.	0.05	42.1	104.5							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 73053

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 31.5N	121 28.5W	3/ 9/78	1117 GMT	750M	200	11KT	6	250

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.30	33.183	6.25	0.51	3.	0.00	0.1	321.2	0	14.30	33.183	6.25	24.743	321.2	0.000
11	14.23	33.245	6.23	0.43	3.	0.00	0.1	315.3	10	14.24	33.243	6.23	24.801	315.8	0.032
29	14.02	33.246	5.98	0.47	3.	0.12	1.0	311.0	20	14.17	33.253	6.15	24.823	313.6	0.063
39	13.66	33.275	5.63	0.46	4.	0.26	2.9	301.8	30	13.98	33.250	5.94	24.859	310.2	0.095
48	13.51	33.319	5.61	0.45	5.	0.37	3.3	295.7	50	13.44	33.331	5.56	25.033	293.6	0.155
62	12.88	33.393	5.13	0.59	7.	0.16	6.5	278.3	75	12.19	33.468	4.72	25.385	260.2	0.225
76	12.13	33.470	4.69	0.77	10.	0.10	10.3	258.9	100	10.85	33.485	4.41	25.644	235.6	0.287
95	11.07	33.453	4.53	0.91	13.	0.05	12.9	241.5	125	10.28	33.624	3.97	25.851	215.9	0.344
118	10.32	33.607	4.01	1.14	17.	0.05	17.2	217.6	150	10.04	33.719	3.68	25.966	204.9	0.398
137	10.25	33.644	3.91	1.19	18.	0.05	17.6	213.7	200	9.14	34.008	2.57	26.339	169.4	0.493
164	9.75	33.812	3.35	1.47	23.	0.04	21.4	193.3	250	8.42	34.083	2.17	26.512	153.0	0.576
192	9.28	33.976	2.70	1.63	29.	0.04	24.5	173.8	300	7.84	34.143	1.63	26.646	140.3	0.651
220	8.82	34.060	2.32	1.80	35.		26.2	160.6	400	6.91	34.191	0.99	26.815	124.3	0.789
257	8.33	34.083	2.14	2.00	39.		26.3	151.7	500	6.07	34.243	0.52	26.967	109.9	0.913
313	7.70	34.160	1.47	2.29	50.		29.0	137.1							
383	7.07	34.182	1.10	2.43	58.		34.2	126.9							
452	6.45	34.218	0.69	2.75	69.		37.1	116.3							
527	5.88	34.253	0.46	2.92	78.		40.1	106.7							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 73060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 17.5N	121 58.0W	3/ 9/78	0610 GMT	2410M	160	19KT	2	150 5 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.37	33.237	6.15	0.26	3.	0.01	0.0	318.7	0	14.37	33.237	6.15	24.770	318.7	0.000
11	14.37	33.239	6.09	0.19	3.	0.00	0.1	318.5	10	14.37	33.241	6.09	24.772	318.5	0.032
29	14.14	33.253	6.12	0.18	3.	0.09	0.2	312.9	20	14.28	33.247	6.11	24.795	316.3	0.064
40	13.96	33.265	5.88	0.21	4.	0.25	1.2	308.5	30	14.14	33.260	6.11	24.835	312.5	0.095
54	12.81	33.392	5.13	0.51	7.	0.17	6.7	277.1	50	13.19	33.357	5.35	25.102	287.1	0.155
68	11.60	33.403	4.77	0.74	10.	0.10	10.6	254.4	75	11.23	33.432	4.65	25.535	245.9	0.222
91	10.70	33.532	4.32	1.02	14.	0.03	15.5	229.4	100	10.52	33.623	3.99	25.810	219.8	0.281
110	10.32	33.716	3.64	1.29	19.	0.02	19.2	209.6	125	9.81	33.788	3.44	26.058	196.2	0.334
129	9.69	33.800	3.41	1.48	23.	0.03	21.6	193.2	150	9.48	33.885	3.11	26.188	183.8	0.382
147	9.52	33.874	3.14	1.59	25.	0.20	22.7	185.1	200	8.86	34.048	2.40	26.415	162.2	0.470
175	9.15	33.954	2.84	1.81	29.	0.04	25.7	173.4	250	8.40	34.113	2.03	26.537	150.6	0.550
208	8.78	34.072	2.27	2.07	36.	0.04	29.0	159.1	300	7.90	34.163	1.58	26.652	139.7	0.625
236	8.55	34.096	2.15	2.24	39.	0.04	29.7	153.9	400	6.55	34.124	1.13	26.811	124.6	0.763
282	8.05	34.146	1.73	2.45	46.	0.01	32.7	143.0	500	5.85	34.203	0.60	26.963	110.2	0.886
333	7.60	34.178	1.35	2.64	52.	0.02	34.9	134.4							
412	6.37	34.115	1.10	2.75	65.	0.02	39.5	123.0							
492	5.90	34.194	0.63	2.76	76.	0.02	42.0	111.4							
572	5.46	34.277	0.40	3.20	85.	0.00	43.5	100.0							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 73070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 58.0N	122 40.0W	3/ 8/78	2310 GMT	4111M	180	21KT	6	260 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
3	14.05	32.810	6.01	0.34	2.	0.02	0.1	343.6	0	14.05	32.810	6.01	24.509	343.6	0.000
12	14.05	32.814	5.99	0.29	2.	0.02	0.1	343.3	10	14.05	32.816	5.99	24.511	343.4	0.034
31	13.75	32.804	6.05	0.28	2.	0.03	0.1	338.2	20	13.80	32.806	6.01	24.557	339.0	0.069
41	13.68	32.780 U	6.06	0.27	2.	0.01	0.1		30	13.75	32.807	6.05	24.565	338.2	0.102
48	13.66	32.858	6.04	0.27	2.	0.09	0.0	332.5	50	13.55	32.872	6.03	24.656	329.5	0.169
64	12.41	32.914	5.94	0.38	4.	0.15	1.7	304.9	75	11.54	32.942	5.84	25.097	287.6	0.247
78	11.29	32.944	5.81	0.55	5.	0.07	4.6	282.8	100	9.29	33.016	5.44	25.541	245.3	0.314
96	9.39	32.964	5.53	0.66	5.	0.05	4.8	250.5	125	8.81	33.264	4.87	25.811	219.7	0.373
119	8.82	33.188	5.00	1.07	17.	0.04	15.6	225.3	150	8.85	33.572	4.13	26.045	197.4	0.425
138	8.78	33.412	4.56	1.24	20.	0.02	18.1	208.1	200	8.55	33.934	3.08	26.375	166.1	0.518
165	8.92	33.747	3.59	1.52	26.	0.04	22.6	185.3	250	7.67	33.981	3.21	26.544	150.0	0.599
192	8.70	33.909	3.04	1.67	31.	0.01	25.4	170.0	300	6.86	33.968	2.79	26.646	140.3	0.673
220	8.13	33.964	3.28	1.78	34.	0.01	25.8	157.7	400	5.99	34.064	1.19	26.836	122.2	0.810
256	7.58	33.979	3.19	1.92	39.	0.01	27.4	148.9	500	5.51	34.186	0.52	26.992	107.5	0.930
311	6.70	33.965	2.65	2.15	50.	0.01	31.3	138.4							
380	6.13	34.039	1.41	2.50	65.	0.02	36.8	125.7							
448	5.71	34.123	0.81	2.79	75.	0.01	39.8	114.5							
524	5.45	34.213	0.44	2.98	85.	0.01	41.2	104.7							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 73080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 38.2N	123 22.0W	3/ 8/78	1710 GMT	4117M	170	16KT	6	220 6 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.01	32.747	6.09	0.66	4.	0.02	0.1	347.4	0	14.01	32.747	6.09	24.468	347.4	0.000
11	14.01	32.747	6.07	0.25	4.	0.02	0.1	347.4	10	14.01	32.750	6.07	24.468	347.4	0.035
29	13.77	32.782	6.04	0.37	4.	0.01	0.1	340.2	20	13.80	32.780	6.06	24.537	340.9	0.069
53	12.11	32.946	5.89	0.53	6.	0.13	3.1	297.1	30	13.73	32.792	6.03	24.559	338.9	0.103
63	11.25	32.935	5.86	0.62	7.	0.07	4.6	282.8	50	12.40	32.928	5.91	24.927	303.8	0.168
73	10.70	33.020	5.58	0.60	9.	0.04	7.5	267.3	75	10.74	33.070	5.47	25.341	264.4	0.239
87	10.99	33.375	4.73	1.02	13.	0.05	12.1	245.9	100	10.23	33.538	4.16	25.792	221.4	0.300
101	10.16	33.545	4.12	1.26	18.	0.04	17.1	219.6	125	9.91	33.810	3.18	26.060	196.0	0.353
125	9.91	33.810	3.18	1.53	22.	0.04	21.4	196.0	150	9.58	33.935	2.74	26.210	181.7	0.401
144	9.66	33.906	2.85	1.67	25.	0.02	23.0	184.9	200	9.02	34.072	2.21	26.410	162.7	0.489
167	9.38	34.000	2.48	1.79	30.	0.05	25.1	173.6	250	8.45	34.138	1.84	26.549	149.5	0.569
196	9.07	34.065	2.24		35.	0.01	27.1	164.0	300	7.98	34.165	1.59	26.642	140.7	0.644
224	8.70	34.104	2.02	2.04	38.	0.02	28.4	155.6	400	6.99	34.179	1.11	26.795	126.2	0.783
262	8.35	34.149	1.77	2.21	42.	0.04	29.9	147.1	500	6.27	34.229	0.65	26.931	113.3	0.909
318	7.80	34.165	1.51	2.34	49.	0.04	31.8	138.1							
388	7.08	34.172	1.17		59.	0.01	35.0	127.8							
459	6.58	34.209	0.81	2.71	66.	0.01	37.1	118.6							
534	6.00	34.243	0.54	2.58U	77.	0.00	39.3	108.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 73090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 18.5N	124 04.0W	3/ 8/78	1117 GMT	3358M	160	17KT	2	180 4 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.65	32.864	5.95	0.32	4.	0.02	0.2	351.6	0	14.65	32.864	5.95	24.424	351.6	0.000
11	14.59	32.863	5.94	0.29	3.	0.01	0.1	350.5	10	14.60	32.866	5.94	24.435	350.6	0.035
29	13.96	32.909	6.07	0.28	3.	0.00	0.1	334.6	20	14.14	32.900	6.01	24.559	338.8	0.070
39	14.00	32.937	6.05	0.20	3.	0.00	0.1	333.3	30	13.96	32.914	6.07	24.605	334.4	0.103
48	13.88	32.940	6.07	0.27	3.	0.00	0.0	330.7	50	13.85	32.970	6.07	24.671	328.1	0.170
62	13.73	33.171	6.10	0.29	4.	0.02	0.1	310.8	75	13.72	33.288	5.90	24.943	302.3	0.249
76	13.72	33.295	5.88	0.33	4.	0.43	0.5	301.6	100	11.22	33.268	5.06	25.408	258.0	0.320
95	11.68	33.241	5.24	0.61	8.	0.06	8.0	267.7	125	9.85	33.528	4.14	25.850	215.9	0.379
118	10.02	33.434	4.41	0.96	16.	0.04	16.0	225.6	150	9.01	33.711	3.85	26.128	189.5	0.431
136	9.65	33.659	3.79	1.20	21.	0.04	19.7	203.0	200	8.49	33.983	3.23	26.422	161.6	0.520
164	8.44	33.739	3.90	1.33	27.	0.06	21.7	178.8	250	7.88	34.042	2.59	26.561	148.4	0.600
191	8.50	33.942	3.64	1.47	29.	0.02	23.0	164.6	300	7.63	34.141	1.70	26.674	137.6	0.673
219	8.48	34.049	2.41	1.75	36.	0.04	27.2	156.4	400	6.61	34.178	0.93	26.845	121.4	0.808
256	7.75	34.036	2.63	1.77	40.	0.03	27.0	147.0	500	6.02	34.238	0.53	26.969	109.6	0.930
311	7.60	34.162	1.42	2.06	50.	0.02	30.9	135.6							
381	6.75	34.164	1.04	2.41	62.	0.00	35.9	124.1							
451	6.32	34.217	0.67	2.65	69.	0.02	37.1	114.8							
527	5.86	34.243	0.49	2.83	78.	0.05	38.7	107.3							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 77051

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
35 02.0N	120 56.5W	3/ 7/78	0325 GMT	307M	300	23KT	0	310 4 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.40	33.178	6.22	0.23	2.	0.03	0.2	323.6	0	14.40	33.178	6.22	24.719	323.6	0.000
11	14.26	33.181	6.16	0.16	2.	0.04	0.2	320.6	10	14.28	33.182	6.17	24.746	321.0	0.032
31	13.90	33.235	5.85	0.17	3.	0.17	1.5	309.5	20	14.10	33.201	6.03	24.797	316.1	0.064
45	13.64	33.293	5.69	0.25	4.	0.24	2.7	300.1	30	13.92	33.233	5.87	24.860	310.1	0.096
55	13.26	33.343	5.37	0.36	5.	0.27	4.7	289.2	50	13.48	33.317	5.55	25.014	295.5	0.156
69	12.11	33.483	4.61	0.60	10.	0.10	10.6	257.5	75	11.84	33.530	4.41	25.498	249.4	0.225
83	11.55	33.580	4.19	0.84	14.	0.05	14.0	240.4	100	10.77	33.699	3.66	25.824	218.4	0.284
102	10.68	33.710	3.60	1.15	19.	0.06	18.3	215.9	125	10.05	33.817	3.20	26.040	197.8	0.336
126	10.03	33.820	3.19	1.44	24.	0.04	21.8	197.2	150	9.41	33.948	2.73	26.250	177.9	0.384
145	9.51	33.925	2.81	1.70	30.	0.04	25.1	181.2	200	8.82	34.059	2.24	26.431	160.7	0.470
178	8.99	34.031	2.39	1.95	34.	0.02	27.3	165.3	250	8.56	34.107	1.95	26.510	153.3	0.551
205	8.79	34.062	2.21	2.11	38.	0.04	28.3	160.0							
244	8.59	34.101	1.98	2.26	40.	0.03	29.3	154.1							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 77055

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 54.5N	121 13.2W	3/ 7/78	0645 GMT	556M	330	16KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.09	33.260	6.14	0.31	2.	0.04	0.1	311.4	0	14.09	33.260	6.14	24.847	311.4	0.000
11	14.08	33.258	6.13	0.27	2.	0.04	0.0	311.3	10	14.08	33.260	6.13	24.847	311.3	0.031
30	13.89	33.268	6.04	0.32	2.	0.21	0.9	306.9	20	13.99	33.265	6.09	24.869	309.2	0.062
44	13.13	33.333	5.53	0.44	5.	0.32	2.5	287.4	30	13.89	33.268	6.04	24.894	306.9	0.093
54	12.52	33.336	5.36	0.53	6.	0.07	5.4	275.8	50	12.77	33.337	5.43	25.171	280.6	0.152
68	11.55	33.399	4.84	0.73	10.	0.07	10.0	253.8	75	11.37	33.466	4.57	25.535	245.9	0.218
82	11.24	33.536	4.30	0.91	13.	0.01	12.9	238.3	100	10.50	33.686	3.76	25.861	214.9	0.276
96	10.61	33.659	3.86	1.07	17.	0.07	16.6	218.6	125	10.12	33.785	3.37	26.004	201.3	0.329
119	10.19	33.769	3.43	1.26	21.	0.04	19.5	203.5	150	9.84	33.860	3.07	26.109	191.3	0.379
138	9.99	33.813	3.24	1.40	23.	0.09	20.7	197.0	200	9.22	34.013	2.49	26.330	170.3	0.471
166	9.63	33.923	2.83	1.58	27.	0.08	23.4	183.2	250	8.73	34.094	2.12	26.472	156.8	0.555
194	9.27	34.002	2.52	1.74	31.	0.01	25.4	171.7	300	8.14	34.146	1.73	26.603	144.4	0.632
222	9.06	34.040	2.39	1.86	33.	0.00	26.4	165.7	400	7.22	34.210	1.01	26.787	126.9	0.774
260	8.60	34.111	2.01	2.03	39.	0.03	28.2	153.6	500	6.30	34.240	0.58	26.936	112.8	0.900
316	7.98	34.153	1.63	2.20	46.	0.03	31.3	141.5							
367	7.61	34.191	1.25	2.35	52.	0.13	32.4	133.5							
423	6.94	34.219	0.87	2.58	62.	0.11	35.6	122.5							
479	6.49	34.238	0.64		69.	0.00	37.6	115.3							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 77060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 44.0N	121 34.0W	3/ 7/78	1055 GMT	833M	320	9KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.28	33.251	6.01	0.28	4.	0.10	0.7	315.8	0	14.28	33.251	6.01	24.800	315.8	0.000
11	14.27	33.248	6.03	0.25	3.	0.09	0.5	315.8	10	14.27	33.250	6.03	24.800	315.8	0.032
30	14.01	33.262	5.96	0.30	3.	0.13	1.0	309.7	20	14.15	33.257	6.00	24.831	312.9	0.063
39	12.97	33.381	5.18	0.50	7.	0.24	6.1	280.9	30	14.01	33.262	5.96	24.865	309.7	0.094
48	12.02	33.514	4.42	0.69	11.	0.09	10.7	253.6	50	11.95	33.536	4.38	25.481	251.0	0.151
62	11.66	33.571	4.17	0.84	13.	0.04	12.6	243.0	75	10.49	33.461	4.47	25.688	231.4	0.211
76	10.40	33.452	4.49	0.97	14.	0.02	14.5	230.4	100	10.05	33.715	3.69	25.960	205.4	0.266
95	10.07	33.665	3.88	1.13	19.	0.03	17.8	209.3	125	9.79	33.874	3.05	26.128	189.5	0.316
118	9.96	33.847	3.12	1.30	24.	0.07	20.8	194.0	150	9.37	33.947	2.83	26.255	177.4	0.363
136	9.52	33.903	3.00	1.42	27.	0.03	22.4	182.9	200	8.92	34.061	2.32	26.416	162.2	0.449
164	9.28	33.985	2.64	1.67	30.		24.4	173.1	250	8.42	34.151	1.76	26.565	148.0	0.529
191	9.02	34.042	2.40	1.76	33.		25.6	164.9	300	8.01	34.194	1.41	26.661	138.9	0.603
220	8.71	34.097	2.12	1.90	37.		27.6	156.2	400	7.10	34.228	0.89	26.817	124.0	0.740
255	8.37	34.157	1.70	2.02	42.		28.2	146.8	500	6.30	34.262	0.53	26.953	111.2	0.864
310	7.93	34.197	1.36	2.19	48.		31.1	137.5							
380	7.30	34.223	0.98	2.42	56.		34.1	126.9							
450	6.64	34.238	0.70	2.61	71.		36.8	117.2							
528	6.15	34.278	0.45	2.76	74.		39.6	108.1							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 77070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 24.0N	122 16.1W	3/ 7/78	1747 GMT	3919M	210	7KT	1	200 3 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.20	32.926	6.09	0.26	3.	0.00	0.0	338.1	0	14.20	32.926	6.09	24.567	338.1	0.000
12	14.03	32.997	6.11	0.20	3.	0.00	0.0	329.5	10	14.07	32.988	6.11	24.640	331.1	0.033
31	13.50	33.089	6.18	0.21	3.	0.01	0.0	312.4	20	13.92	33.043	6.14	24.714	324.0	0.066
40	12.72	33.121	5.85	0.31	5.	0.22	1.3	295.3	30	13.55	33.088	6.18	24.823	313.7	0.098
50	11.70	33.063	5.68	0.43	6.	0.15	4.7	281.2	50	11.70	33.063	5.68	25.164	281.2	0.158
64	11.51	33.273	5.05	0.64	9.	0.08	8.8	262.4	75	11.13	33.385	4.70	25.516	247.6	0.224
78	10.99	33.405	4.62	0.82	12.	0.04	12.3	243.7	100	9.82	33.504	4.27	25.835	217.4	0.283
97	9.91	33.484	4.32	1.04	17.	0.02	16.7	220.1	125	9.37	33.687	3.75	26.052	196.7	0.335
120	9.46	33.644	3.88	1.29	22.	0.04	20.2	201.2	150	8.97	33.842	3.30	26.237	179.1	0.383
138	9.14	33.785	3.45	1.52	25.	0.02	23.1	185.8	200	8.20	33.996	2.91	26.477	156.3	0.468
166	8.75	33.893	3.16	1.48	29.		23.5	172.0	250	7.53	34.026	2.62	26.599	144.8	0.545
194	8.30	33.988	2.89	1.72	35.	0.03	27.2	158.3	300	7.01	34.058	1.89	26.697	135.5	0.618
222	7.84	34.007	2.99	1.81	38.	0.03	26.3	150.4	400	6.27	34.131	1.00	26.853	120.7	0.751
259	7.44	34.030	2.46	2.05	45.	0.06	29.9	143.2	500	5.70	34.207	0.54	26.985	108.2	0.871
314	6.87	34.066	1.72	2.34	54.	0.01	34.5	133.0							
384	6.38	34.118	1.11	2.57	65.	0.01	38.4	122.9							
454	5.94	34.172	0.70	2.90	74.	0.01	40.5	113.5							
531	5.57	34.229	0.49	2.99	83.	0.00	41.3	104.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 77080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 04.0N	122 57.0W	3/ 7/78	2339 GMT	4117M	190	14KT	1	200 3 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.14	32.735	6.08	0.30	3.	0.02	0.0	350.9	0	14.14	32.735	6.08	24.432	350.9	0.000
10	13.98	32.732	6.08	0.30	3.	0.03	0.0	347.9	10	13.98	32.732	6.08	24.463	347.9	0.035
29	13.76	32.743	6.13	0.28	3.	0.03	0.0	342.8	20	13.89	32.747	6.11	24.491	345.3	0.070
38	13.46	33.057	6.23	0.30	4.	0.10	0.2	314.0	30	13.72	32.778	6.15	24.550	339.6	0.104
48	13.72	33.285	5.96	0.33	4.	0.37	0.5	302.3	50	13.70	33.294	5.94	24.951	301.5	0.168
62	13.61	33.327	5.80	0.38	4.	0.59	1.1	297.1	75	12.67	33.285	5.45	25.150	282.5	0.242
76	12.56	33.275	5.42	0.53	5.	0.23	5.4	281.0	100	9.75	33.234	4.91	25.637	236.2	0.307
94	9.61	33.052	5.31	0.83	13.	0.04	12.2	247.4	125	9.90	33.721	3.67	25.990	202.6	0.362
117	10.14	33.674	3.75	1.17	20.	0.03	18.7	209.7	150	9.12	33.806	3.34	26.186	184.0	0.411
136	9.46	33.728	3.55	1.36	23.	0.04	21.9	195.0	200	8.38	33.975	2.94	26.432	160.6	0.499
164	8.86	33.881	3.15	1.55	29.	0.04	25.2	174.5	250	7.72	34.042	2.44	26.583	146.3	0.578
192	8.49	33.949	3.09	1.66	32.	0.03	26.4	164.0	300	7.19	34.056	1.97	26.671	138.0	0.651
219	8.13	34.025	2.56	1.87	38.	0.04	29.2	153.1	400	6.44	34.173	0.90	26.864	119.7	0.785
256	7.65	34.039	2.44	2.05	43.	0.03	30.7	145.4	500	5.77	34.223	0.54	26.989	107.8	0.905
311	7.09	34.062	1.82	2.30	52.	0.04	34.1	136.1							
380	6.60	34.163	1.00	2.58	63.	0.03	37.6	122.3							
449	6.07	34.185	0.75	2.78	72.	0.01	40.4	114.1							
523	5.66	34.244	0.44	2.95	81.	0.01	42.5	104.8							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 77090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 42.2N	123 37.2W	3/ 8/78	0534 GMT	4309M	190	14KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.53	32.963	5.95	0.28	3.	0.03	0.1	342.0	0	14.53	32.963	5.95	24.526	342.0	0.000
11	14.49	32.962	5.97	0.25	3.	0.04	0.1	341.2	10	14.50	32.964	5.97	24.532	341.3	0.034
31	14.28	32.977	6.02	0.24	3.	0.02	0.1	335.9	20	14.44	32.983	5.99	24.559	338.8	0.068
40	14.01	33.022	6.06	0.22	3.	0.04	0.1	327.3	30	14.30	32.981	6.02	24.586	336.2	0.102
50	13.01	33.071	5.91	0.25	4.	0.14	1.8	304.4	50	13.01	33.071	5.91	24.920	304.4	0.166
64	11.76	33.128	5.47	0.58	7.	0.14	6.5	277.4	75	11.10	33.246	5.06	25.413	257.5	0.237
78	10.95	33.280	4.94	0.78	11.	0.13	11.7	252.2	100	9.98	33.527	4.15	25.826	218.2	0.297
97	10.06	33.498	4.23	1.17	17.	0.06	17.9	221.5	125	9.46	33.703	3.64	26.050	196.9	0.349
120	9.58	33.671	3.72	1.38	22.	0.09	21.4	201.1	150	9.02	33.848	3.19	26.233	179.5	0.397
139	9.15	33.780	3.43	1.59	27.	0.05	24.3	186.3	200	8.43	34.024	2.52	26.464	157.6	0.483
167	8.88	33.935	2.83	1.71	32.		24.2	170.8	250	7.72	34.065	2.23	26.601	144.6	0.560
195	8.50	34.013	2.56	1.91	36.	0.08	28.5	159.4	300	7.24	34.101	1.68	26.699	135.2	0.633
223	8.09	34.053	2.38	2.08	41.	0.05	28.4	150.5	400	6.40	34.182	0.78	26.876	118.5	0.765
261	7.59	34.066	2.15	2.20	46.	0.09	30.8	142.6	500	5.76	34.253	0.42	27.014	105.4	0.883
316	7.11	34.116	1.47	2.49	55.	0.04	34.6	132.4							
387	6.48	34.169	0.85	2.72	66.	0.05	38.2	120.3							
457	6.08	34.228	0.54	2.93	75.	0.03	40.0	111.0							
533	5.47	34.263	0.36	3.04	86.	0.02	40.4	101.2							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 80052

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 24.8N	120 35.8W	3/ 6/78	1809 GMT	238M	310	17KT	1	290 6 11

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.69	33.005	5.90	0.60	1.	0.12	0.6	342.1	0	14.69	33.005	5.90	24.524	342.1	0.000
12	14.64	33.010	5.90	0.58	1.	0.12	0.5	340.7	10	14.65	33.011	5.90	24.536	341.0	0.034
31	14.12	33.193	5.83	0.23	1.	0.08	1.3	316.9	20	14.48	33.076	5.87	24.621	332.9	0.068
44	13.52	33.318	5.39	0.41	3.	0.13	3.4	296.0	30	14.16	33.183	5.83	24.771	318.6	0.101
54	13.25	33.342	5.33	0.47	4.	0.23	4.4	289.0	50	13.35	33.338	5.35	25.055	291.5	0.162
67	12.75	33.394	5.03	0.55	6.	0.24	6.8	275.8	75	12.20	33.465	4.70	25.379	260.7	0.231
81	11.78	33.521	4.44	0.77	10.	0.10	11.3	248.8	100	11.01	33.653	3.83	25.747	225.7	0.292
100	11.01	33.653	3.83	1.03	15.	0.04	15.8	225.7	125	10.20	33.824	3.19	26.020	199.7	0.346
124	10.22	33.818	3.21	1.34	22.	0.02	20.1	200.4	150	9.86	33.905	2.81	26.141	188.2	0.395
143	9.93	33.887	2.88	1.57	25.	0.02	22.4	190.6	200	9.26	34.008	2.27	26.321	171.1	0.487
172	9.64	33.946	2.63	1.74	29.	0.01	24.1	181.6							
195	9.31	34.000	2.31	1.89	34.		25.1	172.5							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 80055

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 19.0N	120 48.0W	3/ 6/78	1451 GMT	759M	320	20KT	1	300 6 12

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.25	33.148	6.12	0.26	0.	0.01	0.0	322.8	0	14.25	33.148	6.12	24.727	322.8	0.000
12	14.23	33.143	6.12	0.20	0.	0.01	0.0	322.7	10	14.23	33.146	6.12	24.727	322.8	0.032
30	13.49	33.267	5.65	0.37	3.	0.19	3.1	299.1	20	14.04	33.179	6.01	24.793	316.5	0.064
39	12.61	33.399	5.07	0.67	7.	0.12	7.8	272.8	30	13.49	33.267	5.65	24.975	299.1	0.095
49	11.94	33.495	4.54	0.89	10.	0.03		253.6	50	11.88	33.498	4.54	25.465	252.5	0.151
63	11.31	33.483	4.47	0.96	11.	0.06	11.7	243.4	75	10.99	33.491	4.42	25.623	237.5	0.212
76	10.97	33.492	4.42	1.03	12.	0.00	13.2	236.9	100	10.52	33.694	3.72	25.865	214.5	0.269
95	10.67	33.678	3.75	1.21	17.	0.05	16.7	218.2	125	9.84	33.799	3.40	26.061	195.8	0.321
118	9.97	33.740	3.61	1.35	20.	0.02	19.4	202.1	150	9.59	33.942	2.82	26.215	181.2	0.369
137	9.68	33.896	3.01	1.55	25.	0.04	22.3	186.0	200	8.93	34.072	2.28	26.423	161.5	0.456
165	9.48	33.969	2.69	1.70	28.	0.02	24.2	177.4	250	8.59	34.142	1.84	26.532	151.1	0.536
193	9.00	34.058	2.36	1.97	33.	0.00	26.3	163.5	300	8.12	34.184	1.47	26.637	141.2	0.612
221	8.79	34.100	2.05	2.09	36.	0.00	27.7	157.2	400	7.22	34.222	0.96	26.797	126.0	0.751
259	8.52	34.152	1.79	2.23	40.	0.00	29.1	149.3	500	6.47	34.257	0.58	26.926	113.7	0.878
315	7.96	34.191	1.36	2.40	47.	0.01	31.8	138.4							
385	7.33	34.217	1.02	2.35	53.	0.11	32.0	127.8							
455	6.84	34.239	0.75	2.67	62.	0.08	36.3	119.7							
530	6.21	34.270	0.47	2.84	72.	0.00	38.7	109.4							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 80060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 09.0N	121 09.0W	3/ 6/78	1020	GMT	2037DM	320	18KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	14.49	33.060	5.94	0.21	1.	0.02	0.1	334.0
11	14.48	33.057	5.97	0.22	1.	0.01	0.1	334.0
29	14.20	33.269	6.07	0.23	1.	0.01	0.1	312.9
38	14.02	33.279	5.97	0.24	1.	0.02	0.0	308.6
48	13.84	33.291	5.92	0.30	1.	0.22	0.6	304.2
62	13.04	33.278	5.61	0.42	4.	0.37	3.3	289.8
75	10.91	33.152	5.31	0.66	8.	0.08	8.7	261.0
94	9.83	33.302	4.84	0.94	13.	0.04	14.1	232.3
117	9.52	33.545	4.20	1.19	18.	0.04	18.6	209.5
135	9.33	33.712	3.63	1.43	23.	0.02	21.7	194.1
163	8.96	33.824	3.38	1.58	26.	0.02	23.7	180.2
190	8.69	33.946	2.93	1.70	31.		24.7	167.1
217	8.32	34.032	2.56	1.87	36.	0.01	26.0	155.3
254	7.88	34.095	2.01	2.14	44.	0.05	29.8	144.4
309	7.35	34.178	1.25	2.46	54.	0.02	34.4	131.0
379	6.71	34.212	0.81	2.73	64.	0.01	37.5	120.0
448	6.32	34.273	0.47	2.95	72.	0.02	39.9	110.6
524	5.88	34.298	0.36	3.05	79.	0.01	40.2	103.4

Z	T	S	O2	SIGT	DT	DD
0	14.49	33.060	5.94	24.609	334.0	0.000
10	14.48	33.060	5.97	24.609	334.0	0.033
20	14.48	33.060	6.04	24.611	333.8	0.067
30	14.18	33.277	6.06	24.840	312.0	0.099
50	13.79	33.297	5.88	24.935	302.9	0.161
75	10.91	33.152	5.31	25.376	261.0	0.232
100	9.69	33.366	4.68	25.749	225.5	0.293
125	9.44	33.627	3.93	25.995	202.2	0.347
150	9.13	33.784	3.46	26.166	185.9	0.396
200	8.56	33.983	2.79	26.412	162.5	0.485
250	7.92	34.091	2.07	26.592	145.4	0.564
300	7.43	34.167	1.36	26.724	132.9	0.636
400	6.58	34.232	0.69	26.892	116.9	0.766
500	6.02	34.295	0.39	27.015	105.3	0.883

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 80070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 48.5N	121 51.0W	3/ 6/78	0419	GMT	3642M	310	21KT	1	300 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	14.38	32.966	6.01	0.30	3.	0.02	0.1	338.7
12	14.37	32.965	5.99	0.26	3.	0.02	0.0	338.6
30	14.05	33.019	6.12	0.20	3.	0.01	0.0	328.3
39	13.59	33.109	6.03	0.25	3.	0.10	0.5	312.7
49	12.40	33.191	5.51	0.45	6.	0.13	5.6	284.3
62	10.97	33.210	5.26	0.70	9.	0.04	9.5	257.8
76	10.09	33.272	5.00	0.91	13.	0.02	13.3	238.7
93	9.50	33.488	4.32	1.23	19.	0.01	18.3	213.4
117	9.51	33.721	3.63	1.47	23.	0.00	21.6	196.3
135	9.24	33.792	3.42	1.68	25.	0.00	23.1	186.8
161	8.85	33.914	3.00	1.79	31.	0.00	25.5	171.9
188	8.66	33.962	2.80	1.85	33.	0.00	26.8	165.5
216	8.25	34.026	2.59	1.99	37.	0.00	28.2	154.8
253	7.87	34.088	2.10	2.14	44.	0.01	30.3	144.8
310	7.39	34.144	1.47	2.41	53.	0.01	33.2	134.0
382	6.74	34.192	0.92	2.68	64.	0.01	36.4	121.9
455	6.06	34.231	0.60	2.88	75.	0.01	38.9	110.5
534	5.59	34.263	0.41	3.00	83.	0.01	40.4	102.6

Z	T	S	O2	SIGT	DT	DD
0	14.38	32.966	6.01	24.560	338.7	0.000
10	14.37	32.968	5.99	24.561	338.6	0.034
20	14.37	32.965	6.06	24.561	338.6	0.068
30	14.05	33.019	6.12	24.669	328.3	0.101
50	12.28	33.196	5.48	25.157	281.9	0.162
75	10.14	33.268	5.02	25.598	239.9	0.228
100	9.50	33.577	4.08	25.944	207.0	0.284
125	9.40	33.759	3.52	26.103	191.9	0.335
150	9.00	33.867	3.17	26.252	177.8	0.382
200	8.49	33.991	2.72	26.428	161.0	0.468
250	7.90	34.085	2.14	26.592	145.5	0.546
300	7.47	34.138	1.57	26.695	135.7	0.619
400	6.56	34.203	0.82	26.872	118.9	0.752
500	5.76	34.252	0.47	27.013	105.5	0.870

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 80080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 28.7N	122 32.0W	3/ 5/78	2217	GMT	3926M	270	17KT	1	270 10 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
3	14.67	33.006	5.96	0.26	2.	0.02	0.0	341.6
12	14.65	33.003	5.94	0.26	2.	0.01	0.0	341.4
31	14.57	33.009	5.96	0.31	2.	0.02	0.0	339.4
40	14.47	33.008	5.97	0.29	2.	0.02	0.0	337.4
49	14.30	33.126	6.02	0.28	2.	0.01	0.0	325.4
63	13.61	33.190	5.74	0.36	3.	0.14	1.9	307.1
77	12.14	33.189	5.50	0.52	6.	0.08	5.8	279.7
96	10.87	33.214	5.18	0.77	9.	0.04	10.2	255.8
119	9.54	33.496	4.52	1.07	16.	0.02	16.4	213.4
137	9.31	33.654	3.87	1.37	21.	0.02	20.8	198.1
165	8.83	33.822	3.57	1.54	26.	0.01	23.0	178.4
193	8.35	33.985	2.87	1.81	34.	0.02	26.8	159.3
221	7.87	34.019	2.82	1.86	34.	0.01	26.8	149.9
259	7.22	34.015	2.63	2.07	44.	0.01	29.8	141.4
314	6.81	34.068	1.68	2.37	54.	0.01	33.9	132.1
383	6.29	34.133	1.00	2.63	65.	0.01	36.9	120.7
453	5.88	34.198	0.63	2.86	78.	0.01	38.8	110.9
528	5.28	34.232	0.45	2.99	85.	0.01	40.7	101.4

Z	T	S	O2	SIGT	DT	DD
0	14.67	33.006	5.96	24.529	341.6	0.000
10	14.66	33.006	5.94	24.531	341.5	0.034
20	14.63	33.008	5.95	24.537	340.9	0.068
30	14.58	33.011	5.96	24.551	339.6	0.102
50	14.27	33.137	6.01	24.712	324.2	0.169
75	12.36	33.192	5.53	25.138	283.7	0.245
100	10.59	33.258	5.08	25.513	248.0	0.312
125	9.43	33.556	4.29	25.941	207.3	0.370
150	9.10	33.740	3.70	26.137	188.6	0.420
200	8.23	34.002	2.86	26.477	156.4	0.508
250	7.36	34.018	2.70	26.617	143.1	0.585
300	6.88	34.053	1.94	26.710	134.3	0.656
400	6.19	34.151	0.89	26.879	118.2	0.787
500	5.52	34.224	0.49	27.020	104.8	0.904

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 80090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 09.0N	123 15.0W	3/ 5/78	1505 GMT	4117M	260	19KT	1	270 10 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
3	14.44	32.928	5.93	0.24	3.	0.02	0.0	342.7	0	14.44	32.928	5.93	24.518	342.7	0.000
11	14.42	32.927	5.94	0.23	2.	0.00	0.0	342.4	10	14.42	32.930	5.94	24.521	342.4	0.034
30	14.44	32.930	6.05	0.21	2.	0.00	0.0	342.6	20	14.43	32.931	6.00	24.521	342.5	0.069
39	14.25	32.953	6.03	0.21	2.	0.00	0.0	337.1	30	14.44	32.930	6.05	24.520	342.6	0.103
48	13.80	32.975	6.10	0.21	3.	0.00	0.0	326.6	50	13.59	32.998	6.05	24.744	321.1	0.169
62	12.20	33.131	5.64	0.40	5.	0.08	4.4	285.1	75	11.02	33.180	5.28	25.377	260.9	0.243
77	10.86	33.185	5.22	0.70	9.	0.02	9.9	257.8	100	9.56	33.456	4.38	25.840	216.9	0.303
96	9.67	33.410	4.51	1.00	16.	0.03	16.2	221.8	125	9.18	33.690	3.91	26.086	193.5	0.355
119	9.29	33.640	3.93	1.23	21.	0.03	20.1	198.9	150	8.73	33.854	3.60	26.284	174.7	0.401
138	8.93	33.781	3.87	1.35	24.	0.05	21.2	183.0	200	8.14	34.003	2.78	26.491	155.0	0.485
165	8.52	33.923	3.20	1.62	31.	0.04	25.0	166.3	250	7.38	34.027	2.62	26.621	142.7	0.562
194	8.22	33.994	2.77	1.82	34.	0.01	27.1	156.7	300	6.87	34.071	1.79	26.726	132.7	0.632
222	7.82	34.019	2.84	1.91	37.	0.01	28.0	149.2	400	6.06	34.149	0.86	26.894	116.7	0.762
261	7.22	34.028	2.48	2.04	44.	0.01	29.8	140.4	500	5.41	34.214	0.51	27.027	104.2	0.878
317	6.76	34.091	1.49	2.34	54.	0.03	34.3	129.7							
388	6.17	34.143	0.92	2.60	64.	0.15	37.1	118.5							
458	5.60	34.178	0.65	2.82	73.	0.13	39.1	109.1							
535	5.33	34.251	0.40	2.98	81.	0.02	40.6	100.5							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 82047

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 16.5N	119 59.0W	3/ 3/78	2212 GMT	537M	080	20KT	2	110 3 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.38	33.204	6.15	0.43	0.	0.04	0.2	321.3	0	14.38	33.204	6.15	24.743	321.3	0.000
10	14.36	33.202	6.14	0.39	0.	0.07	0.0	321.0	10	14.36	33.202	6.14	24.745	321.0	0.032
29	14.14	33.246	5.97	0.40	0.	0.12	0.6	313.4	20	14.24	33.227	6.05	24.788	317.0	0.064
53	12.68	33.450	4.86	0.78	6.	0.38	7.8	270.4	30	14.09	33.255	5.93	24.841	311.9	0.096
62	12.17	33.516	4.42	0.95	9.	0.31	10.4	256.2	50	12.89	33.422	5.03	25.212	276.6	0.155
72	11.55	33.575	4.19	1.15	12.	0.08	13.0	240.8	75	11.39	33.592	4.14	25.629	237.0	0.219
86	10.90	33.649	3.93	1.33	15.	0.07	15.7	224.1	100	10.40	33.753	3.46	25.932	208.1	0.275
100	10.40	33.753	3.46	1.52	20.	0.06	18.8	208.1	125	10.17	33.821	3.20	26.023	199.5	0.327
124	10.18	33.818	3.21	1.67	22.	0.04	20.4	199.7	150	9.93	33.874	2.99	26.105	191.7	0.376
143	10.03	33.850	3.08	1.73	23.	0.03	21.3	194.9	200	9.15	34.060	2.16	26.379	165.7	0.468
166	9.67	33.933	2.73	1.94	27.	0.03	23.5	183.1	250	8.63	34.136	1.54	26.520	152.2	0.549
194	9.24	34.042	2.27	2.13	32.	0.05	26.0	168.3	300	8.13	34.172	1.19	26.625	142.3	0.625
223	8.85	34.109	1.77	2.35	39.	0.03	27.7	157.4	400	7.16	34.216	0.63	26.801	125.6	0.765
260	8.56	34.140	1.48	2.54	43.	0.04	30.0	150.8	500	6.53	34.247	0.15	26.911	115.2	0.892
316	7.95	34.182	1.09	2.79	53.	0.02	32.9	138.9							
386	7.30	34.209	0.72	3.06	63.	0.01	34.7	128.0							
456	6.66	34.240	0.30	3.41	81.	0.02	33.7	117.3							
531	6.43	34.250	0.09	4.07	102.	0.04	21.3U	113.7							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 83042

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
34 10.0N	119 29.5W	3/ 3/78	1728 GMT	142M	080	14KT	5	320 2 3

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.52	33.234 A	5.98	0.45	0.	0.05	0.1	321.9	0	14.52	33.234	5.98	24.736	321.9	0.000
10	14.46	33.234	6.00	0.44	0.	0.07	0.2	320.7	10	14.46	33.234	6.00	24.749	320.7	0.032
30	14.38	33.264	6.07	0.44	0.	0.12	0.7	316.9	20	14.43	33.251	6.04	24.768	318.9	0.064
40	14.28	33.266	5.89	0.40	1.	0.19	0.8	314.7	30	14.38	33.264	6.07	24.789	316.9	0.096
53	12.83	33.406	4.99	0.80	7.	0.32	7.0	276.4	50	13.20	33.373	5.19	25.114	285.9	0.157
67	12.09	33.485	4.95	0.82	7.	0.33	6.9	262.9	75	11.73	33.495	4.56	25.492	249.9	0.224
79	11.56	33.545	4.34	1.07	11.	0.10	11.5	243.2	100	10.84	33.702	3.71	25.815	219.2	0.283
100	10.84	33.702	3.71	1.18	16.	0.19	14.9	219.2							
102B	10.82	33.697 A	3.69					219.3							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 83051

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 52.0N	120 08.5W	3/ 4/78	0311 GMT	112M	110	30KT	6	130 5 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.57	33.219	5.94	0.26	1.	0.02	0.1	324.0	0	14.57	33.219	5.94	24.714	324.0	0.000
21	14.11	33.281	5.83	0.34	1.	0.06	1.4	310.2	10	14.57	33.221	5.89	24.714	324.0	0.032
29	13.72	33.329	5.55	0.47	3.	0.11	3.3	299.0	20	14.19	33.272	5.84	24.833	312.7	0.064
44	13.30	33.371	5.23	0.71	6.	0.11	5.2	287.9	30	13.69	33.334	5.53	24.985	298.2	0.095
58	12.65	33.441	4.85	0.80	9.	0.12	8.0	270.5	50	13.04	33.400	5.07	25.167	280.9	0.153
71	12.03	33.525	4.48	0.98	12.	0.14	10.5	253.0	75	11.91	33.543	4.41	25.496	249.6	0.220
88	11.54	33.594	4.16	1.13	14.	0.08	13.0	239.2	100	11.06	33.672	3.82	25.752	225.2	0.280
106	10.77	33.718	3.61	1.38	18.	0.06	17.0	216.9							

A) THE SALINITY BOTTLE ORDER DIFFERS ON THE ORIGINAL DATA AND SALINITY DETERMINATION FORM. THE VALUES ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.
B) THE SHIP DRIFTED INTO SHALLOWER WATER AFTER THE FATHOMETER WAS READ CAUSING THE LAST NANSEN BOTTLE TO DRAG ON THE BOTTOM.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 83055

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 44.0N	120 24.5W	3/ 4/78	0634 GMT	981M	170	20KT	6	030 5 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.81	33.162	5.92	0.24	3.	0.05	0.2	333.1	0	14.81	33.162	5.92	24.619	333.1	0.000
11	14.79	33.177	5.91	0.21	2.	0.03	0.2	331.5	10	14.79	33.176	5.91	24.632	331.8	0.033
30	14.58	33.261	5.97	0.23	3.	0.04	0.3	321.1	20	14.69	33.197	5.94	24.670	328.2	0.066
40	14.03	33.272	5.80	0.21	4.	0.01	0.4	309.3	30	14.58	33.261	5.97	24.744	321.1	0.099
49	13.15	33.254	5.61	0.28	5.	0.03	3.4	293.6	50	13.01	33.257	5.57	25.063	290.8	0.160
63	11.28	33.315	5.01	0.55	10.	0.07	8.4	255.3	75	10.67	33.386	4.75	25.598	239.9	0.227
77	10.62	33.396	4.72	0.77	12.	0.01	11.9	238.2	100	9.97	33.584	4.20	25.874	213.7	0.284
95	10.06	33.550	4.30	1.02	16.	0.01	15.8	217.6	125	9.57	33.748	3.67	26.066	195.4	0.336
119	9.68	33.700	3.83	1.14	21.	0.04	18.3	200.5	150	9.13	33.894	3.18	26.252	177.7	0.383
137	9.36	33.833	3.38	1.33	25.	0.34	20.8	185.6	200	8.57	33.997	2.75	26.421	161.7	0.470
166	8.89	33.939	3.02	1.58	29.	0.14	23.9	170.6	250	7.87	34.075	2.21	26.588	145.9	0.548
194	8.70	33.985	2.81	1.75	33.	0.05	24.8	164.4	300	7.57	34.137	1.64	26.681	137.0	0.621
222	8.09	34.035	2.53	1.95	39.	0.01	28.1	151.8	400	6.87	34.225	0.86	26.847	121.3	0.756
259	7.84	34.085	2.10	1.97	44.	0.05	27.6	144.6	500	6.14	34.292	0.48	26.997	107.0	0.877
315	7.47	34.153	1.49	2.12	51.		30.8	134.4							
385	7.01	34.211	0.96	2.50	60.		34.0	124.0							
456	6.39	34.268	0.55	2.71	71.		35.1	111.8							
532	6.02	34.300	0.43	2.71	78.	0.00	37.2	104.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 83060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 34.0N	120 45.0W	3/ 4/78	1145 GMT	1664M	190	28KT	6	190 10 5

Z	T	S		O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.81	33.118	A	5.91	0.25	2.	0.01	0.0	336.3	0	14.81	33.118	5.91	24.585	336.3	0.000
11	14.79	33.118		5.90	0.24	2.	0.01	0.0	335.9	10	14.79	33.120	5.90	24.589	335.9	0.034
30	14.84	33.193		5.98	0.20	2.	0.00	0.0	331.4	20	14.81	33.156	5.95	24.612	333.8	0.067
53	13.54	33.292		5.66	0.32	4.	0.07	2.7	298.3	30	14.84	33.193	5.98	24.636	331.4	0.100
60	11.38	33.310		5.14	0.66	8.	0.07	9.3	257.4	50	13.71	33.280	5.70	24.939	302.6	0.164
71	10.97	33.354		4.89	0.82	10.	0.04	12.0	247.1	75	10.77	33.397	4.75	25.589	240.7	0.232
85	10.34	33.502		4.45	1.02	14.	0.01	15.4	225.7	100	10.21	33.586	4.30	25.833	217.6	0.290
99	10.24	33.574		4.33	1.10	15.	0.01	15.9	218.7	125	9.53	33.808	3.57	26.120	190.3	0.342
122	9.59	33.796	B	3.61	1.29	22.	0.01	19.5	192.0	150	9.19	33.879	3.26	26.231	179.7	0.389
140	9.31	33.840		3.41	1.40	25.	0.00	21.4	184.3	200	8.52	34.042	2.56	26.463	157.7	0.475
164	9.03	33.933		3.04	1.60	29.	0.00	24.1	173.2	250	7.68	34.098	1.98	26.634	141.5	0.551
192	8.67	34.023		2.67	1.80	33.	0.01	26.4	161.1	300	7.30	34.163	1.35	26.739	131.5	0.622
220	8.14	34.073	C	2.30	1.93	40.	0.00	28.5	149.7	400	6.80	34.233	0.84	26.864	119.6	0.753
257	7.59	34.101		1.91	2.18	47.	0.00	31.0	140.0	500	6.31	34.300	0.46	26.982	108.4	0.873
313	7.25	34.180		1.20	2.36	56.	0.00	33.4	129.5							
384	6.89	34.218		0.94	2.55	62.	0.01	35.0	121.9							
455	6.49	34.279		0.53	2.70	69.	0.02	36.6	112.2							
531	6.21	34.305		0.41	2.81	75.	0.00	38.1	106.8							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 83070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 14.5N	121 26.0W	3/ 4/78	1939 GMT	3546M	210	30KT	1	190 10 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.57	33.087	5.92	0.34	2.	0.01	0.0	333.7	0	14.57	33.087	5.92	24.613	333.7	0.000
11	14.53	33.084	5.93	0.32	2.	0.00	0.0	333.1	10	14.53	33.087	5.93	24.618	333.1	0.033
29	14.50	33.135	6.04	0.27	2.	0.00	0.0	328.7	20	14.53	33.086	5.99	24.619	333.1	0.067
39	13.99	33.128	6.01	0.25	3.	0.00	0.0	319.1	30	14.46	33.140	6.04	24.676	327.7	0.100
54	13.63	33.165	5.92	0.33	3.	0.13	0.8	309.3	50	13.73	33.156	5.95	24.840	312.1	0.164
67	12.92	33.186	5.74	0.39	4.	0.22	2.9	294.3	75	11.84	33.195	5.49	25.238	274.1	0.238
90	9.93	33.273	4.94	0.87	14.	0.04	13.2	236.0	100	9.79	33.400	4.64	25.760	224.5	0.300
109	9.66	33.471	4.40	1.08	17.	0.02	16.6	217.1	125	9.24	33.613	4.01	26.015	200.3	0.354
128	9.16	33.637	3.94	1.32	23.	0.04	20.2	197.1	150	8.78	33.835	3.44	26.262	176.8	0.402
146	8.83	33.811	3.50	1.53	27.	0.02	23.3	179.2	200	8.30	33.979	2.90	26.448	159.1	0.487
175	8.52	33.917	3.18	1.70	31.	0.02	25.3	166.8	250	7.52	34.024	2.59	26.599	144.8	0.565
207	8.22	33.989	2.84	1.77	36.		26.0	157.1	300	7.02	34.061	1.88	26.697	135.4	0.637
235	7.70	34.013	2.75	1.78	40.	0.06	26.1	148.0	400	6.32	34.159	0.88	26.868	119.2	0.770
281	7.22	34.043	2.16	2.09	48.	0.06	30.6	139.3	500	5.82	34.239	0.46	26.996	107.1	0.889
332	6.72	34.091	1.44	2.35	58.	0.02	34.7	129.2							
412	6.27	34.169	0.82	2.62	68.	0.01	37.1	117.7							
493	5.86	34.234	0.48	2.86	78.	0.01	39.0	107.9							
576	5.36	34.274	0.35	2.96	87.	0.06	40.4	99.1							

A) ALL SALINITY SAMPLES FOR THIS STATION WERE DETERMINED BY AN INEXPERIENCED SALINOMETER OPERATOR. BECAUSE OF TWO UNCERTAIN READINGS AND DIFFERENCES IN BOTTLE ORDER, THE VALUES MUST BE CONSIDERED SOMEWHAT UNCERTAIN

B) AN ERROR OF -0.01 IN CONDUCTIVITY RATIO, 0.39 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

C) AN ERROR OF -0.006 IN CONDUCTIVITY RATIO, 0.235 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 83080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 54.0N	122 08.0W	3/ 5/78	0255 GMT	784M	240	23KT	1	250 11 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.55	32.955	5.93	0.25	3.	0.00	0.1	342.9	0	14.55	32.955	5.93	24.516	342.9	0.000
11	14.53	32.954	5.93	0.24	2.	0.00	0.3	342.6	10	14.53	32.957	5.93	24.519	342.6	0.034
28	14.52	32.952	5.95	0.22	3.	0.00	0.3	342.6	20	14.52	32.956	5.94	24.519	342.6	0.069
37	14.29	32.973	5.97	0.20	3.	0.00	0.3	336.4	30	14.48	32.958	5.95	24.531	341.5	0.103
50	13.93	33.044	6.01	0.22	3.	0.01	0.2	324.1	50	13.93	33.044	6.01	24.714	324.1	0.170
63	12.81	33.105	5.79	0.32	4.	0.11	2.8	298.2	75	11.46	33.151	5.52	25.275	270.6	0.244
84	10.54	33.194	5.30	0.63	10.	0.02	10.0	251.8	100	9.80	33.304	4.96	25.683	231.8	0.308
102	9.75	33.318	4.91	0.87	14.	0.02	14.1	229.9	125	9.58	33.587	4.10	25.940	207.4	0.363
120	9.62	33.529	4.28	1.11	19.	0.01	17.9	212.2	150	9.17	33.795	3.44	26.169	185.6	0.413
137	9.45	33.707	3.70	1.42	22.	0.01	21.1	196.4	200	8.29	33.984	2.91	26.454	158.6	0.500
164	8.84	33.861	3.26	1.55	28.	0.01	24.1	175.7	250	7.66	34.063	2.21	26.609	143.8	0.578
194	8.37	33.969	2.97	1.71	33.	0.00	26.4	160.8	300	7.25	34.117	1.58	26.711	134.1	0.650
221	8.02	34.019	2.69	1.84	38.	0.00	28.0	152.0	400	6.51	34.179	0.87	26.860	120.0	0.782
265	7.50	34.081	1.96	2.13	47.	0.00	31.3	140.2	500	5.83	34.248	0.49	27.001	106.6	0.901
314	7.16	34.128	1.46	2.36	54.	0.01	33.6	132.2							
390	6.58	34.172	0.92	2.60	64.	0.04	36.1	121.4							
468	6.03	34.221	0.59	2.78	74.	0.01	38.3	110.9							
546	5.57	34.289	0.37	2.89	84.	0.00	39.9	100.4							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 83090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 34.5N	122 50.0W	3/ 5/78	0921 GMT	4117M	230	18KT	1	240 8 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.70	32.852	5.96	0.26	2.	0.00	0.1	353.5	0	14.70	32.852	5.96	24.405	353.5	0.000
11	14.68	32.853	5.94	0.29	2.	0.00	0.1	353.0	10	14.68	32.855	5.94	24.409	353.1	0.035
30	14.69	32.876	5.97	0.24	2.	0.00	0.0	351.6	20	14.68	32.867	5.95	24.417	352.3	0.071
54	13.51	33.033	5.96	0.37	3.	0.02	0.0	316.7	30	14.69	32.876	5.97	24.425	351.6	0.106
63	11.72	32.988	5.98	0.43	4.	0.04	2.5	287.1	50	13.71	32.960	5.96	24.693	326.0	0.174
72	11.04	32.958	5.89	0.39	6.	0.02	3.0	277.6	75	10.86	33.006	5.74	25.269	271.2	0.249
86	10.34	33.227	5.05	0.95	12.	0.02	12.2	246.0	100	9.87	33.399	4.42	25.747	225.8	0.311
100	9.87	33.399	4.42	1.35	16.	0.04	17.5	225.8	125	9.25	33.693	3.79	26.076	194.5	0.365
124	9.27	33.684	3.80	1.51	23.	0.01	21.9	195.3	150	8.83	33.830	3.56	26.249	178.0	0.412
143	8.95	33.790	3.67	1.65	25.	0.02	22.9	182.6	200	8.18	34.005	2.86	26.487	155.4	0.497
166	8.59	33.907	3.74U	1.65	28.	0.01	23.4	168.6	250	7.49	34.059	2.29	26.630	141.8	0.573
194	8.28	33.995	2.88	1.84	35.	0.06	27.4	157.5	300	6.92	34.076	1.71	26.723	133.0	0.644
222	7.80	34.027	2.76	1.97	40.	0.01	28.7	148.4	400	6.06	34.130	0.95	26.880	118.1	0.774
260	7.40	34.067	2.10	2.07	47.		29.9	139.9	500	5.48	34.209	0.55	27.014	105.4	0.892
316	6.74	34.076	1.60	2.27	56.	0.01	32.2	130.6							
387	6.16	34.123	1.01	2.45	66.	0.01	36.3	119.8							
458	5.67	34.164	0.72	2.64	75.	0.01	38.8	110.9							
533	5.38	34.252	0.41	2.90	84.	0.00	39.8	101.0							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87036

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 49.0N	118 40.0W	3/ 3/78	0029 GMT	851M	250	23KT	1	240 6 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.02	33.165	6.09	0.26	2.	0.03	0.0	337.1	0	15.02	33.165	6.09	24.576	337.1	0.000
11	14.93	33.165	6.10	0.25	1.	0.01	0.0	335.3	10	14.94	33.166	6.10	24.593	335.5	0.034
30	14.82	33.225	6.07	0.27	1.	0.03	0.0	328.6	20	14.88	33.173	6.09	24.611	333.8	0.067
39	14.41	33.262	5.84	0.27	1.	0.03	0.8	317.6	30	14.82	33.225	6.07	24.665	328.6	0.100
54	12.09	33.419	4.63	0.71	8.	0.24	9.2	261.9	50	12.73	33.374	4.94	25.208	277.0	0.161
68	11.43	33.452	4.65	0.82	10.	0.06	11.0	247.8	75	11.17	33.484	4.38	25.585	241.1	0.226
90	10.74	33.567	3.78	1.00	13.	0.02	14.8	227.5	100	10.49	33.642	3.76	25.829	217.9	0.284
109	10.33	33.698	3.75	1.21	17.	0.02	17.9	211.0	125	10.33	33.729	3.65	25.924	208.9	0.338
127	10.33	33.730	3.64	1.31	18.	0.02	18.5	208.7	150	10.06	33.917	2.88	26.117	190.5	0.389
147	10.11	33.899	2.94	1.47	22.	0.01	21.9	192.6	200	9.34	34.075	2.33	26.360	167.5	0.480
175	9.60	34.011	2.54	1.72	27.	0.01	24.6	176.2	250	8.85	34.138	1.94	26.488	155.3	0.563
207	9.28	34.087	2.28	2.00	31.		26.2	165.6	300	8.30	34.163	1.54	26.593	145.3	0.640
235	8.98	34.131	2.04	2.20	34.		27.9	157.7	400	7.25	34.254	0.77	26.817	124.1	0.781
282	8.55	34.143	1.71	2.23	39.		29.7	150.4	500	6.51	34.292	0.42	26.949	111.5	0.906
333	7.83	34.204	1.22	2.46	48.		32.4	135.6							
411	7.18	34.258	0.72	2.70	58.		35.6	122.7							
490	6.58	34.288	0.45		68.		38.0	112.7							
568	6.07	34.320 A	0.30	2.89	75.		39.6	104.0							

A) AN ERROR OF -0.01 IN CONDUCTIVITY RATIO, 0.39 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 40.0N	118 58.0W	3/ 3/78	0447 GMT	879M	250	13KT	1	250 4 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.62	33.233	6.02	0.26	0.	0.04	0.1	324.0	0	14.62	33.233	6.02	24.714	324.0	0.000
10	14.60	33.231	6.03	0.30	0.	0.00	0.1	323.7	10	14.60	33.231	6.03	24.717	323.7	0.032
29	14.46	33.250	6.03	0.23	0.	0.00	0.1	319.5	20	14.53	33.243	6.03	24.740	321.5	0.065
39	13.46	33.328	5.36	0.43	3.	0.50	3.8	294.1	30	14.37	33.260	5.96	24.787	317.1	0.097
49	12.79	33.349	5.23	0.50	5.	0.42	5.6	279.9	50	12.71	33.356	5.20	25.196	278.1	0.156
63	11.79	33.436	4.77	0.68	8.	0.17	8.7	255.3	75	11.28	33.528	4.40	25.600	239.7	0.221
77	11.21	33.541	4.34	0.94	12.	0.11	12.6	237.4	100	10.42	33.692	3.82	25.881	213.0	0.279
96	10.51	33.656	3.95	1.07	16.	0.06	16.4	217.1	125	10.05	33.873	3.12	26.084	193.6	0.330
119	10.11	33.843	3.23	1.35	21.	0.07	20.3	196.8	150	9.80	33.956	2.84	26.190	183.6	0.378
138	9.93	33.918	2.94	1.62	24.	0.02	22.1	188.3	200	9.26	34.095	2.25	26.389	164.7	0.467
166	9.63	33.998	2.71	1.74	27.	0.04	23.9	177.6	250	8.66	34.174	1.75	26.546	149.8	0.547
194	9.34	34.080	2.32	1.83	31.		24.2	167.0	300	8.10	34.210	1.32	26.660	139.0	0.622
222	8.95	34.135	2.03	1.85	36.		23.6	157.0	400	7.46	34.249	0.89	26.784	127.3	0.761
260	8.56	34.183	1.65	2.15	41.		28.9	147.6	500	6.47	34.302	0.42	26.962	110.3	0.887
316	7.93	34.216	1.21	2.22	50.		33.1	136.1							
387	7.59	34.241	0.97	2.55	54.		34.0	129.5							
457	6.84	34.280	0.56	2.78	65.		38.0	116.6							
533	6.23	34.316	0.36		76.		39.2	106.3							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87045

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 30.0N	119 19.0W	3/ 3/78	0936 GMT	1664M	220	11KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.54	33.280	5.97	0.60	2.	0.05	0.2	318.9	0	14.54	33.280	5.97	24.767	318.9	0.000
10	14.52	33.279	5.99	0.57	2.	0.05	0.1	318.6	10	14.52	33.279	5.99	24.771	318.6	0.032
29	14.32	33.302	6.11	0.57	0.	0.05	0.6	312.9	20	14.41	33.293	6.05	24.802	315.6	0.064
39	13.02	33.391	5.39	0.80	4.	0.17	5.1	281.1	30	14.22	33.310	6.06	24.857	310.4	0.095
48	11.53	33.522	4.49	1.09	10.	0.06	11.6	244.4	50	11.36	33.550	4.35	25.602	239.5	0.150
62	10.85	33.670	3.81	1.40	15.	0.03	15.7	221.8	75	10.57	33.749	3.53	25.898	211.4	0.207
77	10.54	33.756	3.50	1.55	18.	0.00	18.5	210.2	100	10.01	33.863	3.11	26.083	193.7	0.258
95	10.10	33.845	3.17	1.75	21.	0.00	21.0	196.4	125	9.64	33.936	2.85	26.202	182.5	0.306
119	9.72	33.915	2.92	1.90	25.	0.00	23.0	185.2	150	9.36	34.018	2.55	26.312	172.1	0.351
137	9.50	33.976	2.70	2.00	27.	0.00	24.5	177.2	200	8.78	34.123	2.04	26.487	155.5	0.434
165	9.20	34.058	2.38	2.08	31.	0.00	26.3	166.5	250	8.36	34.170	1.67	26.588	145.8	0.512
193	8.83	34.114	2.09	2.29	36.	0.00	28.0	156.7	300	7.93	34.217	1.22	26.691	136.0	0.584
221	8.65	34.138	1.91	2.39	38.	0.00	29.3	152.3	400	7.12	34.272	0.66	26.849	121.0	0.719
258	8.28	34.178	1.60	2.54	43.	0.00	31.0	143.9	500	6.44	34.306	0.42	26.970	109.6	0.841
315	7.81	34.228	1.09	2.66	51.		32.8	133.5							
384	7.24	34.265	0.71	2.89	58.	0.00	36.2	123.0							
454	6.75	34.288	0.52	2.94	67.	0.00	38.1	114.9							
529	6.24	34.318	0.36	3.09	76.	0.00	39.3	106.2							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 20.0N	119 39.5W	2/28/78	2005 GMT	75M	100	22KT	5	090 3 3

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.72	33.270	6.01	0.28	2.	0.02	0.0	323.3	0	14.72	33.270	6.01	24.721	323.3	0.000
12	14.69	33.274	6.02	0.39	2.	0.01	0.0	322.4	10	14.70	33.275	6.02	24.729	322.6	0.032
21	14.53	33.286	6.20	0.39	2.	0.02	0.0	318.3	20	14.56	33.286	6.19	24.767	318.9	0.064
31	14.15	33.310	5.94	0.52	2.	0.06	0.1	308.9	30	14.20	33.309	5.98	24.859	310.2	0.096
50	12.19	33.437	4.91	0.77	8.		7.2	262.4	50	12.19	33.437	4.91	25.362	262.4	0.153

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 00.0N	120 21.5W	2/28/78	1232 GMT	724M	080	18KT	2	070

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.11	33.117	5.91	0.29	3.	0.00	0.0	342.5	0	15.11	33.117	5.91	24.520	342.5	0.000
11	15.09	33.111	5.87	0.30	3.	0.00	0.0	342.5	10	15.09	33.114	5.87	24.520	342.5	0.034
30	14.75	33.142	5.95	0.30	3.	0.00	0.0	333.3	20	14.88	33.125	5.90	24.576	337.2	0.068
39	15.03	33.256	5.96	0.29	2.	0.00	0.0	330.7	30	14.75	33.142	5.95	24.617	333.3	0.102
49	15.00	33.264	6.01	0.28	2.	0.00	0.0	329.5	50	14.96	33.265	6.01	24.663	328.8	0.168
63	14.15	33.235	5.88	0.33	3.	0.04	0.4	314.4	75	12.93	33.194	5.73	25.029	294.0	0.247
78	12.60	33.183	5.69	0.46	4.	0.07	3.2	288.5	100	10.67	33.179	5.26	25.438	255.1	0.316
97	10.88	33.161	5.33	0.75	9.	0.04	8.7	259.9	125	9.58	33.438	4.53	25.824	218.4	0.375
120	9.67	33.366	4.72	1.11	17.	0.02	15.0	225.1	150	9.31	33.742	3.69	26.105	191.7	0.427
139	9.44	33.630	4.01	1.29	21.	0.04	19.1	201.9	200	8.67	33.975	2.85	26.389	164.8	0.518
167	9.10	33.863	3.30	1.52	27.	0.02	23.0	179.4	250	8.10	34.055	2.36	26.538	150.5	0.599
195	8.72	33.960	2.90	1.79	32.		25.3	166.5	300	7.64	34.093	1.95	26.635	141.3	0.674
223	8.44	34.023	2.62	1.95	36.		27.5	157.7	400	6.82	34.184	1.07	26.821	123.7	0.812
261	7.96	34.062	2.26	2.15	42.		29.2	148.0	500	6.12	34.264	0.51	26.977	108.9	0.935
317	7.52	34.104	1.82	2.29	49.		29.6	138.8							
387	6.92	34.175	1.17	2.63	60.	0.02	34.7	125.5							
458	6.42	34.219	0.71	2.87	69.	0.01	38.4	115.9							
534	5.88	34.308	0.38	3.21	81.	0.04	40.6	102.6							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 39.8N	121 02.0W	2/28/78	0629 GMT	3738M	070	17KT	2	020 4 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.84	33.228	5.92	0.26	3.	0.02	0.0	328.8	0	14.84	33.228	5.92	24.663	328.8	0.000
11	14.81	33.229	5.95	0.28	3.	0.02	0.0	328.1	10	14.81	33.231	5.95	24.670	328.2	0.033
30	14.75	33.221	6.22U	0.26	2.	0.02	0.0	327.5	20	14.78	33.227	5.95	24.673	327.9	0.066
53	14.68	33.244	5.96	0.24	2.	0.01	0.0	324.4	30	14.75	33.221	5.95	24.677	327.5	0.099
63	14.36	33.253	5.89	0.20	2.	0.04	0.0	317.3	50	14.69	33.243	5.96	24.706	324.8	0.164
72	12.94	33.281	5.50	0.44	5.	0.14	3.6	287.7	75	12.41	33.301	5.35	25.212	276.6	0.240
86	10.83	33.395	4.82	0.83	10.	0.04	11.4	241.7	100	10.36	33.530	4.34	25.765	224.0	0.303
100	10.36	33.530	4.34	1.07	14.	0.07	14.9	224.0	125	9.69	33.748	3.62	26.046	197.3	0.356
123	9.74	33.733	3.67	1.32	20.	0.10	19.6	199.0	150	9.17	33.884	3.13	26.238	179.0	0.404
142	9.33	33.843	3.27	1.49	25.	0.06	22.5	184.4	200	8.40	34.024	2.51	26.469	157.1	0.489
165	8.89	33.944	2.89	1.67	30.	0.11	24.8	170.3	250	7.98	34.134	1.84	26.618	143.0	0.566
194	8.48	34.015	2.55	1.89	35.	0.06	27.1	158.9	300	7.58	34.204	1.23	26.731	132.2	0.637
222	8.13	34.054	2.33	2.00	39.	0.04	29.3	151.0	400	6.72	34.234	0.77	26.875	118.6	0.768
259	7.94	34.158	1.67	2.18	46.	0.03	30.4	140.6	500	5.95	34.266	0.45	27.001	106.7	0.887
315	7.43	34.209	1.12	2.43	54.	0.03	33.1	129.7							
386	6.85	34.232	0.82	2.54	63.		34.1	120.3							
456	6.22	34.241	0.57	2.73	72.	0.08	36.6	111.7							
532	5.82	34.291	0.37	2.89	79.	0.00	39.8	103.2							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 20.0N	121 42.0W	2/28/78	0057 GMT	4022M	050	11KT	2	050 3 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.87	33.100	5.94	0.25	2.	0.01	0.0	338.8	0	14.87	33.100	5.94	24.559	338.8	0.000
11	14.85	33.098	5.91	0.19	2.	0.01	0.0	338.6	10	14.85	33.101	5.91	24.561	338.6	0.034
30	14.73	33.114	6.03	0.14	2.	0.00	0.0	334.9	20	14.79	33.100	5.96	24.574	337.4	0.068
39	14.54	33.107	6.05	0.08	2.	0.00	0.0	331.6	30	14.73	33.114	6.03	24.599	334.9	0.101
48	14.34	33.166	5.99	0.15	2.	0.01	0.0	323.3	50	14.27	33.181	5.97	24.747	320.9	0.167
62	13.40	33.237	5.71	0.19	4.	0.10	2.6	299.6	75	11.39	33.276	5.13	25.385	260.2	0.240
76	11.23	33.278	5.08	0.61	9.	0.04	10.0	257.2	100	9.86	33.436	4.49	25.776	223.0	0.301
95	10.05	33.392	4.61	0.88	15.	0.02	14.9	229.2	125	9.23	33.639	3.97	26.037	198.2	0.354
118	9.38	33.588	4.10	1.13	20.	0.02	19.1	204.1	150	8.81	33.811	3.47	26.238	179.1	0.402
137	9.01	33.716	3.76	1.31	23.	0.02	21.8	189.0	200	8.08	33.994	3.00	26.493	154.8	0.487
165	8.60	33.903	3.19	1.61	29.	0.03	25.1	169.0	250	7.55	34.074	2.10	26.634	141.5	0.563
193	8.14	33.981	3.09	1.95	34.	0.03	26.5	156.6	300	7.04	34.122	1.47	26.743	131.1	0.633
221	7.91	34.021	2.66	2.05	38.	0.02	28.7	150.3	400	6.40	34.205	0.79	26.895	116.7	0.762
258	7.44	34.086	1.95	2.31	47.	0.04	31.9	139.0	500	5.91	34.288	0.39	27.023	104.5	0.879
314	6.93	34.129	1.36	2.53	56.	0.02	35.0	129.1							
383	6.48	34.187	0.89	2.70	65.	0.03	37.4	119.0							
453	6.16	34.255	0.53	2.88	73.	0.01	39.6	110.0							
528	5.74	34.301	0.35	3.01	81.	0.01	40.8	101.5							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 87090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 59.0N	122 24.0W	2/27/78	1922 GMT	4309M	050	17KT	2	050 3 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.09	32.959	5.88	0.25	2.	0.03	0.0	353.7	0	15.09	32.959	5.88	24.403	353.7	0.000
11	15.05	32.955	5.90	0.27	3.	0.02	0.0	353.1	10	15.05	32.958	5.90	24.408	353.2	0.035
29	14.74	32.896	6.03	0.27	2.	0.02	0.0	351.1	20	14.90	32.929	5.96	24.418	352.2	0.071
53	14.57	32.893	6.02	0.27	3.	0.02	0.0	347.9	30	14.73	32.899	6.03	24.431	351.0	0.106
62	14.19	32.888	6.03	0.30	2.	0.02	0.0	340.7	50	14.59	32.896	6.02	24.459	348.3	0.176
72	13.63	32.954	5.95	0.42	3.	0.06	0.6	324.8	75	13.24	32.962	5.94	24.788	317.0	0.260
86	11.87	32.995	5.85	0.47	4.	0.05	3.1	289.2	100	11.48	33.109	5.53	25.240	273.9	0.334
100	11.48	33.109	5.53	0.64	7.	0.04	6.4	273.9	125	9.80	33.220	5.10	25.616	238.2	0.399
124	9.84	33.203	5.12	0.88	12.	0.05	12.1	239.8	150	9.26	33.569	4.56	25.977	203.8	0.454
142	9.39	33.482	4.71	1.02	16.	0.04	15.2	212.1	200	8.77	33.963	2.80	26.363	167.2	0.549
166	9.07	33.706	4.20	1.20	21.	0.03	18.7	190.6	250	8.15	34.030	2.77	26.510	153.2	0.631
194	8.78	33.928	3.00	1.53	29.	0.05	24.6	169.8	300	7.14	34.016	2.50	26.646	140.4	0.707
223	8.75	34.053	2.35	1.78	34.	0.01	27.1	160.1	400	6.17	34.116	1.12	26.854	120.6	0.842
260	7.88	34.008	2.98	1.79	37.	0.02	26.9	150.9	500	5.53	34.187	0.64	26.990	107.6	0.962
317	6.89	34.028	2.14	2.04	49.	0.01	30.9	136.1							
388	6.26	34.107	1.20	2.41	63.	0.01	36.7	122.2							
458	5.78	34.150	0.85	2.69	72.	0.01	39.8	113.3							
534	5.34	34.220 A	0.48	2.98	83.	0.02	41.0	102.9							

A) AN ERROR OF -0.01 IN CONDUCTIVITY RATIO, 0.39 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90033

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 18.5N	118 07.0W	2/25/78	1116 GMT	768M	300	6KT	2	350 1 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	14.81	33.341	6.14	0.31	0.	0.00	0.2	319.9
11	14.80	33.342	6.15	0.30	7.	0.00	0.2	319.7
29	14.29	33.330	6.25	0.30	0.	0.02	0.1	310.2
39	13.94	33.330	5.98	0.35	1.	0.02	0.1	303.3
48	12.64	33.378	5.31	0.57	5.		5.6	274.9
62	11.53	33.415	4.83	0.78	9.	0.20	9.5	252.2
77	10.92	33.521	4.46	1.03	12.	0.04	12.2	233.9
96	10.53	33.637	4.03	1.12	17.	0.05	15.2	218.9
119	10.07	33.785	3.52	1.33	21.	0.04	18.8	200.4
138	9.62	33.869	3.24	1.52	25.	0.04	21.4	187.0
166	9.20	34.018	2.33	1.67	32.	0.07	24.3	169.5
194	9.16	34.138	2.14	1.87	36.	0.07	26.0	160.0
222	8.95	34.169	1.52U	2.11	39.	0.04	27.6	154.5
259	8.52	34.202	1.64	2.19	45.	0.04	29.3	145.6
315	8.02	34.234	1.22	2.41	52.	0.04	32.1	136.0
385	7.25	34.256	0.84	2.56	65.	0.04	34.6	123.8
456	6.77	34.281	0.59	2.70	73.	0.03	36.0	115.7
530	6.28	34.311	0.40	2.74	83.	0.16	37.2	107.2

Z	T	S	O2	SIGT	DT	DD
0	14.81	33.341	6.14	24.757	319.9	0.000
10	14.80	33.344	6.15	24.759	319.7	0.032
20	14.59	33.338	6.20	24.799	315.9	0.064
30	14.28	33.331	6.24	24.859	310.1	0.095
50	12.43	33.385	5.22	25.274	270.7	0.153
75	10.98	33.507	4.50	25.638	236.0	0.217
100	10.45	33.666	3.93	25.854	215.6	0.274
125	9.92	33.814	3.44	26.059	196.0	0.326
150	9.40	33.934	2.84	26.240	178.8	0.374
200	9.13	34.150	2.10	26.453	158.7	0.460
250	8.63	34.196	1.71	26.567	147.8	0.538
300	8.15	34.228	1.33	26.666	138.4	0.612
400	7.14	34.262	0.78	26.840	121.9	0.748
500	6.48	34.299	0.47	26.959	110.6	0.871

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90037

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
33 11.0N	118 22.5W	2/25/78	1714 GMT	1165M	260	4KT	2	310 1 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
2	14.74	33.327	6.14	0.34	2.		0.1	319.5
12	14.68	33.328	6.14	0.31	2.		0.1	318.3
31	13.33	33.337	6.02	0.50	4.		2.7	290.9
40	12.10	33.316	5.26	0.69	7.		7.1	269.7
49	11.52	33.383	5.05	0.87	10.		10.0	254.4
64	10.98	33.522	4.38	1.08	13.		13.2	234.9
78	10.66	33.597	4.13	1.15	15.		15.3	224.0
96	10.26	33.700	3.75	1.33	18.		18.0	209.8
120	9.77	33.808	3.46	1.44	22.		20.6	193.9
139	9.53	33.885	3.14	1.62	26.		22.3	184.4
166	9.16	33.969	2.85	1.82	29.		24.3	172.5
194	8.88	34.055	2.48	1.89	33.		25.7	161.9
222	8.81	34.155	1.94	2.05	38.		27.9	153.4
259	8.32	34.180	1.86	2.19	44.		29.6	144.4
316	7.87	34.219	1.19	2.48	50.		32.4	135.1
386	7.28	34.235	1.13U	2.57	58.		33.8	125.8
457	6.83	34.274	0.58	2.67	66.		35.8	117.0
533	6.34	34.299	0.41	2.91	73.		38.1	108.9

Z	T	S	O2	SIGT	DT	DD
0	14.74	33.327	6.14	24.761	319.5	0.000
10	14.69	33.330	6.14	24.772	318.5	0.032
20	14.31	33.339	6.09	24.859	310.2	0.063
30	13.44	33.339	6.03	25.039	293.1	0.094
50	11.47	33.395	5.01	25.461	252.9	0.148
75	10.72	33.585	4.17	25.744	226.0	0.209
100	10.17	33.721	3.70	25.946	206.8	0.263
125	9.70	33.831	3.38	26.110	191.2	0.314
150	9.38	33.922	3.01	26.235	179.4	0.361
200	8.87	34.080	2.35	26.440	159.9	0.447
250	8.45	34.180	1.88	26.582	146.3	0.526
300	7.98	34.210	1.40	26.678	137.3	0.599
400	7.19	34.243	0.71	26.818	124.0	0.735
500	6.55	34.292	0.47	26.942	112.2	0.860

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90045

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 54.5N	118 55.5W	2/25/78	2330 GMT	1664M	310	9KT	2	320 1 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	14.57	33.310	6.22	0.22	2.	0.00	0.6	317.3
10	14.31	33.304	6.22	0.12	1.	0.04	0.2	312.5
29	13.91	33.310	6.13	0.15	2.	0.05	0.5	304.2
38	13.83	33.307	6.02	0.20	3.	0.10	0.7	302.8
48	13.63	33.302	5.86	0.23	3.	0.15	1.5	299.3
62	12.78	33.319	5.44	0.34	5.	0.04	5.0	281.9
76	11.49	33.460	4.66	0.58	10.	0.01	11.0	248.2
95	10.82	33.625	4.01	0.82	15.	0.00	15.5	224.6
118	10.03	33.757	3.59	1.06	20.	0.00	19.5	201.8
137	9.74	33.933	2.92	1.36	25.	0.00	22.9	184.2
165	9.29	34.021	2.63	1.54	30.	0.00	25.3	170.6
193	9.04	34.090	2.29	1.77	33.	0.01	26.8	161.7
221	8.75	34.143	1.99	1.84	38.	0.01	28.6	153.4
259	8.50	34.169	1.78	2.02	41.	0.00	29.8	147.8
316	7.99	34.218	1.33	2.31	48.	0.01	32.7	136.8
386	7.38	34.248	0.92	2.49	56.	0.00	34.9	126.2
457	6.68	34.295	0.55	2.73	68.	0.01	37.4	113.5
533	6.15	34.316	0.41	2.89	75.	0.02	39.4	105.3

Z	T	S	O2	SIGT	DT	DD
0	14.57	33.310	6.22	24.784	317.3	0.000
10	14.31	33.304	6.22	24.834	312.5	0.032
20	14.07	33.309	6.19	24.887	307.5	0.063
30	13.90	33.312	6.12	24.924	304.0	0.093
50	13.54	33.302	5.82	24.990	297.7	0.154
75	11.58	33.450	4.72	25.485	250.7	0.223
100	10.63	33.654	3.92	25.814	219.3	0.282
125	9.90	33.825	3.34	26.071	194.9	0.334
150	9.52	33.989	2.74	26.263	176.7	0.381
200	8.97	34.106	2.21	26.445	159.4	0.467
250	8.56	34.166	1.82	26.555	148.9	0.546
300	8.14	34.206	1.46	26.650	139.9	0.621
400	7.24	34.258	0.84	26.823	123.5	0.758
500	6.35	34.311	0.44	26.985	108.1	0.881

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90053

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 39.0N	119 28.5W	2/26/78	0551 GMT	676M	330	8KT	2	340

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.92	33.310	5.92	0.33	3.	0.03	0.1	324.5	0	14.92	33.310	5.92	24.709	324.5	0.000
11	14.90	33.307	5.92	0.24	2.	0.01	0.0	324.3	10	14.90	33.309	5.92	24.711	324.3	0.032
30	14.89	33.305	6.03	0.21	2.	0.01	0.0	324.2	20	14.90	33.308	5.99	24.711	324.3	0.065
40	14.70	33.288	5.94	0.17	3.	0.00	0.0	321.6	30	14.89	33.305	6.03	24.712	324.2	0.097
49	14.34	33.281	5.94	0.13	3.	0.02	0.0	314.8	50	14.26	33.282	5.92	24.826	313.3	0.161
63	13.12	33.276	5.58	0.25	5.	0.01	3.0	291.4	75	12.38	33.295	5.41	25.213	276.5	0.236
78	12.22	33.303	5.36	0.43	6.	0.05	5.4	272.8	100	10.94	33.489	4.66	25.631	236.8	0.300
96	11.14	33.452	4.79	0.63	11.	0.02	10.0	242.8	125	10.23	33.653	4.13	25.883	212.8	0.357
120	10.25	33.632	4.17	0.96	16.	0.02	15.5	214.6	150	10.02	33.714	3.92	25.965	204.9	0.410
139	10.16	33.677	4.04	1.09	18.	0.03	16.8	209.8	200	9.10	33.970	2.90	26.316	171.7	0.506
167	9.73	33.783	3.67	1.26	22.	0.01	19.8	195.1	250	8.30	34.112	2.07	26.552	149.2	0.588
195	9.19	33.945	3.02	1.52	29.	0.03	22.7	174.7	300	7.79	34.154	1.68	26.662	138.8	0.662
223	8.73	34.055	2.41	1.69	36.	0.03	26.8	159.6	400	6.97	34.243	0.82	26.848	121.2	0.798
261	8.15	34.125	1.98	1.86	43.	0.03	29.8	146.0	500	6.46	34.284	0.53	26.949	111.6	0.921
317	7.66	34.160	1.56	2.21	50.	0.03	32.8	136.5							
387	7.05	34.233	0.89	2.58	61.	0.03	35.8	122.9							
457	6.68	34.271	0.62	2.82	68.	0.02	38.4	115.3							
531	6.31	34.287	0.50	2.79	72.	0.04		109.4							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 25.0N	119 57.5W	2/26/78	1113 GMT	1763M	280	6KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.93	33.317	5.94	0.25	2.	0.02	0.1	324.2	0	14.93	33.317	5.94	24.712	324.2	0.000
11	14.91	33.315	5.94	0.23	2.	0.01	0.1	323.9	10	14.91	33.317	5.94	24.715	323.9	0.032
29	14.92	33.315	5.99	0.20	2.	0.00	0.1	324.1	20	14.92	33.317	5.97	24.714	324.0	0.065
39	14.86	33.314	5.99	0.15	2.	0.00	0.1	322.9	30	14.91	33.317	5.99	24.714	324.0	0.097
48	14.47	33.300	6.02	0.14	3.	0.02	0.1	316.0	50	14.43	33.303	6.02	24.807	315.1	0.161
62	14.08	33.305	5.90	0.14	3.	0.05	0.5	307.9	75	13.10	33.282	5.55	25.064	290.7	0.238
76	13.01	33.280	5.52	0.29	5.	0.14	3.8	289.0	100	11.48	33.494	4.68	25.537	245.6	0.305
95	11.66	33.463	4.78	0.61	10.	0.05	9.8	251.0	125	10.86	33.628	4.17	25.752	225.2	0.365
118	11.04	33.579	4.36	0.89	13.	0.02	13.4	231.7	150	10.22	33.808	3.47	26.004	201.3	0.419
137	10.57	33.712	3.83	1.04	17.	0.02	17.0	214.0	200	9.42	34.026	2.67	26.308	172.4	0.514
165	9.87	33.903	3.12	1.37	24.	0.01	21.9	188.5	250	8.58	34.122	2.15	26.518	152.5	0.597
193	9.53	34.002	2.76	1.63	29.	0.05	23.6	175.8	300	8.10	34.166	1.74	26.624	142.3	0.673
221	9.08	34.082	2.42	1.76	33.		25.8	162.9	400	6.92	34.183	1.02	26.807	125.0	0.813
258	8.45	34.127	2.08	1.94	40.		28.3	150.2	500	6.04	34.265	0.47	26.989	107.8	0.936
314	8.01	34.173	1.63	2.35	47.		31.0	140.4							
385	7.10	34.174	1.13	2.44	58.		35.1	127.9							
454	6.37	34.224	0.66	2.68	70.		37.5	114.9							
528	5.90	34.291	0.41	2.96	79.		40.7	104.1							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 05.0N	120 39.0W	2/26/78	1740 GMT	3452M	160	3KT	2	330 4 11

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.10	33.053	5.88	0.26	2.	0.03	0.1	347.0	0	15.10	33.053	5.88	24.473	347.0	0.000
11	15.09	33.053	5.91		1.	0.03	0.1	346.8	10	15.09	33.055	5.91	24.475	346.8	0.035
30	15.11	33.053	5.97	0.23	1.	0.01	0.0	347.2	20	15.10	33.055	5.94	24.473	347.0	0.069
53	14.28	33.157	6.06	0.26	2.	0.03	0.1	322.7	30	15.11	33.053	5.97	24.471	347.2	0.104
63	13.21	33.161	6.00	0.28	3.	0.05	3.6	301.6	50	14.48	33.147	6.06	24.676	327.6	0.172
72	12.38	33.173	5.74	0.40	4.	0.06	4.1	285.2	75	12.13	33.170	5.69	25.164	281.1	0.248
87	11.26	33.168	5.52	0.54	6.	0.06	6.9	265.8	100	10.50	33.274	5.13	25.540	245.4	0.315
101	10.45	33.282	5.10	0.73	9.	0.04	11.1	243.8	125	9.29	33.528	4.32	25.941	207.3	0.372
124	9.31	33.518	4.34	1.04	17.	0.04	18.1	208.2	150	9.00	33.725	3.79	26.141	188.2	0.422
143	9.04	33.662	3.96	1.24	21.	0.06	20.5	193.4	200	8.55	34.007	2.79	26.432	160.6	0.511
166	8.93	33.857	3.40	1.49	25.	0.07	23.3	177.3	250	8.00	34.096	2.13	26.584	146.2	0.589
194	8.61	33.994	2.84	1.59	31.		25.6	162.4	300	7.44	34.160	1.46	26.716	133.7	0.662
222	8.32	34.034	2.63	1.88	35.		28.0	155.2	400	6.74	34.259	0.66	26.892	117.0	0.792
259	7.90	34.114	1.96	2.06	42.		30.2	143.3	500	6.11	34.294	0.43	27.003	106.5	0.910
315	7.29	34.170	1.32	2.41	52.		33.3	130.8							
385	6.82	34.250	0.72	2.71	62.		36.1	118.6							
455	6.43	34.277	0.53	3.02	70.		38.8	111.7							
531	5.86	34.305	0.38	3.08	79.		40.8	102.6							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 44.5N	121 19.5W	2/26/78	2340 GMT	3832M	170	15KT	2	150 5 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.21	33.002	5.88			0.02		353.0	0	15.21	33.002	5.88	24.410	353.0	0.000
11	15.21	33.010	5.89	0.39	3.	0.01	0.1	352.4	10	15.21	33.012	5.89	24.415	352.5	0.035
30	15.21	33.015	5.94	0.39	3.	0.00	0.0	352.1	20	15.21	33.015	5.91	24.418	352.3	0.071
53	14.80	33.042	5.97	0.41	2.	0.00	0.0	341.6	30	15.21	33.015	5.94	24.420	352.1	0.106
63	13.91	33.217	5.94	0.43	2.	0.05	0.0	311.0	50	14.85	33.041	5.97	24.515	343.0	0.176
72	13.01	33.140	5.92	0.46	3.	0.02	0.4	299.3	75	12.83	33.141	5.90	25.008	296.0	0.256
87	12.07	33.155	5.74	0.52	3.	0.01	1.2	281.0	100	10.55	33.132	5.49	25.421	256.8	0.325
101	10.44	33.129	5.47	0.55	5.	0.00	3.1	254.9	125	9.66	33.281	5.02	25.688	231.4	0.387
124	9.66	33.267	5.05	0.80	9.	0.00	8.1	232.2	150	9.59	33.586	4.22	25.937	207.7	0.443
143	9.66	33.493	4.47	0.99	14.	0.00	12.8	215.5	200	8.64	33.952	3.08	26.375	166.1	0.538
167	9.34	33.781	3.64	1.16	17.	0.02	16.5	189.2	250	7.79	34.022	2.75	26.558	148.7	0.618
195	8.74	33.935	3.12	1.42	23.	0.01	21.5	168.7	300	7.19	34.053	2.19	26.668	138.2	0.692
223	8.22	33.998	2.94	1.63	30.	0.02	24.7	156.4	400	6.61	34.165	1.04	26.834	122.4	0.828
260	7.65	34.025	2.67	1.81	35.	0.02	27.0	146.4	500	6.04	34.264	0.51	26.988	107.9	0.949
316	7.05	34.064	1.97	2.02	41.	0.01	29.2	135.5							
387	6.69	34.148	1.15	2.36	51.	0.01	32.9	124.6							
457	6.28	34.227	0.69	2.57	61.	0.01	34.7	113.5							
534	5.86	34.285	0.42	2.76	70.	0.00	38.8	104.1							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 24.0N	122 01.3W	2/27/78	0537 GMT	3926M	080	10KT	5	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	14.40	32.917	5.93	0.26	3.	0.02	0.0	342.7	0	14.40	32.917	5.93	24.516	342.7	0.000
9	14.39	32.915	5.96	0.25	3.	0.01	0.0	342.7	10	14.39	32.918	5.97	24.519	342.6	0.034
28	14.37	32.942	6.12	0.37	3.	0.02	0.0	340.3	20	14.38	32.929	6.06	24.529	341.6	0.069
51	14.28	33.007	6.04	0.31	3.	0.01	0.0	333.7	30	14.36	32.951	6.11	24.549	339.7	0.103
61	14.22	33.012	6.07	0.28	3.	0.01	0.0	332.2	50	14.29	33.007	6.04	24.609	334.0	0.170
70	13.97	33.058	5.98	0.29	3.	0.04	0.2	323.8	75	13.60	33.046	5.95	24.781	317.6	0.252
85	12.70	33.031	5.90	0.34	4.	0.04	2.1	301.6	100	11.53	33.193	5.34	25.295	268.7	0.326
99	11.61	33.186	5.36	0.66	8.	0.04	7.7	270.5	125	9.92	33.380	4.66	25.723	228.0	0.389
123	9.97	33.343	4.77	0.95	14.	0.01	14.7	231.5	150	9.41	33.730	3.63	26.079	194.2	0.442
141	9.63	33.656	3.82	1.22	20.	0.02	19.4	203.0	200	8.54	33.975	2.81	26.409	162.8	0.533
165	9.06	33.801	3.45	1.41	25.	0.02	22.2	183.4	250	7.74	34.032	2.49	26.574	147.2	0.612
193	8.64	33.954	2.88	1.67	31.	0.02	25.6	165.8	300	7.08	34.071	1.82	26.698	135.4	0.685
220	8.23	34.007	2.69	1.90	36.		27.0	155.9	400	6.19	34.139	0.92	26.870	119.1	0.817
258	7.61	34.035	2.42	2.07	42.		28.7	145.1	500	5.50	34.199	0.53	27.004	106.4	0.936
315	6.92	34.082	1.59	2.31	54.		33.2	132.4							
385	6.33	34.132	1.00	2.62	65.		37.4	121.2							
456	5.72	34.162	0.70	2.74	75.		38.6	111.7							
531	5.41	34.231	0.42	2.99	83.		41.0	102.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 90100

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 05.0N	122 39.0W	2/27/78	1128 GMT	4022M	060	14KT	2	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.39	32.937	5.83	0.25	2.	0.00	0.0	361.5	0	15.39	32.937	5.83	24.320	361.5	0.000
11	15.37	32.940	5.84	0.22	2.	0.00	0.0	360.9	10	15.37	32.942	5.84	24.326	361.0	0.036
30	15.38	32.961	5.92	0.21	2.	0.00	0.0	359.6	20	15.37	32.953	5.88	24.334	360.2	0.072
53	15.34	32.961	5.85	0.17	2.	0.00	0.0	358.7	30	15.38	32.961	5.92	24.341	359.6	0.108
62	15.30	32.957	5.84	0.14	2.	0.00	0.0	358.2	50	15.35	32.965	5.86	24.349	358.8	0.180
71	14.99	32.917	5.84	0.15	2.	0.00	0.0	354.7	75	14.97	32.916	5.84	24.396	354.3	0.270
85	14.81	32.899	5.87	0.10	2.	0.00	0.0	352.3	100	13.49	32.997	5.98	24.764	319.3	0.355
99	13.58	32.987	5.98	0.12	2.	0.04	0.0	321.4	125	11.51	33.131	5.72	25.250	273.1	0.429
122	11.73	33.124	5.77	0.21	4.	0.05	2.2	277.2	150	10.11	33.239	5.25	25.580	241.6	0.494
141	10.51	33.167	5.40	0.41	8.	0.01	7.2	253.3	200	8.94	33.725	4.18	26.151	187.3	0.603
164	9.64	33.373	5.01	0.71	12.	0.06	11.6	224.1	250	8.29	33.974	3.08	26.446	159.3	0.692
192	9.05	33.656	4.40	1.08	19.	0.01	16.9	194.0	300	7.57	34.038	2.41	26.603	144.4	0.770
220	8.69	33.861	3.64	1.41	25.	0.00	22.6	173.4	400	6.36	34.118	1.20	26.831	122.8	0.909
257	8.19	33.987	2.98	1.60	32.	0.03	24.7	156.8	500	5.63	34.206	0.59	26.992	107.5	1.030
313	7.38	34.042	2.26	1.98	44.	0.02	29.3	141.5							
420	6.17	34.133	1.01	2.18	65.	0.03	31.4	119.2							
453	5.89	34.161	0.81	2.47	67.	0.02	35.3	113.7							
528	5.56	34.232	0.49	2.85	79.	0.00	38.7	104.6							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93029

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 52.7N	117 26.6W	2/23/78	1358 GMT	593M	290	2KT	4	49

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	16.04	32.860	6.32	0.38	1.	0.01	0.1	380.9	0	16.04	32.860	6.32	24.117	380.9	0.000
12	15.72	33.282	5.91	0.38	1.	0.01	0.1	343.3	10	15.76	33.053	6.11	24.325	361.1	0.037
29	15.30	33.340	5.82	0.43	3.	0.00	0.1	330.2	20	15.62	33.310	5.87	24.556	339.1	0.072
44	13.61	33.341	5.52	0.51	3.	0.07	3.1	296.0	30	15.20	33.340	5.81	24.669	328.3	0.106
53	12.68	33.408	5.11	0.69	6.	0.02	6.6	273.5	50	12.97	33.385	5.25	25.169	280.7	0.167
67	11.87	33.511	4.61	0.84	9.	0.01	10.7	251.2	75	11.61	33.581	4.30	25.581	241.5	0.232
82	11.42	33.641	4.02	1.05	14.	0.01	14.2	233.7	100	10.81	33.797	3.36	25.893	211.8	0.290
96	10.93	33.763	3.48	1.27	18.	0.01	17.8	216.2	125	10.22	33.951	2.81	26.116	190.6	0.340
119	10.34	33.924	2.91	1.49	24.	0.01	21.9	194.5	150	9.73	34.023	2.57	26.254	177.5	0.387
138	9.97	33.992	2.66	1.64	27.	0.01	23.6	183.5	200	9.10	34.135	2.11	26.445	159.4	0.473
166	9.45	34.055	2.47	1.80	31.	0.05	25.5	170.6	250	8.60	34.199	1.69	26.574	147.1	0.552
194	9.15	34.121	2.16	1.86	36.	0.05	26.4	161.1	300	8.09	34.221	1.42	26.670	138.0	0.626
222	8.92	34.172	1.92	2.03	39.	0.00	28.9	153.8	400	7.17	34.251	0.84	26.826	123.2	0.762
260	8.48	34.203	1.61	2.10	45.	0.00	29.3	145.0	500	6.62	34.280		26.925	113.8	0.887
317	7.93	34.225	1.34	2.16	51.		31.9	135.4							
370	7.44	34.247	0.97	2.38	59.	0.03	33.3	127.0							
427	6.97	34.253	0.77	2.61	65.	0.01	37.3	120.3							
484	6.77	34.276 A	0.77U	2.72	67.	0.02	36.9	116.0							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 50.5N	117 31.0W	2/23/78	1129 GMT	778M	240	7KT	4	99

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.87	33.289	5.87	0.53	2.	0.01	0.4	345.9	0	15.87	33.289	5.87	24.484	345.9	0.000
10	15.84	33.285	5.89	0.46	2.	0.01	0.2	345.6	10	15.84	33.285	5.89	24.487	345.6	0.035
29	15.22	33.316	5.75	0.44	2.	0.04	0.1	330.2	20	15.51	33.303	5.82	24.572	337.5	0.069
39	13.73	33.340	5.54	0.51	4.	0.04	2.3	298.4	30	15.07	33.318	5.74	24.681	327.2	0.102
48	13.02	33.409	5.12	0.65	7.	0.03	5.6	279.8	50	12.89	33.418	5.07	25.209	276.9	0.163
62	12.22	33.466	4.76	0.82	10.	0.02	8.9	260.8	75	11.53	33.619	4.12	25.625	237.3	0.227
76	11.48	33.629	4.07	1.04	15.	0.01	12.6	235.6	100	10.77	33.709	3.70	25.831	217.7	0.285
95	10.88	33.668	3.85	1.20	17.	0.01	15.9	222.4	125	10.35	33.905	2.96	26.059	196.1	0.337
118	10.46	33.863	3.11	1.47	23.	0.00	20.0	201.0	150	9.97	34.013	2.58	26.206	182.0	0.385
137	10.16	33.961	2.75	1.59	26.	0.00	21.5	188.8	200	9.29	34.137	2.12	26.415	162.2	0.473
165	9.77	34.059	2.43	1.83	31.	0.00	24.4	175.3	250	8.69	34.185	1.74	26.549	149.5	0.553
193	9.39	34.121	2.19	2.01	32.	0.00	27.6	164.8	300	8.16	34.208	1.46	26.649	140.0	0.628
221	9.02	34.171	1.92	2.20	37.	0.04	31.9	155.4	400	7.20	34.257	0.80	26.827	123.1	0.765
258	8.61	34.185	1.70	2.25	42.		33.5	148.2	500	6.52	34.295	0.50	26.950	111.5	0.889
314	8.01	34.215	1.37	2.43	49.	0.01	35.4	137.3							
384	7.33	34.251	0.87	2.56	58.	0.01	37.6	125.3							
454	6.81	34.274	0.63	2.62	66.	0.01	32.5U	116.7							
529	6.36	34.309	0.42	2.99	72.	0.01	38.5	108.4							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 30.0N	118 11.5W	2/23/78	0358 GMT	1757M	280	12KT	4	280 2 3

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	14.95	33.342	6.21	0.23	1.	0.03	0.1	322.8	0	14.95	33.342	6.21	24.727	322.8	0.000
12	14.96	33.341	6.20	0.23	1.	0.03	0.1	323.0	10	14.96	33.343	6.20	24.725	323.0	0.032
31	14.34	33.342	6.08	0.23	2.	0.03	0.1	310.4	20	14.70	33.343	6.15	24.779	317.8	0.064
40	14.32	33.343	6.06	0.24	1.	0.03	0.2	309.9	30	14.37	33.344	6.09	24.850	311.0	0.096
50	13.92	33.348	5.78	0.35	2.	0.10	1.5	301.6	50	13.92	33.348	5.78	24.950	301.6	0.157
64	12.02	33.419	4.88	0.55	8.	0.08	8.5	260.6	75	11.48	33.504	4.59	25.545	244.9	0.226
78	11.40	33.524	4.54	0.70	11.	0.04	11.3	241.9	100	10.53	33.638	4.10	25.819	218.9	0.285
97	10.62	33.632	4.13	0.92	15.	0.03	14.9	220.7	125	10.09	33.734	3.70	25.968	204.7	0.338
120	10.12	33.686	3.86	1.05	20.	0.02	17.5	208.5	150	9.71	33.924	3.00	26.180	184.5	0.387
139	10.01	33.867	3.22	1.24	24.	0.01	20.5	193.4	200	8.97	34.051	2.54	26.400	163.7	0.476
166	9.26	33.972	2.81	1.56	31.	0.01	24.1	173.8	250	8.36	34.128	2.04	26.557	148.8	0.556
194	9.04	34.035	2.61		34.	0.00	25.4	165.8	300	7.92	34.193	1.43	26.672	137.8	0.630
222	8.71	34.099	2.28		39.	0.01	27.1	156.1	400	7.12	34.258	0.77	26.839	122.0	0.766
258	8.26	34.133	1.97		45.	0.01	29.2	147.0	500	6.41	34.302	0.45	26.969	109.6	0.888
314	7.83	34.211	1.26		53.	0.01	32.0	135.1							
383	7.25	34.248	0.86		62.	0.05	34.8	124.4							
452	6.73	34.282	0.56		70.	0.00	36.9	115.1							
527	6.25	34.310	0.42		78.	0.00	39.0	107.0							

A) AN ERROR OF -0.01 IN CONDUCTIVITY RATIO, 0.39 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 10.0N	118 52.5W	2/22/78	1845 GMT	1387M	310	16KT	2	310 3 3

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.41	33.207	5.84	0.30	2.	0.08	0.1	342.2	0	15.41	33.207	5.84	24.523	342.2	0.000
11	15.41	33.208	5.96	0.24	1.	0.03	0.1	342.1	10	15.41	33.210	5.95	24.524	342.1	0.034
30	15.32	33.288	5.87	0.17	1.	0.02	0.0	334.4	20	15.41	33.210	5.93	24.526	342.0	0.068
40	15.22	33.289	5.91	0.23	1.	0.00	0.0	332.2	30	15.32	33.288	5.87	24.605	334.4	0.102
49	15.09	33.287	5.96	0.26	1.	0.01	0.0	329.7	50	15.07	33.284	5.96	24.656	329.6	0.169
64	14.39	33.213	5.94	0.28	1.	0.16	0.0	320.8	75	13.21	33.221	5.74	24.994	297.4	0.248
77	12.99	33.228	5.69	0.44	2.	0.09	2.7	292.5	100	11.72	33.455	4.73	25.462	252.8	0.317
97	11.89	33.448	4.75	0.69	9.		9.7	256.2	125	10.72	33.520	4.47	25.693	230.8	0.378
120	10.82	33.478	4.63	0.79	11.		13.1	235.4	150	10.33	33.690	3.83	25.894	211.8	0.434
139	10.54	33.641	3.99	1.00	16.	0.02	16.6	218.7	200	9.66	33.982	2.79	26.235	179.4	0.534
167	10.02	33.751	3.64	1.19	20.	0.02	19.6	202.1	250	8.79	34.142	2.07	26.499	154.2	0.619
196	9.74	33.956	2.88	1.43	26.	0.02	23.5	182.5	300	8.30	34.192	1.62	26.616	143.2	0.696
224	9.14	34.097	2.33	1.65	33.	0.02	26.6	162.7	400	7.27	34.250	0.85	26.812	124.6	0.836
262	8.67	34.147	1.99	1.87	39.	0.02	29.0	151.9	500	6.45	34.295	0.45	26.960	110.6	0.960
318	8.13	34.208	1.45	2.13	47.	0.02	31.7	139.5							
387	7.40	34.244	0.92	2.38	57.	0.02	35.2	126.7							
457	6.75	34.271	0.59	2.60	65.	0.00	37.7	116.1							
531	6.27	34.313	0.38		74.	0.00	39.8	107.0							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 50.5N	119 34.0W	2/22/78	1051 GMT	2043M	340	20KT	2	350 2 4

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	16.0	33.189	5.78	0.33	2.	0.01	0.1	356.0	0	16.00	33.189	5.78	24.378	356.0	0.000
11	16.00	33.186	5.78	0.40	2.	0.01	0.1	356.3	10	16.00	33.188	5.78	24.376	356.2	0.036
30	15.99	33.186	5.77	0.39	2.	0.02	0.1	356.0	20	16.00	33.188	5.78	24.377	356.2	0.071
38	16.01	33.194	5.80	0.38	2.	0.02	0.1	355.9	30	15.99	33.186	5.77	24.378	356.0	0.107
47	15.96	33.195	5.83					354.7	50	15.94	33.196	5.81	24.395	354.4	0.178
61	15.87	33.191	5.77	0.45	1.	0.02	0.1	353.1	75	14.00	33.148	6.03	24.777	318.0	0.263
74	14.16	33.150	6.04	0.46	2.	0.05	0.2	320.8	100	10.99	33.200	5.48	25.398	258.9	0.335
93	11.48	33.142	5.67	0.71	6.	0.06	5.7	271.5	125	9.99	33.417	4.84	25.740	226.4	0.397
115	10.36	33.341	5.05	0.97	11.	0.02	11.9	237.9	150	9.62	33.649	4.09	25.981	203.5	0.451
133	9.76	33.475	4.66	1.08	15.	0.01	15.5	218.4	200	8.73	33.939	3.29	26.351	168.4	0.546
160	9.57	33.745	3.77	1.50	21.	0.00	20.9	195.4	250	8.02	34.051	2.72	26.548	149.7	0.627
188	8.85	33.910	3.33	1.54	27.		20.9	172.2	300	7.55	34.123	1.84	26.671	137.9	0.701
214	8.62	33.957	3.25	1.80	29.	0.00	25.2	165.3	400	6.86	34.197	1.07	26.827	123.1	0.837
250	8.02	34.051	2.72	2.03	38.	0.00	28.2	149.7	500	6.17	34.270	0.47	26.976	109.0	0.960
305	7.52	34.126	1.76	2.08	48.	0.02	31.6	137.1							
376	6.98	34.172	1.27	2.37	57.	0.02	35.3	126.5							
446	6.61	34.240	0.71	2.68	65.	0.00	36.9	116.7							
523	5.95		0.42	2.87	77.	0.01	40.6								

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 30.0N	120 14.0W	2/22/78	0514 GMT	3738M	320	14KT	2	320 2 3

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.20	33.232	5.89	0.27	2.	0.04	0.1	336.0	0	15.20	33.232	5.89	24.588	336.0	0.000
11	15.19	33.231	6.25U	0.31	2.	0.04	0.1	335.8	10	15.19	33.233	5.89	24.590	335.9	0.034
29	15.06	33.229	5.89	0.35	2.	0.02	0.1	333.3	20	15.13	33.232	5.89	24.602	334.7	0.067
57	14.99	33.230	5.92	0.36	2.	0.00	0.1	331.8	30	15.06	33.231	5.89	24.617	333.2	0.101
66	14.86	33.227	5.94	0.36	2.	0.01	0.1	329.3	50	15.01	33.232	5.91	24.629	332.2	0.167
80	12.87	33.218	5.63	0.54	4.	0.18	4.1	291.0	75	13.70	33.215	5.78	24.892	307.1	0.248
94	11.06	33.299	5.06	0.84	10.	0.09	10.7	252.7	100	10.60	33.319	4.96	25.558	243.7	0.317
108	10.19	33.345	4.86	1.00	13.	0.05	13.2	234.9	125	9.78	33.514	4.37	25.849	216.0	0.375
131	9.73	33.583	4.17	1.25	18.	0.04	18.1	209.9	150	9.50	33.771	3.60	26.098	192.4	0.427
150	9.50	33.771	3.60	1.44	22.	0.04	21.0	192.4	200	8.71	34.010	2.70	26.409	162.8	0.517
178	8.97	33.945	2.95	1.68	29.	0.03	24.9	171.4	250	8.13	34.110	2.07	26.577	146.9	0.597
205	8.66	34.018	2.65	1.84	33.	0.02	26.6	161.3	300	7.64	34.159	1.56	26.687	136.4	0.670
233	8.29	34.081	2.27	2.00	39.	0.00	28.8	151.3	400	6.79	34.203	0.94	26.841	121.8	0.804
279	7.87	34.142	1.77	2.18	46.	0.00	31.2	140.8	500	5.89	34.252	0.49	26.997	107.0	0.925
331	7.30	34.174	1.29	2.42	54.	0.00	34.0	130.6							
410	6.72	34.205	0.90	2.59	62.	0.00	36.6	120.7							
491	5.96	34.245	0.52	2.78	74.	0.00	39.8	108.3							
573	5.46	34.308	0.35	2.93	83.	0.00	41.6	97.7							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 10.0N	120 54.5W	2/21/78	2343 GMT	3738M	340	14KT	2	350 4 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.52	33.002	5.84	0.27	1.	0.01	0.0	359.5	0	15.52	33.002	5.84	24.342	359.5	0.000
11	15.50	33.003	6.03	0.37	1.	0.02	0.0	359.0	10	15.50	33.005	6.02	24.346	359.1	0.036
29	15.39	32.997	5.83	0.46	1.	0.02	0.0	357.1	20	15.45	33.004	5.95	24.356	358.1	0.072
40	15.30	32.985	5.92	0.42	1.	0.00	0.0	356.1	30	15.38	32.998	5.84	24.367	357.1	0.108
48	15.23	32.984	5.88	0.42	1.	0.00	0.0	354.7	50	15.18	32.978	5.88	24.397	354.2	0.179
63	14.83	33.040	5.91	0.42	1.	0.00	0.0	342.4	75	13.19	33.018	6.12	24.842	311.8	0.263
77	12.89	33.013	6.15	0.42	1.	0.00	0.0	306.4	100	11.40	33.067	5.79	25.221	275.8	0.337
96	11.68	33.056	5.88	0.53	4.	0.03	2.8	281.3	125	10.00	33.198	5.23	25.566	242.9	0.402
119	10.23	33.147	5.35	0.88	8.	0.01	9.7	250.2	150	9.35	33.428	4.68	25.854	215.6	0.460
137	9.66	33.307	4.98	1.11	14.		13.3	229.3	200	8.76	33.885	3.23	26.305	172.7	0.559
164	9.09	33.557	4.32	1.36	20.	0.00	18.8	202.0	250	8.04	34.018	2.79	26.518	152.5	0.642
193	8.81	33.837	3.37	1.62	27.	0.00	23.5	177.0	300	7.22	34.039	2.22	26.652	139.7	0.717
220	8.57	33.979	2.97	1.81	31.	0.00	25.6	162.9	400	6.27	34.165	0.89	26.879	118.2	0.851
257	7.90	34.016	2.75	2.01	38.	0.00	28.0	150.6	500	5.79	34.276	0.40	27.029	104.0	0.968
312	7.06	34.044	2.04	2.23	49.	0.00	32.3	137.1							
379	6.41	34.131	1.11	2.57	62.	0.00	36.8	122.3							
449	6.02	34.233	0.53	2.74	72.	0.00	39.2	109.9							
522	5.70	34.285	0.35	2.93	78.	0.00	40.5	102.2							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 50.0N	121 34.5W	2/21/78	1640 GMT	4117M	340	16KT	2	350 1 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.5	32.929	5.95	0.49	0.	0.00	0.1	343.8	0	14.50	32.929	5.95	24.506	343.8	0.000
11	14.47	32.928	6.11	0.47	0.	0.00	0.0	343.3	10	14.47	32.931	6.10	24.511	343.4	0.034
30	14.41	33.002	5.99	0.47	0.	0.00	0.1	336.7	20	14.44	32.956	6.07	24.538	340.8	0.069
39	14.40	33.054	6.02	0.42	0.	0.00	0.1	332.7	30	14.41	33.002	5.99	24.581	336.7	0.103
48	14.31	33.067	6.10		0.		0.0	329.9	50	14.30	33.064	6.09	24.652	329.9	0.169
63	14.11	33.055	6.00	0.37	0.		0.1	326.8	75	13.69	33.045	6.01	24.761	319.5	0.251
77	13.57	33.027	6.01	0.39	0.		0.5	318.3	100	10.72	33.259	5.10	25.492	250.0	0.323
96	11.00	33.242	5.17	0.86	7.		10.0	255.9	125	9.85	33.413	4.56	25.759	224.6	0.383
119	9.98	33.333	4.79	1.13	12.		14.6	232.4	150	9.35	33.696	3.80	26.062	195.8	0.436
138	9.64	33.592	4.06	1.38	17.		19.0	207.9	200	8.72	33.966	2.89	26.373	166.2	0.528
166	9.01	33.795	3.54	1.63	24.	0.00	22.9	183.1	250	8.01	34.048	2.50	26.546	149.8	0.609
194	8.80	33.944	2.96	1.90	28.	0.00	25.7	168.9	300	7.47	34.080	2.04	26.651	139.9	0.684
223	8.37	34.018	2.69	2.03	33.	0.00	27.7	157.1	400	6.18	34.132	0.98	26.866	119.5	0.818
260	7.88	34.052	2.43	2.20	40.	0.00	29.8	147.6	500	5.48	34.217	0.53	27.020	104.9	0.936
317	7.29	34.088	1.86	2.39	48.	0.01	32.9	136.9							
388	6.30	34.123	1.06	2.70	64.	0.01	38.0	121.5							
458	5.72	34.175	0.70	2.96	74.	0.00	40.6	110.7							
534	5.35	34.254	0.41	3.09	83.	0.00	41.8	100.5							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 93100

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 30.0N	122 14.0W	2/21/78	1120 GMT	4117M	010	10KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.30	32.953	5.85	0.25	3.	0.00	0.3	358.5	0	15.30	32.953	5.85	24.353	358.5	0.000
11	15.31	32.950	6.00	0.17	3.	0.01	0.1	358.9	10	15.31	32.952	5.99	24.348	358.9	0.036
30	15.22	32.943	5.83	0.12	3.	0.01	0.1	357.5	20	15.27	32.949	5.94	24.354	358.4	0.072
53	15.22	32.940	5.90	0.12	3.	0.00	0.0	357.8	30	15.22	32.943	5.83	24.362	357.5	0.108
63	15.20	32.939	5.95	0.11	2.	0.00	0.0	357.4	50	15.22	32.943	5.89	24.361	357.7	0.179
72	15.11	32.936	5.85	0.11	2.	0.02	0.0	355.8	75	14.98	32.964	5.87	24.429	351.2	0.268
86	14.24	33.060	5.99	0.04	3.	0.06	0.0	329.0	100	12.98	33.064	6.00	24.920	304.4	0.351
100	12.98	33.064	6.00	0.17	4.	0.20	0.7	304.4	125	11.17	33.101	5.63	25.287	269.5	0.423
123	11.29	33.094	5.66	0.35	7.	0.05	5.5	271.8	150	10.22	33.318	5.01	25.622	237.6	0.487
141	10.44	33.183	5.34	0.56	11.	0.05	9.6	250.9	200	9.02	33.854	3.46	26.239	178.9	0.593
164	9.97	33.543	4.44	0.94	17.	0.07	16.5	216.7	250	8.40	33.999	2.86	26.449	159.0	0.680
193	9.14	33.814	3.58	1.33	25.	0.05	22.2	183.7	300	7.77	34.066	2.27	26.594	145.2	0.758
220	8.74	33.929	3.22	1.55	30.	0.00	25.0	169.1	400	6.74	34.176	1.03	26.826	123.2	0.898
257	8.32	34.008	2.78	1.81	36.		27.7	157.1	500	6.02	34.246	0.55	26.976	109.1	1.020
314	7.60	34.079	2.10	2.13	46.		31.4	141.7							
384	6.90	34.165	1.15	2.54	60.	0.00	35.9	126.0							
453	6.29	34.205	0.77	2.78	70.	0.00	38.9	115.3							
527	5.92	34.271	0.44	2.95	77.	0.00	40.4	105.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 94030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 42.7N	117 26.8W	2/18/78	2127 GMT	214M	290	11KT	0	280 1 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1A	15.88	33.267	5.87					347.8	0	15.88	33.267	5.87	24.465	347.8	0.000
11	15.48	33.274	5.94					338.8	10	15.51	33.274	5.94	24.550	339.6	0.034
20	15.31	33.315	5.94					332.2	20	15.31	33.315	5.94	24.628	332.2	0.068
29	14.96	33.338	5.83					323.2	30	14.85	33.339	5.80	24.745	321.0	0.101
39	13.67	33.342	5.40					297.1	50	12.55	33.428	4.90	25.285	269.7	0.160
48	12.69	33.414	4.98					273.2	75	11.58	33.609	4.16	25.608	238.9	0.224
57	12.16	33.470	4.65					259.4	100	10.80	33.837	3.29	25.926	208.7	0.280
67	11.76	33.570	4.41					244.9	125	10.16	33.956	2.77	26.130	189.3	0.331
77	11.54	33.615	4.09					237.7	150	9.60	34.046	2.55	26.294	173.7	0.377
84	11.39	33.663	3.88					231.5							
95	10.97	33.786	3.39					215.2							
104	10.67	33.869	3.22					204.0							
113	10.42	33.916	2.88					196.4							
123	10.23	33.946	2.81					191.1							
132	9.89	33.988	2.64					182.5							
142	9.66	34.043	2.51					174.8							
151	9.60	34.046	2.56					173.6							
169	9.46	34.075	2.37					169.3							

RV ALEJANDRO DE HUMBOLDT — CALCOFI CRUISE 7803 — 95031

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 30.0N	117 23.1W	2/17/78	2245 GMT	615M	320	13KT	0	290 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0B	15.57	33.352	5.90					335.0	0	15.57	33.352	5.90	24.599	335.0	0.000
10	15.28	33.352	5.96					328.9	10	15.28	33.352	5.96	24.663	328.9	0.033
30	15.07	33.356	5.88					324.2	20	15.18	33.356	5.92	24.687	326.5	0.066
40	13.90	33.401	5.33					297.3	30	15.07	33.356	5.88	24.712	324.2	0.099
50	12.85	33.469	4.89					272.2	50	12.85	33.469	4.89	25.259	272.2	0.158
65	12.28	33.565	4.43					254.6	75	12.00	33.626	4.16	25.542	245.2	0.224
79	11.90	33.646	4.06					241.8	100	11.32	33.734	3.66	25.752	225.2	0.283
99	11.35	33.727	3.69					226.1	125	10.64	33.880	3.03	25.987	202.9	0.337
123	10.71	33.869	3.06					204.7	150	9.98	33.994	2.71	26.191	183.5	0.386
143	10.10	33.959	2.80					188.0	200	9.64	34.187	2.01	26.399	163.8	0.475
171	9.77	34.089	2.42					173.1	250	8.88	34.198	1.80	26.529	151.4	0.556
200	9.64	34.187	2.01					163.8	300	8.31	34.234	1.43	26.647	140.2	0.631
229	9.09	34.171	1.95					156.4	400	7.29	34.257	0.81	26.815	124.3	0.769
267	8.75	34.223	1.65					147.5	500	6.54	34.296	0.48	26.947	111.7	0.894
325	7.96	34.233	1.28					135.3							
397	7.31	34.255	0.82					124.7							
471	6.75	34.281	0.57					115.4							
551	6.19	34.325	0.34					105.1							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 16.0N	117 07.0W	2/19/78	0818 GMT	56M	050	6KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.44	33.313	5.94	0.14	2.	0.00	0.0	335.1	0	15.44	33.313	5.94	24.598	335.1	0.000
11	15.41	33.311	6.00	0.56U	2.	0.00	0.0	334.6	10	15.41	33.313	5.99	24.602	334.6	0.034
20	14.85	33.342	5.63	0.32	4.	0.09	1.2	320.7	20	14.85	33.342	5.63	24.749	320.7	0.066
30	13.48	33.439	5.04	0.48	8.	0.12	6.1	286.3	30	13.48	33.439	5.04	25.110	286.3	0.097
49	12.08	33.556	4.27	1.03	13.	0.09	11.3	251.6	50	12.00	33.558	4.23	25.491	250.0	0.151

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
32 05.5N	117 27.5W	2/19/78	1312 GMT	1202M	350	9KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.14	33.358	5.87	0.30	2.	0.02	0.0	325.5	0	15.14	33.358	5.87	24.698	325.5	0.000
11	15.13	33.356	5.93	0.29	2.	0.01	0.0	325.5	10	15.13	33.358	5.93	24.699	325.5	0.033
30	15.13	33.358	5.86	0.31	2.	0.00	0.0	325.3	20	15.13	33.359	5.90	24.700	325.4	0.065
39	15.15	33.360	5.90	0.29	2.	0.01	0.0	325.6	30	15.13	33.358	5.86	24.700	325.3	0.098
49	13.95	33.311	5.77	0.40	4.	0.12	1.4	304.9	50	13.80	33.312	5.74	24.944	302.1	0.161
63	12.29	33.370	5.15	0.73	7.	0.06	7.2	269.1	75	12.23	33.558	4.38	25.447	254.3	0.231
77	12.22	33.578	4.27	1.08	11.	0.02	11.2	252.5	100	10.69	33.568	4.36	25.736	226.7	0.291
96	10.89	33.544	4.41	1.28	13.	0.01	13.8	231.7	125	9.93	33.767	3.76	26.022	199.6	0.345
120	10.01	33.727	3.90	1.47	19.	0.00	18.8	203.7	150	9.82	33.971	2.94	26.199	182.7	0.394
138	9.82	33.866	3.35	1.69	23.	0.01	21.4	190.4	200	9.53	34.221	1.81	26.443	159.5	0.481
167	9.82	34.097	2.41	1.96	30.	0.00	25.1	173.3	250	8.86	34.230	1.60	26.558	148.7	0.560
195	9.57	34.211	1.86		35.	0.00	27.4	160.9	300	8.36	34.251	1.25	26.652	139.8	0.635
224	9.28	34.238	1.66		38.	0.00	28.6	154.4	400	7.26	34.254	0.82	26.816	124.1	0.773
261	8.68	34.223	1.58		42.	0.00	30.3	146.4	500	6.41	34.303	0.43	26.971	109.5	0.896
317	8.25	34.263	1.09		49.	0.01	32.4	137.2							
387	7.41	34.249	0.89		57.	0.01	35.3	126.5							
456	6.70	34.283	0.55		68.	0.01	38.3	114.6							
532	6.28	34.315	0.38		74.		40.2	106.9							

A) THE POSITION OCCUPIED FOR THIS SHAKEDOWN STATION WAS NOT RECORDED. THIS IS THE PLANNED POSITION FOR THIS STATION NUMBER.
B) A SHAKEDOWN STATION.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 56.0N	117 48.0W	2/19/78	1720 GMT	1295M	360	4KT	0	360 1 15

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.48	33.378	5.85	0.29	1.	0.00	0.2	331.2	0	15.48	33.378	5.85	24.639	331.2	0.000
11	15.40	33.376	5.86	0.27	2.	0.00	0.1	329.6	10	15.42	33.379	5.86	24.652	329.9	0.033
30	14.72	33.306	5.98	0.24	1.	0.01	0.2	320.7	20	15.10	33.346	5.89	24.696	325.7	0.066
40	14.50	33.298	6.15	0.32	0.	0.01	0.1	316.8	30	14.72	33.306	5.98	24.749	320.7	0.098
49	13.97	33.284	6.00	0.24	3.	0.10	0.0	307.3	50	13.89	33.285	5.97	24.905	305.8	0.161
63	12.85	33.297	5.48	0.51	5.	0.11	1.3	284.8	75	12.05	33.348	5.19	25.319	266.5	0.233
77	11.93	33.357	5.14	0.96	8.	0.04	5.1	263.6	100	11.07	33.527	4.43	25.637	236.2	0.296
96	11.18	33.489	4.57		14.	0.02	8.2	240.7	125	10.50	33.735	3.62	25.899	211.3	0.353
119	10.64	33.693	3.78		17.	0.00	11.2	216.5	150	10.01	33.872	3.10	26.090	193.1	0.404
138	10.22	33.808	3.32		24.	0.14	17.0	201.1	200	8.91	34.039	2.66	26.400	163.6	0.495
167	9.69	33.941	2.88		29.	0.05		182.8	250	8.70	34.202	1.63	26.561	148.3	0.575
195	8.89	34.006	2.80		32.	0.01	25.7	165.7	300	8.14	34.214	1.40	26.656	139.3	0.650
223	9.01	34.158	1.94		38.	0.00	28.1	156.2	400	7.25	34.261	0.81	26.823	123.5	0.787
261	8.53	34.204	1.58		44.	0.00	29.4	145.6	500	6.51	34.302	0.47	26.957	110.8	0.911
318	7.98	34.213	1.33		49.	0.00	32.0	137.0							
388	7.35	34.255	0.86		57.	0.00	35.4	125.2							
458	6.80	34.282	0.60		65.	0.00	37.8	116.0							
532	6.30	34.317	0.39		73.	0.00	39.7	107.0							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 38.5N	118 29.0W	2/20/78	0221 GMT	2042M	310	15KT	0	310 1 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.02	33.316 A	5.97	0.23	1.	0.00	0.5	326.1	0	15.02	33.316	5.97	24.692	326.1	0.000
11	14.77	33.307	6.08	0.19	1.	0.00	0.1	321.6	10	14.79	33.310	6.07	24.735	322.0	0.032
30	14.58	33.301	6.01	0.20	0.	0.01	0.0	318.2	20	14.64	33.304	6.05	24.764	319.2	0.065
40	14.58	33.304	5.98	0.14	1.	0.01	0.0	318.0	30	14.58	33.301	6.01	24.775	318.2	0.097
49	14.53	33.307	5.94	0.11	1.	0.01	0.1	316.8	50	14.52	33.309	5.93	24.792	316.6	0.160
63	14.19	33.306	5.81	0.15	2.	0.08	0.9	310.0	75	13.32	33.308	5.57	25.039	293.1	0.237
78	13.07	33.312	5.49	0.28	4.	0.16	4.0	287.8	100	11.54	33.482	4.73	25.518	247.5	0.305
97	11.69	33.449	4.86	0.57	8.	0.07	9.6	252.5	125	10.65	33.723	3.70	25.864	214.6	0.363
120	10.78	33.685	3.86	0.99	15.	0.04	16.5	219.5	150	10.20	33.877	3.04	26.062	195.8	0.415
139	10.36	33.808	3.33	1.29	20.	0.04	20.1	203.4	200	9.65	34.025	2.53	26.270	176.0	0.510
167	10.01	33.959	2.69	1.63	26.	0.05	23.5	186.6	250	8.78	34.085	2.40	26.457	158.3	0.596
195	9.69	34.006	2.59	1.74	28.	0.04	24.9	178.0	300	8.22	34.138	2.01	26.584	146.2	0.675
223	9.40	34.092	2.31	1.93	31.	0.01	26.8	167.1	400	7.52	34.249	0.96	26.776	128.0	0.817
261	8.53	34.075	2.45	2.02	36.	0.01	28.1	155.2	500	6.44	34.294	0.52	26.959	110.6	0.944
317	8.17	34.171	1.75	2.22	43.	0.01	31.2	142.9							
386	7.68	34.243	1.05	2.49	52.	0.00	34.2	130.6							
455	6.85	34.266	0.69	2.60	64.	0.00	37.6	117.8							
529	6.24	34.316 A	0.43	2.94	73.	0.00	40.0	106.4							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 15.5N	119 10.0W	2/20/78	0906 GMT	3545M	340	12KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	15.96	33.155	5.78	0.72	3.	0.02	0.2	357.7	0	15.96	33.155	5.78	24.361	357.7	0.000
11	15.98	33.157	5.87	0.68	3.	0.01	0.2	357.9	10	15.98	33.159	5.86	24.358	357.9	0.036
30	15.95	33.174	5.73	0.53	3.	0.01	0.1	356.1	20	15.97	33.168	5.82	24.367	357.1	0.072
39	15.96	33.173	5.75	0.64	4.	0.01	0.1	356.4	30	15.95	33.174	5.73	24.378	356.1	0.107
48	15.94	33.173	5.79	0.54	3.	0.01	0.0	355.9	50	15.94	33.177	5.78	24.380	355.9	0.179
62	15.95	33.182	5.74	0.46	2.	0.02	0.0	355.5	75	13.62	33.108	5.99	24.824	313.6	0.263
76	13.42	33.101	6.01	0.49	4.	0.10	0.3	310.0	100	11.71	33.054	5.79	25.154	282.2	0.338
95	12.05	33.049	5.86	0.62	5.	0.01	2.7	288.4	125	10.30	33.222	5.24	25.534	246.0	0.404
118	10.63	33.138	5.44	0.92	9.	0.00	8.6	257.4	150	9.72	33.533	4.45	25.875	213.6	0.463
136	9.91	33.366	4.90	1.16	14.	0.00	13.8	228.8	200	8.92	33.872	3.53	26.268	176.2	0.562
163	9.62	33.660	4.06	1.43	20.	0.00	19.4	202.5	250	8.07	33.997	3.00	26.497	154.5	0.646
191	9.07	33.828	3.52	1.68	26.	0.00	23.3	181.6	300	7.36	34.032	2.33	26.628	142.0	0.723
218	8.64	33.939	3.54	1.86	30.	0.00	24.4	166.9	400	6.46	34.196	0.82	26.879	118.2	0.858
255	7.98	34.000	2.90	2.13	40.		28.6	152.9	500	6.03	34.310	0.33	27.025	104.4	0.976
310	7.24	34.037	2.21	2.35	49.	0.00	32.8	140.0							
380	6.59	34.163	1.01	2.88	63.	0.00	38.4	122.2							
450	6.22	34.261	0.51	3.15	72.	0.00	40.6	110.2							
526	5.96	34.326	0.29	3.26	78.	0.00	42.2	102.2							

A) THE SALINITY BOTTLE ORDER DIFFERS ON THE ORIGINAL DATA AND SALINITY DETERMINATION FORM. THE VALUES ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 55.5N	119 50.5W	2/20/78	1550 GMT	3642M	340	15KT	0	310 2 11

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	14.89	33.054	5.88	0.56	2.	0.03	0.3	342.6	0	14.89	33.054	5.88	24.519	342.6	0.000
10	14.89	33.054	5.91	0.48	3.	0.01	0.2	342.6	10	14.89	33.054	5.91	24.519	342.6	0.034
29	14.88	33.062	5.88	0.47	3.	0.00	0.1	341.8	20	14.88	33.060	5.90	24.523	342.2	0.069
53	14.90	33.134	5.91	0.46	3.	0.00	0.1	337.0	30	14.88	33.067	5.88	24.529	341.6	0.103
62	14.94	33.165	5.89	0.48	3.	0.00	0.1	335.5	50	14.90	33.126	5.91	24.571	337.6	0.171
71	14.77	33.165	5.87	0.46	3.	0.02	0.1	332.0	75	13.96	33.154	5.82	24.791	316.7	0.253
85	11.62	33.145	5.63	0.80	7.	0.02	6.3	273.7	100	10.28	33.139	5.31	25.474	251.7	0.325
99	10.30	33.120	5.34	1.04	12.	0.01	10.3	253.3	125	9.76	33.519	4.34	25.856	215.4	0.384
122	9.82	33.479	4.45	1.43	17.	0.00	17.1	219.0	150	9.38	33.750	3.61	26.100	192.2	0.435
141	9.50	33.686	3.81	1.71	22.	0.01	21.1	198.7	200	8.75	33.995	2.77	26.392	164.4	0.526
165	9.20	33.830	3.33	1.98	27.	0.00	23.8	183.4	250	7.95	34.035	2.53	26.545	149.9	0.607
193	8.85	33.982	2.79	2.16	32.	0.01	26.7	166.8	300	7.10	34.043	2.21	26.673	137.7	0.681
221	8.42	34.007	2.70	2.25	36.	0.00	28.4	158.6	400	6.00	34.115	1.17	26.875	118.6	0.814
257	7.83	34.039	2.48	2.43	42.	0.00	30.4	147.9	500	5.50	34.225	0.55	27.024	104.5	0.931
313	6.89	34.042	2.11	2.70	52.	0.01	34.0	135.0							
382	6.13	34.097	1.32	3.03	66.	0.00	38.8	121.4							
452	5.72	34.167	0.81	3.25	75.	0.00	41.4	111.3							
526	5.40	34.257	0.44	3.41	83.	0.00	43.1	100.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 35.0N	120 31.0W	2/20/78	2140 GMT	3738M	340	11KT	1	320 1 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	15.5	32.986	5.87	0.20	2.		0.1	360.2	0	15.50	32.986	5.87	24.334	360.2	0.000
10	15.33	32.983	6.01	0.19	2.		0.0	356.9	10	15.33	32.983	6.01	24.369	356.9	0.036
30	15.37	33.039	5.83	0.13	2.		0.0	353.6	20	15.35	33.017	5.94	24.389	355.0	0.072
53	15.38	33.101	5.92	0.12	2.		0.0	349.3	30	15.37	33.039	5.83	24.403	353.6	0.107
62	15.38	33.118	5.96	0.11	2.		0.0	348.1	50	15.38	33.096	5.90	24.443	349.9	0.178
71	14.77	33.108	5.95	0.11	3.	0.04	0.0	336.2	75	14.44	33.148	5.91	24.687	326.6	0.263
85	13.52	33.234	5.80	0.20	4.	0.15	1.8	302.1	100	12.09	33.136	5.72	25.148	282.7	0.339
100	12.09	33.136	5.72	0.35	6.	0.05	4.2	282.7	125	9.87	33.203	5.24	25.593	240.3	0.405
123	9.94	33.177	5.29	0.69	13.	0.01	11.5	243.3	150	9.34	33.512	4.54	25.919	209.4	0.462
141	9.53	33.418	4.77	1.04	17.	0.01	16.7	219.0	200	8.76	33.959	3.20	26.362	167.2	0.558
165	9.09	33.648	4.14	1.32	23.	0.00	20.1	195.2	250	7.96	34.038	2.80	26.545	149.9	0.639
193	8.88	33.929	3.23	1.58	29.	0.00	24.7	171.2	300	7.26	34.067	2.14	26.670	138.1	0.713
220	8.37	33.998	3.12	1.71	34.	0.00	26.2	158.6	400	6.44	34.156	1.11	26.851	120.9	0.848
258	7.86	34.042	2.70	1.90	40.	0.00	29.0	148.1	500	5.76	34.221	0.71	26.989	107.8	0.968
313	7.09	34.073	1.97	2.18	51.	0.00	33.4	135.3							
383	6.57	34.141	1.23	2.46	61.	0.00	37.0	123.6							
454	6.05	34.195	0.85	2.63	70.	0.00	39.3	113.1							
530	5.59	34.232	0.66	3.03	79.	0.02	41.6	104.9							

RV DAVID STARR JORDAN — CALCOFI CRUISE 7803 — 97090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 15.5N	121 10.5W	2/21/78	0335 GMT	3832M	350	14KT	2	320 3 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	15.75	33.046	5.85	0.31	2.	0.00	0.0	361.1	0	15.75	33.046	5.85	24.324	361.1	0.000
11	15.27	32.986	6.07	0.31	2.	0.00	0.0	355.4	10	15.31	32.993	6.06	24.380	355.8	0.036
29	15.10	32.957	5.88	0.30	3.	0.00	0.0	354.0	20	15.18	32.974	6.00	24.392	354.7	0.071
38	15.04	32.940	5.90	0.38	3.	0.00	0.0	354.0	30	15.10	32.958	5.88	24.399	354.0	0.107
48	14.87	32.926	5.96	0.32	2.	0.00	0.0	351.6	50	14.86	32.930	5.95	24.428	351.3	0.178
61	14.83	32.939	5.91	0.30	3.	0.00	0.0	349.8	75	14.59	33.032	5.93	24.566	338.1	0.264
75	14.59	33.032	5.93	0.32	3.	0.00	0.0	338.1	100	12.41	33.166	5.84	25.109	286.5	0.343
94	12.83	33.157	5.90	0.40	4.	0.04	1.3	294.7	125	10.93	33.236	5.36	25.435	255.4	0.411
118	11.34	33.188	5.67	0.55	7.	0.04	4.7	265.7	150	9.96	33.495	4.24	25.805	220.2	0.471
137	10.33	33.340	4.75	1.07	14.	0.03	13.8	237.5	200	8.67	33.855	3.47	26.294	173.7	0.572
165	9.64	33.661	3.80	1.46	21.	0.02	20.3	202.7	250	8.10	34.035	2.68	26.522	152.1	0.655
193	8.79	33.813	3.55	1.72	27.	0.02	23.4	178.5	300	7.46	34.062	2.10	26.636	141.3	0.731
221	8.41	33.961	3.19	1.90	33.	0.02	25.7	161.9	400	6.39	34.125	1.06	26.833	122.5	0.868
259	8.01	34.045	2.52	2.11	40.	0.01	28.9	150.0	500	5.88	34.253	0.49	27.000	106.8	0.988
315	7.26	34.059	1.98	2.39		0.02	32.8	138.6							
385	6.50	34.106	1.19	2.77	63.	0.01	37.3	125.3							
455	6.07	34.197	0.70	3.04	79.	0.01	39.7	113.2							
529	5.79	34.286	0.39		73.	0.00	41.5	103.2							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 40.5N	116 46.5W	2/18/78	1748 GMT	457M	320	4KT	0	280 4 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	15.76	33.305	5.82	0.57	3.	0.01	0.0	342.4	0	15.76	33.305	5.82	24.521	342.4	0.000
9	15.88	33.408	5.76	0.55	2.	0.01	0.0	337.5	10	15.76	33.413	5.74	24.603	334.6	0.034
29	12.81	33.472	5.02	1.05	7.	0.02	6.8	271.2	20	14.34	33.441	5.42	24.932	303.3	0.066
45	11.92	33.583	4.29	1.38	12.	0.03	11.7	246.8	30	12.73	33.480	4.97	25.288	269.3	0.094
55	11.36	33.676	3.90	1.63	15.	0.01	15.1	230.0	50	11.63	33.629	4.10	25.614	238.4	0.145
70	10.72	33.838	3.21	1.92	21.	0.01	19.6	207.2	75	10.59	33.872	3.12	25.991	202.5	0.201
85	10.40	33.917	3.04	2.08	23.	0.01	21.5	196.0	100	10.23	33.960	2.87	26.122	190.0	0.250
100	10.23	33.960	2.87	2.18	25.	0.01	22.5	190.0	125	10.14	33.987	2.74	26.159	186.6	0.298
125	10.14	33.987	2.74	2.23	26.	0.01	23.1	186.6	150	9.72	34.072	2.33	26.294	173.7	0.344
146	9.76	34.056	2.39	2.42	30.	0.02	25.3	175.4	200	9.30	34.195	1.80	26.459	158.1	0.429
176	9.55	34.153	2.01	2.43	33.	0.00	26.5	164.9	250	8.85	34.226	1.54	26.557	148.8	0.507
206	9.24	34.200	1.76	2.54	37.	0.00	28.3	156.6	300	8.34	34.232	1.28	26.639	140.9	0.582
241	8.94	34.224	1.58	2.71	40.	0.00	29.5	150.2	400	7.38	34.270	0.75	26.811	124.6	0.721
296	8.38	34.229	1.31	2.88	46.	0.00	31.3	141.6							
351	7.89	34.254	0.97	3.04	52.	0.00	33.2	132.7							
411	7.26	34.272	0.71	3.24	59.	0.01	35.5	122.7							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 30.5N	117 07.0W	2/18/78	2139 GMT	1116M	270	9KT	0	270 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.19	33.394	5.78	0.48	0.	0.01	0.1	345.2	0	16.19	33.394	5.78	24.492	345.2	0.000
10	15.41	33.336	5.85	0.48	0.	0.01	0.0	332.8	10	15.41	33.336	5.85	24.622	332.8	0.034
30	15.29	33.319	5.89	0.49	0.	0.02	0.0	331.5	20	15.35	33.330	5.87	24.629	332.1	0.067
60	13.26	33.414	5.24	0.83	3.	0.04	4.5	283.9	30	15.29	33.319	5.89	24.635	331.5	0.100
70	12.66	33.483	4.96	0.96	5.	0.04	6.9	267.6	50	14.04	33.364	5.52	24.935	303.0	0.164
85	12.14	33.550	4.52	1.14	8.	0.03	10.0	253.1	75	12.46	33.511	4.80	25.367	261.9	0.235
100	11.73	33.594	4.28	1.31	10.	0.04	12.3	242.6	100	11.73	33.594	4.28	25.570	242.6	0.299
115	11.33	33.687	3.90	1.49	13.	0.04	15.1	228.7	125	11.01	33.750	3.68	25.820	218.8	0.357
140	10.54	33.834	3.40	1.74	19.	0.03	19.4	204.5	150	10.26	33.887	3.22	26.058	196.1	0.410
159	10.04	33.926	3.08	1.94	22.	0.04	22.0	189.5	200	9.41	34.072	2.52	26.346	168.8	0.503
188	9.52	34.022	2.73	2.11	27.	0.04	24.9	174.1	250	8.83	34.156	2.05	26.504	153.8	0.585
219	9.25	34.134	2.22	2.02U	32.	0.00	26.5	161.6	300	8.25	34.228	1.37	26.650	139.9	0.661
248	8.86	34.152	2.08	2.29	36.	0.00	28.2	154.4	400	7.37	34.275	0.78	26.817	124.1	0.799
297	8.28	34.225	1.39	2.62	44.	0.00	31.2	140.4	500	6.43	34.318	0.38	26.979	108.7	0.922
351	7.85	34.245	1.09	2.77	50.	0.00	33.1	132.8							
425A	7.12	34.290	0.64	2.96	60.	0.00	36.0	119.6							
495A	6.47	34.316	0.39	3.09	69.	0.00	38.1	109.2							
558A	6.10	34.327	0.31		78.	0.02		103.8							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 21.0N	117 27.0W	2/19/78	0112 GMT	2191M	340	12KT	0	270 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.65	33.495	5.69	0.43	2.	0.01	0.1	347.9	0	16.65	33.495	5.69	24.463	347.9	0.000
10	16.57	33.490	5.73	0.42	1.	0.00	0.0	346.5	10	16.57	33.490	5.73	24.478	346.5	0.035
29	16.37	33.487	5.75	0.40	1.	0.00	0.0	342.3	20	16.51	33.488	5.74	24.490	345.3	0.069
59	14.64	33.426	5.40	0.63	2.	0.05	2.3	310.3	30	16.34	33.487	5.74	24.526	341.9	0.104
68	13.76	33.442	5.13	0.76	3.	0.04	4.4	291.5	50	15.36	33.442	5.51	24.713	324.1	0.171
83	12.84	33.484	4.91	0.94	5.	0.02	6.9	270.9	75	13.29	33.463	5.01	25.166	281.0	0.247
97	11.98	33.518	4.65	1.14	8.	0.02	10.0	252.6	100	11.89	33.527	4.62	25.486	250.5	0.314
111	11.64	33.556	4.49	1.27	9.	0.02	11.6	243.8	125	11.13	33.623	4.24	25.701	230.1	0.374
135	10.75	33.685	4.00	1.47	14.	0.02	16.1	219.0	150	10.34	33.813	3.49	25.987	202.9	0.429
154	10.25	33.844	3.36	1.78	19.	0.03	20.3	198.9	200	9.37	34.040	2.67	26.328	170.4	0.524
182	9.73	33.964	2.92	1.99	24.	0.03	25.4	181.7	250	8.88	34.189	1.94	26.522	152.0	0.607
210	9.19	34.078	2.53	2.08	30.	0.00	25.7	164.9	300	8.44	34.270	1.28	26.654	139.5	0.683
238	8.97	34.158	2.12	2.34	35.	0.00	27.8	155.6	400	7.18	34.257	0.75	26.829	123.0	0.820
284	8.61	34.253	1.46	2.62	42.	0.00	30.3	143.2	500	6.38	34.303	0.67	26.975	109.2	0.942
335	8.04	34.284	0.99	2.84	50.	0.00	32.6	132.6	600	5.85	34.350	0.28	27.080	99.1	1.054
415	7.00	34.249	0.73	3.05	61.	0.00	36.1	121.0							
498	6.39	34.300	0.68	3.23	72.	0.00	38.8	109.4							
584	5.91	34.347	0.28	3.36	81.	0.00	40.3	100.1							

A) THESE NANSEN BOTTLES POSTTRIPPED CAUSING THE DEPTHS TO BE SLIGHTLY UNCERTAIN.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 00.5N	118 07.0W	2/19/78	0748 GMT	1763M	350	10KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	15.81	33.295	5.77	0.68	2.	0.05	0.0	344.2	0	15.81	33.295	5.77	24.502	344.2	0.000
9	15.82	33.291	5.79	0.66	2.	0.05	0.0	344.7	10	15.82	33.291	5.79	24.496	344.7	0.034
27	15.77	33.288	5.80	0.64	2.	0.06	0.0	343.9	20	15.80	33.289	5.80	24.499	344.4	0.069
55	15.60	33.285	5.80	0.64	2.	0.06	0.0	340.5	30	15.75	33.290	5.80	24.509	343.5	0.103
64	14.80	33.309	5.76	0.71	3.	0.09	0.6	322.1	50	15.63	33.288	5.80	24.535	341.1	0.172
78	13.59	33.348	5.49	0.83	4.	0.11	3.0	295.1	75	13.84	33.336	5.58	24.956	300.9	0.253
91	12.72	33.494	4.78	1.09	8.	0.08	8.0	267.9	100	11.95	33.486	4.71	25.444	254.5	0.323
105	11.56	33.471	4.67	1.24	11.	0.07	11.3	248.6	125	11.19	33.588	4.37	25.663	233.7	0.384
127	11.15	33.595	4.31	1.41	13.	0.05	13.9	232.4	150	10.89	33.848	3.20	25.919	209.4	0.441
145	10.97	33.809	3.37	1.72	19.	0.06	18.3	213.5	200	9.85	34.028	2.60	26.239	179.0	0.540
171	10.48	33.950	2.76					194.9	250	8.75	34.121	2.23	26.491	155.0	0.625
197	9.95	34.023	2.60	1.77U	28.	0.05	23.2	180.9	300	8.19	34.179	1.69	26.621	142.7	0.702
223	9.09	34.053	2.58	2.08	33.	0.01	26.3	165.2	400	7.03	34.217	0.95	26.819	123.9	0.841
268	8.63	34.161	1.95	2.34	41.	0.01	29.2	150.3	500	6.09	34.270		26.987	108.0	0.964
315	7.98	34.178	1.59	2.51	48.	0.01	32.2	139.6							
391	7.14	34.212	1.02	2.82	61.	0.00	35.3	125.6							
469	6.28	34.250	0.42	3.08	75.	0.01	39.1	111.8							
554	5.95	34.250 U		2.72U	64.U	0.02	33.3U								

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 40.5N	118 47.5W	2/19/78	1316 GMT	2963M	300	9KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.51	33.420	5.70	0.36	0.	0.00	0.1	350.3	0	16.51	33.420	5.70	24.438	350.3	0.000
10	16.50	33.417	5.69	0.38	0.			350.3	10	16.50	33.417	5.69	24.438	350.3	0.035
29	16.46	33.414	5.76	0.44	0.	0.00	0.1	349.6	20	16.48	33.417	5.73	24.442	349.9	0.070
59	16.43	33.413	5.66	0.39	1.	0.00	0.1	349.0	30	16.46	33.416	5.76	24.446	349.6	0.105
68	14.00	33.205	5.97	0.40	1.	0.04	0.2	313.6	50	16.44	33.415	5.69	24.450	349.2	0.175
83	12.49	33.218	5.61	0.67	3.	0.09	3.8	283.9	75	13.02	33.210	5.87	25.025	294.4	0.256
98	12.17	33.378	5.19	0.85	5.	0.03	6.7	266.3	100	12.04	33.385	5.16	25.349	263.6	0.326
112	11.20	33.404	5.02	0.95	8.	0.05	9.6	247.3	125	10.75	33.483	4.73	25.660	233.9	0.389
137	10.47	33.571	4.45	1.17	13.	0.00	14.8	222.7	150	10.05	33.667	4.27	25.925	208.8	0.445
156	9.86	33.707	4.19	1.45	18.	0.01	18.0	202.8	200	8.88	33.908	3.50	26.303	172.9	0.542
186	9.26	33.845	3.66	1.60	25.	0.04	22.1	183.2	250	7.99	33.997	3.12	26.508	153.4	0.626
215	8.49	33.960	3.37	1.63	31.		24.7	163.2	300	7.14	34.032	2.30	26.659	139.1	0.701
245	8.09	33.993	3.19	1.94	37.		27.0	155.0	400	6.25	34.122	1.18	26.849	121.0	0.836
294	7.19	34.023	2.39	2.25	49.		32.0	140.4	500	5.65	34.210	0.59	26.995	107.3	0.956
348	6.81	34.089	1.66	2.52	60.		35.6	130.5	600	5.28	34.315	0.27	27.121	95.3	1.064
431	5.93	34.139	0.97	2.88	75.		39.7	115.9							
515	5.61	34.226	0.53	3.10	85.		41.5	105.6							
601	5.28	34.315	0.27	3.28	96.		43.1	95.2							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 20.5N	119 27.5W	2/19/78	1935 GMT	3800M	350	5KT	0	310 4 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	15.58	33.093	5.82		1.	0.09		354.1	0	15.58	33.093	5.82	24.398	354.1	0.000
10	15.40	33.091	5.85		3.	0.07		350.5	10	15.40	33.091	5.85	24.436	350.5	0.035
30	15.36	33.093	5.90		2.	0.04		349.5	20	15.38	33.094	5.88	24.442	350.0	0.070
60	15.36	33.094	5.82		2.	0.08		349.4	30	15.36	33.093	5.90	24.447	349.5	0.105
71	15.35	33.100	5.85		2.	0.06		348.8	50	15.36	33.096	5.84	24.447	349.4	0.175
85	13.58	33.152	5.96		3.	0.08		309.3	75	15.13	33.126	5.88	24.520	342.5	0.262
90A	12.05	33.140	5.87		4.	0.13		281.7	100	11.26	33.180	5.53	25.335	264.9	0.339
102A	11.10	33.190	5.45		8.	0.05		261.4	125	10.07	33.451	4.74	25.753	225.2	0.401
124A	10.11	33.441	4.77					226.5	150	9.31	33.651	4.17	26.034	198.4	0.454
143A	9.44	33.586	4.32					205.2	200	8.49	33.921	3.25	26.373	166.2	0.547
168A	9.05	33.796	3.82		24.	0.07		183.6	250	7.72	34.011	2.82	26.559	148.5	0.628
195A	8.56	33.901	3.35		30.	0.10		168.6	300	7.08	34.049	2.21	26.680	137.1	0.701
222A	8.20 B	33.985	2.90		36.	0.05		157.1	400	6.24	34.129	1.08	26.855	120.5	0.835
264A	7.49	34.014	2.80		43.	0.07		145.1	500	5.61	34.248	0.43	27.029	104.0	0.953
313A	6.96	34.060	1.97		54.	0.09		134.6							
384A	6.34	34.110	1.23		66.	0.10		123.0							
448A	5.97	34.186	0.71		78.	0.08		112.8							
510A	5.53	34.259	0.39		88.	0.06		102.2							

A) THESE NANSEN BOTTLES APPEAR TO HAVE PRETRIPPED CAUSING THE DEPTHS TO BE UNCERTAIN.
B) MEAN OF 8.23 AND 8.18 DEGREES CELSIUS.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 01.0N	120 07.0W	2/20/78	0142 GMT	4000M	350	11KT	0	320 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	15.73	32.960	5.82	0.43	3.	0.11	0.2	367.0	0	15.73	32.960	5.82	24.263	367.0	0.000
10	15.67	32.960	5.86	0.46	2.	0.12	0.0	365.7	10	15.67	32.960	5.86	24.276	365.7	0.037
30	15.41	32.954	5.86	0.47	2.	0.12	0.0	360.7	20	15.54	32.960	5.86	24.303	363.2	0.073
59	15.37	32.952	5.86	0.46	3.	0.13	0.0	360.0	30	15.41	32.954	5.86	24.329	360.7	0.109
69	15.34	32.952	5.92	0.43	3.	0.13	0.1	359.4	50	15.38	32.955	5.86	24.334	360.2	0.182
74A	15.29	32.961	5.90	0.44	3.	0.14	0.0	357.7	75	15.08	32.963	5.93	24.405	353.5	0.271
84	12.98	32.977	6.19	0.46	3.	0.19	0.2	310.8	100	11.75	33.024	5.92	25.123	285.1	0.352
92A	12.45	33.003	6.07	0.53	4.	0.20	1.2	299.0	125	10.20	33.150	5.36	25.495	249.7	0.419
98	11.92	33.018		0.59	5.	0.17	2.4	288.4	150	9.71	33.447	4.81	25.809	219.8	0.479
122A	10.30	33.118	5.43	0.87	11.	0.16	9.8	253.5	200	8.70	33.931	3.83	26.349	168.5	0.577
152A	9.69	33.472	4.77	1.00	16.	0.04	14.9	217.5	250	7.85	34.011	3.01	26.541	150.3	0.659
182A	9.06	33.834		1.32	25.	0.03	20.4	181.0	300	7.22	34.040	2.25	26.653	139.6	0.734
231A	8.14	33.991	3.30	1.68	35.	0.02	26.6	155.8	400	6.34	34.154	0.95	26.861	119.9	0.869
287A	7.37	34.026	2.47	2.03	47.	0.02	31.7	142.6	500	5.74	34.250	0.47	27.014	105.4	0.987
378A	6.51	34.128	1.13	2.52	67.	0.02	38.7	123.8							
474A	5.88	34.228	0.57	2.81	80.	0.02	41.6	108.6							
572A	5.43	34.294	0.32	2.96	91.	0.03	43.5	98.4							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 100090

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 40.5N	120 47.0W	2/20/78	0704 GMT	3950M	360	9KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.46	33.248	5.70	0.56	3.	0.00	0.1	361.7	0	16.46	33.248	5.70	24.318	361.7	0.000
10	16.44	33.247	5.73	0.56	4.	0.00	0.0	361.3	10	16.44	33.247	5.73	24.322	361.3	0.036
46	16.37	33.254		0.55	3.	0.00	0.0	359.3	20	16.42	33.250	5.73	24.327	360.8	0.072
76	16.30	33.257	5.74	0.50	3.	0.00	0.1	357.6	30	16.40	33.252	5.73	24.333	360.3	0.108
96	14.13	33.296	5.90	0.55	4.	0.15	0.4	309.5	50	16.36	33.257	5.74	24.346	359.1	0.181
111	13.52	33.353	5.78	0.57	5.	0.05	1.3	293.4	75	16.30	33.259	5.74	24.361	357.6	0.271
126	12.00	33.215	5.69	0.70	6.	0.02	4.1	275.3	100	13.97	33.324	5.88	24.919	304.5	0.354
145	11.36	33.399	5.42	0.76	8.	0.01	6.5	250.5	125	12.10	33.225	5.70	25.213	276.5	0.427
165	10.29	33.467	5.14	0.96	12.	0.01	10.9	227.5	150	11.09	33.421	5.35	25.550	244.5	0.493
194	9.39	33.662	4.59	1.25	19.	0.01	16.9	198.8	200	9.31	33.723	4.38	26.090	193.2	0.604
219	9.10	33.886	3.75	1.54	27.	0.01	22.4	177.7	250	8.48	33.966	3.40	26.410	162.6	0.695
243	8.62	33.952	3.48	1.56	30.	0.00	24.4	165.7	300	7.66	34.020	2.71	26.575	147.0	0.775
277	7.98	34.001	3.07	1.77	38.	0.00	28.5	152.8	400	6.48	34.104	1.35	26.804	125.3	0.917
316	7.46	34.029	2.44	2.13	47.	0.00	31.6	143.6	500	5.85	34.208	0.62	26.967	109.8	1.040
365	6.81	34.076	1.69	2.54	58.	0.00	35.7	131.5	600	5.42	34.300	0.31	27.092	98.0	1.151
433	6.24	34.130	1.10	2.78	70.	0.00	39.1	120.3							
517	5.77	34.227	0.52	2.95	82.	0.00	41.9	107.4							
603	5.41	34.301	0.31	3.03	91.	0.00	43.5	97.7							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 103030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
31 06.0N	116 24.5W	2/21/78	2052 GMT	52M	320	4KT	1	260 4 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	15.99	33.353	6.00	0.49	2.	0.09	0.3	343.8	0	15.99	33.353	6.00	24.506	343.8	0.000
10	15.10	33.389	6.27	1.36U	3.	0.07	0.3	322.4	10	15.10	33.389	6.27	24.731	322.4	0.033
20	13.46	33.479	5.04	0.60	7.	0.12	6.2	283.0	20	13.46	33.479	5.04	25.145	283.0	0.064
30	12.30	33.551	4.45	0.87	12.	0.07	10.5	256.0	30	12.30	33.551	4.45	25.429	256.0	0.091
50	11.65	33.668	3.89	0.90	15.	0.06	14.3	235.7	50	11.65	33.668	3.89	25.642	235.7	0.140

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 103035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 56.0N	116 44.9W	2/21/78	1752 GMT	1750M	320	11KT	1	320 6 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	15.83	33.398	5.80	0.73	1.	0.02	0.4	337.1	0	15.83	33.398	5.80	24.576	337.1	0.000
10	15.76	33.395	5.83	0.63	1.	0.02	0.4	335.8	10	15.76	33.395	5.83	24.590	335.8	0.034
29	15.65	33.403	5.80	0.58	2.	0.04	0.4	332.9	20	15.73	33.400	5.81	24.600	334.8	0.067
39	15.43	33.443	5.63	0.57	2.	0.03	0.7	325.4	30	15.63	33.401	5.79	24.622	332.7	0.101
54	13.22	33.493	4.82	0.81	7.	0.05	6.9	277.4	50	13.84	33.478	5.04	25.064	290.7	0.163
69	12.61	33.529	4.59	0.96	9.	0.07	9.2	263.3	75	12.26	33.569	4.39	25.450	254.0	0.232
93	11.27	33.719	3.73	1.27	16.	0.05	15.9	225.3	100	11.05	33.784	3.49	25.839	216.9	0.291
113	10.78	33.880	3.15	1.52	21.	0.04	19.9	205.1	125	10.58	33.905	3.08	26.017	200.0	0.344
133	10.50	33.920	3.03	1.65	23.	0.05	21.4	197.4	150	10.51	34.065	2.52	26.154	187.0	0.393
153	10.51	34.089	2.42	1.82	27.	0.05	24.0	185.1	200	9.86	34.194	2.05	26.366	166.9	0.483
182	10.29	34.194	2.01	1.88	30.	0.05	25.9	173.7	250	9.02	34.232	1.76	26.534	150.9	0.565
217	9.43	34.183	2.10	1.98	34.	0.00	27.2	160.8	300	8.52	34.295	1.17	26.662	138.7	0.640
246	9.06	34.224	1.81	2.21	39.	0.00	29.2	152.1	400	7.48	34.296	0.73	26.817	124.0	0.777
296	8.57	34.294	1.20	2.55	46.	0.00	32.0	139.5	500	6.75	34.328	0.44	26.944	112.0	0.902
350	7.89	34.287	0.91	2.70	54.	0.00	34.5	130.3	600	6.03	34.362	0.27	27.066	100.5	1.016
434	7.26	34.305	0.63	2.82	62.	0.01	36.8	120.3							
519	6.61	34.334	0.39	2.96	72.	0.01	39.3	109.7							
603	6.01	34.362	0.27	3.06	82.	0.01	41.8	100.1							

A) THESE NANSEN BOTTLES APPEAR TO HAVE PRETRIPPED CAUSING THE DEPTHS TO BE UNCERTAIN.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 103040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 46.0N	117 04.5W	2/21/78	1436 GMT	1850M	340	14KT	1	270 6 12

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	15.57	33.404	5.91	0.56	1.	0.02	0.1	331.2
10	15.57	33.404	5.95	0.50	1.	0.03	0.0	331.2
30	15.30	33.405	5.98	0.49	0.	0.03	0.0	325.4
40	15.17	33.401	5.81	0.50	1.	0.04	0.0	323.0
56	13.49	33.451	5.05	0.77	6.	0.07	5.1	285.6
70	12.71	33.499	4.76	0.96	8.	0.08	8.2	267.3
95	11.30	33.640	4.18	1.26	13.	0.07	14.2	231.7
115	11.14	33.691	4.00	1.40	14.	0.05	15.5	225.1
135	10.66	33.815	3.50	1.56	19.	0.07	19.0	207.9
155	10.24	33.884	3.26	1.73	22.	0.08	21.2	195.8
184	9.60	34.000	2.89	1.93	27.	0.08	24.6	177.0
219	9.24	34.092	2.47	1.98	32.	0.02	26.5	164.6
248	8.74	34.128	2.20	2.26	38.	0.02	29.1	154.4
297	8.09	34.193	1.61	2.57	46.	0.02	32.6	140.1
351	7.78	34.260	1.04	2.80	54.	0.04	35.1	130.7
435	7.09	34.320	0.60	3.08	64.	0.04	38.0	116.9
520	6.37	34.349	0.33	3.29	76.	0.04	40.9	105.5
607	5.86	34.362	0.35	3.45	84.	0.05	42.9	98.3

Z	T	S	O2	SIGT	DT	DD
0	15.57	33.404	5.91	24.639	331.2	0.000
10	15.57	33.404	5.95	24.639	331.2	0.033
20	15.46	33.404	5.97	24.663	328.8	0.066
30	15.30	33.405	5.98	24.699	325.4	0.099
50	14.18	33.427	5.34	24.955	301.0	0.162
75	12.38	33.528	4.63	25.396	259.1	0.232
100	11.23	33.654	4.14	25.706	229.6	0.294
125	10.92	33.753	3.75	25.840	216.8	0.350
150	10.34	33.871	3.31	26.032	198.6	0.403
200	9.42	34.050	2.69	26.327	170.6	0.497
250	8.71	34.132	2.18	26.505	153.7	0.580
300	8.07	34.198	1.57	26.655	139.5	0.656
400	7.39	34.301	0.74	26.834	122.5	0.793
500	6.53	34.345	0.37	26.988	107.9	0.915
600	5.89	34.362	0.35	27.084	98.8	1.026

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 103050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 26.0N	117 44.5W	2/21/78	0705 GMT	2400M	330	15KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
2	16.68	33.524	5.67	0.42	2.	0.00	0.0	346.4
12	16.70	33.525	5.69	0.40	1.	0.00	0.0	346.8
23A	16.50	33.512	6.05U	0.50	1.	0.00	0.3	343.3
31	16.40	33.509	5.73	0.38	1.	0.00	0.0	341.4
47A	16.30	33.484		0.41	1.	0.00	0.0	341.0
61	14.38	33.418	5.37	0.56	4.	0.05	2.6	305.6
66A	14.19	33.416	5.41	0.56	4.	0.06	3.0	301.9
71	13.29	33.456	5.06	0.71	6.	0.02	5.7	281.4
85	12.48	33.581	4.43	0.92	9.	0.02	9.9	257.1
96A	12.33	33.602	4.36	0.82	9.	0.00	10.6	252.8
100	11.83	33.571	4.39	1.04	11.	0.02	11.8	246.0
125A	10.62	33.618	4.26	1.10	14.	0.00	15.4	221.8
155A	9.84	33.790	3.72	1.35	20.	0.00	20.3	196.3
204A	8.88	33.994	2.99	1.67	30.	0.00	25.7	166.4
260A	8.39	34.126	2.08	1.98	40.	0.00	29.7	149.4
349A	7.27	34.196	1.14	2.35	57.	0.00	35.5	128.6
439A	6.78	34.298	0.48	2.69	68.	0.00	38.5	114.5
523A	6.06	34.339	0.35	2.86	80.	0.00	41.0	102.5

Z	T	S	O2	SIGT	DT	DD
0	16.68	33.524	5.67	24.479	346.4	0.000
10	16.70	33.527	5.69	24.476	346.7	0.035
20	16.56	33.518	5.71	24.500	344.4	0.069
30	16.41	33.511	5.73	24.530	341.6	0.104
50	15.87	33.466	5.47	24.617	333.2	0.171
75	12.89	33.499	4.82	25.272	270.9	0.247
100	11.83	33.571	4.39	25.533	246.0	0.312
125	10.62	33.618	4.26	25.789	221.8	0.372
150	9.94	33.760	3.82	26.015	200.2	0.425
200	8.94	33.982	3.05	26.351	168.3	0.519
250	8.46	34.110	2.24	26.527	151.6	0.601
300	7.87	34.166	1.60	26.659	139.1	0.676
400	6.97	34.257	0.71	26.859	120.1	0.811
500	6.28	34.333	0.39	27.011	105.7	0.931

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 103060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 06.0N	118 25.0W	2/21/78	0125 GMT	3400M	360	10KT	0	330 6 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	17.04	33.499	5.66	0.47	2.	0.01	0.0	356.3
10	16.78	33.470	5.68	0.43	2.	0.02	0.0	352.6
31	16.68	33.472	5.71	0.41	2.	0.02	0.0	350.2
61	16.79	33.584	5.63	0.39	2.	0.02	0.0	344.5
71	13.99	33.422	5.51	0.53	4.	0.05	2.4	297.5
87	12.72	33.331	5.44	0.65	5.	0.05	4.4	279.9
102	12.15	33.490	4.94	0.81	8.	0.04	8.2	257.7
117	11.81	33.656	4.26	1.04	12.	0.03	12.8	239.4
142	10.42	33.736	4.02	1.23	17.	0.03	17.0	209.7
162	10.15	33.912	3.31	1.51	23.	0.03	21.6	192.3
192	9.74	34.000	2.94	1.71	27.	0.02	24.2	179.2
222	9.19	34.077	2.58	1.81	32.	0.00	26.2	164.9
252	8.99	34.186	1.99	2.06	38.	0.00	29.0	153.8
302	7.87	34.155	1.70	2.28	48.	0.00	32.8	139.8
356	7.34	34.204	1.18	2.52	58.	0.00	35.7	128.9
441	6.69	34.263	0.61	2.76	68.	0.00	39.2	116.0
526	6.17	34.322	0.32	2.95	79.	0.00	41.2	105.1
611	5.70	34.367	0.24	3.05	88.	0.00	43.2	96.1

Z	T	S	O2	SIGT	DT	DD
0	17.04	33.499	5.66	24.375	356.3	0.000
10	16.78	33.470	5.68	24.414	352.6	0.035
20	16.73	33.471	5.70	24.426	351.4	0.071
30	16.68	33.473	5.71	24.438	350.3	0.106
50	16.75	33.545	5.66	24.477	346.6	0.176
75	13.46	33.383	5.49	25.070	290.1	0.256
100	12.20	33.464	5.02	25.379	260.7	0.325
125	11.36	33.686	4.16	25.708	229.4	0.387
150	10.27	33.808	3.74	25.996	202.0	0.442
200	9.58	34.021	2.85	26.277	175.3	0.538
250	9.00	34.181	2.03	26.497	154.5	0.623
300	7.92	34.159	1.71	26.646	140.3	0.699
400	6.98	34.237	0.85	26.842	121.8	0.835
500	6.32	34.306	0.38	26.984	108.2	0.957
600	5.76	34.363	0.25	27.101	97.1	1.067

A) THESE NANSEN BOTTLES APPEAR TO HAVE PRETRIPPED CAUSING THE DEPTHS TO BE UNCERTAIN.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 103070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 46.2N	119 04.8W	2/20/78	2004 GMT	3550M	350	9KT	1	320 4 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.35	33.223	5.74	0.46	2.	0.01	0.1	361.1	0	16.35	33.223	5.74	24.324	361.1	0.000
10	16.24	33.233	5.76	0.47	2.	0.01	0.0	358.0	10	16.24	33.233	5.76	24.357	358.0	0.036
45	16.35	33.298	5.78	0.45	2.	0.02	0.0	355.7	20	16.27	33.254	5.77	24.364	357.3	0.072
75	14.84	33.215	5.97	0.45	2.	0.02	0.0	329.8	30	16.30	33.272	5.77	24.371	356.7	0.108
96	12.93	33.181	5.89	0.51	4.	0.07	1.3	294.8	50	16.20	33.290	5.82	24.409	353.1	0.179
111	11.48	33.075	5.78	0.68	6.	0.03	4.7	276.5	75	14.84	33.215	5.97	24.653	329.8	0.265
125	11.29	33.349	5.41	0.77	8.	0.03	6.9	253.0	100	12.48	33.137	5.88	25.071	290.0	0.343
145	10.53	33.534	4.80	1.01	12.	0.03	12.5	226.5	125	11.29	33.349	5.41	25.461	253.0	0.411
166	10.30	33.764	3.84	1.34	18.	0.03	18.8	205.7	150	10.48	33.594	4.56	25.794	221.2	0.471
195	8.98	33.897	3.56	1.57	26.	0.03	23.4	175.1	200	8.88	33.918	3.49	26.312	172.1	0.571
220	8.58	33.979	3.18	1.78	32.	0.03	26.0	163.1	250	8.03	34.027	2.82	26.527	151.6	0.654
246	8.09	34.022	2.87	1.77	37.	0.00	27.8	152.8	300	7.30	34.071	2.12	26.667	138.3	0.729
280	7.61	34.052	2.42	2.07	45.	0.00	31.0	143.9	400	6.68	34.214	0.88	26.865	119.6	0.863
320	7.03	34.092	1.82	2.35	55.	0.00	34.4	133.1	500	6.25	34.331	0.30	27.014	105.4	0.982
370	6.86	34.177	1.16	2.62	62.	0.00	36.7	124.6	600	5.77	34.391	0.19	27.122	95.2	1.090
439	6.44	34.254	0.61	2.82	72.	0.00	39.3	113.5							
525	6.18	34.357	0.22	3.02	79.	0.00	41.0	102.6							
608	5.72	34.391	0.19	3.12	87.	0.00	43.0	94.5							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 103080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 26.5N	119 43.0W	2/20/78	1502 GMT	3750M	350	10KT	0	330 4 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.92	33.481	5.65	0.46	3.	0.01	0.1	354.9	0	16.92	33.481	5.65	24.390	354.9	0.000
10	16.91	33.479	5.67	0.46	3.	0.01	0.0	354.8	10	16.91	33.479	5.67	24.391	354.8	0.035
45	16.91	33.481	5.75	0.44	3.	0.01	0.0	354.7	20	16.91	33.482	5.70	24.391	354.8	0.071
74	16.91	33.481	5.64	0.41	3.	0.02	0.0	354.7	30	16.91	33.482	5.73	24.392	354.7	0.107
94	14.51	33.308	5.92	0.45	4.	0.05	0.1	316.3	50	16.91	33.483	5.73	24.392	354.7	0.178
109	13.26	33.355	5.68	0.54	5.	0.05	2.0	288.3	75	16.80	33.472	5.66	24.408	353.1	0.267
124	12.63	33.464	5.14	0.76	7.	0.04	6.6	268.4	100	13.94	33.316	5.87	24.918	304.5	0.350
144	11.48	33.517	4.76	0.97	11.	0.04	11.1	243.9	125	12.57	33.469	5.11	25.312	267.1	0.422
163	10.81	33.632	4.77	1.02	13.	0.02	12.6	223.9	150	11.25	33.553	4.76	25.625	237.3	0.486
194	9.68	33.808	4.20	1.27	20.	0.06	18.4	192.5	200	9.49	33.836	4.05	26.149	187.6	0.594
218	8.99	33.906	3.59	1.45	27.	0.03	23.9	174.6	250	8.32	34.010	2.93	26.469	157.1	0.682
244	8.42	33.997	3.04	1.65	34.	0.00	27.2	159.4	300	7.63	34.070	2.20	26.619	142.9	0.759
278	7.92	34.043	2.50	1.95	42.	0.00	31.0	148.8	400	6.62	34.157	1.18	26.828	123.0	0.897
317	7.42	34.087	1.99	2.26	50.	0.00	34.4	138.7	500	5.98	34.265	0.53	26.996	107.1	1.019
366	6.91	34.125	1.44	2.45	59.	0.00	37.3	129.1	600	5.39	34.331	0.42	27.121	95.3	1.127
436	6.35	34.193	0.95	2.77	70.	0.00	40.6	116.9							
520	5.87	34.284	0.43	2.95	82.	0.00	43.2	104.3							
604	5.37	34.332	0.42	3.02	93.	0.00	45.3	94.9							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 107032

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 25.8N	116 11.0W	2/22/78	0330 GMT	396M	320	10KT	1	260 4 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.20	33.422	5.90	0.45	1.	0.02	0.3	343.3	0	16.20	33.422	5.90	24.511	343.3	0.000
10	16.11	33.417	5.92	0.45	1.	0.02	0.3	341.8	10	16.11	33.417	5.92	24.528	341.8	0.034
29	15.37	33.410	5.99	0.51	0.	0.01	0.2	326.5	20	15.83	33.412	5.96	24.585	336.3	0.068
43	14.16	33.444	5.18	0.63	4.	0.20	3.0	299.3	30	15.29	33.414	5.94	24.706	324.8	0.101
58	12.86	33.488	4.79	0.79	7.	0.11	6.8	270.9	50	13.56	33.462	4.97	25.110	286.3	0.163
72	11.54	33.584	4.43	1.04	11.	0.10	11.9	240.0	75	11.41	33.622	4.27	25.649	235.0	0.228
86	11.12	33.767	3.63	1.30	17.	0.09	16.7	219.2	100	10.85	33.958	2.89	26.011	200.7	0.283
106	10.77	34.028	2.62	1.64	24.	0.08	22.1	194.0	125	10.54	34.148	2.22	26.213	181.4	0.332
130	10.50	34.168	2.15	1.85	27.	0.06	24.6	179.1	150	10.45	34.297	1.56	26.345	168.9	0.376
159	10.44	34.343	1.32	2.08	34.	0.10	27.2	165.2	200	10.09	34.372	1.12	26.466	157.4	0.460
193	10.15	34.369	1.15	2.23	37.	0.09	28.4	158.5	250	9.43	34.364	1.00	26.572	147.4	0.538
226	9.82	34.372	1.04	2.35	39.	0.07	29.3	152.9	300	8.53	34.327	0.92	26.686	136.5	0.612
265	9.15	34.355	0.98	2.48	44.	0.06	30.5	143.7							
309	8.40	34.321	0.90	2.60	50.	0.06	32.4	135.0							
348	8.19	34.327	0.82	2.62	51.	0.06	33.4	131.5							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 107035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 21.5N	116 22.5W	2/22/78	0608 GMT	1750M	340	4KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	16.48	33.489	5.72	0.69	3.	0.01	0.1	344.6
10	16.46	33.487	5.77	0.64	3.	0.00	0.1	344.3
29	16.06	33.473	5.81	0.62	2.	0.02	0.1	336.6
39	15.24	33.436	5.62	0.65	3.	0.03	0.4	321.9
53	13.23	33.461	5.19	0.81	6.	0.04	4.8	279.9
68	12.35	33.469	5.01	0.95	8.	0.05	7.5	262.9
92	11.61	33.712	4.16	1.20	13.	0.03	13.6	231.8
111	10.77	33.726	3.87	1.33	17.	0.04	17.2	216.3
130	10.39	33.882	3.29	1.56	22.	0.07	20.9	198.4
149	10.14	34.052	2.72	1.75	27.	0.05	23.6	181.8
178	9.77	34.126	2.38	1.91	31.	0.05	25.4	170.4
211	9.14	34.158	2.13	1.80U	36.	0.00	27.2	158.2
239	8.68	34.198	1.77	2.13	43.	0.00	30.5	148.3
287	8.39	34.238	1.41	2.31	48.	0.00	32.2	141.0
339	7.85	34.268	1.00	2.46	55.	0.00	34.6	131.1
420	7.31	34.336	0.51	2.63	66.	0.00	37.4	118.7
503	6.45	34.354	0.30	2.75	78.	0.00	40.2	106.1
587	5.87	34.374	0.26	2.84	87.	0.03	42.3	97.6

Z	T	S	O2	SIGT	DT	DD
0	16.48	33.489	5.72	24.498	344.6	0.000
10	16.46	33.487	5.77	24.501	344.3	0.034
20	16.25	33.481	5.79	24.544	340.2	0.069
30	16.00	33.471	5.80	24.593	335.6	0.103
50	13.65	33.452	5.28	25.083	288.9	0.165
75	12.11	33.541	4.77	25.456	253.4	0.233
100	11.24	33.720	4.03	25.756	224.9	0.294
125	10.46	33.835	3.46	25.984	203.2	0.348
150	10.13	34.058	2.70	26.215	181.2	0.397
200	9.36	34.150	2.22	26.416	162.2	0.484
250	8.59	34.210	1.67	26.584	146.2	0.563
300	8.26	34.246	1.30	26.664	138.6	0.637
400	7.44	34.322	0.61	26.844	121.6	0.773
500	6.48	34.354	0.30	27.002	106.6	0.894
600	5.82	34.376	0.26	27.104	96.8	1.003

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 107040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
30 11.0N	116 42.0W	2/22/78	0927 GMT	2600M	310	9KT	1	310 2 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	16.70	33.510	5.67	0.61	2.	0.05	0.0	347.9
10	16.69	33.506	5.68	0.56	3.	0.05	0.0	347.9
29	16.68	33.506	5.68	0.55	2.	0.04	0.0	347.7
59	14.06	33.315	5.80	0.57	4.	0.09	0.5	306.8
69	13.49	33.383	5.45	0.70	5.	0.09	3.1	290.6
83	12.38	33.453	5.05	0.82	8.	0.06	6.9	264.6
98	11.76	33.517	4.69	0.90	10.	0.05	10.2	248.8
113	10.85	33.625	4.24	1.10	15.	0.05	15.0	225.1
138	10.20	33.784	3.23	1.31	20.	0.05	19.6	202.6
158	9.94	33.892	2.74	1.47	24.	0.07	21.7	190.4
188	9.46	34.037	2.15	1.45U	29.	0.02	25.3	172.1
218	9.04	34.136	2.08	1.79	36.	0.00	28.6	158.3
247	8.82	34.184	A	1.99	39.	0.00	30.0	151.4
298	8.52	34.276	1.25A	2.30	47.	0.00	32.4	140.1
352	7.77	34.262	0.98A	2.38	55.	0.00	35.0	130.5
435	7.20	34.311	0.67	2.57	64.	0.01	37.9	119.0
518	6.45	34.325	0.49	2.74	74.	0.01	40.7	108.3
601B	5.86	34.367	0.27	2.83	83.	0.02	42.6	98.0

Z	T	S	O2	SIGT	DT	DD
0	16.70	33.510	5.67	24.463	347.9	0.000
10	16.69	33.506	5.68	24.462	347.9	0.035
20	16.68	33.508	5.68	24.464	347.8	0.070
30	16.61	33.498	5.68	24.474	346.9	0.104
50	14.94	33.349	5.76	24.732	322.2	0.172
75	13.01	33.416	5.27	25.186	279.1	0.247
100	11.64	33.532	4.64	25.537	245.6	0.313
125	10.45	33.707	3.75	25.886	212.4	0.371
150	10.03	33.852	2.91	26.071	195.0	0.423
200	9.28	34.084	2.12	26.377	165.9	0.515
250	8.81	34.192	1.77	26.537	150.7	0.596
300	8.49	34.277	1.24	26.652	139.7	0.671
400	7.41	34.289	0.79	26.823	123.6	0.809
500	6.61	34.323	0.53	26.959	110.6	0.933
600	5.87	34.367	0.27	27.091	98.1	1.045

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 107050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 50.5N	117 22.0W	2/22/78	1533 GMT	2400M	330	10KT	2	320 4 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	16.07	33.460	5.79	0.25	1.	0.01	0.1	337.8
9	16.07	33.458	5.77	0.33	1.	0.01	0.1	337.9
28	15.84	33.463	5.87	0.36	1.	0.01	0.1	332.6
56	13.36	33.389	5.32	0.56	5.	0.03	4.4	287.7
65	12.91	33.450	5.02	0.68	6.	0.02	6.4	274.7
79	12.56	33.500	4.72	0.73	9.	0.03	8.7	264.5
93	11.48	33.426	4.81	0.93	10.	0.03	10.7	250.6
107	11.70	33.655	4.04	1.00	14.	0.01	13.6	237.5
129	10.82	33.728	3.79	1.43	18.	0.04	17.1	217.0
147	10.11	33.722	3.99	1.32	19.	0.01	18.1	205.7
174	9.35	33.935	3.10	1.66	28.	0.02	23.7	177.9
201	9.13	34.026	2.73	1.62	33.	0.00	25.5	167.8
228	8.83	34.082	2.48	1.73	36.	0.00	27.3	159.1
272	8.14	34.131	1.98	1.92	46.	0.00	30.6	145.4
321	7.47	34.164	1.47	2.38	55.	0.00	33.8	133.6
398	6.83	34.242	0.81	2.63	68.	0.00	37.1	119.3
476	6.51	34.300	0.50	2.68	76.	0.00	38.6	110.9
557	5.93	34.347	0.31	2.78	85.	0.00	40.6	100.3

Z	T	S	O2	SIGT	DT	DD
0	16.07	33.460	5.79	24.570	337.8	0.000
10	16.06	33.460	5.78	24.571	337.6	0.034
20	15.94	33.463	5.84	24.600	334.8	0.067
30	15.68	33.453	5.85	24.651	330.0	0.101
50	13.93	33.389	5.50	24.978	298.9	0.164
75	12.68	33.497	4.78	25.313	267.0	0.235
100	11.55	33.533	4.45	25.555	244.0	0.299
125	11.04	33.725	3.84	25.797	220.9	0.358
150	10.00	33.743	3.91	25.991	202.5	0.412
200	9.13	34.025	2.74	26.354	168.0	0.506
250	8.50	34.112	2.23	26.522	152.0	0.588
300	7.74	34.151	1.68	26.667	138.3	0.663
400	6.82	34.245	0.80	26.870	119.1	0.797
500	6.36	34.316	0.43	26.987	108.0	0.918

A) THE OXYGEN SAMPLE WAS OMITTED FROM ONE OF THESE DEPTHS. IT IS ASSUMED TO BE THE SAMPLE FOR 247 METERS.
B) THIS VALUE WAS DETERMINED FROM AN EXTRAPOLATED DEPTH CURVE DUE TO MALFUNCTIONING OF THE UNPROTECTED THERMOMETER.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 107060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 32.0N	118 01.5W	2/22/78	2048 GMT	3650M	340	9KT	1	310 4 12

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.49	33.283	5.74	0.49	2.	0.00	0.4	359.8	0	16.49	33.283	5.74	24.338	359.8	0.000
10	16.07	33.202	5.77	0.48	2.	0.00	0.1	356.6	10	16.07	33.202	5.77	24.372	356.6	0.036
45	16.67	33.533	5.69	0.45	2.	0.00	0.1	345.5	20	16.30	33.287	5.75	24.383	355.6	0.071
75	15.32	33.355	5.86	0.45	2.	0.00	0.0	329.5	30	16.48	33.379	5.72	24.412	352.8	0.107
94	12.65	33.187	5.81	0.52	5.	0.00	0.4	289.2	50	16.40	33.520	5.72	24.540	340.5	0.176
98A	12.25	33.573	4.76	0.77	9.	0.00	7.5	253.4	75	15.32	33.355	5.86	24.657	329.5	0.260
108A	11.86	33.540	4.81	0.86	9.	0.00	8.6	248.8	100	12.13	33.559	4.77	25.465	252.5	0.333
123A	11.41	33.687	4.08	1.08	13.	0.02	12.9	230.1	125	11.32	33.700	4.02	25.726	227.7	0.394
137A	10.72	33.755	3.77	1.23	16.	0.01	15.5	213.3	150	10.05	33.835	3.48	26.054	196.5	0.448
159A	9.64	33.870	3.40	1.39	22.	0.02	19.2	187.3	200	9.00	33.976	3.20	26.337	169.7	0.541
175A	9.18	33.836	3.77	1.46	23.	0.00	20.2	182.7	250	8.53	34.185	1.91	26.575	147.0	0.622
194A	9.04	33.926	3.45	1.47	29.	0.02	22.6	173.9	300	8.13	34.209	1.66	26.654	139.5	0.697
218A	8.87	34.114	2.42	1.79	35.	0.01	26.5	157.3	400	7.00	34.242	0.88	26.843	121.6	0.833
248A	8.54	34.182	1.92	2.00	41.	0.01	29.0	147.4	500	6.40	34.330	0.41	26.994	107.3	0.954
310A	8.04	34.206	1.64	2.15	46.	0.01	30.7	138.4							
358A	7.29	34.217	1.20	2.32	55.	0.00	33.3	127.3							
418A	6.92	34.254	0.76	2.52	64.	0.01	36.4	119.6							
480A	6.50	34.307	0.46	2.43	72.	0.01	38.7	110.3							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 107070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 11.0N	118 41.0W	2/23/78	0242 GMT	3000M	340	11KT	1	310 4 12

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.08	33.504	5.64	0.51	3.	0.02	0.2	356.8	0	17.08	33.504	5.64	24.370	356.8	0.000
10	17.05	33.503	5.66	0.50	3.	0.03	0.2	356.2	10	17.05	33.503	5.66	24.376	356.2	0.036
45	16.92	33.510	5.71	0.49	2.	0.03	0.1	352.8	20	17.04	33.507	5.68	24.380	355.8	0.071
75	16.44	33.501	5.74	0.46	2.	0.02	0.1	342.8	30	17.01	33.509	5.69	24.390	354.9	0.107
94	14.99	33.491	5.84	0.47	3.	0.02	0.0	312.7	50	16.84	33.510	5.71	24.429	351.1	0.178
109	14.10	33.487	5.71	0.50	4.	0.05	0.4	294.9	75	16.44	33.501	5.74	24.517	342.8	0.265
124	12.51	33.531	5.40	0.65	6.	0.03	4.2	261.3	100	14.66	33.489	5.81	24.901	306.2	0.347
144	11.28	33.696	4.94	0.83	10.	0.02	9.5	227.2	125	12.44	33.542	5.38	25.394	259.3	0.418
165	10.04	33.722	4.30	1.17	17.	0.02	16.3	204.6	150	10.87	33.704	4.79	25.810	219.8	0.479
194	9.92	34.004	2.55	1.64	29.	0.02	24.5	181.8	200	9.81	34.033	2.54	26.249	178.0	0.580
219	9.39	34.082	2.50	1.74	33.	0.02	26.3	167.6	250	8.94	34.153	2.35	26.486	155.5	0.666
244	8.91	34.120	2.52	1.70	35.	0.01	26.5	157.5	300	8.99	34.338	1.01	26.621	142.7	0.743
278	9.06	34.283	1.39	2.06	42.	0.01	30.2	147.7	400	7.72	34.333	0.54	26.812	124.5	0.883
318	8.85	34.357	0.84	2.34	47.	0.01	31.9	139.0	500	6.89	34.372	0.28	26.960	110.5	1.007
368	8.08	34.333	0.63	2.41	54.	0.00	34.4	129.5	600	6.03	34.389	0.19	27.088	98.4	1.120
438	7.37	34.341	0.45	2.58	63.	0.00	37.0	119.1							
522	6.73	34.382	0.23	2.69	72.	0.00	39.8	107.6							
607	5.96	34.387	0.19	2.79	84.	0.00	42.7	97.7							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 107080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 51.5N	119 20.0W	2/23/78	0721 GMT	3700M	340	10KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.05	33.449	5.64	0.40	2.	0.01	0.1	360.1	0	17.05	33.449	5.64	24.335	360.1	0.000
10	17.05	33.450	5.66	0.37	2.	0.00	0.0	360.1	10	17.05	33.450	5.66	24.335	360.1	0.036
30	17.05	33.463	5.70	0.37	2.	0.00	0.0	359.1	20	17.05	33.458	5.68	24.340	359.6	0.072
61	17.01	33.459	5.65	0.36	2.	0.00	0.0	358.5	30	17.05	33.463	5.70	24.345	359.1	0.108
71	15.65	33.366	5.87	0.37	2.	0.00	0.0	335.6	50	17.02	33.462	5.67	24.350	358.7	0.180
86	14.29	33.337	5.80	0.44	3.	0.01	0.2	309.7	75	15.23	33.354	5.85	24.675	327.8	0.266
101	13.35	33.308	5.69	0.54	4.	0.01	1.6	293.4	100	13.40	33.311	5.70	25.024	294.5	0.345
116	12.50	33.371	5.50	0.60	6.	0.01	3.3	272.9	125	12.14	33.445	5.39	25.375	261.1	0.415
142	11.48	33.565	5.12	0.75	9.	0.01	7.4	240.3	150	10.99	33.579	4.96	25.691	231.0	0.477
162	10.33	33.600	4.66	1.01	14.	0.07	13.1	218.3	200	9.93	33.908	3.36	26.132	189.1	0.584
192	10.07	33.853	3.54	1.44	22.	0.00	19.8	195.4	250	8.35	34.012	2.95	26.466	157.4	0.673
222	9.38	34.008	3.04	1.53	28.	0.00	23.3	173.0	300	7.79	34.058	2.42	26.586	146.0	0.751
252	8.28	34.009	2.95	1.83	36.	0.00	27.0	156.5	400	6.72	34.166	1.08	26.821	123.7	0.891
303	7.78	34.060	2.38	2.09	44.	0.00	30.3	145.6	500	6.13	34.258	0.53	26.971	109.4	1.014
358	7.02	34.115	1.51	2.42	57.	0.00	35.5	131.3	600	5.62	34.333	0.29	27.094	97.8	1.125
443	6.51	34.213	0.78	2.67	70.	0.00	38.3	117.4							
528	5.96	34.277	0.45	2.89	81.	0.00	41.2	105.9							
612	5.58	34.341	0.28	3.03	89.	0.00	43.4	96.6							

A) THESE NANSEN BOTTLES APPEAR TO HAVE PRETRIPPED CAUSING THE DEPTHS TO BE UNCERTAIN.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 110035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 46.0N	116 00.0W	2/24/78	1604 GMT	1200M	340	12KT	1	310 4 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	16.71	33.498	5.69	0.49	2.	0.00	0.2	349.0
9	16.72	33.499	5.70	0.44	2.	0.00	0.0	349.1
28	16.70	33.495	5.73	0.40	2.	0.00	0.0	349.0
38	15.02	33.354	5.90	0.44	3.	0.00	0.0	323.3
52	13.30	33.362	5.51	0.57	5.	0.00	0.6	288.5
66	12.40	33.399	5.24	0.73	7.	0.01	3.6	269.0
89	11.63	33.548	4.67	0.92	11.	0.00	8.2	244.2
107	10.98	33.640	4.18	1.10	15.	0.00	13.0	226.2
125	10.44	33.779	3.56	1.40	20.	0.01	18.7	206.9
143	10.29	33.883	3.26	1.54	23.	0.01	20.9	196.7
169	9.64	34.011	2.89	1.71	28.	0.00	24.7	176.8
200	9.77	34.218		1.98	34.	0.00	27.6	163.5
226	9.60	34.295	1.56	2.16	38.	0.00	30.1	155.2
270	8.96	34.303		2.29	43.	0.00	32.1	144.7
318	8.40	34.299	1.05	2.41	50.	0.00	34.4	136.7
394	7.62	34.325	0.70	2.58	59.	0.00	38.1	123.7
474	6.78	34.333	0.45	2.74	72.	0.00	41.3	111.9
558	6.25	34.352	0.37	2.84	79.	0.00	43.8	103.8

Z	T	S	O2	SIGT	DT	DD
0	16.71	33.498	5.69	24.452	349.0	0.000
10	16.72	33.499	5.70	24.450	349.1	0.035
20	16.71	33.499	5.72	24.451	349.0	0.070
30	16.40	33.466	5.78	24.498	344.6	0.105
50	13.50	33.361	5.58	25.046	292.4	0.169
75	12.05	33.456	5.03	25.401	258.6	0.238
100	11.23	33.604	4.38	25.668	233.2	0.300
125	10.44	33.779	3.56	25.945	206.9	0.355
150	10.11	33.917	3.16	26.109	191.3	0.406
200	9.77	34.218	2.12	26.401	163.5	0.496
250	9.27	34.300	1.43	26.548	149.6	0.577
300	8.59	34.302	1.15	26.656	139.4	0.652
400	7.55	34.326	0.68	26.831	122.7	0.789
500	6.58	34.339	0.43	26.977	108.9	0.912

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 110040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 36.5N	116 19.5W	2/24/78	1233 GMT	2500M	170	16KT	1	100 4 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	16.67	33.486	5.69	0.41	2.	0.00	0.1	349.0
11	16.68	33.485	5.72	0.41	2.	0.00	0.1	349.3
30	16.70	33.501	5.73	0.40	2.	0.00	0.0	348.5
60	16.05	33.526	5.52	0.45	3.	0.01	0.0	332.5
69	14.35	33.436	5.37	0.57	4.	0.02	0.3	303.7
84	12.93	33.284	5.61	0.64	5.	0.01	0.6	287.2
99	12.02	33.387	5.18	0.81	8.	0.01	3.9	263.0
113	11.92	33.560	4.73	0.94	10.	0.00	6.3	248.4
137	11.06	33.684	4.28	1.12	14.	0.00	11.1	224.3
157	10.46	33.779	3.95	1.32	18.	0.00	15.4	207.2
186	9.62	34.023	2.91	1.72	28.	0.01	24.2	175.6
215	9.15	34.098	2.56	1.81	33.	0.00	26.6	162.8
244	8.79	34.157	2.06	2.08	39.	0.00	30.3	153.0
293	8.26	34.207	1.57	2.36	46.	0.00	33.6	141.5
346	7.72	34.219	1.29	2.47	53.	0.00	36.6	133.0
429	7.09	34.308	0.71	2.74	64.	0.00	40.9	117.8
512	6.34	34.319	0.49	2.86	76.	0.00	44.2	107.4
595	5.82	34.378	0.28	3.02	85.	0.00	46.7	96.7

Z	T	S	O2	SIGT	DT	DD
0	16.67	33.486	5.69	24.452	349.0	0.000
10	16.68	33.487	5.72	24.449	349.3	0.035
20	16.69	33.494	5.72	24.452	348.9	0.070
30	16.70	33.501	5.73	24.456	348.5	0.105
50	16.27	33.519	5.63	24.569	337.8	0.174
75	13.65	33.364	5.47	25.017	295.2	0.253
100	12.01	33.403	5.15	25.367	261.8	0.323
125	11.53	33.637	4.48	25.638	236.1	0.386
150	10.66	33.744	4.08	25.878	213.2	0.443
200	9.36	34.072	2.71	26.354	168.0	0.540
250	8.72	34.167	1.98	26.530	151.3	0.622
300	8.18	34.210	1.53	26.646	140.3	0.698
400	7.30	34.278	0.90	26.829	123.0	0.835
500	6.45	34.319	0.51	26.979	108.8	0.958
600	5.80	34.379	0.28	27.109	96.4	1.068

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 110050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 16.5N	116 59.0W	2/24/78	0552 GMT	3550M	330	12KT	1	340 3 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	17.01	33.641	5.69	0.47	3.	0.04	0.1	345.2
11	16.99	33.637	5.73	0.45	3.	0.03	0.0	345.1
31	16.67	33.657	5.73	0.42	3.	0.03	0.0	336.5
61	13.96	33.543	4.68	0.80	8.	0.03	3.9	288.1
71	13.56	33.550	4.69	0.84	8.	0.03	4.3	279.7
86	12.54	33.575	4.42	1.00	11.	0.03	7.4	258.6
101	12.05	33.627	4.23	1.13	13.	0.02	10.0	245.8
116	11.68	33.779	3.61	1.33	16.	0.03	14.2	228.0
141	10.99	33.921	2.99	1.60	22.	0.02	19.3	205.6
161	10.42	33.992	2.97	1.66	24.	0.02	20.8	190.8
192	9.72	34.102	2.81	1.68	29.	0.02	23.2	171.3
222	9.16	34.161	2.45	1.91	35.	0.01	26.9	158.3
251	8.93	34.226	1.78	2.14	40.	0.01	30.7	149.9
301	8.48	34.275	1.23	2.34	47.	0.01	33.6	139.6
356	7.87	34.312	0.76	2.53	56.	0.01	37.0	128.1
441	7.25	34.391	0.29	2.75	66.	0.00	40.5	113.7
525	6.54	34.383	0.22	2.85	76.	0.00	43.9	105.1
609	5.82	34.393	0.21	2.91	87.	0.00	46.8	95.5

Z	T	S	O2	SIGT	DT	DD
0	17.01	33.641	5.69	24.491	345.2	0.000
10	16.99	33.639	5.73	24.492	345.1	0.035
20	16.85	33.647	5.73	24.533	341.2	0.069
30	16.69	33.658	5.73	24.578	336.9	0.103
50	16.40	33.640	5.62	24.632	331.8	0.170
75	13.29	33.555	4.63	25.237	278.2	0.246
100	12.07	33.623	4.25	25.527	246.6	0.312
125	11.44	33.843	3.32	25.815	219.2	0.371
150	10.73	33.957	2.98	26.032	198.7	0.424
200	9.55	34.120	2.74	26.361	167.4	0.517
250	8.94	34.225	1.80	26.542	150.2	0.599
300	8.49	34.275	1.24	26.651	139.8	0.674
400	7.53	34.358	0.47	26.859	120.1	0.810
500	6.76	34.390	0.24	26.993	107.4	0.931
600	5.90	34.392	0.21	27.107	96.6	1.040

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 110060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 56.5N	117 39.0W	2/24/78	0010 GMT	3550M	330	12KT	1	340 3 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.94	33.471	5.65		4.	0.01	0.1	356.1	0	16.94	33.471	5.65	24.377	356.1	0.000
10	16.93	33.487	5.70		3.	0.01	0.1	354.7	10	16.93	33.487	5.70	24.392	354.7	0.036
44	16.45	33.429	5.72	0.22	2.	0.00	0.0	348.3	20	16.79	33.454	5.71	24.398	354.1	0.071
74	14.97 A	33.334	5.83	0.28	3.	0.00	0.3	323.7	30	16.65	33.433	5.71	24.415	352.4	0.106
93	12.74	33.259	5.69	0.55	5.	0.01	2.7	285.5	50	16.29	33.418	5.75	24.485	345.8	0.176
107	12.11	33.420	5.04	0.65	8.	0.00	7.6	262.2	75	14.85	33.327	5.82	24.736	321.9	0.260
122	11.45	33.475	4.84	0.82	10.	0.00	10.5	246.4	100	12.37	33.338	5.37	25.249	273.1	0.335
141	10.83	33.665	4.07	1.03	16.	0.00	15.4	221.8	125	11.34	33.504	4.73	25.570	242.5	0.400
160	10.33	33.814	3.49	1.31	21.	0.01	19.5	202.5	150	10.58	33.743	3.77	25.893	211.9	0.458
188	9.90	33.938	3.03	1.54	26.	0.01	22.4	186.3	200	9.65	33.992	2.85	26.244	178.5	0.557
211	9.40	34.035	2.70		31.	0.00	24.8	171.3	250	8.60	34.130	2.16	26.521	152.2	0.642
235	8.84	34.100	2.36		38.	0.00	24.1	157.9	300	8.29	34.214	1.48	26.634	141.5	0.718
267	8.41	34.157	1.93		43.	0.00	29.5	147.4	400	7.25	34.287	0.66	26.844	121.5	0.855
304	8.28	34.219	1.43		48.	0.00	31.4	140.9	500	6.45	34.329	0.34	26.986	108.0	0.977
351	7.86	34.290	0.91		56.	0.00	32.8	129.6	600	5.94	34.368	0.24	27.083	98.8	1.088
417	7.04	34.287	0.61		67.	0.00		118.7							
498	6.46	34.327	0.34		75.	0.00	39.4	108.3							
582	6.01	34.365	0.24		84.	0.00		99.9							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 110070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 36.5N	118 18.0W	2/25/78	1837 GMT	3650M	150	9KT	1	170 4 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.03	33.488	5.65	0.37	2.	0.00	0.1	356.8	0	17.03	33.488	5.65	24.369	356.8	0.000
10	16.97	33.487	5.69	0.37	2.	0.01	0.0	355.6	10	16.97	33.487	5.69	24.383	355.6	0.036
31	16.96	33.492	5.74	0.38	2.	0.01	0.0	355.0	20	16.97	33.492	5.72	24.386	355.3	0.071
61	16.79	33.505	5.66	0.37	2.	0.01	0.0	350.2	30	16.96	33.494	5.74	24.389	355.0	0.107
71	16.80	33.513	5.65	0.37	2.	0.01	0.0	349.9	50	16.85	33.501	5.70	24.421	351.9	0.178
86	14.33	33.345	5.69	0.43	3.	0.04	1.0	309.9	75	16.20	33.462	5.66	24.540	340.6	0.265
102	13.62	33.436	5.41	0.58	5.	0.03	3.5	289.3	100	13.66	33.422	5.45	25.058	291.3	0.344
117	12.62	33.470	5.21	0.71	7.	0.02	5.6	267.8	125	12.26	33.519	5.01	25.410	257.7	0.414
142	11.65	33.636	4.47	0.96	12.	0.01	11.4	238.1	150	11.35	33.686	4.16	25.710	229.2	0.475
162	10.92	33.758	3.71	1.31	18.	0.02	17.1	216.4	200	9.97	34.007	2.85	26.203	182.4	0.580
193	10.12	33.983	2.88	1.67	26.	0.00	22.9	186.6	250	9.11	34.156	2.32	26.460	157.9	0.667
223	9.52	34.058	2.80	1.72	29.	0.00	24.3	171.4	300	8.60	34.242	1.60	26.608	143.9	0.746
253	9.07	34.165	2.26	2.01	37.	0.00	27.6	156.6	400	7.57	34.289	0.78	26.799	125.7	0.886
303	8.57	34.243	1.57	2.26	45.	0.00	30.7	143.3	500	6.57	34.319	0.43	26.961	110.4	1.011
357	7.95	34.256	1.09	2.50	53.	0.00	33.6	133.4	600	5.80	34.360	0.29	27.094	97.9	1.123
442	7.21	34.317	0.55	2.74	65.	0.00	36.8	118.7							
527	6.29	34.318	0.40	2.92	80.	0.00	40.5	106.8							
611	5.75	34.368	0.27	3.05	88.	0.00	42.8	96.6							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 110080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 16.5N	118 57.5W	2/23/78	1318 GMT	3950M	100	16KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.63	33.677	5.57	0.36	2.	0.00	0.4	356.7	0	17.63	33.677	5.57	24.371	356.7	0.000
10	17.62	33.674	5.60	0.34	2.	0.00	0.3	356.7	10	17.62	33.674	5.60	24.371	356.7	0.036
30	17.62	33.673	5.62	0.34	2.	0.00	0.3	356.7	20	17.62	33.675	5.61	24.371	356.7	0.071
59	17.72	33.695	5.58	0.35	2.	0.00	0.2	357.4	30	17.62	33.673	5.62	24.370	356.7	0.107
69	17.74	33.702	5.57	0.35	2.	0.00	0.2	357.4	50	17.69	33.688	5.60	24.365	357.3	0.179
83	15.66	33.489	5.92	0.33	2.	0.00	0.1	326.8	75	16.89	33.604	5.72	24.490	345.3	0.267
98	15.45	33.582	5.82	0.34	2.	0.00	0.1	315.6	100	15.33	33.589	5.77	24.833	312.7	0.350
112	14.43	33.608	5.43	0.45	4.	0.01	1.4	292.7	125	13.34	33.618	5.17	25.274	270.7	0.424
136	12.51	33.637	5.02	0.64	7.	0.01	5.9	253.5	150	11.89	33.713	4.95	25.631	236.7	0.488
155	11.71	33.739	4.93	0.69	9.	0.01	7.3	231.5	200	10.01	33.881	4.26	26.097	192.5	0.597
184	10.58	33.823	4.55	0.92	14.	0.01	12.9	205.9	250	8.71	33.990	3.63	26.393	164.3	0.689
212	9.63	33.920	4.05	1.13	21.	0.03	18.0	183.4	300	7.92	34.046	2.87	26.558	148.6	0.769
241	8.89	33.976	3.74	1.47	27.	0.00	22.5	167.9	400	6.92	34.179	1.22	26.804	125.3	0.912
288	8.10	34.032	3.09	1.77	37.	0.00	27.0	152.2	500	6.03	34.240	0.59	26.970	109.5	1.035
340	7.39	34.091	2.12	2.11	50.	0.00	32.3	138.0	600	5.46	34.300	0.37	27.089	98.3	1.146
421	6.78	34.204	0.98	2.51	65.	0.00	37.4	121.5							
504	5.99	34.240	0.58	2.78	78.	0.00	41.0	109.0							
591	5.50	34.297	0.37	2.87	87.	0.00	42.4	99.0							

A) ALTERNATE VALUE, 14.86 DEGREES.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 113035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 11.5N	115 38.0W	2/25/78	0325 GMT	1300M	300	15KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	16.46	33.485	5.74	0.42	2.	0.00	0.1	344.4
11	16.39	33.476	5.79	0.42	2.	0.00	0.1	343.5
30	16.10	33.460	5.89	0.40	1.	0.00	0.1	338.4
37	15.72	33.436	5.86	0.41	1.	0.00	0.1	332.0
50	14.58	33.407	5.60	0.48	3.	0.03	0.4	310.4
64	12.88	33.375	5.42	0.62	5.	0.02	2.7	279.6
86	11.99	33.512	4.86	0.81	9.	0.02	7.7	253.2
102	11.53	33.583	4.50	0.99	12.	0.02	11.1	239.9
119	11.60	33.946	2.64	1.45	23.	0.03	19.1	214.3
135	10.36	33.916	3.24	1.41	22.	0.00	20.1	195.4
160	10.10	34.054	2.86	1.61	26.	0.00	23.1	181.0
190	9.43	34.125	2.82	1.72	31.	0.00	25.1	165.1
216	8.98	34.155	2.38	1.89	36.	0.00	27.7	156.0
259	8.56	34.233	1.57	2.12	44.	0.00	31.3	143.9
308	8.77	34.383	0.74	2.07	50.	0.00	32.5	135.9
386	7.75	34.336	0.64	2.47	57.	0.00	35.9	124.7
468	6.97	34.331	0.42	2.64	67.	0.00	39.1	114.5
553	6.35	34.352	0.29	2.74	77.	0.00	41.8	105.0

Z	T	S	O2	SIGT	DT	DD
0	16.46	33.485	5.74	24.500	344.4	0.000
10	16.40	33.479	5.78	24.507	343.7	0.034
20	16.25	33.470	5.85	24.534	341.1	0.069
30	16.10	33.460	5.89	24.563	338.4	0.103
50	14.58	33.407	5.60	24.856	310.4	0.168
75	12.28	33.437	5.16	25.343	264.2	0.240
100	11.57	33.569	4.58	25.579	241.7	0.304
125	11.16	33.934	2.77	25.938	207.6	0.361
150	10.20	34.019	3.01	26.172	185.3	0.410
200	9.24	34.138	2.68	26.425	161.2	0.499
250	8.61	34.214	1.74	26.585	146.1	0.578
300	8.73	34.362	0.85	26.681	137.0	0.651
400	7.60	34.333	0.60	26.830	122.8	0.787
500	6.71	34.337	0.36	26.957	110.8	0.911

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 113040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
29 02.0N	115 57.0W	2/25/78	0654 GMT	1900M	340	17KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
2	17.13	33.599	5.63	0.62	2.	0.02	0.1	351.0
12	17.13	33.598	5.64	0.60	1.	0.02	0.0	351.1
31	17.09	33.597	5.65	0.58	2.	0.02	0.0	350.2
59	16.79	33.563	5.61	0.57	2.	0.02	0.0	346.0
68	15.91	33.495	5.55	0.59	3.	0.05	0.2	331.7
82	14.00	33.430	5.42	0.64	5.	0.03	1.1	297.1
96	13.07	33.430	5.30	0.81	6.	0.04	3.9	279.2
109	13.07	33.645	4.42	0.97	9.	0.02	5.1	263.4
124A	12.20	33.788	3.48	1.24	15.	0.02	14.3	236.7
143A	11.97	33.882	3.13	1.42	18.	0.02	16.9	225.6
171A	11.44	34.061	2.41	1.69	23.	0.02	22.2	203.0
198A	10.99	34.234	1.79	1.86	29.	0.00	25.4	182.5
227A	10.64	34.328	1.40	2.08	33.	0.00	27.3	169.6
274A	10.03	34.363	1.17	2.24	38.	0.00	29.6	157.0
326A	9.26	34.398	0.77	2.45	45.	0.00	32.0	142.2
387A	8.13	34.340	0.69	2.52	54.	0.00	34.6	129.7
472A	6.92	34.302	0.55	2.67	68.	0.00	39.4	116.0
557A	6.26	34.358	0.26	2.83	79.	0.00	42.7	103.5

Z	T	S	O2	SIGT	DT	DD
0	17.13	33.599	5.63	24.430	351.0	0.000
10	17.13	33.600	5.64	24.430	351.1	0.035
20	17.11	33.597	5.64	24.431	350.9	0.070
30	17.09	33.598	5.65	24.438	350.3	0.105
50	16.89	33.576	5.62	24.469	347.4	0.175
75	14.93	33.454	5.49	24.815	314.4	0.259
100	13.07	33.494	5.07	25.233	274.6	0.333
125	12.18	33.796	3.45	25.640	235.8	0.397
150	11.85	33.926	2.96	25.804	220.3	0.455
200	10.96	34.244	1.76	26.213	181.4	0.558
250	10.35	34.355	1.26	26.408	162.9	0.646
300	9.66	34.386	0.96	26.550	149.4	0.727
400	7.91	34.330	0.67	26.781	127.5	0.872
500	6.64	34.312	0.47	26.947	111.8	0.999

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 113050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 41.5N	116 36.5W	2/25/78	1302 GMT	3550M	360	7KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	17.09	33.563	5.64	0.38	2.	0.01	0.4	352.7
10	17.10	33.561	5.64	0.37	2.	0.00	0.5	353.1
30	17.09	33.561	5.75	0.39	2.	0.00	0.5	352.9
59	17.00	33.573	5.64	0.38	2.	0.00	0.7	350.0
69	15.63	33.537	5.33	0.47	4.	0.02	1.4	322.7
84	14.37	33.538	5.08	0.59	5.	0.01	3.3	296.6
99	13.45	33.619	4.53	0.80	9.	0.02	7.2	272.5
114	12.78	33.680	4.16	0.98	11.	0.02	10.5	255.3
138	11.75	33.854	3.22	1.30	18.	0.02	17.2	223.8
158	11.18	34.031	2.56	1.59	23.	0.02	22.2	200.7
188	11.02	34.199	1.93	1.75	28.	0.00	25.5	185.6
218	10.60	34.282	1.59	2.02	32.	0.00	27.8	172.4
247	10.02	34.283	1.62	2.14	35.	0.00	29.9	162.7
297	9.25	34.320	1.25	2.26	42.	0.00	32.3	147.8
351	8.84	34.353	0.92	2.44	47.	0.00	34.2	139.2
435	7.62	34.334	0.63	2.61	60.	0.00	38.4	123.0
520	6.77	34.336	0.41	2.76	71.	0.00	42.0	111.6
604	6.08	34.381	0.27	2.92	83.	0.00	45.2	99.6

Z	T	S	O2	SIGT	DT	DD
0	17.09	33.563	5.64	24.412	352.7	0.000
10	17.10	33.561	5.64	24.409	353.1	0.035
20	17.10	33.561	5.70	24.409	353.1	0.071
30	17.09	33.561	5.75	24.411	352.9	0.106
50	17.03	33.571	5.67	24.432	350.9	0.177
75	15.05	33.538	5.23	24.856	310.5	0.260
100	13.40	33.624	4.51	25.267	271.3	0.333
125	12.28	33.752	3.75	25.587	240.9	0.398
150	11.37	33.963	2.81	25.921	209.2	0.455
200	10.88	34.244	1.75	26.228	180.0	0.554
250	9.96	34.285	1.60	26.420	161.7	0.642
300	9.23	34.323	1.23	26.572	147.3	0.722
400	8.15	34.345	0.73	26.758	129.7	0.867
500	6.95	34.334	0.45	26.923	114.1	0.996
600	6.11	34.379	0.27	27.069	100.1	1.111

A) THESE NANSEN BOTTLES APPEAR TO HAVE PRETRIPPED CAUSING THE DEPTHS TO BE UNCERTAIN.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 113060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 22.0N	117 16.0W	2/25/78	1901 GMT	3600M	340	10KT	1	310 3 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	16.89	33.533	5.69	0.09	1.	0.01	0.3	350.4	0	16.89	33.533	5.69	24.437	350.4	0.000
11	16.84	33.530	5.70	0.11	1.	0.02	0.2	349.5	10	16.84	33.532	5.70	24.445	349.6	0.035
33	16.80	33.530	5.79	0.14	1.	0.02	0.2	348.6	20	16.82	33.531	5.74	24.451	349.0	0.070
62	14.48	33.243	5.98	0.20	2.	0.02	0.1	320.4	30	16.80	33.531	5.78	24.455	348.7	0.105
72	14.06	33.252	5.95	0.23	2.	0.03	0.1	311.4	50	16.80	33.531	5.80	24.456	348.6	0.175
86	13.37	33.273	5.80	0.29	3.	0.05	0.6	296.4	75	13.92	33.258	5.93	24.878	308.4	0.258
102	12.37	33.315	5.46	0.42	6.	0.04	4.5	274.6	100	12.48	33.306	5.51	25.203	277.4	0.331
117	12.06	33.503	5.00	0.56	7.	0.06	7.8	255.2	125	11.74	33.588	4.64	25.562	243.2	0.397
142	10.98	33.735	3.91	0.92	15.	0.06	16.0	219.2	150	10.70	33.791	3.72	25.907	210.5	0.455
162	10.33	33.862	3.50	1.23	20.	0.04	20.3	198.9	200	9.42	34.061	2.87	26.335	169.8	0.551
192	9.55	34.038	2.94	1.51	28.	0.02	25.1	173.4	250	9.17	34.181	2.17	26.470	157.0	0.635
221	9.22	34.100	2.68	1.60	32.	0.00	26.6	163.7	300	8.50	34.249	1.38	26.629	141.9	0.713
251	9.17	34.183	2.15	1.84	36.	0.00	29.1	156.8	400	7.80	34.366	0.51	26.827	123.1	0.851
299	8.50	34.245	1.40	2.08	45.	0.00	33.0	142.1	500	6.46	34.341	0.34	26.994	107.3	0.974
353	8.33	34.376	0.61	2.34	53.	0.00	35.5	129.9	600	5.81	34.366	0.28	27.097	97.5	1.083
435	7.30	34.351	0.43	2.54	64.	0.00	38.7	117.4							
517	6.28	34.342	0.32	2.64	77.	0.00	42.3	104.9							
601	5.81	34.366	0.28	2.80	86.	0.00	44.8	97.5							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 113070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 01.9N	117 54.9W	2/26/78	0129 GMT	3450M	350	9KT	2	360 8 12

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.90	33.469	5.68	0.35	1.	0.00	0.2	355.3	0	16.90	33.469	5.68	24.385	355.3	0.000
10	16.79	33.439	5.74	0.36	1.	0.00	0.1	355.1	10	16.79	33.439	5.74	24.388	355.1	0.036
31	16.62	33.411	5.84	0.37	1.	0.00	0.0	353.3	20	16.69	33.420	5.80	24.396	354.3	0.071
62	16.81	33.496	5.69	0.35	1.	0.00	0.0	351.3	30	16.62	33.413	5.84	24.405	353.4	0.107
72	16.28	33.455	5.70	0.36	1.	0.00	0.0	342.7	50	16.74	33.465	5.75	24.419	352.1	0.177
87	13.99	33.339	5.73	0.43	2.	0.03	0.6	303.6	75	15.84	33.427	5.71	24.595	335.3	0.264
103	13.06	33.370	5.53	0.52	4.	0.03	3.1	283.4	100	13.17	33.362	5.58	25.111	286.2	0.342
118	12.24	33.385	5.27	0.64	6.	0.02	5.8	267.1	125	11.78	33.453	5.06	25.449	254.0	0.410
143	10.72	33.655	4.48	0.90	13.	0.01	13.2	220.7	150	10.46	33.700	4.33	25.879	213.2	0.469
163	10.10	33.767	4.04	1.13	18.	0.01	17.5	202.2	200	9.56	34.027	2.94	26.287	174.4	0.568
193	9.69	34.001	3.05	1.45	26.	0.00	23.3	178.3	250	8.86	34.166	2.07	26.508	153.4	0.652
223	9.14	34.081	2.66	1.57	32.	0.00	26.0	163.9	300	8.21	34.197	1.59	26.633	141.5	0.728
253	8.83	34.173	2.00	1.86	38.	0.00	29.3	152.4	400	7.24	34.259	0.78	26.823	123.5	0.867
303	8.17	34.196	1.58	2.09	47.	0.00	32.6	141.0	500	6.29	34.279	0.47	26.968	109.8	0.990
357	7.76	34.260	0.99	2.28	55.	0.00	35.0	130.5	600	5.70	34.341	0.29	27.091	98.1	1.101
440	6.75	34.249	0.68	2.46	67.	0.00	38.9	117.8							
524	6.14	34.294	0.40	2.58	79.	0.00	41.7	106.8							
609	5.66	34.346	0.29	2.71	88.	0.00	43.6	97.2							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 113080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 42.0N	118 33.5W	2/26/78	0621 0727 GMT	3900M	060	1KT	2	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.83	33.413	5.70	0.49	3.	0.01	0.2	357.8	0	16.83	33.413	5.70	24.359	357.8	0.000
10	16.83	33.412	5.72	0.48	3.	0.00	0.2	357.9	10	16.83	33.412	5.72	24.358	357.9	0.036
45	16.78	33.418	5.73	0.48	3.	0.00	0.0	356.4	20	16.82	33.416	5.72	24.363	357.5	0.072
75	16.53	33.444	5.73	0.48	3.	0.00	0.0	348.9	30	16.80	33.417	5.73	24.367	357.0	0.107
95	14.24	33.292	5.95	0.46	4.	0.00	0.0	312.0	50	16.74	33.424	5.73	24.387	355.1	0.179
110	13.18	33.258	5.80	0.50	5.	0.02	0.4	293.9	75	16.53	33.444	5.73	24.452	348.9	0.267
125	12.17	33.360	5.33	0.68	7.	0.02	5.7	267.7	100	13.85	33.272	5.93	24.904	306.0	0.350
145	11.08	33.484	4.89	0.88	11.	0.01	11.6	239.4	125	12.17	33.360	5.33	25.306	267.7	0.422
165	10.97	33.800	3.54		18.	0.02	17.5	214.2	150	11.05	33.571	4.55	25.674	232.6	0.486
195	9.96	33.911	3.23		24.	0.01	21.6	189.3	200	9.83	33.919	3.31	26.158	186.7	0.592
220	9.34	33.944	3.60		26.	0.00	22.2	177.1	250	8.63	34.033	3.17	26.440	159.8	0.681
245	8.75	34.023	3.27		31.	0.00	24.4	162.3	300	7.77	34.098	2.26	26.620	142.8	0.759
280	8.00 A	34.071	2.57	1.89	43.	0.01	28.6	147.9	400	6.98	34.201	1.10	26.813	124.5	0.898
320	7.61	34.120	1.99	2.19	49.	0.00	32.3	138.8	500	6.23	34.275	0.47	26.972	109.4	1.022
370	7.17	34.171	1.37	2.44	57.	0.00	35.7	129.1	600	5.70	34.345	0.30	27.094	97.8	1.133
440	6.74	34.234	0.81	2.60	66.	0.00	37.8	118.8							
525B	6.03	34.290	0.38	2.80	79.	0.00	42.0	105.8							
611	5.68	34.353	0.29	2.92	87.	0.00	43.6	96.9							

A) TEMPERATURE INFERRED FROM PRESSURE THERMOMETER AND WIRE DEPTH. THE PROTECTED THERMOMETER, WHICH APPEARS TO HAVE MALFUNCTIONED SLIGHTLY, GAVE A VALUE OF 7.84 DEGREES CELSIUS.
B) THIS NANSEN BOTTLE FAILED TO CLOSE ON THE FIRST LOWERING. ALL VALUES FOR THIS DEPTH WERE RECORDED FROM A SECOND LOWERING WITH ONLY THIS BOTTLE.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 117030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 48.0N	114 56.5W	2/27/78	2127 GMT	97M	200	10KT	6	160 5 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.17	33.362	6.11	0.35	1.	0.00	0.0	347.1	0	16.17	33.362	6.11	24.472	347.1	0.000
10	15.97	33.457	6.08	0.35	2.	0.00	0.0	335.8	10	15.97	33.457	6.08	24.590	335.8	0.034
20	15.75	33.475	6.17	0.35	2.	0.00	0.0	329.8	20	15.75	33.475	6.17	24.653	329.8	0.067
30	13.74	33.323	5.83	0.40	4.	0.02	0.8	299.9	30	13.74	33.323	5.83	24.967	299.9	0.099
50	12.82	33.401	5.41	0.54	6.	0.02	4.0	276.6	50	12.82	33.401	5.41	25.212	276.6	0.157
75	12.02	33.801	3.65	1.00	15.	0.00	13.9	232.5	75	12.02	33.801	3.65	25.675	232.5	0.221

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 117035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 38.0N	115 16.0W	2/27/78	1823 GMT	208M	240	13KT	6	160 5 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	16.97	33.703	5.72	0.26	1.	0.01	0.2	339.8	0	16.97	33.703	5.72	24.548	339.8	0.000
11	16.95	33.712	5.73	0.25	1.	0.00	0.1	338.7	10	16.95	33.713	5.73	24.558	338.8	0.034
30	16.75	33.747	5.59	0.29	2.	0.02	0.3	331.7	20	16.86	33.732	5.62	24.596	335.3	0.068
40	15.96	33.663	4.81	0.32	3.	0.02	1.2	320.6	30	16.75	33.747	5.59	24.633	331.7	0.101
55	14.78	33.639	4.70	0.51	6.	0.06	4.0	297.5	50	15.19	33.645	4.74	24.908	305.6	0.165
70	13.32	33.725	4.61A	0.91	14.	0.00	12.1	262.2	75	12.88	33.753	4.22	25.472	251.9	0.235
85	12.15	33.810	3.39	1.14	17.	0.00	15.9	234.2	100	11.67	33.918	2.99	25.831	217.7	0.294
104	11.62	33.946	2.95	1.35	21.	0.00	19.5	214.7	125	11.58	34.115	2.43	26.001	201.5	0.347
128	11.57	34.131	2.37	1.54	25.	0.00	22.3	200.2	150	11.23	34.160	2.13	26.100	192.1	0.397
152	11.18	34.161	2.12	1.69	27.	0.00	23.5	191.2							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 117040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 28.0N	115 35.5W	2/27/78	1224 GMT	1000M	150	10KT	6	150 5 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.77	33.533	5.69	0.37	2.	0.00	0.0	347.8	0	16.77	33.533	5.69	24.465	347.8	0.000
10	16.76	33.534	5.72	0.34	2.	0.00	0.0	347.5	10	16.76	33.534	5.72	24.468	347.5	0.035
31	16.74	33.707	5.72	0.28	2.	0.00	0.0	334.4	20	16.75	33.585	5.72	24.507	343.7	0.069
41	16.07	33.698	5.22	0.39	4.	0.03	1.4	320.4	30	16.74	33.694	5.72	24.593	335.5	0.103
56	13.67	33.425	5.32	0.47	5.	0.05	2.3	291.0	50	14.64	33.528	5.28	24.935	303.0	0.167
71	12.73	33.495	5.11	0.60	7.	0.01	4.4	268.0	75	12.56	33.542	4.86	25.371	261.5	0.238
97	11.90	33.807	3.41	1.07	17.	0.01	15.2	229.9	100	11.83	33.832	3.32	25.734	227.0	0.300
117	11.51	33.959	2.99	1.26	20.	0.00	17.7	213.3	125	11.34	33.982	2.82	25.942	207.2	0.355
138	11.10	34.039	2.56	1.48	24.	0.03	20.8	198.8	150	10.99	34.083	2.36	26.084	193.7	0.406
158	10.95	34.112	2.23	1.59	27.	0.02	21.9	190.8	200	10.90	34.328	1.36	26.290	174.1	0.500
188	10.91	34.282	1.55	1.86	32.	0.01	25.9	177.6	250	10.46	34.435	0.92	26.452	158.7	0.586
224	10.88	34.408	1.08	1.90	35.	0.00	27.0	167.8	300	9.58	34.381	0.95	26.559	148.5	0.665
254	10.38	34.435	0.91	2.14	38.	0.00	28.9	157.4	400	8.36	34.373	0.60	26.747	130.7	0.812
304	9.52	34.375	0.96	2.19	43.	0.00	28.9	148.0	500	6.85	34.356	0.37	26.953	111.2	0.940
359	9.02	34.390	0.70	2.35	48.	0.01	31.4	139.1	600	5.98	34.375	0.31	27.083	98.9	1.053
444	7.60	34.353	0.52	2.52	61.	0.00	35.9	121.3							
528	6.54	34.360	0.31	2.67	76.	0.00	39.7	106.8							
611	5.92	34.376	0.31	2.77	85.	0.00	42.4	98.0							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 117050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 08.0N	116 15.0W	2/27/78	0524 GMT	4200M	180	5KT	5	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.91	33.502	5.67	0.60	2.	0.00	0.1	353.1	0	16.91	33.502	5.67	24.408	353.1	0.000
10	16.92	33.503	5.71	0.58	2.	0.00	0.1	353.3	10	16.92	33.503	5.71	24.407	353.3	0.035
30	16.87	33.501	5.76	0.54	2.	0.00	0.0	352.3	20	16.90	33.502	5.74	24.410	352.9	0.071
60	14.27	33.360	5.73	0.59	4.	0.02	0.6	307.6	30	16.87	33.501	5.76	24.417	352.3	0.106
70	13.88	33.427	5.54	0.62	5.	0.01	1.6	295.0	50	15.23	33.384	5.74	24.698	325.5	0.174
86	12.83	33.515	5.02	0.73	8.	0.09	5.2	268.4	75	13.56	33.451	5.42	25.101	287.1	0.251
101	12.19	33.702	4.10	1.01	13.	0.02	12.4	242.9	100	12.22	33.691	4.16	25.550	244.4	0.318
116	11.73	33.826	3.38	1.25	18.	0.03	16.7	225.5	125	11.60	33.877	3.15	25.812	219.5	0.377
141	11.37	33.960	2.82	1.47	22.	0.01	20.6	209.3	150	11.08	34.034	2.54	26.029	198.9	0.430
160	10.77	34.114	2.23	1.70	27.	0.01	24.6	187.6	200	10.57	34.320	1.49	26.342	169.1	0.524
190	10.70	34.275	1.67	1.81	31.	0.00	26.6	174.6	250	9.03	34.243	1.71	26.542	150.2	0.606
220	10.14	34.361	1.29	2.04	37.	0.00	28.8	158.9	300	8.67	34.321	1.05	26.658	139.1	0.681
250	9.03	34.243	1.71	2.01	40.	0.00	29.2	150.2	400	7.60	34.336	0.55	26.831	122.7	0.818
299	8.68	34.319	1.06	2.20	47.	0.00	32.1	139.3	500	6.62	34.338	0.34	26.971	109.5	0.941
354	8.19	34.340	0.72	2.38	53.	0.00	34.5	130.6	600	5.94	34.383	0.21	27.094	97.8	1.052
438	7.12	34.329	0.45	2.50	65.	0.00	38.0	116.6							
522	6.47	34.343	0.31	2.61	75.	0.00	41.3	107.2							
608	5.89	34.387	0.20	2.75	86.	0.00	43.4	96.8							

A) A RECORDING ERROR HAS BEEN ASSUMED. A TITER OF .5770 HAVING BEEN RECORDED AS .7570. THE LATER VALUE GAVE AN OXYGEN CONCENTRATION OF 6.03 ML/LITER.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 117060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 47.9N	116 52.9W	2/26/78	2338 GMT	3500M	200	5KT	2	290 5 12

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.76	33.852	5.55	0.26	2.	0.00	0.1	346.9	0	17.76	33.852	5.55	24.473	346.9	0.000
10	17.70	33.848	5.62	0.24	2.	0.00	0.1	345.9	10	17.70	33.848	5.62	24.484	345.9	0.035
31	17.39	33.775	5.66	0.23	2.	0.00	0.0	344.1	20	17.55	33.816	5.64	24.495	344.8	0.069
41	17.35	33.765	5.63	0.22	2.	0.00	0.0	343.9	30	17.40	33.780	5.66	24.503	344.1	0.104
51	17.28	33.779	5.58	0.22	2.	0.00	0.0	341.3	50	17.29	33.778	5.58	24.529	341.6	0.173
66	16.36	33.610	5.63	0.23	2.	0.02	0.0	333.1	75	15.06	33.535	5.41	24.850	311.1	0.255
81	14.18	33.513	5.21	0.39	5.	0.05	3.2	294.6	100	13.01	33.624	4.58	25.345	264.0	0.327
102	12.95	33.641	4.50	0.60	8.	0.03	8.1	261.4	125	11.96	33.851	3.41	25.725	227.8	0.389
127	11.88	33.864	3.33	0.98	16.	0.03	16.2	225.3	150	10.97	33.890	3.30	25.937	207.6	0.444
147	11.03	33.877	3.34	1.12	19.	0.03	18.6	209.5	200	10.13	34.155	2.20	26.289	174.1	0.542
178	10.56	34.031	2.72	1.33	24.	0.02	22.8	190.2	250	9.13	34.188	1.98	26.483	155.8	0.627
206	10.01	34.180	2.09	1.52	31.	0.00	26.3	170.2	300	8.49	34.272	1.28	26.649	140.1	0.703
236	9.37	34.168	2.14	1.66	35.	0.00	28.0	161.0	400	7.56	34.329	0.59	26.833	122.6	0.841
276	8.75	34.236	1.57	1.85	42.	0.00	30.5	146.5	500	6.53	34.364	0.29	27.003	106.4	0.962
336	8.16	34.309	0.93	2.08	52.	0.00	33.8	132.5							
410	7.46	34.329	0.56	2.24	61.	0.00	37.0	121.2							
483	6.68	34.360	0.31	2.33	72.	0.01	40.0	108.6							
563	6.09	34.365	0.22	2.44	69.	0.00	42.9	100.9							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 117070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 27.5N	117 32.5W	2/26/78	1710 GMT	3950M	180	1KT	2	010 2 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.22	33.520	5.62	0.39	2.	0.00	0.0	358.8	0	17.22	33.520	5.62	24.349	358.8	0.000
10	17.21	33.514	5.66	0.39	2.	0.00	0.0	359.0	10	17.21	33.514	5.66	24.347	359.0	0.036
30	16.94	33.433	5.74	0.39	2.	0.00	0.0	358.8	20	17.09	33.480	5.70	24.347	358.9	0.072
61	16.67	33.406	5.74	0.41	2.	0.00	0.0	354.8	30	16.94	33.433	5.74	24.348	358.8	0.108
71	16.45	33.403	5.70	0.43	2.	0.00	0.0	350.2	50	16.79	33.425	5.74	24.376	356.2	0.180
87	14.41	33.269	5.93	0.47	3.	0.01	0.0	317.1	75	16.03	33.370	5.77	24.509	343.5	0.267
101	12.81	33.271	5.60	0.61	5.	0.02	3.3	286.0	100	12.91	33.269	5.63	25.091	288.1	0.347
116	12.06	33.437	5.14	0.75	7.	0.02	6.5	260.0	125	11.50	33.479	5.10	25.521	247.2	0.415
141	10.72	33.539	5.02	0.92	11.	0.01	10.7	229.3	150	10.69	33.629	4.90	25.783	222.3	0.474
162	10.66	33.730	4.71	1.02	13.	0.01	12.2	214.1	200	9.64	33.928	3.87	26.197	183.0	0.577
192	9.74	33.874	4.17	1.27	20.	0.01	18.2	188.5	250	9.35	34.190	2.10	26.449	159.0	0.665
222	9.49	34.069	2.96	1.51	29.	0.00	23.6	170.2	300	8.84	34.275	1.44	26.597	145.0	0.744
253	9.33	34.199	2.03	1.92	36.	0.00	28.0	158.0	400	7.69	34.337	0.64	26.819	123.8	0.884
304	8.79	34.277	1.42	2.19	44.	0.00	31.2	144.1	500	6.65	34.368	0.32	26.991	107.6	1.007
390	7.80	34.328	0.70	2.37	58.	0.00	35.3	126.0	600	5.88	34.394	0.25	27.111	96.2	1.117
444	7.23	34.368	0.42	2.47	66.	0.01	37.7	115.2							
528	6.38	34.364	0.31	2.42	77.	0.01	40.0	104.5							
611	5.82	34.400	0.24	2.53	88.	0.00	43.6	95.0							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 117080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 08.0N	118 10.5W	2/26/78	1215 GMT	4000M		0KT	2	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	18.33	33.909	5.49	0.38	2.	0.00	0.2	356.1	0	18.33	33.909	5.49	24.377	356.1	0.000
10	18.31	33.908	5.55	0.37	2.	0.00	0.0	355.7	10	18.31	33.908	5.55	24.381	355.7	0.036
31	18.32	33.908	5.70	0.37	2.	0.00	0.1	355.9	20	18.31	33.910	5.63	24.380	355.8	0.071
61	18.34	33.935	5.53A	0.37	2.	0.00	0.0	354.4	30	18.32	33.909	5.70	24.379	355.9	0.107
72	18.21	33.913	5.55	0.34	2.	0.00	0.0	353.0	50	18.33	33.922	5.60	24.385	355.3	0.178
87	16.84	33.723	5.74	0.36	2.	0.00	0.0	335.5	75	18.01	33.879	5.60	24.432	350.8	0.267
102	15.04	33.645	5.53	0.47	3.	0.04	0.6	302.4	100	15.28	33.650	5.56	24.891	307.2	0.350
117	13.72	33.681	4.85	0.55	6.	0.03	4.7	273.2	125	13.23	33.714	4.50	25.371	261.4	0.422
142	12.42	33.803	3.80	1.01	12.	0.04	12.4	239.6	150	12.04	33.864	3.50	25.720	228.3	0.484
162	11.55	33.955	3.09	1.31	18.	0.03	17.9	212.8	200	10.73	34.143	2.32	26.176	185.0	0.589
192	10.94	34.108	2.45	1.64	25.	0.00	22.9	190.9	250	10.18	34.363	1.40	26.445	159.4	0.678
222	10.26	34.233	1.96	1.70	31.	0.00	25.4	170.4	300	9.79	34.444	0.81	26.573	147.2	0.757
252	10.17	34.369	1.36	2.07	36.	0.00	28.6	158.8	400	7.94	34.350	0.75	26.794	126.3	0.901
301	9.78	34.443	0.80	2.24	42.	0.00	30.0	147.1	500	6.83	34.350	0.44	26.952	111.3	1.027
356	8.62	34.353	0.87	2.39	49.	0.00	32.9	135.9	600	6.05	34.375	0.33	27.074	99.7	1.140
440	7.44	34.347	0.59	2.62	61.	0.00	36.9	119.6							
525	6.61	34.353	0.40	2.72	74.	0.00	39.8	108.2							
610	5.99	34.378	0.33	2.85	84.	0.00	42.5	98.7							

A) BECAUSE OF PROBLEMS WITH ONE OF THE OXYGEN PICKLING SYRINGES, OXYGEN VALUES BELOW 61 METERS WOULD BE EXPECTED TO SHOW SOMEWHAT MORE ERROR THAN NORMAL.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 118039

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 18.5N	115 23.6W	2/27/78	1527 GMT	254M	170	9KT	5	180 5 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	16.76	33.764	5.60	0.38	2.	0.02	0.3	330.7	0	16.76	33.764	5.60	24.644	330.7	0.000
10	16.74	33.765	5.62	0.37	3.	0.01	0.3	330.2	10	16.74	33.765	5.62	24.649	330.2	0.033
30	16.52	33.807	5.57	0.39	3.	0.05	0.9	322.2	20	16.63	33.787	5.60	24.691	326.2	0.066
45	15.39	33.767	4.91	0.56	6.	0.08	4.0	300.8	30	16.52	33.807	5.57	24.732	322.2	0.098
55	14.31	33.661	4.59	0.70	8.	0.07	6.1	286.4	50	14.85	33.714	4.74	25.033	293.6	0.160
70	13.23	33.659	4.25	0.84	10.	0.01	8.6	265.4	75	12.94	33.689	4.09	25.410	257.7	0.230
85	12.50	33.766	3.74	1.04	14.	0.00	12.8	243.8	100	12.43	33.904	3.30	25.677	232.4	0.291
105	12.40	33.935	3.17	1.25	17.	0.01	16.7	229.5	125	11.96	34.026	2.88	25.861	214.9	0.348
130	11.80	34.040	2.62	1.45	21.	0.01	19.6	211.0	150	11.03	34.097	2.33	26.087	193.4	0.400
149	11.05	34.091	2.35	1.57	26.	0.05	21.8	194.1	200	10.41	34.281	1.55	26.340	169.3	0.492
178	10.67	34.224	1.82	1.77	31.	0.00	25.2	177.8							
202	10.39	34.284	1.53	1.94	34.	0.00	26.9	168.7							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 119033

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 19.0N	114 53.0W	3/ 5/78	0516 GMT	106M	210	9KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.91	33.758	5.72	0.37	2.	0.00	0.1	357.3	0	17.91	33.758	5.72	24.365	357.3	0.000
10	17.91	33.756	5.74	0.37	2.	0.01	0.1	357.4	10	17.91	33.756	5.74	24.363	357.4	0.036
20	17.87	33.757	5.78	0.33	2.	0.01	0.1	356.4	20	17.87	33.757	5.78	24.374	356.4	0.071
30	17.66	33.820	5.73	0.31	2.	0.01	0.2	347.0	30	17.66	33.820	5.73	24.473	347.0	0.107
50	17.45 A	33.819	5.52	0.33	3.	0.08	0.1	342.2	50	17.45	33.819	5.52	24.522	342.2	0.176
75	16.47	33.787	4.74	0.56	6.	0.22	4.4	322.6	75	16.47	33.787	4.74	24.728	322.6	0.259

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 120025

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 22.2N	114 15.0W	3/ 4/78	2359 GMT	65M	310	2KT	2	180 4 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.17	33.437	5.69	0.36	2.	0.00	0.0	363.7	0	17.17	33.437	5.69	24.297	363.7	0.000
10	16.83	33.438	5.75	0.36	2.	0.00	0.0	356.0	10	16.83	33.438	5.75	24.378	356.0	0.036
20	16.43	33.433	5.85	0.35	2.	0.00	0.0	347.6	20	16.43	33.433	5.85	24.467	347.6	0.071
30	14.95	33.441	5.77	0.38	4.	0.00	0.0	315.5	30	14.95	33.441	5.77	24.803	315.5	0.104
50	13.78	33.675	3.25	0.96	14.	0.05	12.1	274.8	50	13.78	33.675	3.25	25.230	274.8	0.164

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 120030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 13.0N	114 34.0W	3/ 5/78	0233 GMT	92M	170	8KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.32	33.554	5.69		2.	0.00	0.2	358.6	0	17.32	33.554	5.69	24.351	358.6	0.000
10	17.14	33.538	5.71	0.39	2.	0.00	0.1	355.7	10	17.14	33.538	5.71	24.382	355.7	0.036
20	17.23	33.697	5.79	0.29	2.	0.00	0.1	346.1	20	17.23	33.697	5.79	24.482	346.1	0.071
30	17.16	33.694		0.29	2.	0.00	0.1	344.8	30	17.16	33.694	5.74	24.496	344.8	0.105
50	16.47	33.685	5.45	0.35	3.	0.30	0.4	330.0	50	16.47	33.685	5.45	24.650	330.0	0.173
75	12.91	33.493	4.96	0.59	7.	0.20	6.2	271.5	75	12.91	33.493	4.96	25.265	271.5	0.249

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 120035

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
28 03.0N	114 54.0W	3/ 5/78	0803 GMT	77M	180	11KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.17	33.469	5.67	0.31	2.	0.04	0.2	361.4	0	17.17	33.469	5.67	24.322	361.4	0.000
20	16.90	33.615	5.68	0.28	3.	0.03	0.3	344.7	10	17.08	33.540	5.68	24.396	354.3	0.036
30	16.63	33.701	5.72	0.27	3.	0.03	0.3	332.4	20	16.90	33.615	5.68	24.497	344.7	0.071
40	16.26	33.697	5.36	0.32	4.	0.17	0.9	324.6	30	16.63	33.701	5.72	24.626	332.4	0.105
50	14.79	33.657	4.37	0.67	9.	0.01	6.5	296.4	50	14.79	33.657	4.37	25.004	296.4	0.168

A) TEMPERATURE INFERRED FROM PRESSURE THERMOMETER AND WIRE DEPTH. VALUE GOOD TO .05 DEGREES C.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 120045

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 43.0N	115 33.0W	3/ 5/78	1505 GMT	2400M	270	4KT	1	270 3 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	17,92	33,778	5,52	0,38	2.	0,00	0,0	356,0
10	17,91	33,785	5,54	0,38	2.	0,00	0,0	355,3
29	17,78	33,854	5,55	0,38	2.	0,00	0,0	347,3
58	15,30	33,634	5,15	0,60	4.	0,04	2,4	308,7
68	14,53	33,684	4,77	0,77	6.	0,04	4,8	289,1
82	13,58	33,819	3,94	1,07	10.	0,03	10,4	260,4
97	12,86	33,864	3,59	1,26	14.	0,03	13,8	243,3
111	12,08	33,946	3,01	1,54	18.	0,06	18,6	222,9
136	11,63	34,122	2,37	1,74	23.	0,01	22,8	201,9
156	11,46	34,276	1,68	2,00	28.	0,11	25,6	187,6
186	10,90	34,340	1,45	2,20	32.	0,03	27,9	173,2
216	10,73	34,444	0,96	2,29	36.	0,02	29,0	162,6
246	10,45	34,491	0,80	2,41	39.	0,03	30,0	154,4
296	9,84	34,471	0,67	2,39	43.	0,02	31,2	145,9
350	9,30	34,476	0,41	2,59	47.	0,00	32,0	137,1
435	7,75	34,378	0,45	2,73	59.	0,02	36,6	121,5
520	6,78	34,362	0,33	2,77	71.	0,10	39,7	109,7
605	6,12	34,397	0,28	2,92	81.	0,36	42,4	98,9

Z	T	S	O2	SIGT	DT	DD
0	17,92	33,778	5,52	24,378	356,0	0,000
10	17,91	33,785	5,54	24,385	355,3	0,036
20	17,84	33,803	5,55	24,415	352,5	0,071
30	17,71	33,846	5,55	24,478	346,4	0,106
50	16,10	33,684	5,34	24,732	322,2	0,173
75	14,03	33,754	4,35	25,238	274,1	0,248
100	12,68	33,881	3,47	25,609	238,9	0,313
125	11,74	34,043	2,64	25,915	209,7	0,370
150	11,51	34,235	1,87	26,106	191,5	0,421
200	10,80	34,391	1,22	26,356	167,8	0,512
250	10,40	34,492	0,79	26,505	153,6	0,595
300	9,80	34,472	0,65	26,593	145,3	0,673
400	8,40	34,420	0,43	26,777	127,8	0,816
500	6,97	34,361	0,36	26,941	112,3	0,944
600	6,15	34,394	0,28	27,076	99,5	1,058

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 120050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 33.0N	115 52.5W	3/ 5/78	1858 GMT	3900M	290	21KT	1	280 10 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	18,10	33,706	5,55	0,32	2.	0,01	0,0	365,5
10	18,08	33,704	5,61	0,34	6.	0,02	0,0	365,1
30	17,86	33,845	5,60	0,35	2.	0,02	0,0	349,8
40	17,88	33,893	5,54	0,34	2.	0,02	0,0	346,7
55	17,78	33,907	5,47	0,38	2.	0,03	0,0	343,4
70	16,00	33,745	5,06	0,53	4.	0,03	2,4	315,4
95	12,80	33,582	4,93	0,71	7.	0,03	6,2	262,9
115	12,17	33,690	4,26	1,04	10.	0,07	11,6	243,4
134	11,19	33,765	4,00	1,20	15.	0,06	15,2	220,5
154	10,94	34,026	2,70	1,59	23.	0,09	22,1	197,0
183	10,33	34,165	2,22	1,84	29.	0,03	26,0	176,5
217	9,94	34,311	1,48	1,97	35.	0,07	28,2	159,4
246	9,64	34,379	1,02	2,30	39.	0,00	30,0	149,6
295	9,19	34,443	0,48	2,52	46.	0,06	32,3	137,8
348	8,51	34,419	0,40	2,62	51.	0,00	34,1	129,4
432	7,54	34,408	0,26	2,68	63.	0,03	37,6	116,4
517	6,90	34,436	0,14	2,80	72.	0,00	40,6	105,8
601	6,00	34,413	0,16	2,80	84.	0,12	43,0	96,2

Z	T	S	O2	SIGT	DT	DD
0	18,10	33,706	5,55	24,279	365,5	0,000
10	18,08	33,704	5,61	24,282	365,1	0,037
20	17,96	33,768	5,61	24,358	357,9	0,073
30	17,86	33,845	5,60	24,443	349,8	0,108
50	17,81	33,904	5,49	24,498	344,5	0,178
75	15,26	33,690	5,04	24,924	304,0	0,259
100	12,58	33,605	4,77	25,415	257,3	0,330
125	11,63	33,721	4,16	25,685	231,6	0,392
150	10,96	33,974	2,97	26,003	201,4	0,447
200	10,11	34,245	1,85	26,363	167,1	0,541
250	9,61	34,388	0,96	26,560	148,4	0,622
300	9,13	34,443	0,47	26,682	136,9	0,696
400	7,88	34,408	0,31	26,847	121,2	0,832
500	7,03	34,432	0,16	26,989	107,8	0,954
600	6,01	34,414	0,16	27,110	96,3	1,064

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 120060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 13.0N	116 30.5W	3/ 6/78	0035 GMT	3850M	300	19KT	1	300 10 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	18,57	33,873	5,58	0,42	2.	0,02	0,0	364,4
11	18,55	33,867	5,51	0,40	1.	0,01	0,0	364,4
30	18,17	33,860	5,56	0,38	1.	0,02	0,0	355,9
59	17,89	33,926	5,44	0,37	1.	0,02	0,0	344,6
68	17,36	33,870	5,36	0,41	2.	0,14	0,8	336,5
83	13,78	33,663	4,53	0,82	7.	0,05	7,2	275,7
97	12,23	33,713	3,90	1,18	12.	0,06	13,7	242,8
112	11,61	33,755	3,53	1,31	14.	0,06	16,5	228,6
136	10,80	33,840	3,44	1,41	19.	0,04	19,7	208,4
155	10,22	33,954	3,06	1,65	24.	0,03	23,2	190,3
184	9,56	34,074 A	2,74A	1,99	29.	0,00	26,6	170,9
214	9,21	34,140 A	2,31A	2,13	34.	0,00	29,0	160,6
243	8,75	34,174 A	1,95A	2,23	39.	0,00	30,9	151,1
292	8,35	34,262 A	1,18A	2,35	46.	0,00	33,0	138,7
346	7,74	34,298 A	0,77A	2,56	55.	0,03	36,4	127,4
430	6,85	34,300	0,55	2,76	65.	0,00	39,9	115,3
515	6,25	34,334	0,37	2,89	76.	0,00	42,7	105,2
600	5,80	34,384	0,20	2,98	85.	0,01	43,9	96,0

Z	T	S	O2	SIGT	DT	DD
0	18,57	33,873	5,58	24,290	364,4	0,000
10	18,55	33,869	5,51	24,290	364,4	0,036
20	18,39	33,862	5,53	24,326	361,0	0,073
30	18,17	33,860	5,56	24,379	355,9	0,109
50	17,98	33,891	5,50	24,449	349,2	0,179
75	15,78	33,753	5,02	24,859	310,1	0,262
100	12,06	33,724	3,80	25,607	239,0	0,332
125	11,15	33,797	3,47	25,832	217,6	0,389
150	10,36	33,925	3,17	26,071	195,0	0,442
200	9,36	34,116	2,51	26,388	164,7	0,533
250	8,68	34,188	1,83	26,553	149,1	0,614
300	8,26	34,271	1,10	26,682	136,8	0,688
400	7,15	34,302	0,60	26,870	119,1	0,822
500	6,34	34,327	0,40	26,999	106,8	0,941
600	5,80	34,384	0,20	27,113	96,0	1,050

A) ALL WATER SAMPLE BOTTLES FROM 184 TO 346 METERS INCLUSIVE, WERE FILLED IN REVERSE ORDER. THEY ARE ASSUMED TO NOW BE LISTED IN THE CORRECT ORDER.

RV ALEJANDRO DE HUMBOLDT — CALCOFI CRUISE 7803 — 120070

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 53.0N	117 10.0W	3/ 6/78	0714 GMT	3950M	320	14KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	18.12	33.662	5.57	0.41	3.	0.00	0.0	369.1
10	18.11	33.662	5.52	0.42	3.	0.00	0.0	368.9
29	18.08	33.653	5.59	0.40	3.	0.00	0.1	368.8
59	18.31	33.960	5.45	0.37	3.	0.00	0.1	351.9
68	17.46	33.814	5.53	0.41	3.	0.00	0.1	342.8
83	15.03	33.639	5.44	0.49	4.	0.01	0.1	302.7
97	13.75	33.683	5.05	0.63	6.	0.01	3.4	273.7
112	12.72	33.743	4.24	0.92	10.	0.01	10.6	249.6
136	12.01	34.024	2.38	1.58	22.	0.02	20.3	215.9
155	11.63	34.134	1.94	1.79	26.	0.02	22.7	201.0
184	11.19	34.227	1.67	1.94	29.	0.00	25.5	186.5
213	10.70	34.297	1.55	1.99	33.	0.00	26.4	172.9
242	10.38	34.370	1.15	2.20	36.	0.02	29.0	162.2
289	9.89	34.433	0.79	2.32	41.	0.00	30.3	149.6
342	8.97	34.377	0.77	2.40	47.	0.00	32.0	139.3
424	7.54	34.325	0.57	2.60	60.	0.02	37.0	122.6
506	6.79	34.351	0.32	2.70	70.	0.00	39.4	110.7
591	6.09	34.377	0.22	2.82	81.	0.00	42.2	100.0

Z	T	S	O2	SIGT	DT	DD
0	18.12	33.662	5.57	24.240	369.1	0.000
10	18.11	33.662	5.52	24.243	368.9	0.037
20	18.09	33.659	5.55	24.243	368.9	0.074
30	18.09	33.660	5.58	24.246	368.6	0.111
50	18.24	33.840	5.48	24.345	359.2	0.184
75	16.34	33.710	5.49	24.699	325.4	0.270
100	13.51	33.692	4.92	25.297	268.5	0.345
125	12.25	33.893	3.19	25.702	229.9	0.408
150	11.72	34.113	2.00	25.973	204.2	0.463
200	10.91	34.268	1.61	26.241	178.8	0.561
250	10.31	34.388	1.06	26.441	159.7	0.648
300	9.72	34.427	0.79	26.572	147.3	0.727
400	7.92	34.334	0.64	26.783	127.3	0.871
500	6.83	34.349	0.34	26.950	111.5	0.998
600	6.03	34.380	0.21	27.081	99.0	1.111

RV ALEJANDRO DE HUMBOLDT — CALCOFI CRUISE 7803 — 120080

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 32.5N	117 49.0W	3/ 6/78	1248 GMT	4000M	330	10KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	18.46	33.781	5.45	0.36	2.	0.00	0.0	368.5
10	18.47	33.780	5.47	0.38	2.	0.00	0.0	368.8
45	18.18	33.844	5.54	0.35	2.	0.00	0.0	357.3
75	18.27	33.975	5.43	0.33	2.	0.00	0.0	349.9
95	16.72	33.766	5.49	0.38	3.	0.09	0.0	329.6
110	14.83	33.652 A	5.40		5.	0.00	1.6	297.6
125	13.87	33.651 A	5.11	0.68	5.	0.05	3.0	278.4
145	12.21	33.771 A	4.08	1.09	12.	0.01	12.4	238.1
165	11.69	33.964 A	3.16	1.47	18.		18.1	214.6
195	10.57	34.067 A	2.60	1.64	25.		21.8	187.7
219	10.62	34.243 A	1.86	1.82	30.	0.00	26.3	175.6
244	10.53	34.368 A	1.26	2.15	35.	0.02	28.8	164.8
279	9.67	34.332 A	1.30	2.21	38.	0.12	29.2	153.5
319	9.12	34.372 A	0.91	2.35	45.	0.07	31.6	142.0
368	8.57	34.383 A	0.61	2.54	51.	0.00	33.6	132.9
437	7.98	34.422	0.30	2.52	58.		35.1	121.5
521	7.18	34.454	0.11	2.64	68.		37.8	108.1
604	6.46	34.447	0.10	2.78	77.		40.8	99.3

Z	T	S	O2	SIGT	DT	DD
0	18.46	33.781	5.45	24.247	368.5	0.000
10	18.47	33.780	5.47	24.244	368.8	0.037
20	18.39	33.789	5.50	24.269	366.3	0.074
30	18.31	33.806	5.52	24.302	363.2	0.110
50	18.20	33.855	5.52	24.368	356.9	0.183
75	18.27	33.975	5.43	24.442	349.9	0.271
100	16.07	33.718	5.48	24.766	319.1	0.356
125	13.87	33.651	5.11	25.193	278.4	0.431
150	12.04	33.823	3.82	25.688	231.3	0.496
200	10.58	34.110	2.45	26.177	184.8	0.602
250	10.40	34.369	1.27	26.410	162.7	0.691
300	9.35	34.350	1.12	26.574	147.1	0.771
400	8.29	34.401	0.45	26.781	127.5	0.915
500	7.38	34.449	0.14	26.952	111.2	1.042
600	6.49	34.449	0.10	27.074	99.6	1.156

RV ALEJANDRO DE HUMBOLDT — CALCOFI CRUISE 7803 — 123042

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
27 14.0N	114 59.0W	3/ 7/78	1056 GMT	1577M	330	22KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	17.38	33.695	5.69	0.24	2.	0.01	0.1	349.7
10	17.36	33.694	5.71	0.26	3.	0.00	0.0	349.3
35	15.87	33.761	5.13	0.46	5.	0.38	2.8	311.5
45	14.44	33.662	4.71	0.66	7.	0.11	5.9	288.9
60	13.61	33.760	4.13	0.88	9.	0.05	9.6	265.3
75	12.75	33.797	3.79	1.04	12.	0.02	12.6	246.2
99	11.92	34.018	2.76	1.43	19.	0.04	19.9	214.7
119	11.29	34.104	2.36	1.67	24.	0.04	23.6	197.3
139	11.60	34.346	1.36	1.92	30.	0.06	26.0	184.9
168	11.27	34.443	0.91	2.06	34.	0.06	26.7	171.9
198	11.04	34.503	0.63	2.24	37.	0.03	28.9	163.5
237	10.52	34.510	0.50	2.21	39.	0.00	28.8	154.2
266	10.03	34.495	0.46	2.36	42.	0.02	30.9	147.2
315	9.44	34.485	0.36	2.41	46.	0.02	31.4	138.6
378	8.80	34.467	0.28	2.47	51.	0.02	32.6	130.1
477	7.42	34.411	0.24	2.60	64.	0.03	38.0	114.6
567	6.23	34.401	0.21	2.71	80.	0.04	41.2	99.9
644	5.68	34.413	0.20	2.79	89.	0.06	43.3	92.4

Z	T	S	O2	SIGT	DT	DD
0	17.38	33.695	5.69	24.444	349.7	0.000
10	17.36	33.694	5.71	24.448	349.3	0.035
20	17.36	33.694	5.57	24.448	349.3	0.070
30	16.51	33.750	5.31	24.689	326.3	0.104
50	14.08	33.685	4.50	25.175	280.1	0.165
75	12.75	33.797	3.79	25.532	246.2	0.231
100	11.88	34.023	2.74	25.873	213.7	0.289
125	11.36	34.177	2.06	26.090	193.1	0.340
150	11.52	34.404	1.11	26.235	179.3	0.388
200	11.02	34.505	0.62	26.406	163.0	0.475
250	10.30	34.504	0.48	26.533	151.0	0.556
300	9.60	34.488	0.39	26.640	140.9	0.632
400	8.51	34.454	0.27	26.788	126.8	0.773
500	7.08	34.405	0.23	26.960	110.5	0.899
600	5.94	34.405	0.20	27.111	96.1	1.011

A) THE SALINITY SAMPLE BOTTLES FROM 110 TO 368 METERS INCLUSIVE, WERE FILLED IN REVERSE ORDER. THEY ARE ASSUMED TO NOW BE LISTED IN THE CORRECT ORDER.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 123050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 58.0N	115 31.0W	3/ 7/78	0452 GMT	3650M	340	18KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	18,14	33,818	5,54	0,46	2.	0,00	0,1	358,2
10	18,14	33,818	5,56	0,45	2.	0,00	0,1	358,2
30	17,91	33,860	5,61	0,47	2.	0,00	0,1	349,8
59	17,68	33,862	5,44	0,49	2.	0,04	0,1	344,4
69	17,23	33,791	5,39	0,51	3.	0,10	0,2	339,3
83	15,00	33,612	5,20	0,66	5.	0,03	2,4	304,0
97	13,70	33,583	5,03	0,80	6.	0,02	4,7	280,0
112	12,72	33,625	4,68	0,95	9.	0,06	8,1	258,3
135	11,94	33,902	3,18	1,41	5.	0,05	17,8	223,6
154	11,19	33,928	3,19	1,59	20.	0,01	19,9	208,5
181	10,49	34,087	2,51	1,83	26.	0,00	24,5	184,9
209	10,53	34,301	1,59	2,19	33.	0,00	28,5	169,8
236	10,37	34,409	1,03	2,40	37.	0,00	30,0	159,2
282	9,57	34,427	0,76	2,58	43.	0,00	31,9	144,9
333	8,98	34,430	0,54	2,70	48.	0,00	33,1	135,6
415	8,09	34,440	0,27	2,90	58.	0,00	36,1	121,7
499	7,00	34,392	0,28	2,97	69.	0,00	40,2	110,4
586	6,28	34,419	0,21	3,05	80.	0,04	42,5	99,2

Z	T	S	O2	SIGT	DT	DD
0	18,14	33,818	5,54	24,354	358,2	0,000
10	18,14	33,818	5,56	24,354	358,2	0,036
20	18,04	33,839	5,59	24,394	354,5	0,072
30	17,91	33,860	5,61	24,443	349,8	0,107
50	17,75	33,861	5,51	24,482	346,1	0,177
75	16,33	33,708	5,32	24,698	325,5	0,261
100	13,47	33,586	4,99	25,223	275,5	0,337
125	12,23	33,785	3,80	25,621	237,7	0,402
150	11,34	33,928	3,19	25,899	211,2	0,459
200	10,52	34,243	1,88	26,292	173,9	0,557
250	10,15	34,426	0,90	26,499	154,3	0,641
300	9,34	34,430	0,68	26,636	141,2	0,718
400	8,26	34,441	0,31	26,817	124,1	0,857
500	6,99	34,393	0,28	26,963	110,2	0,982
600	6,22	34,420	0,20	27,088	98,4	1,094

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 123060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 38.5N	116 09.0W	3/ 6/78	2312 GMT	3850M	310	10KT	1	280 4 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	18,86	33,919	5,55	0,26	1.	0,00	0,1	368,0
10	18,85	33,929	5,48	0,25	1.	0,00	0,1	367,0
29	18,92	34,136	5,48	0,23	1.	0,00	0,1	353,7
59	18,70	34,167	5,44	0,23	2.	0,00	0,0	346,1
68	17,75	33,992	5,50	0,23	2.	0,00	0,0	336,5
83	14,88	33,674	5,49	0,33	3.	0,00	0,0	297,0
98	13,52	33,647	5,11	0,57	6.	0,06	5,0	271,8
112	12,71	33,694	4,35	0,82	9.	0,02	10,2	253,0
136	11,68	33,875	3,40	1,17	16.	0,01	17,0	221,0
156	10,80	33,936	3,30	1,29	20.	0,01	19,5	201,3
184	10,85	34,200	2,06	1,74	28.	0,00	25,6	182,6
213	10,93	34,401	1,18	1,87	33.	0,00	27,3	169,2
242	10,76	34,503	0,64	2,16	37.	0,00	30,2	158,7
290	10,12	34,533	0,36	2,29	42.	0,00	30,4	145,9
342	9,22	34,486	0,32	2,40	48.	0,00	32,3	135,1
424	8,09	34,468	0,17	2,58	58.	0,00	36,1	119,6
508	7,13	34,436	0,29	2,64	67.	0,00	39,1	108,8
591	6,36	34,440	0,14	2,73	79.	0,02	42,2	98,6

Z	T	S	O2	SIGT	DT	DD
0	18,86	33,919	5,55	24,252	368,0	0,000
10	18,85	33,929	5,48	24,262	367,0	0,037
20	18,89	34,035	5,48	24,331	360,4	0,073
30	18,92	34,140	5,48	24,406	353,3	0,109
50	18,77	34,156	5,45	24,455	348,6	0,179
75	16,42	33,822	5,50	24,766	319,0	0,263
100	13,39	33,652	5,01	25,292	269,0	0,337
125	12,13	33,793	3,75	25,648	235,1	0,401
150	11,03	33,917	3,33	25,948	206,6	0,457
200	10,91	34,322	1,53	26,284	174,6	0,554
250	10,68	34,517	0,56	26,477	156,3	0,640
300	9,95	34,526	0,35	26,610	143,7	0,718
400	8,39	34,471	0,21	26,820	123,8	0,858
500	7,21	34,439	0,28	26,968	109,7	0,983
600	6,30	34,439	0,12	27,093	97,9	1,095

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 127034

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 55.0N	114 06.5W	3/ 7/78	2231 GMT	85M	290	20KT	1	290 3 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	17,47	33,718	5,70	0,33	3.	0,00	0,0	350,0
9	17,34	33,721	5,73	0,32	2.	0,00	0,0	346,9
18	16,51	33,703	5,72	0,35	3.	0,02	0,0	329,6
28	15,12	33,703	4,89	0,58	5.	0,19	4,1	299,9
47	13,48	33,806	3,92	0,98	10.	0,05	10,9	259,4
71	12,68	33,946	3,10	1,28	16.	0,06	16,4	233,9

Z	T	S	O2	SIGT	DT	DD
0	17,47	33,718	5,70	24,440	350,0	0,000
10	17,27	33,721	5,73	24,488	345,5	0,035
20	16,24	33,701	5,58	24,715	323,9	0,068
30	14,90	33,712	4,76	25,022	294,7	0,099
50	13,35	33,822	3,80	25,431	255,7	0,155
75	12,53	33,980	2,98	25,716	228,6	0,216

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 127040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 43.5N	114 29.0W	3/ 8/78	0246 GMT	3100M	310	15KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	18,02	33,734 A	5,60	0,27	2.	0,00	0,0	361,6
8	18,01	33,733	5,64	0,30	2.	0,00	0,0	361,4
27	17,81	33,744	5,62	0,31	2.	0,00	0,0	356,0
36	17,82	33,766	5,60	0,29	2.	0,01	0,0	354,6
50	17,04	33,774	5,56	0,30	2.	0,01	0,0	336,2
64	15,12	33,747	4,80	0,60	5.	0,05	4,2	296,6
86	13,47	33,917	3,61	1,03	12.	0,03	13,0	251,1
104	12,64	33,963	3,21	1,28	15.	0,04	17,0	231,9
122	12,37	34,104	2,58	1,52	20.	0,01	20,7	216,6
139	11,50	34,099	2,48	1,63	23.	0,02	22,3	201,3
166	10,27	34,094	2,50	1,77	28.	0,02	25,2	180,8
196	10,38	34,313	1,53	1,80	33.	0,00	27,5	166,4
222	10,19	34,366	1,57B	2,10	36.	0,00	29,7	159,4
265	9,74	34,463	0,61B	2,34	42.	0,01	31,0	144,9
313	9,20	34,464	0,43B	2,47	47.	0,00	32,3	136,4
388	8,24	34,457	0,25B	2,64	56.	0,01	35,4	122,6
467	7,53	34,460	0,24B	2,69	65.	0,01	37,7	112,4
549	6,83	34,440 A	0,18B	2,80	74.	0,02	40,4	104,6

Z	T	S	O2	SIGT	DT	DD
0	18,02	33,734	5,60	24,320	361,6	0,000
10	17,99	33,734	5,64	24,326	360,9	0,036
20	17,88	33,738	5,63	24,355	358,2	0,072
30	17,81	33,753	5,61	24,383	355,5	0,108
50	17,04	33,774	5,56	24,585	336,2	0,177
75	14,15	33,827	4,16	25,270	271,1	0,254
100	12,78	33,954	3,29	25,646	235,3	0,318
125	12,24	34,108	2,56	25,871	213,9	0,374
150	10,91	34,097	2,49	26,109	191,2	0,426
200	10,36	34,326	1,54	26,383	165,2	0,517
250	9,91	34,435	0,97	26,546	149,7	0,598
300	9,35	34,464	0,48	26,662	138,7	0,673
400	8,12	34,458	0,25	26,851	120,8	0,809
500	7,24	34,455	0,22	26,977	108,9	0,932

A) THE SALINITY BOTTLE NUMBERS WERE NOT RECORDED ON THE ORIGINAL DATA FORM. SINCE STANDARD HANDLING PROCEDURES WERE USED, THE VALUES ARE ASSUMED TO BE IN THE CORRECT ORDER.

B) THESE OXYGEN VALUES WERE DETERMINED AFTER THE TIP OF THE THIOSULFATE BURET WAS BROKEN. COMPARISON OF STANDARD VALUES BEFORE AND AFTER SUGGEST THAT THE DATA SHOULD BE OF ACCEPTABLE QUALITY.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 127050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 23.0N	115 08.0W	3/ 8/78	1013 GMT	3650M	350	18KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	18.16	33.812	5.54A	0.39	2.	0.02	0.0	359.2	0	18.16	33.812	5.54	24.345	359.2	0.000
9	18.16	33.814	5.56	0.42	2.	0.01	0.0	359.0	10	18.16	33.815	5.56	24.346	359.0	0.036
28	18.16	33.811	5.57	0.41	2.	0.02	0.0	359.2	20	18.16	33.814	5.57	24.345	359.1	0.072
37	17.70	33.729	5.64	0.40	2.	0.03	0.0	354.5	30	18.07	33.793	5.59	24.352	358.5	0.108
51	17.12	33.752	5.62	0.40	2.	0.02	0.0	339.6	50	17.15	33.749	5.62	24.538	340.7	0.178
65	16.85	33.793	5.42	0.45	3.	0.11	0.2	330.6	75	15.84	33.720	5.45	24.819	314.0	0.260
88	14.39	33.634	5.48	0.73	7.	0.04	5.3	290.0	100	13.77	33.667	4.74	25.225	275.3	0.334
107	13.47	33.699	4.27	0.98	9.	0.07	9.0	267.1	125	12.31	33.782	3.81	25.606	239.1	0.399
125	12.31	33.782	3.81	1.18	14.	0.05	14.1	239.1	150	11.64	33.994	3.01	25.895	211.7	0.456
144	11.63	33.910	3.33	1.44	18.	0.04	18.3	217.5	200	10.88	34.351	1.37	26.312	172.0	0.554
172	11.68	34.259	1.83	1.86	27.	0.00	25.0	192.7	250	10.35	34.466	0.73	26.494	154.7	0.639
204	10.75	34.353	1.35	2.19	33.	0.00	28.6	169.6	300	9.79	34.495	0.43	26.613	143.4	0.716
232	10.48	34.430	0.93	2.33	37.	0.00	29.6	159.4	400	8.40	34.458	0.26	26.809	124.9	0.857
279	10.11	34.498	0.50	2.52	40.	0.00	30.9	148.3	500	7.09	34.425	0.19	26.974	109.2	0.982
330	9.30	34.478	0.38	2.60	47.	0.00	31.8	136.9							
409	8.29	34.455	0.25	2.74	56.	0.00	35.0	123.5							
488	7.22	34.426	0.19	2.86	67.	0.00	38.6	110.7							
567	6.53	34.420	0.17	2.90	76.	0.06	40.7	102.2							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 127060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 03.5N	115 46.5W	3/ 8/78	1546 GMT	3900M	360	19KT	1	350 4 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	19.11	34.113	5.41A	0.32	2.	0.00	0.0	359.9	0	19.11	34.113	5.41	24.336	359.9	0.000
10	19.10	34.113	5.42	0.32	3.	0.00	0.0	359.7	10	19.10	34.113	5.42	24.339	359.7	0.036
30	19.11	34.112	5.42	0.31	2.	0.00	0.0	360.0	20	19.11	34.114	5.42	24.337	359.8	0.072
60	18.79	34.124	5.42	0.29	2.	0.00	0.0	351.4	30	19.11	34.112	5.42	24.336	360.0	0.108
70	17.02	33.870	5.55	0.31	3.	0.00	0.0	328.8	50	18.90	34.121	5.42	24.396	354.3	0.180
85	13.96	33.683	4.98	0.58	5.	0.03	3.5	277.8	75	15.92	33.778	5.42	24.847	311.3	0.263
99	12.89	33.694	4.34	0.84	9.	0.09	9.4	256.4	100	12.84	33.700	4.28	25.438	255.1	0.335
114	12.26	33.765	3.53	1.08	12.	0.10	13.3	239.5	125	11.92	33.802	3.21	25.693	230.8	0.396
139	11.57	33.853	2.89	1.22	16.	0.11	16.3	220.7	150	11.28	33.926	2.46	25.908	210.4	0.452
160	11.04	33.995	2.09	1.48	22.	0.20	20.5	201.0	200	10.44	34.237	1.26	26.301	173.1	0.550
190	10.47	34.181	1.55	1.80	30.	0.04	25.2	177.7	250	10.20	34.459	0.73	26.516	152.7	0.634
220	10.38	34.323	0.76	1.91	35.	0.15	27.3	165.7	300	9.22	34.407	0.45	26.638	141.0	0.710
250	10.20	34.459	0.73	2.15	41.	0.01	28.5	152.7	400	8.22	34.448	0.17	26.828	123.0	0.849
301	9.20	34.404	0.44	2.33	46.	0.12	31.8	140.9	500	7.31	34.462	0.17	26.972	109.4	0.973
356	8.58	34.421	0.16	2.46	52.	0.03	33.4	130.2	600	6.39	34.441	0.17	27.082	98.9	1.085
443	7.89	34.468	0.17	2.52	61.	0.05	35.7	116.8							
528	7.02	34.453	0.17	2.63	71.	0.00	39.6	106.1							
615	6.27	34.438	0.17	2.66	80.	0.36	40.8	97.6							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 130030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 29.0N	113 29.0W	3/ 9/78	1749 GMT	77M	040	2KT	1	050 2 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	17.31	33.874	5.72	0.47	4.	0.04	0.0	335.0	0	17.81	33.874	5.72	24.598	335.0	0.000
10	17.26	33.865	5.73	0.48	4.	0.05	0.0	334.5	10	17.26	33.865	5.73	24.603	334.5	0.033
20	16.45	33.864	5.45	0.54	4.	0.13	1.2	316.5	20	16.45	33.864	5.45	24.792	316.5	0.066
31	15.28	33.778	4.97	0.71	5.	0.19	3.6	297.7	30	15.39	33.787	5.02	24.972	299.4	0.097
52	13.91	33.842	3.88	1.10	10.	0.17	10.0	265.2	50	14.01	33.831	3.99	25.301	268.1	0.154
76	12.54								75	12.59					

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 130040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 09.0N	114 07.0W	3/ 9/78	1147 GMT	2300M	330	10KT	0	320 4 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	18.96	34.101	5.42	0.20	2.	0.00	0.0	357.2	0	18.96	34.101	5.42	24.365	357.2	0.000
10	18.97	34.099	5.50	0.23	2.	0.00	0.0	357.6	10	18.97	34.099	5.50	24.361	357.6	0.036
29	18.87	34.110	5.45	0.24	2.	0.00	0.0	354.3	20	18.94	34.105	5.47	24.373	356.4	0.072
58	18.30	34.122	5.44	0.23	2.	0.00	0.0	339.9	30	18.86	34.112	5.45	24.397	354.2	0.107
68	17.75	34.046	5.38	0.26	2.	0.01	0.0	332.6	50	18.56	34.118	5.44	24.479	346.4	0.177
80	15.45	33.754	5.16	0.33	3.	0.02	0.5	303.0	75	16.46	33.870	5.27	24.794	316.4	0.261
96	13.92	33.735	4.68	0.62	6.	0.04	4.9	273.2	100	13.58	33.774	4.35	25.346	263.8	0.334
109	12.94	33.881	3.55	1.11	12.	0.03	13.7	243.6	125	12.54	34.069	2.60	25.783	222.3	0.395
134	12.41	34.147	2.28	1.51	21.	0.07	19.7	214.1	150	11.68	34.180	2.14	26.031	198.7	0.449
153	11.56	34.185	2.13	1.57	25.	0.21	21.2	196.0	200	11.54	34.577	0.68	26.366	166.9	0.542
181	11.59	34.484	1.38	2.11	33.	0.01	27.3	174.5	250	10.83	34.593	0.31	26.508	153.3	0.625
209	11.48	34.595	0.40	2.21	37.	0.00	27.7	164.4	300	9.87	34.545	0.26	26.638	141.0	0.702
237	11.08	34.600 B	0.34	2.40	39.	0.02	29.4	157.0	400	8.73	34.493	0.24	26.784	127.2	0.843
286	10.11	34.559	0.26	2.47	43.	0.14	29.5	143.8	500	7.66	34.465	0.20	26.924	113.9	0.971
338	9.31	34.510	0.28	2.52	48.	0.03	31.4	134.7	600	6.71	34.445	0.16	27.043	102.7	1.088
420	8.57	34.490	0.22	2.66	55.	0.04	33.8	125.0							
502	7.64	34.464	0.41U	2.74	64.	0.04	36.5	113.6							
585	6.78	34.445	0.17	2.82	74.	0.09	39.7	103.5							

A) ALL OXYGEN VALUES WERE DETERMINED AFTER THE TIP OF THE THIOSULFATE BURET WAS BROKEN.

B) AN ERROR OF -0.01 IN THE CONDUCTIVITY RATIO, 0.390 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 130050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 49.0N	114 45.0W	3/ 9/78	0605 GMT	3650M	310	10KT	0	320 4 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	19.09	34.113	5.45	0.48	2.	0.00	0.0	359.4	0	19.09	34.113	5.45	24.342	359.4	0.000
11	19.05	34.114	5.46	0.51	2.	0.00	0.0	358.4	10	19.05	34.114	5.46	24.351	358.6	0.036
30	18.67	34.087	5.49	0.49	2.	0.00	0.0	351.2	20	18.93	34.102	5.47	24.373	356.5	0.072
39	18.30	34.092	5.51	0.49	2.	0.00	0.0	342.1	30	18.67	34.087	5.49	24.428	351.2	0.107
54	18.19	34.099	5.46	0.48	2.	0.00	0.0	339.0	50	18.22	34.100	5.48	24.549	339.7	0.177
68	16.99	33.911	5.43	0.54	3.	0.01	0.0	325.1	75	16.11	33.857	5.13	24.863	309.8	0.258
92	14.08	33.824	4.22	0.94	9.	0.06	6.4	269.8	100	13.55	33.848	3.90	25.409	257.8	0.330
111	12.96	33.885	3.55	1.31	13.	0.04	12.6	243.7	125	11.99	33.905	3.36	25.760	224.5	0.391
130	11.70	33.916	3.29	1.53	17.	0.03	17.4	218.3	150	11.32	34.049	2.67	25.997	201.9	0.445
149	11.35	34.046	2.67	1.68	21.	0.00	20.9	202.6	200	10.76	34.299	1.72	26.292	173.8	0.541
178	10.68	34.114	2.57	1.87	26.	0.03	24.1	186.1	250	10.57	34.500	0.69	26.482	155.8	0.626
211	10.85	34.392	1.26	2.02	32.	0.00	25.8	168.5	300	9.85	34.532	0.29	26.632	141.6	0.703
240	10.69	34.480	0.83	2.37	35.	0.02	29.1	159.3	400	8.43	34.466	0.23	26.809	124.8	0.843
287	10.04	34.536	0.30	2.52	41.	0.00	30.2	144.4	500	7.46	34.470	0.12	26.958	110.7	0.969
339	9.29	34.502	0.27	2.57	47.	0.00	31.7	135.0	600	6.42	34.444	0.14	27.081	99.1	1.082
420	8.18	34.458	0.22	2.67	56.	0.00	33.8	121.7							
500	7.46	34.470	0.12	2.71	64.	0.37	35.1	110.7							
580	6.58	34.440	0.14	2.89	75.	0.03	40.3	101.4							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 130060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 26.0N	115 22.2W	3/ 8/78	2302 GMT	3850M	350	8KT	0	320 4 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	19.43	34.144	5.40A	0.16	2.	0.01	0.0	365.5	0	19.43	34.144	5.40	24.278	365.5	0.000
11	19.06	34.138	5.46	0.15	2.	0.00	0.0	356.9	10	19.09	34.140	5.46	24.362	357.5	0.036
30	18.95	34.135	5.46	0.11	2.	0.00	0.0	354.5	20	19.01	34.138	5.46	24.380	355.7	0.072
59	18.43	34.150	5.45	0.11	2.	0.00	0.0	340.9	30	18.95	34.135	5.46	24.394	354.5	0.107
70	17.66	34.028	5.33	0.13	2.	0.10	0.1	331.8	50	18.59	33.145	5.45	23.730	417.8	0.185
84	14.42	33.686	5.12	0.32	5.	0.10	2.2	286.8	75	16.52	33.887	5.27	24.792	316.5	0.277
98	13.40	33.697	4.64	0.53	7.	0.08	6.8	265.8	100	13.27	33.703	4.56	25.355	263.0	0.350
113	12.48	33.748	4.00	0.84	11.	0.04	12.8	244.8	125	11.94	33.835	3.53	25.716	228.7	0.412
137	11.49	33.926	3.15	1.36	18.	0.03	18.7	213.9	150	10.99	33.998	2.92	26.017	200.1	0.467
157	10.76	34.031	2.82	1.60	23.	0.02	22.3	193.6	200	10.08	34.213	2.08	26.345	168.9	0.561
187	10.22	34.165	2.31	1.83	29.	0.04	26.1	174.7	250	9.54	34.311	1.49	26.511	153.2	0.644
216	9.92	34.257	1.84	1.92	34.	0.04	27.6	163.1	300	9.54	34.469	0.52	26.634	141.4	0.720
246	9.54	34.295	1.58	2.16	38.	0.01	29.5	154.2	400	8.25	34.465	0.25	26.837	122.2	0.859
296	9.58	34.465	0.53	2.46	44.	0.03	31.4	142.3	500	7.06	34.446	0.21	26.995	107.2	0.981
351	8.87	34.467	0.33	2.44	51.	0.02	32.4	131.2	600	6.28	34.450	0.20	27.104	96.9	1.091
435	7.82	34.464	0.22	2.71	62.	0.01	36.1	116.1							
519	6.87	34.441	0.21	2.64	72.	0.04	39.8	105.0							
603	6.26	34.450	0.20	2.75	80.	0.10	41.4	96.6							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 133025

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
26 02.9N	112 47.7W	3/10/78	0219 GMT	87M	310	17KT	1	290 4 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	18.52	34.015	5.52	0.29	1.	0.00	0.0	352.9	0	18.52	34.015	5.52	24.410	352.9	0.000
10	18.50	34.016	5.53	0.35	2.	0.00	0.0	352.3	10	18.50	34.016	5.53	24.416	352.3	0.035
20	18.30	34.045	5.55	0.36	2.	0.00	0.0	345.5	20	18.30	34.045	5.55	24.488	345.5	0.070
30	17.37	33.969	5.56	0.40	2.	0.01	0.1	329.5	30	17.37	33.969	5.56	24.656	329.5	0.104
50	14.60 B	33.768	4.78	0.67	5.	0.11	4.2	284.4	50	14.60	33.768	4.78	25.130	284.4	0.166
75	12.83	33.910	3.29	1.25	15.	0.03	15.0	239.4	75	12.83	33.910	3.29	25.603	239.4	0.232

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 133030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 54.5N	113 07.5W	3/10/78	0620 GMT	230M	280	29KT	0	290 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	18.94	34.070	5.40	0.29	3.	0.00	0.1	358.9	0	18.94	34.070	5.40	24.347	358.9	0.000
11	18.93	34.070	5.45	0.29	3.	0.00	0.1	358.7	10	18.93	34.071	5.45	24.349	358.7	0.036
29	18.60	34.126	5.52	0.33	3.	0.00	0.1	346.7	20	18.77	34.072	5.50	24.392	354.6	0.072
43	17.30	33.989	5.45	0.36	3.	0.01	0.2	326.4	30	18.55	34.124	5.52	24.484	345.8	0.107
53	15.24	33.771	5.14	0.49	4.	0.03	1.4	297.4	50	15.84	33.829	5.25	24.903	306.0	0.172
68	14.45	33.794	4.65	0.69	7.	0.03	5.4	279.5	75	13.79	33.847	4.10	25.359	262.6	0.244
82	13.16	33.908	3.54	1.17	13.	0.21	13.2	245.7	100	12.55	34.015	3.04	25.739	226.4	0.305
101	12.53	34.020	3.02	1.46	18.	0.08	17.8	225.7	125	11.96	34.287	1.73	26.063	195.6	0.359
125	11.96	34.287	1.73	1.89	26.	0.05	24.0	195.6	150	11.88	34.409	1.22	26.172	185.3	0.407
144	11.92	34.371	1.37	2.09	29.	0.09	25.5	188.7	200	11.24	34.592	0.38	26.434	160.4	0.496
173	11.65	34.539	0.68	2.26	35.	0.01	27.0	171.5							
197	11.28	34.584	0.40	2.49	39.	0.07	27.9	161.7							

A) ALL OXYGEN VALUES WERE DETERMINED AFTER THE TIP OF THE THIOSULFATE BURET WAS BROKEN.
B) TEMPERATURE INFERRED FROM PRESSURE THERMOMETER AND WIRE DEPTH. VALUE GOOD TO .05 DEGREES C.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 133040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 34.5N	113 45.5W	3/10/78	1259 GMT	2900M	330	20KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	19.24	34.122	5.41	0.31	2.	0.00	0.0	362.4
10	19.24	34.120	5.41	0.33	2.	0.00	0.0	362.6
29	19.21	34.120	5.45	0.32	2.	0.01	0.0	361.8
57	18.71	34.109	5.45	0.33	2.	0.00	0.0	350.6
66	17.05	33.869	5.61	0.33	2.	0.01	0.0	329.5
80	14.53	33.661	5.36	0.49	4.	0.04	0.5	290.8
94	13.71	33.699	4.88	0.62	6.	0.17	3.6	271.7
108	12.98	33.725	4.47	0.90	8.	0.09	8.4	255.8
131	11.67	33.829	3.69	1.25	15.	0.05	15.7	224.2
150	11.16	33.896	3.49	1.37	18.	0.06	17.2	210.4
177	10.43	34.068	2.64	1.77	26.	0.07	23.7	185.3
205	9.96	34.144	2.37	1.79	30.	0.00	24.4	172.1
232	9.37	34.170	2.22	2.00	35.	0.03	27.4	160.8
278	9.46	34.386	0.96	2.37	42.	0.03	30.4	146.2
328	9.19	34.435	0.58	2.53	47.	0.02	31.8	138.4
407	8.35	34.448	0.25	2.70	55.	0.01	34.3	124.9
487	7.44	34.458	0.23	2.77	66.	0.19	36.0	111.3
569	6.63	34.453	0.19	3.00	75.	0.00	41.0	101.0

Z	T	S	SIGT	DT	DD
0	19.24	34.122	24.310	362.4	0.000
10	19.24	34.120	24.309	362.6	0.036
20	19.22	34.121	24.313	362.2	0.073
30	19.19	34.121	24.321	361.4	0.109
50	18.84	34.113	24.405	353.4	0.181
75	15.33	33.709	24.925	303.9	0.263
100	13.39	33.711	25.335	264.8	0.335
125	11.98	33.800	25.681	232.0	0.398
150	11.16	33.896	25.908	210.4	0.454
200	10.04	34.137	26.292	173.9	0.552
250	9.41	34.266	26.498	154.3	0.636
300	9.38	34.422	26.625	142.3	0.713
400	8.44	34.449	26.796	126.1	0.854
500	7.30	34.459	26.971	109.5	0.979

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 133050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 14.5N	114 24.0W	3/10/78	1826 GMT	3550M	320	8KT	1	320 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	19.02	34.146	5.45	0.30	2.	0.01	0.0	355.4
10	18.99	34.141	5.47	0.32	1.	0.01	0.0	355.0
45	18.56	34.119	5.48	0.32	2.	0.01	0.0	346.3
75	18.19	34.172	5.43	0.32	2.	0.00	0.0	333.7
95	14.49	33.800	4.52	0.74	7.	0.08	5.8	279.8
109	12.86	33.732	4.21	0.95	9.	0.04	10.0	253.0
124	12.41	33.779	3.86	1.13	12.	0.06	12.6	241.2
144	11.25	33.915	3.32	1.44	18.	0.05	18.8	210.5
164	10.91	34.081	2.57	1.72	24.	0.08	22.4	192.4
193	10.55	34.193	2.10	1.81	29.	0.28	23.6	178.1
218	10.26	34.291	1.71	2.07	33.	0.04	26.9	166.1
242	9.70	34.300	1.60	2.04	36.	0.03	27.3	156.4
276	9.34	34.343	1.19	2.32	41.	0.03	30.1	147.5
315	8.90	34.376	0.79	2.49	46.	0.15	31.1	138.4
364	8.27	34.383	0.52	2.61	54.	0.04	33.4	128.5
432	7.49	34.398	0.29	2.80	62.	0.04	37.0	116.5
516	6.94	34.426	0.19	2.87	70.	0.03	38.8	107.0
599	6.43	34.448	0.15	2.95	77.	0.05	40.6	98.9

Z	T	S	SIGT	DT	DD
0	19.02	34.146	24.384	355.4	0.000
10	18.99	34.141	24.388	355.0	0.036
20	18.89	34.132	24.405	353.4	0.071
30	18.78	34.124	24.429	351.1	0.106
50	18.50	34.129	24.502	344.2	0.176
75	18.19	34.172	24.612	333.7	0.261
100	13.80	33.762	25.293	268.9	0.337
125	12.35	33.786	25.600	239.7	0.402
150	11.10	33.969	25.975	204.1	0.458
200	10.48	34.226	26.285	174.6	0.554
250	9.59	34.311	26.502	154.0	0.639
300	9.07	34.367	26.631	141.8	0.716
400	7.83	34.391	26.841	121.8	0.854
500	7.03	34.422	26.981	108.6	0.976
600	6.43	34.448	27.083	98.9	1.088

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 133060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
24 54.5N	115 02.0W	3/10/78	2333 GMT	4000M	320	12KT	1	320 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	19.24	34.002	5.47	0.31	2.	0.00	0.3	371.1
9	19.19	33.994	5.43	0.31	2.	0.00	0.0	370.5
41	18.92	33.982	5.56	0.30	2.	0.00	0.0	364.9
68	17.97	33.994	5.48	0.32	2.	0.01	0.0	341.5
86	15.12	33.659	5.53	0.42	3.	0.06	0.2	303.1
100	13.46	33.638	5.10	0.60	5.	0.10	5.9	271.3
113	12.79	33.685	4.77	0.77	7.	0.06	7.2	255.2
132	11.62	33.710	4.56	0.94	10.	0.10	10.8	232.1
149	11.24	33.897	3.61	1.24	16.	0.13	16.6	211.7
175	10.67	34.003	3.06	1.54	22.	0.04	21.3	194.1
197	10.28	34.120	2.55	1.80	27.	0.06	24.6	179.0
219	9.90	34.199	2.16	1.87	31.	0.01	26.7	167.0
250	9.57	34.273	1.68	2.12	37.	0.00	29.2	156.3
285	9.24	34.317	1.24	2.32	41.	0.00	31.0	147.9
329	8.82	34.368	0.80	2.46	47.	0.03	32.2	137.7
391	7.84	34.340	0.62	2.63	56.	0.00	35.7	125.6
469	7.02	34.383	0.31	2.80	67.	0.02	38.8	111.3
549	6.19	34.373	0.24	2.93	78.	0.01	42.1	101.5

Z	T	S	SIGT	DT	DD
0	19.24	34.002	24.219	371.1	0.000
10	19.18	33.995	24.227	370.3	0.037
20	19.10	33.991	24.246	368.6	0.074
30	19.01	33.987	24.265	366.8	0.111
50	18.60	33.984	24.367	357.0	0.184
75	16.95	33.858	24.671	328.1	0.270
100	13.46	33.638	25.267	271.3	0.345
125	12.02	33.693	25.591	240.5	0.410
150	11.22	33.904	25.904	210.8	0.467
200	10.22	34.134	26.258	177.2	0.566
250	9.57	34.273	26.477	156.3	0.652
300	9.11	34.339	26.603	144.4	0.730
400	7.73	34.345	26.820	123.8	0.870
500	6.70	34.379	26.992	107.4	0.993

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 137023

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 34.0N	112 19.0W	3/12/78	0403 GMT	72M	280	14KT	0	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	18.42	34.148	5.53	0.48	3.	0.00	0.1	340.8
10	18.42	34.146	5.55	0.44	3.	0.00	0.1	341.0
20	18.40	34.144	5.56	0.39	3.	0.00	0.1	340.7
30	18.12	34.124	5.51	0.41	3.	0.00	0.0	335.5
50	15.92	34.073	3.46	1.05	12.	0.06	9.4	289.8

Z	T	S	SIGT	DT	DD
0	18.42	34.148	24.537	340.8	0.000
10	18.42	34.146	24.535	341.0	0.034
20	18.40	34.144	24.539	340.7	0.068
30	18.12	34.124	24.593	335.5	0.102
50	15.92	34.073	25.073	289.8	0.165

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 137030

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 20.0N	112 46.0W	3/11/78	2348 GMT	330M	280	18KT	1	300 3 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	18.68	34.104	5.66	0.31	2.	0.00	0.0	350.2	0	18.68	34.104	5.66	24.438	350.2	0.000
9	18.61	34.103	5.52	0.31	2.	0.00	0.0	348.6	10	18.60	34.103	5.52	24.457	348.5	0.035
28	18.35	34.078	5.58	0.30	2.	0.00	0.0	344.3	20	18.48	34.092	5.55	24.478	346.4	0.070
42	18.05	34.058	5.51	0.30	2.	0.00	0.0	338.7	30	18.31	34.076	5.57	24.509	343.5	0.104
56	15.15	33.795	4.99	0.52	5.	0.20	3.0	293.8	50	16.44	33.901	5.22	24.821	313.8	0.170
71	14.05	33.739	4.75	0.67	7.	0.11	5.4	275.5	75	13.81	33.741	4.65	25.273	270.8	0.244
85	13.29	33.772	4.29	0.86	9.	0.05	9.3	258.2	100	12.64	33.931	3.29	25.656	234.3	0.308
104	12.52	33.983	3.00	1.31	17.	0.04	17.6	228.2	125	12.61	34.242	1.82	25.902	210.9	0.364
130	12.63	34.288	1.58	1.78	26.	0.04	23.1	207.8	150	12.44	34.485	0.76	26.124	189.9	0.415
158	12.32	34.544	0.52	2.22	34.	0.03	26.8	183.3	200	11.54	34.595	0.17	26.381	165.4	0.506
193	11.64	34.589	0.16	2.44	40.	0.06	25.5	167.7	250	11.05	34.604	0.21	26.477	156.3	0.589
227	11.22	34.605	0.20	2.33	41.	0.00	26.7	159.1	300	10.78	34.600	0.17	26.522	152.0	0.669
262	10.98	34.600	0.22	2.50	42.	0.00	27.1	155.3							
302	10.77	34.598	0.16	2.56	44.	0.00	27.2	151.9							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 137040

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
25 00.0N	113 23.5W	3/11/78	1744 GMT	3450M	330	19KT	1	260 6 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	19.19	34.139	5.39	0.23	2.	0.00	0.0	360.0	0	19.19	34.139	5.39	24.336	360.0	0.000
10	19.19	34.136	5.39	0.23	2.	0.00	0.0	360.2	10	19.19	34.136	5.39	24.334	360.2	0.036
30	19.20	34.137	5.47		2.	0.00	0.0	360.4	20	19.20	34.138	5.43	24.333	360.3	0.072
59	18.49	34.041	5.50	0.34	2.	0.00		350.3	30	19.20	34.137	5.47	24.332	360.4	0.108
69	16.79	33.783	5.79	0.23	2.	0.00	0.0	330.0	50	18.71	34.071	5.49	24.405	353.4	0.180
84	15.56	33.696	5.68	0.28	3.	0.00	0.0	309.6	75	16.18	33.725	5.75	24.747	320.8	0.265
98	14.78	33.681	5.48	0.32	4.	0.09	0.0	294.4	100	14.59	33.680	5.41	25.063	290.8	0.342
113	13.31	33.679	4.90	0.55	6.	0.08	4.9	265.4	125	12.32	33.684	4.65	25.526	246.7	0.410
138	11.75	33.780	4.11	1.00	13.	0.06	13.1	229.2	150	12.13	34.086	2.72	25.873	213.7	0.468
158	12.44	34.284	1.84	1.73	25.	0.08	22.7	204.6	200	10.93	34.298	1.69	26.262	176.7	0.568
187	11.28	34.259	1.88	1.73	27.	0.02	24.6	185.7	250	10.25	34.419	1.09	26.476	156.5	0.653
217	10.59	34.358	1.40	2.07	33.	0.04	27.6	166.6	300	9.74	34.479	0.52	26.608	143.9	0.731
246	10.28	34.410	1.14	2.18	37.	0.03	28.0	157.6	400	8.52	34.483	0.22	26.809	124.8	0.873
295	9.82	34.480	0.54	2.38	42.	0.31	30.2	145.0	500	7.48	34.483	0.22	26.965	110.0	0.998
349	8.99	34.453	0.40	2.50	48.	0.04	32.2	134.0	600	6.51	34.459	0.15	27.081	99.1	1.111
433	8.26	34.504	0.14	2.64	58.	0.14	33.4	119.4							
516	7.29	34.475	0.25	2.76	69.	0.01	38.1	108.0							
600	6.51	34.459	0.15	2.89	77.	0.39	39.6	99.1							

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 137050

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
24 40.0N	114 02.0W	3/11/78	1158 GMT	3925M	320	15KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	19.31	34.075	5.41	0.30	2.	0.00	0.0	367.5	0	19.31	34.075	5.41	24.257	367.5	0.000
9	19.31	34.072	5.39	0.29	2.	0.00	0.0	367.8	10	19.31	34.073	5.39	24.254	367.8	0.037
28	19.30	34.071	5.45	0.28	2.	0.00	0.0	367.6	20	19.30	34.073	5.42	24.255	367.7	0.074
56	18.73	34.061	5.48	0.29	2.	0.00	0.0	354.6	30	19.27	34.072	5.45	24.264	366.9	0.110
138A	12.95	34.070	2.82	1.19	16.	0.11	17.1	229.9	50	18.85	34.063	5.47	24.364	357.3	0.183
156A	11.81	34.025	2.87	1.27	19.	0.16	17.0	212.2	75	17.00	33.830	4.88	24.638	331.2	0.270
184A	10.85	34.163	2.22	1.65	27.	0.02	23.8	185.4	100	14.30	33.700	4.08	25.141	283.3	0.347
211A	10.75	34.325	1.44	1.87	31.	0.02	26.5	171.7	125	12.80	33.780	3.26	25.509	248.4	0.414
238A	10.27	34.378	1.18	2.15	36.	0.02	29.2	159.8	150	12.25	34.063	2.86	25.832	217.6	0.473
286A	9.79	34.440	0.69	2.31	41.	0.16	29.8	147.4	200	10.79	34.271	1.74	26.265	176.4	0.574
338A	9.46	34.498	0.29	2.48	46.	0.03	30.9	137.9	250	10.12	34.397	1.05	26.480	156.0	0.660
419A	8.31	34.441	0.26	2.59	55.	0.04	34.7	124.8	300	9.71	34.461	0.56	26.600	144.6	0.738
500A	7.37	34.428	0.21	2.68	65.	0.03	37.4	112.6	400	8.61	34.460	0.27	26.778	127.8	0.881
586A	6.63	34.436	0.13	2.79	75.	0.03	40.0	102.3	500	7.37	34.428	0.21	26.938	112.6	1.009

A) THE FOUR NANSEN BOTTLES ORIGINALLY CAST BETWEEN THOSE AT 56 AND 138 METERS PRETRIPPED WITHOUT AFFECTING THE BOTTLES CAST BELOW THEM. SINCE THE OBSERVED DATA FOR THESE BOTTLES HAS BEEN OMITTED, TEMPERATURE AND SALINITY VALUES AT 75, 100, AND 125 METERS HAVE BEEN DETERMINED FROM THE BATHYTHERMOGRAPH SLIDE AND ADJACENT STATIONS. THE INTERPOLATED DATA AT THESE DEPTHS MUST BE CONSIDERED QUESTIONABLE.

RV ALEJANDRO DE HUMBOLDT CALCOFI CRUISE 7803 137060

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
24 20.0N	114 39.5W	3/11/78	0518 GMT	3850M	330	13KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	19.31	34.020	5.59	0.53	3.	0.00	0.0	371.5
11	19.30	34.020	5.45	0.50	2.	0.00	0.1	371.3
30	19.31	34.018	5.46	0.50	2.	0.00	0.1	371.7
60	19.08	34.069	5.44	0.48	2.	0.00	0.1	362.4
69	18.61	33.968	5.49	0.46	2.	0.00	0.2	358.4
84	16.43	33.772	5.70		2.	0.00	0.2	322.8
98	15.36	33.761	5.50	0.52	3.	0.00	0.2	300.6
113	13.72	33.740	4.93	0.66	5.	0.07	3.7	268.9
137	12.10	33.753	4.28	0.98	12.	0.05	10.5	237.5
156	11.17	33.882	3.49	1.37	18.	0.03	17.7	211.6
185	10.96	34.226	1.91	1.96	29.	0.02	25.5	182.6
213	10.75	34.395	1.16	2.11	34.	0.00	27.7	166.5
242	10.46	34.458	0.82	2.41	39.	0.00	29.1	157.0
290	9.85	34.495	0.46	2.58	43.	0.00	30.8	144.3
343	9.30	34.524	0.21	2.63	49.	0.00	30.4	133.5
425	8.33	34.508	0.20	2.79	58.	0.00	33.8	120.1
509	7.35	34.475	0.16	2.88	68.	0.01	37.0	108.8
595	6.65	34.478	0.11	2.95	77.	0.00	40.0	99.4

Z	T	S	O2	SIGT	DT	DD
0	19.31	34.020	5.59	24.215	371.5	0.000
10	19.30	34.021	5.46	24.217	371.3	0.037
20	19.30	34.020	5.45	24.215	371.5	0.074
30	19.31	34.018	5.46	24.213	371.7	0.112
50	19.16	34.039	5.45	24.268	366.5	0.186
75	17.78	33.940	5.59	24.535	341.0	0.275
100	15.14	33.758	5.43	25.004	296.3	0.355
125	12.80	33.748	4.61	25.484	250.7	0.424
150	11.42	33.830	3.77	25.809	219.8	0.484
200	10.85	34.334	1.44	26.303	172.8	0.584
250	10.36	34.468	0.75	26.494	154.7	0.668
300	9.74	34.503	0.40	26.627	142.1	0.745
400	8.63	34.518	0.20	26.819	123.9	0.885
500	7.45	34.479	0.17	26.966	109.9	1.010
600	6.60	34.480	0.11	27.085	98.6	1.123

			Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
60.050	03/15/78 1610GMT 37 57.5N 122 53.1W BOTTOM 47M WIND 080 03KT WEATHER 1 DOMINANT WAVES 250 02 08		10	12.13	33.028	5.06	1.03	18.	0.46	9.3	291.4
60.052	03/15/78 1438GMT 37 52.5N 123 02.5W BOTTOM 88M WIND 320 15KT WEATHER 1 DOMINANT WAVES 310 03 09		10	12.17	33.104	5.33	0.81	15.	0.35	8.3	286.5
63.050	03/14/78 0145GMT 37 23.2N 122 27.8W BOTTOM 28M WIND 290 13KT WEATHER 2 DOMINANT WAVES 270 02 07		10	12.94	32.776	5.76		9.	0.41	2.6	324.8
63.065	03/14/78 1325GMT 36 53.0N 123 33.0W BOTTOM 3541M WIND 320 26KT WEATHER DOMINANT WAVES		10	13.02	32.921	6.14	0.31	6.	0.03	0.9	315.6
66.049	03/13/78 1457GMT 36 53.0N 122 07.7W BOTTOM 60M WIND 040 07KT WEATHER 1 DOMINANT WAVES 270 02 09		10	12.82	32.888	5.74	0.45	8.	0.19	3.6	314.3
67.065	03/11/78 1945GMT 36 18.0N 123 08.0W BOTTOM 3164M WIND 040 08KT WEATHER 2 DOMINANT WAVES 280 03 07		10	13.37	32.774	6.13	0.26	3.	0.02	0.1	333.1
70.051	03/09/78 1745GMT 36 11.3N 121 43.9W BOTTOM 121M WIND 270 09KT WEATHER 2 DOMINANT WAVES 280 05 06		10	14.00	33.157	6.10	0.28	19.	0.17	1.4	317.2
70.065	03/10/78 0515GMT 35 43.0N 122 44.7W BOTTOM 1849M WIND 320 33KT WEATHER DOMINANT WAVES 300 10 05		10	13.52	32.808	6.14					333.4
73.050	03/09/78 1325GMT 35 37.0N 121 17.0W BOTTOM 97M WIND 050 10KT WEATHER 6 DOMINANT WAVES		10	14.32	33.044	5.92	0.65	2.	0.07	1.2	331.8
73.065	03/09/78 0204GMT 35 08.0N 122 18.0W BOTTOM 3825M WIND 150 20KT WEATHER 2 DOMINANT WAVES 170 06 06		10	14.22	33.112	6.10					324.8
77.048	03/07/78 0035GMT 35 08.3N 120 43.7W BOTTOM 28M WIND 280 20KT WEATHER 0 DOMINANT WAVES 240 04 08		10	14.16	33.050	5.85	0.72	6.	0.28	2.3	328.2
77.065	03/07/78 1413GMT 34 34.0N 121 55.0W BOTTOM 3636M WIND 270 10KT WEATHER 1 DOMINANT WAVES 240 03 07		10	14.10	33.025	6.02	0.32	3.	0.01	0.2	328.8
80.051	03/06/78 1931GMT 34 26.1N 120 32.4W BOTTOM 123M WIND 310 22KT WEATHER 1 DOMINANT WAVES 300 06 07		10	14.66	32.992	5.88	0.69	3.	0.14	0.7	342.5
83.040[6]	03/03/78 1500GMT 34 12.5N 119 24.2W BOTTOM 35M WIND 050 09KT WEATHER 2 DOMINANT WAVES 270 02 03		10	14.44	33.128	5.83	0.50	4.	0.11	0.3	328.1
87.032[5]	03/02/78 1650GMT 33 53.5N 118 26.5W BOTTOM 24M WIND 170 16KT WEATHER 2 DOMINANT WAVES 180 06 04		10	15.1	32.987	5.87	1.00	5.	0.05	0.5	351.8
87.032[7]	03/02/78 1757GMT 33 54.7N 118 28.4W BOTTOM 34M WIND 170 10KT WEATHER 2 DOMINANT WAVES 180 06 04		10	14.87	33.041	5.85	0.93	5.	0.06	0.5	343.1
87.033	03/02/78 1858GMT 33 53.9N 118 29.5W BOTTOM 50M WIND 120 18KT WEATHER 2 DOMINANT WAVES 280 06 05		10	14.63	33.157	5.79	0.95	6.	0.05	0.7	329.8
87.034	03/02/78 2020GMT 33 52.0N 118 33.2W BOTTOM 69M WIND 090 10KT WEATHER 2 DOMINANT WAVES 060 05 05		10	14.81	33.172	5.87	0.97	5.	0.05	0.3	332.3
87.035	03/02/78 2150GMT 33 50.0N 118 37.5W BOTTOM 556M WIND 230 22KT WEATHER 1 DOMINANT WAVES 230 05 06		10	14.91	33.189	5.98	0.97	5.	0.01	0.1	333.1
87.055	02/28/78 1640GMT 33 10.0N 120 00.0W BOTTOM 1202M WIND 130 20KT WEATHER 1 DOMINANT WAVES 040 03 05		10	15.01	33.319	5.82	0.36	3.	0.02	0.0	325.7
90.027[6]	02/25/78 0126GMT 33 29.3N 117 45.5W BOTTOM 47M WIND 290 10KT WEATHER 1 DOMINANT WAVES 270 01 02		10	15.31	33.240	6.34	0.52	5.	0.00	0.2	337.7
90.028	02/25/78 0243GMT 33 28.5N 117 46.7W BOTTOM 501M WIND 310 08KT WEATHER DOMINANT WAVES 00		10	15.56	33.238	6.03	0.44	2.	0.00	0.3	343.1
90.029	02/25/78 0421GMT 33 27.0N 117 49.5W BOTTOM 630M WIND 280 10KT WEATHER DOMINANT WAVES		10	15.13	33.315	5.93	0.46	2.	0.00	0.3	328.4
90.030	02/25/78 0610GMT 33 25.0N 117 53.5W BOTTOM 630M WIND 310 06KT WEATHER DOMINANT WAVES		10	15.46	33.329	5.88	0.44	1.	0.00	0.2	334.3

RV DAVID STARR JORDAN

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10 METER DATA

			Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
90.031	02/25/78 0809GMT 33 23.0N 117 57.7W BOTTOM 408M WIND 290 03KT WEATHER 2 DOMINANT WAVES		10	14.49	33.314	6.17	0.35	0.	0.00	0.2	315.4
93.026[7]	02/23/78 1859GMT 32 57.2N 117 17.5W BOTTOM 32M WIND 250 04KT WEATHER 4 DOMINANT WAVES 080 01 09		10	15.35	33.232	5.78	0.55	3.	0.05	0.3	339.1
93.026[9]	02/23/78 1734GMT 32 56.8N 117 18.5W BOTTOM 67M WIND 180 06KT WEATHER 4 DOMINANT WAVES 080 01 09		10	14.95	33.298	5.88	0.73	2.	0.00	0.0	326.0
93.028	02/23/78 1615GMT 32 54.8N 117 21.8W BOTTOM 537M WIND 170 06KT WEATHER 4 DOMINANT WAVES 080 01 10		10	15.50	33.282	5.93	0.48	2.	0.01	0.1	338.6
93.035	02/23/78 0724GMT 32 40.5N 117 51.5W BOTTOM 648M WIND 230 08KT WEATHER 4 DOMINANT WAVES 99		10	15.40	33.345	6.00	0.62	2.	0.02	0.4	331.9
93.045	02/22/78 2231GMT 32 20.0N 118 32.0W BOTTOM 1295M WIND 310 10KT WEATHER 4 DOMINANT WAVES 310 03 03		10	14.56	33.292	6.23	0.25	2.	0.04	0.0	318.5
93.055	02/22/78 1445GMT 32 01.0N 119 13.0W BOTTOM 1716M WIND 320 16KT WEATHER 2 DOMINANT WAVES 300 02 03		10	15.68	33.141	5.86	0.29	3.	0.00	0.1	352.7
97.029	02/19/78 0659GMT 32 17.5N 117 04.7W BOTTOM 41M WIND 020 07KT WEATHER DOMINANT WAVES		10	15.56	33.274	5.89	0.37	3.	0.03	0.1	340.4
97.032	02/19/78 1006GMT 32 12.0N 117 15.2W BOTTOM 1387M WIND 030 08KT WEATHER DOMINANT WAVES		10	15.43	33.362	6.06	0.32	2.	0.00	0.1	331.3
97.045	02/19/78 2555GMT 31 46.0N 118 08.5W BOTTOM 1757M WIND 300 14KT WEATHER 0 DOMINANT WAVES 300 01 08		10	14.76	33.307	6.03	0.32	3.	0.00	0.1	321.4
97.055	02/20/78 0518GMT 31 25.5N 118 49.5W BOTTOM 817M WIND 330 13KT WEATHER 0 DOMINANT WAVES		10	15.74	33.128	5.86	0.83	4.	0.02	0.6	354.9

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10 METER DATA

			Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
100.029	02/18/78 1530GMT 31 42.2N 116 43.4W BOTTOM 138M WIND 040 04KT WEATHER 0 DOMINANT WAVES 300 04 06		10	15.22	33.342	5.72	0.66	4.	0.10	1.3	328.4
100.045	02/19/78 0401GMT 31 10.5N 117 46.5W BOTTOM 1600M WIND 040 12KT WEATHER 0 DOMINANT WAVES		10	15.68	33.281	5.79	0.69	2.	0.03	0.6	342.5
103.029	02/21/78 2137GMT 31 07.0N 116 21.0W BOTTOM 18M WIND 320 04KT WEATHER 1 DOMINANT WAVES 260 04 10		10	15.14	33.414	6.33	0.71	2.	0.07	0.6	321.4
103.045	02/21/78 1010GMT 30 36.0N 117 24.0W BOTTOM 2200M WIND 320 15KT WEATHER 0 DOMINANT WAVES		10	16.50	33.494	5.68	0.46	2.	0.00	0.1	344.6
107.031	02/22/78 0205GMT 30 27.8N 116 07.1W BOTTOM 112M WIND 320 10KT WEATHER 1 DOMINANT WAVES 260 04 05		10	15.61	33.396	6.01	0.52	1.	0.04	0.4	332.6
107.045	02/22/78 1221GMT 30 01.5N 117 02.0W BOTTOM 1750M WIND 330 12KT WEATHER 1 DOMINANT WAVES 320 04 06		10	16.18	33.401	5.77	0.61	2.	0.03	0.1	344.4
110.032[4]	02/24/78 1803GMT 29 51.2N 115 49.7W BOTTOM 30M WIND 340 15KT WEATHER 1 DOMINANT WAVES 310 04 06		10	15.71	33.421	5.94	0.40	2.	0.00	0.3	332.9
110.045	02/24/78 0853GMT 29 26.5N 116 39.5W BOTTOM 1000M WIND 100 13KT WEATHER 2 DOMINANT WAVES		10	17.10	33.602	5.62	0.50	2.	0.04	0.1	350.1
113.029	02/24/78 2330GMT 29 24.5N 115 13.5W BOTTOM 25M WIND 280 08KT WEATHER 1 DOMINANT WAVES 310 04 06		10	15.88	33.646	5.92	0.43	5.	0.05	0.1	320.1
113.030	02/25/78 0027GMT 29 22.0N 115 18.0W BOTTOM 57M WIND 300 14KT WEATHER 1 DOMINANT WAVES 310 08 12		10	16.03	33.657	6.17	0.39	4.	0.03	0.1	322.5
113.045	02/25/78 0953GMT 28 52.0N 116 18.0W BOTTOM 2000M WIND 350 14KT WEATHER 1 DOMINANT WAVES		10	17.30	33.644	5.62	0.38	2.	0.01	0.5	351.6

		Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
117.025	02/28/78 0155GMT 28 58.0N 114 36.9W BOTTOM 61M WIND 100 07KT WEATHER 6 DOMINANT WAVES 160 05 05	10	16.39	33.575	5.87	0.47	2.	0.00	0.2	336.3
117.026	02/28/78 0011GMT 28 56.0N 114 41.5W BOTTOM 72M WIND 120 10KT WEATHER 6 DOMINANT WAVES 160 05 05	10	15.94	33.494	6.02	0.39	1.	0.00	0.2	332.5
117.045	02/27/78 0850GMT 28 18.0N 115 55.9W BOTTOM 3650M WIND 160 05KT WEATHER 5 DOMINANT WAVES	10	16.90	33.736	5.72	0.58	2.	0.00	0.1	335.8
120.024	03/04/78 2242GMT 28 25.1N 114 10.1W BOTTOM 30M WIND 310 02KT WEATHER 1 DOMINANT WAVES 180 04 10	10	17.09	33.576	5.89	0.34	2.	0.00	0.0	351.8
120.040	03/05/78 1110GMT 27 56.5N 115 14.0W BOTTOM 30M WIND 270 10KT WEATHER 1 DOMINANT WAVES	10	17.06	33.735	5.60	0.48	4.	0.01	0.2	339.5
123.036	03/07/78 1535GMT 27 26.1N 114 35.9W BOTTOM 52M WIND 020 06KT WEATHER 1 DOMINANT WAVES 270 05 05	10	15.37	33.821	4.86	0.67	6.	0.54	3.9	296.5
123.037	03/07/78 1417GMT 27 24.0N 114 40.0W BOTTOM 78M WIND 020 06KT WEATHER 1 DOMINANT WAVES 270 05 05	10	16.70	33.761	5.53	0.39	4.	0.04	0.5	329.6
123.045	03/07/78 0757GMT 27 08.0N 115 11.5W BOTTOM 4200M WIND 330 17KT WEATHER 1 DOMINANT WAVES	10	17.36	33.596	5.68	0.38	3.	0.00	0.3	356.4
127.033	03/07/78 2041GMT 26 57.5N 114 02.2W BOTTOM 65M WIND 290 20KT WEATHER 1 DOMINANT WAVES 260 07 09	10	16.78	33.818	5.87	0.45	4.	0.02	16.8	327.2
127.045	03/08/78 0630GMT 26 33.0N 114 48.5W BOTTOM 3350M WIND 340 18KT WEATHER 1 DOMINANT WAVES	10	17.79	33.747	5.65	0.38	2.	0.00	0.0	355.3
130.028	03/09/78 1940GMT 26 33.0N 113 21.0W BOTTOM 56M WIND 00KT WEATHER 0 DOMINANT WAVES 050 01 06	10	17.68	33.834	5.66	0.42	1.	0.04	0.1	346.4
130.035	03/09/78 1454GMT 26 19.0N 113 48.0W BOTTOM 600M WIND 360 07KT WEATHER 0 DOMINANT WAVES 320 03 05	10	18.55	34.019	5.50	0.39	1.	0.02	0.3	353.3
133.023	03/10/78 0018GMT 26 08.5N 112 40.2W BOTTOM 77M WIND 270 15KT WEATHER 1 DOMINANT WAVES 280 02 04	10	18.01	34.000	5.56	0.42	1.	0.04	0.1	342.0
133.035	03/10/78 0925GMT 25 44.5N 113 26.5W BOTTOM 661M WIND 310 19KT WEATHER 0 DOMINANT WAVES 290 08 06	10	18.90	34.049	5.40	0.27	3.	0.01	0.0	359.5
137.022	03/12/78 0500GMT 25 36.1N 112 14.8W BOTTOM 51M WIND 280 14KT WEATHER 0 DOMINANT WAVES	10	17.72	34.059	5.42	0.32				330.9
137.035	03/11/78 2040GMT 25 10.0N 113 04.5W BOTTOM 1150M WIND 330 05KT WEATHER 1 DOMINANT WAVES 340 04 07	10	18.68	34.031		0.19	2.	0.00	0.1	355.5

	DEPTH	CHL A	PHAEO
STATION 60055	1	0.29	0.04
03/15/78	10	0.27	0.06
1221 GMT	29	0.24	0.08
	39	0.27	0.06
37 47.0N	54	0.18	0.07
123 15.0W	69	0.11	0.09
	83	0.10	0.10
	100	0.13	0.23
	118	0.05	0.10
STATION 60060	1	0.99	0.28
03/15/78	11	0.89	0.36
0737 GMT	29	0.79	0.34
	53	0.66	0.35
37 37.4N	62	0.22	0.15
123 37.0W	72	0.11	0.13
	86	0.05	0.05
	100	0.03	0.04
	123	0.03	0.04
	142	0.02	0.04
	165	0.02	0.05
	193	0.02	0.04
STATION 60070	1	0.56	0.22
03/15/78	12	0.51	0.24
0128 GMT	29	0.55	0.24
	54	0.50	0.19
37 19.0N	63	0.54	0.17
124 17.5W	72	0.30	0.20
	86	0.08	0.06
	100	0.04	0.04
	125	0.03	0.02
	142	0.02	0.03
	166	0.02	0.03
	194	0.01	0.03
STATION 63052	2	0.92	0.28
03/14/78	12	0.85	0.33
0312 GMT	20	0.43	0.64
	30	0.51	0.21
37 19.0N	50	0.23	0.19
122 36.0W	74	0.14	0.20
STATION 63055	1	1.15	0.29
03/14/78	10	1.18	0.34
0558 GMT	29	0.60	0.16
	44	0.34	0.16
37 13.0N	53	0.37	0.07
122 50.0W	67	0.13	0.07
	82	0.03	0.02
	101	0.02	0.03
	125	0.04	0.03
	144	0.09	0.00
	177	0.03	0.06
	205	0.06	0.05
STATION 63060	1	0.30	0.23
03/14/78	10	0.47	0.28
1005 GMT	29	0.54	0.30
	37	0.62	0.34
37 03.0N	53	0.40	0.20
123 12.0W	66	0.09	0.06
	90	0.03	0.04
	108	0.03	0.04
	127	0.03	0.05
	146	0.03	0.07
	174	0.01	0.05
	206	0.01	0.03
STATION 63070	1	0.62	0.30
03/14/78	11	0.69	0.24
1737 GMT	30	0.57	0.25
	54	0.38	0.22
36 43.0N	63	0.18	0.10
123 55.0W	73	0.09	0.08
	87	0.06	0.05
	101	0.04	0.04
	125	0.03	0.04
	143	0.02	0.03
	167	0.02	0.04
	194	0.02	0.01
STATION 67050	1	0.55	0.17
03/13/78	10	0.62	0.16
1647 GMT	29	0.40	0.19
	42	0.15	0.12
36 48.0N	52	0.18	0.11
122 05.0W	66	0.13	0.12
	80	0.08	0.09
	100	0.04	0.06
	125	0.04	0.06
	144	0.03	0.04
	177	0.02	0.04
	206	0.02	0.03
STATION 67055	2	0.57	0.14
03/13/78	11	0.55	0.18
2023 GMT	30	0.56	0.21
	39	0.56	0.19
36 39.0N	49	0.43	0.19
122 26.0W	63	0.17	0.09
	77	0.11	0.10
	95	0.05	0.05
	118	0.04	0.02
	137	0.02	0.03
	165	0.02	0.03
	193	0.02	0.01
STATION 67060	2	0.16	0.10
03/11/78	11	0.26	0.01
2329 GMT	30	0.27	0.04
	54	0.45	0.51
36 28.0N	63	0.39	0.16
122 47.0W	72	0.13	0.11
	87	0.15	0.08
	101	0.11	0.04
	124	0.03	0.03
	143	0.01	0.03
	166	0.01	0.02
	194	0.01	0.02
STATION 67070	1	0.39	0.06
03/11/78	11	0.38	0.07
1633 GMT	29	0.35	0.11
	53	0.57	0.19
36 08.0N	62	0.30	0.14
123 29.5W	72	0.20	0.08
	86	0.04	0.04
	100	0.04	0.02
	123	0.01	0.02
	142	0.02	0.03
	165	0.03	0.02
	193	0.02	0.04
STATION 67080	2	0.15	0.02
03/11/78	11	0.15	0.03
1054 GMT	29	0.17	0.00
	52	0.13	0.03
35 48.0N	61	0.14	0.03
124 12.0W	70	0.17	0.02
	83	0.24	0.08
	97	0.22	0.09
	119	0.12	0.06
	137	0.03	0.03
	160	0.02	0.02
	187	0.02	0.01
STATION 67090	1	0.16	0.02
03/11/78	11	0.15	0.03
0445 GMT	30	0.15	0.03
	54	0.14	0.03
35 28.0N	63	0.14	0.03
124 55.0W	73	0.20	0.02
	87	0.34	0.14
	101	0.19	0.08
	124	0.05	0.04
	143	0.02	0.02
	167	0.01	0.02
	195	0.01	0.03
STATION 70053	2	0.69	0.28
03/09/78	11	0.72	0.20
2030 GMT	28	0.66	0.29
	38	0.55	0.26
36 06.5N	52	0.29	0.34
121 54.0W	65	0.19	0.28
	88	0.07	0.11
	106	0.05	0.06
	124	0.04	0.04
	142	0.02	0.05
	169	0.03	0.04
	201	0.01	0.04
STATION 70060	2	0.46	0.05
03/10/78	12	0.46	0.13
0107 GMT	31	0.57	0.11
	40	0.60	0.19
35 53.0N	54	0.22	0.16
122 22.5W	68	0.09	0.08
	91	0.05	0.05
	110	0.03	0.04
	129	0.03	0.05
	148	0.02	0.05
	176	0.02	0.03
	208	0.02	0.03
STATION 70070	2	0.20	0.06
03/10/78	12	0.20	0.05
0900 GMT	30	0.20	0.06
	40	0.24	0.08
35 33.0N	49	0.56	0.09
123 06.0W	64	0.39	0.14
	78	0.24	0.06
	97	0.06	0.04
	120	0.01	0.02
	139	0.01	0.03
	167	0.02	0.02
	195	0.01	0.02
STATION 70080	3	0.11	0.03
03/10/78	12	0.13	0.02
1546 GMT	31	0.13	0.02
	40	0.12	0.02
35 12.0N	54	0.12	0.03
123 49.0W	68	0.32	0.03
	91	0.27	0.06
	109	0.15	0.05
	128	0.03	0.04
	146	0.02	0.02
	174	0.01	0.02
	206	0.00	0.01
STATION 70090	2	0.09	0.02
03/10/78	11	0.09	0.02
2142 GMT	29	0.11	0.01
	51	0.10	0.01
34 53.0N	60	0.12	0.04
124 30.0W	69	0.34	0.08
	83	0.26	0.11
	97	0.20	0.08
	120	0.08	0.01
	138	0.03	0.02
	161	0.02	0.01
	189	0.01	0.02

	DEPTH	CHL A	PHAEO
STATION 73053	1	0.79	0.22
03/09/78	11	1.05	0.35
1117 GMT	29	1.08	0.22
	39	0.35	0.18
35 31.5N	48	0.34	0.24
121 28.5W	62	0.21	0.21
	76	0.18	0.16
	95	0.12	0.14
	118	0.06	0.08
	137	0.06	0.06
	164	0.06	0.07
	192	0.02	0.04
STATION 73060	1	0.49	0.13
03/09/78	11	0.51	0.09
0610 GMT	29	1.02	0.34
	40	0.55	0.25
35 17.5N	54	0.24	0.15
121 58.0W	68	0.13	0.18
	91	0.08	0.12
	110	0.04	0.04
	129	0.02	0.04
	147	0.04	0.09
	175	0.02	0.03
	208	0.01	0.04
STATION 73070	3	0.11	0.03
03/08/78	12	0.13	0.02
2310 GMT	31	0.15	0.04
	41	0.19	0.02
34 58.0N	48	0.20	0.04
122 40.0W	64	0.29	0.07
	78	0.24	0.06
	96	0.06	0.04
	119	0.02	0.02
	138	0.01	0.02
	165	0.01	0.02
	192	0.02	0.01
STATION 73080	1	0.18	0.00
03/08/78	11	0.16	0.02
1710 GMT	29	0.19	0.01
	53	0.45	0.15
34 38.2N	63	0.41	0.09
123 22.0W	73	0.24	0.08
	87	0.15	0.09
	101	0.06	0.04
	125	0.10	0.00
	144	0.03	0.03
	167	0.01	0.03
	196	0.01	0.02
STATION 73090	1	0.09	0.01
03/08/78	11	0.09	0.01
1117 GMT	29	0.15	0.04
	39	0.17	0.03
34 18.5N	48	0.27	0.01
124 04.0W	62	0.56	0.16
	76	0.28	0.12
	95	0.12	0.10
	118	0.05	0.04
	136	0.03	0.01
	164	0.01	0.02
	191	0.00	0.01
STATION 77051	2	1.45	0.23
03/07/78	11	1.78	0.39
0325 GMT	31	0.72	0.44
	45	0.46	0.33
35 02.0N	55	0.39	0.33
120 56.5W	69	0.24	0.28
	83	0.15	0.13
	102	0.08	0.12
	126	0.05	0.11
	145	0.03	0.10
	178	0.02	0.07
	205	0.03	0.07
STATION 77055	2	1.05	0.39
03/07/78	11	1.12	0.36
0645 GMT	30	0.45	0.27
	44	0.23	0.28
34 54.5N	54	0.16	0.19
121 13.2W	68	0.11	0.12
	82	0.07	0.10
	96	0.06	0.07
	119	0.03	0.05
	138	0.10	0.00
	166	0.02	0.04
	194	0.02	0.05
STATION 77060	1	0.58	0.15
03/07/78	11	0.58	0.16
1055 GMT	30	0.54	0.22
	39	0.32	0.25
34 44.0N	48	0.21	0.12
121 34.0W	76	0.06	0.09
	62	0.18	0.17
	95	0.05	0.15
	118	0.04	0.10
	136	0.03	0.06
	164	0.02	0.04
	191	0.01	0.05
STATION 77070	1	0.29	0.00
03/07/78	12	0.24	0.03
1747 GMT	31	0.79	0.26
	40	0.62	0.28
34 24.0N	50	0.33	0.17
122 16.1W	64	0.16	0.12
	78	0.09	0.08
	97	0.04	0.05
	120	0.02	0.04
	138	0.02	0.01
	166	0.02	0.03
	194	0.01	0.03
STATION 77080	1	0.17	0.00
03/07/78	10	0.17	0.01
2339 GMT	29	0.23	0.04
	38	0.02	0.14
34 04.0N	48	0.56	0.14
122 57.0W	62	0.40	0.12
	76	0.13	0.14
	94	0.07	0.06
	117	0.05	0.05
	136	0.02	0.03
	164	0.02	0.03
	192	0.01	0.04
STATION 77090	2	0.09	0.02
03/08/78	11	0.08	0.03
0534 GMT	31	0.15	0.04
	40	0.32	0.07
33 42.2N	50	0.37	0.13
123 37.2W	64	0.33	0.15
	78	0.13	0.07
	97	0.04	0.04
	120	0.02	0.03
	139	0.02	0.02
	195	0.01	0.02
STATION 80052	2	0.79	0.20
03/06/78	12	0.72	0.18
1809 GMT	31	0.92	0.44
	44	0.49	0.19
34 24.8N	54	0.44	0.20
120 35.8W	67	0.39	0.24
	81	0.24	0.18
	100	0.13	0.16
	124	0.11	0.07
	143	0.06	0.12
	172	0.05	0.09
	195	0.05	0.10
STATION 80055	2	1.78	0.49
03/06/78	12	1.84	0.53
1451 GMT	30	0.85	0.66
	39	0.39	0.37
34 19.0N	49	0.22	0.17
120 48.0W	63	0.19	0.16
	76	0.11	0.14
	95	0.06	0.13
	118	0.06	0.07
	137	0.02	0.04
	165	0.03	0.06
	193	0.02	0.05
STATION 80060	1	0.20	0.04
03/06/78	11	0.18	0.04
1020 GMT	29	0.71	0.11
	38	0.32	0.16
34 09.0N	48	0.22	0.10
121 09.0W	62	0.17	0.12
	75	0.13	0.08
	94	0.07	0.06
	117	0.04	0.04
	135	0.02	0.03
	163	0.02	0.03
	190	0.02	0.03
STATION 80070	1	0.41	0.00
03/06/78	12	0.15	0.03
0419 GMT	30	0.19	0.05
	39	0.55	0.15
33 48.5N	49	0.50	0.00
121 51.0W	62	0.22	0.12
	76	0.11	0.06
	93	0.02	0.04
	117	0.01	0.02
	135	0.03	0.02
	161	0.01	0.02
	188	0.01	0.03
STATION 80080	3	0.11	0.02
03/05/78	12	0.11	0.02
2217 GMT	31	0.11	0.03
	40	0.13	0.04
33 28.7N	49	0.27	0.05
122 32.0W	63	0.35	0.03
	77	0.18	0.08
	96	0.12	0.07
	119	0.03	0.02
	137	0.01	0.03
	165	0.01	0.03
	193	0.01	0.02
STATION 80090	3	0.09	0.01
03/05/78	11	0.09	0.01
1505 GMT	30	0.14	0.01
	39	0.20	0.04
33 09.0N	48	0.30	0.12
123 15.0W	62	0.11	0.06
	77	0.06	0.02
	96	0.01	0.02
	119	0.02	0.00
	138	0.01	0.02
	165	0.01	0.02
STATION 82047	1	1.55	0.47
03/03/78	10	1.58	0.53
2212 GMT	29	0.89	0.47
	53	0.34	0.35
34 16.5N	62	0.23	0.27
119 59.0W	72	0.29	0.27
	86	0.12	0.18
	100	0.08	0.15
	124	0.05	0.12
	143	0.03	0.08
	166	0.06	0.07
	194	0.03	0.11

	DEPTH	CHL A	PHAEO
STATION 83042	1	0.85	0.23
03/03/78	10	0.92	0.34
1728 GMT	30	0.92	0.38
	40	1.05	0.43
34 10.0N	53	0.45	0.26
119 29.5W	67	0.39	0.28
	79	0.27	0.21
	100	0.13	0.16
STATION 83051	2	1.61	0.48
03/04/78	21	1.05	0.49
0311 GMT	29	0.99	0.45
	44	0.85	0.47
33 52.0N	58	0.58	0.32
120 08.5W	71	0.50	0.23
	88	0.38	0.32
	106	0.27	0.26
STATION 83055	2	0.21	0.02
03/04/78	11	0.20	0.03
0634 GMT	30	0.45	0.11
	40	0.34	0.18
33 44.0N	49	0.29	0.14
120 24.5W	63	0.15	0.14
	77	0.10	0.12
	95	0.06	0.07
	119	0.02	0.06
	137	0.01	0.04
	166	0.01	0.03
	194	0.01	0.03
STATION 83060	2	0.18	0.03
03/04/78	11	0.17	0.04
1145 GMT	30	0.21	0.01
	53	0.37	0.18
33 34.0N	60	0.22	0.19
120 45.0W	71	0.17	0.15
	85	0.07	0.08
	99	0.05	0.04
	122	0.01	0.03
	140	0.01	0.02
	164	0.00	0.03
	192	0.00	0.03
STATION 83070	1	0.17	0.05
03/04/78	11	0.18	0.03
1939 GMT	29	0.23	0.05
	39	0.34	0.13
33 14.5N	54	0.32	0.19
121 26.0W	67	0.21	0.14
	90	0.07	0.07
	109	0.03	0.04
	128	0.01	0.04
	146	0.00	0.02
	175	0.01	0.02
	207	0.01	0.03
STATION 83080	2	0.09	0.02
03/05/78	11	0.09	0.02
0255 GMT	28	0.10	0.03
	37	0.15	0.04
32 54.0N	50	0.26	0.06
122 08.0W	63	0.32	0.15
	84	0.14	0.08
	102	0.07	0.02
	120	0.02	0.02
	137	0.01	0.03
	164	0.01	0.03
	194	0.01	0.02
STATION 83090	2	0.13	0.00
03/05/78	11	0.12	0.01
0921 GMT	30	0.11	0.02
	54	0.52	0.13
32 34.5N	63	0.33	0.15
122 50.0W	72	0.27	0.12
	86	0.16	0.08
	100	0.07	0.04
	124	0.02	0.02
	143	0.02	0.02
	166	0.01	0.01
	194	0.02	0.00
STATION 87036	2	1.25	0.27
03/03/78	11	1.05	0.19
0029 GMT	30	0.85	0.23
	39	1.18	0.30
33 49.0N	54	0.47	0.23
118 40.0W	68	0.27	0.19
	90	0.17	0.14
	109	0.13	0.09
	127	0.08	0.09
	147	0.04	0.04
	175	0.04	0.05
	207	0.04	0.06
STATION 87040	1	1.58	0.18
03/03/78	10	1.38	0.30
0447 GMT	29	1.12	0.40
	39	0.51	0.29
33 40.0N	49	0.46	0.31
118 58.0W	63	0.29	0.22
	77	0.19	0.13
	96	0.10	0.15
	119	0.05	0.05
	138	0.03	0.04
	166	0.04	0.04
	194	0.02	0.06
STATION 87045	1	0.79	0.14
03/03/78	10	0.72	0.05
0936 GMT	29	0.79	0.18
	39	0.76	0.25
33 30.0N	48	0.53	0.34
119 19.0W	62	0.27	0.26
	77	0.16	0.20
	95	0.13	0.13
	119	0.07	0.06
	137	0.06	0.07
	165	0.03	0.04
	193	0.02	0.04
STATION 87050	2	0.27	0.08
02/28/78	12	0.29	0.07
2005 GMT	21	0.45	0.16
33 20.0N	31	0.92	0.01
119 39.5W	50	0.69	0.11
STATION 87060	2	0.09	0.03
02/28/78	11	0.09	0.03
1232 GMT	30	0.09	0.08
	39	0.15	0.05
33 00.0N	49	0.16	0.07
120 21.5W	63	0.24	0.20
	78	0.22	0.20
	97	0.15	0.09
	120	0.05	0.03
	139	0.02	0.02
	167	0.01	0.02
	195	0.01	0.02
STATION 87070	1	0.20	0.00
02/28/78	11	0.12	0.04
0629 GMT	30	0.16	0.04
	53	0.17	0.07
32 39.8N	63	0.27	0.07
121 02.0W	72	0.24	0.12
	86	0.16	0.12
	100	0.09	0.10
	123	0.04	0.04
	142	0.01	0.03
	165	0.02	0.06
	194	0.01	0.04
STATION 87080	2	0.10	0.02
02/28/78	11	0.09	0.03
0057 GMT	30	0.13	0.05
	39	0.18	0.06
32 20.0N	48	0.32	0.11
121 42.0W	62	0.32	0.23
	76	0.24	0.16
	95	0.14	0.12
	118	0.03	0.05
	137	0.01	0.03
	165	0.01	0.01
	193	0.01	0.01
STATION 87090	1	0.06	0.02
02/27/78	11	0.07	0.02
1922 GMT	29	0.09	0.02
	53	0.14	0.06
31 59.0N	62	0.29	0.12
122 24.0W	72	0.26	0.16
	86	0.19	0.12
	100	0.11	0.07
	124	0.03	0.02
	142	0.02	0.01
	166	0.01	0.01
	194	0.01	0.02
STATION 90033	1	0.17	0.07
02/25/78	11	0.17	0.04
1116 GMT	29	0.27	0.05
	39	2.28	0.10
33 18.5N	48	0.58	0.34
118 07.0W	62	0.39	0.25
	77	0.28	0.21
	96	0.19	0.15
	119	0.23	0.13
	138	0.06	0.07
	166	0.07	0.10
	194	0.03	0.04
STATION 90037	2	0.17	0.04
02/25/78	12	0.17	0.04
1714 GMT	31	0.05	0.21
	40	0.55	0.24
33 11.0N	49	0.59	0.28
118 22.5W	64	0.38	0.25
	78	0.28	0.20
	96	0.18	0.14
	120	0.07	0.07
	139	0.05	0.06
	166	0.05	0.05
	194	0.04	0.03
STATION 90045	1	0.22	0.06
02/25/78	10	0.32	0.14
2330 GMT	29	0.49	0.24
	38	0.47	0.29
32 54.5N	48	0.69	0.39
118 55.5W	62	0.59	0.59
	76	0.29	0.23
	95	0.30	0.32
	118	0.27	0.29
	137	0.16	0.14
	165	0.11	0.09
	193	0.16	0.19

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	DEPTH	CHL A	PHAEO
STATION 90053	2	0.16	0.08
02/26/78	11	0.19	0.03
0551 GMT	30	0.18	0.06
	40	0.29	0.09
32 39.0N	49	0.30	0.17
119 28.5W	63	0.26	0.15
	78	0.18	0.11
	96	0.08	0.09
	120	0.11	0.00
	139	0.05	0.04
	167	0.04	0.05
	195	0.02	0.03
STATION 90060	1	0.20	0.07
02/26/78	11	0.22	0.07
1113 GMT	29	0.28	0.07
	39	0.32	0.08
32 25.0N	48	0.49	0.14
119 57.5W	62	0.32	0.19
	76	0.22	0.15
	95	0.13	0.10
	118	0.08	0.07
	137	0.03	0.06
	165	0.02	0.04
	193	0.03	0.04
STATION 90070	1	0.11	0.01
02/26/78	11	0.10	0.02
1740 GMT	30	0.09	0.03
	53	0.27	0.18
32 05.0N	63	0.38	0.24
120 39.0W	72	0.28	0.22
	87	0.19	0.14
	101	0.09	0.10
	124	0.02	0.03
	143	0.00	0.01
	166	0.00	0.03
	194	0.01	0.02
STATION 90080	1	0.09	0.02
02/26/78	11	0.10	0.00
2340 GMT	30	0.11	0.02
	53	0.20	0.06
31 44.5N	63	0.48	0.09
121 19.5W	72	0.31	0.19
	87	0.22	0.13
	101	0.10	0.06
	124	0.06	0.04
	143	0.04	0.03
	167	0.01	0.03
	195	0.00	0.02
STATION 90090	0	0.06	0.02
02/27/78	9	0.06	0.02
0537 GMT	28	0.08	0.04
	51	0.14	0.06
31 24.0N	61	0.15	0.08
122 01.3W	70	0.18	0.10
	85	0.17	0.18
	99	0.24	0.04
	123	0.14	0.02
	141	0.01	0.01
	165	0.03	0.00
	193	0.01	0.02
STATION 90100	2	0.07	0.02
02/27/78	11	0.07	0.02
1128 GMT	30	0.08	0.01
	53	0.09	0.02
31 05.0N	62	0.12	0.00
122 39.0W	71	0.15	0.05
	85	0.21	0.04
	99	0.27	0.17
	122	0.12	0.06
	141	0.06	0.01
	164	0.02	0.02
	192	0.01	0.01
STATION 93029	1	0.57	0.18
02/23/78	12	0.17	0.06
1358 GMT	29	0.11	0.07
	44	0.58	0.47
32 52.7N	53	0.37	0.28
117 26.6W	67	0.19	0.09
	82	0.06	0.07
	96	0.02	0.04
	119	0.02	0.03
	138	0.01	0.03
	166	0.01	0.03
	194	0.01	0.03
STATION 93030	1	0.11	0.05
02/23/78	10	0.13	0.06
1129 GMT	29	0.56	0.49
	39	0.59	0.39
32 50.5N	48	0.27	0.28
117 31.0W	62	0.14	0.16
	76	0.07	0.07
	95	0.04	0.06
	118	0.01	0.05
	137	0.01	0.04
	165	0.03	0.04
	193	0.05	0.00
STATION 93040	2	0.21	0.08
02/23/78	12	0.20	0.07
0358 GMT	31	0.23	0.11
	40	0.38	0.25
32 30.0N	50	0.85	0.55
118 11.5W	64	0.56	0.70
	78	0.23	0.34
	97	0.13	0.22
	120	0.11	0.13
	139	0.05	0.05
	166	0.01	0.07
	194	0.05	0.00
STATION 93050	2	0.12	0.02
02/22/78	11	0.11	0.04
1845 GMT	40	0.23	0.00
	49	0.13	0.03
32 10.0N	64	0.32	0.11
118 52.5W	77	0.46	0.05
	97	0.13	0.08
	120	0.06	0.04
	139	0.03	0.04
	167	0.02	0.03
	196	0.01	0.03
STATION 93060	1	0.06	0.01
02/22/78	11	0.05	0.01
1051 GMT	30	0.06	0.01
	38	0.06	0.02
31 50.5N	47	0.07	0.02
119 34.0W	61	0.10	0.03
	74	0.29	0.14
	93	0.22	0.20
	115	0.10	0.06
	133	0.01	0.06
	160	0.01	0.03
	188	0.01	0.01
STATION 93070	1	0.09	0.03
02/22/78	11	0.09	0.03
0514 GMT	29	0.11	0.04
	57	0.23	0.08
31 30.0N	66	0.30	0.11
120 14.0W	80	0.26	0.15
	94	0.17	0.21
	108	0.09	0.08
	131	0.03	0.04
	150	0.09	0.00
	205	0.01	0.02
STATION 93080	2	0.06	0.02
02/21/78	11	0.06	0.02
2343 GMT	29	0.07	0.01
	40	0.08	0.02
31 10.0N	48	0.08	0.03
120 54.5W	63	0.15	0.05
	77	0.07	0.00
	96	0.21	0.14
	119	0.06	0.05
	137	0.03	0.03
	164	0.01	0.02
STATION 93090	1	0.10	0.04
02/21/78	11	0.11	0.04
1640 GMT	30	0.17	0.06
	39	0.18	0.07
30 50.0N	48	0.24	0.06
121 34.5W	63	0.27	0.19
	77	0.27	0.19
	96	0.19	0.13
	119	0.08	0.07
	138	0.03	0.02
	166	0.01	0.03
	194	0.01	0.03
STATION 93100	1	0.07	0.02
02/21/78	11	0.07	0.01
1120 GMT	30	0.08	0.03
	53	0.10	0.04
30 30.0N	63	0.12	0.04
122 14.0W	72	0.17	0.05
	86	0.24	0.15
	123	0.13	0.09
	141	0.07	0.06
	164	0.03	0.03
	193	0.00	0.02

RV ALEJANORO DE HUMBOLDT — CHLOROPHYLL-A AND PHAEOPHYTIN — CALCOFI CRUISE 7803

	DEPTH	CHL A	PHAEO
STATION 95031	0	0.29	0.06
02/17/78	10	0.32	0.08
2245 GMT	30	0.82	0.10
	40	0.54	0.17
32 30.0N	50	0.23	0.13
117 23.1W	65	0.14	0.03
	79	0.05	0.03
	99	0.02	0.01
	123	0.02	0.01
	200	0.02	0.00

RV DAVID STARR JORDAN — CHLOROPHYLL-A AND PHAEOPHYTIN — CALCOFI CRUISE 7803

	DEPTH	CHL A	PHAEO
STATION 97030	1	0.44	0.22
02/19/78	11	0.11	0.20
0818 GMT	20	0.66	0.47
32 16.0N	30	0.32	0.37
117 07.0W	49	0.10	0.26
STATION 97035	1	0.13	0.07
02/19/78	11	0.09	0.04
1312 GMT	30	0.14	0.08
	39	0.15	0.05
32 05.5N	49	0.61	0.26
117 27.5W	63	0.27	0.16
	77	0.11	0.08
	96	0.02	0.05
	120	0.08	0.00
	167	0.00	0.02
	195	0.00	0.02
STATION 97040	2	0.11	0.03
02/19/78	11	0.13	0.03
1720 GMT	30	0.22	0.11
	40	0.37	0.27
31 56.0N	49	0.85	0.41
117 48.0W	63	0.46	0.28
	77	0.08	0.24
	96	0.11	0.10
	119	0.01	0.05
	138	0.01	0.03
	167	0.01	0.03
	195	0.00	0.02
STATION 97050	2	0.27	0.12
02/20/78	11	0.40	0.15
0221 GMT	30	0.52	0.30
	40	0.69	0.28
31 38.5N	49	0.62	0.38
118 29.0W	63	0.72	0.34
	78	0.55	0.29
	97	0.14	0.13
	120	0.06	0.08
	139	0.02	0.03
	167	0.04	0.03
	195	0.01	0.02
STATION 97060	2	0.07	0.01
02/20/78	11	0.07	0.01
0906 GMT	30	0.07	0.02
	39	0.10	0.01
31 15.5N	48	0.10	0.02
119 10.0W	62	0.11	0.04
	76	0.24	0.08
	95	0.26	0.13
	118	0.15	0.05
	136	0.04	0.03
	163	0.02	0.02
	191	0.01	0.01
STATION 97070	1	0.09	0.02
02/20/78	10	0.07	0.02
1550 GMT	29	0.09	0.02
	53	0.13	0.05
30 55.5N	62	0.14	0.05
119 50.5W	71	0.18	0.08
	85	0.21	0.13
	99	0.13	0.09
	122	0.05	0.03
	141	0.01	0.03
	165	0.01	0.03
	193	0.00	0.02
STATION 97080	0	0.06	0.02
02/20/78	10	0.06	0.02
2140 GMT	30	0.08	0.01
	53	0.10	0.04
30 35.0N	62	0.11	0.04
120 31.0W	71	0.15	0.06
	85	0.23	0.12
	100	0.17	0.12
	123	0.05	0.03
	141	0.02	0.02
	165	0.01	0.02
	193	0.01	0.01
STATION 97090	1	0.08	0.00
02/21/78	11	0.08	0.00
0335 GMT	29	0.08	0.01
	38	0.08	0.01
30 15.5N	48	0.09	0.02
121 10.5W	61	0.11	0.02
	75	0.21	0.05
	94	0.24	0.12
	118	0.09	0.08
	137	0.05	0.02
	165	0.02	0.01
	193	0.03	0.00

RV ALEJANDRO DE HUMBOLDT — CHLOROPHYLL-A AND PHAEOPHYTIN — CALCOFI CRUISE 7803

	DEPTH	CHL A	PHAEO
STATION 100030	0	0.61	0.05
02/18/78	9	0.45	0.06
1748 GMT	29	0.09	0.03
	45	0.04	0.06
31 40.5N	55	0.02	0.03
116 46.5W	70	0.01	0.02
	85	0.01	0.02.
	100	0.01	0.02
	125	0.01	0.02
STATION 100035	0	0.22	0.03
02/18/78	10	0.24	0.06
2139 GMT	30	0.22	0.03
	60	0.14	0.06
31 30.5N	70	0.07	0.04
117 07.0W	85	0.03	0.02
	100	0.01	0.03
STATION 100040	0	0.25	0.00
02/19/78	10	0.17	0.02
0112 GMT	29	0.20	0.04
	59	0.37	0.09
31 21.0N	68	0.17	0.05
117 27.0W	83	0.06	0.04
	97	0.02	0.02
	111	0.01	0.03
STATION 100050	0	0.11	0.04
02/19/78	9	0.12	0.05
0748 GMT	27	0.16	0.01
	55	0.30	0.07
31 00.5N	64	0.52	0.29
118 07.0W	78	0.27	0.21
	91	0.15	0.10
	105	0.05	0.05
	127	0.02	0.03
	145	0.01	0.01
	171	0.01	0.02
	197	0.01	0.01
STATION 100060	0	0.09	0.03
02/19/78	10	0.09	0.04
1316 GMT	29	0.11	0.04
	59	0.15	0.03
30 40.5N	68	0.30	0.21
118 47.5W	83	0.22	0.07
	98	0.07	0.08
	112	0.09	0.01
	137	0.01	0.03
	156	0.01	0.01
STATION 100070	0	0.09	0.01
02/19/78	10	0.09	0.01
1935 GMT	30	0.09	0.03
	60	0.13	0.03
30 20.5N	71	0.15	0.04
119 27.5W	85	0.24	0.11
	90	0.25	0.10
	102	0.15	0.07
	124	0.04	0.06
	143	0.02	0.03
STATION 100080	0	0.06	0.02
02/20/78	10	0.07	0.00
0142 GMT	30	0.07	0.02
	59	0.07	0.03
30 01.0N	69	0.11	0.02
120 07.0W	74	0.30	0.13
	84	0.23	0.11
	92	0.07	0.03
	98	0.11	0.06
	122	0.27	0.11
	152	0.07	0.04
	182	0.00	0.02
STATION 100090	10	0.07	0.01
02/20/78	46	0.07	0.03
0704 GMT	76	0.11	0.03
	96	0.20	0.13
29 40.5N	111	0.18	0.07
120 47.0W	126	0.09	0.05
	145	0.06	0.02
	165	0.01	0.03
	194	0.01	0.01
	219	0.01	0.01
STATION 103030	0	0.50	0.01
02/21/78	10	2.94	0.78
2052 GMT	20	1.99	0.78
31 06.0N	30	0.17	0.06
116 24.5W	50	0.06	0.04

	DEPTH	CHL A	PHAEO
STATION 103035	0	0.22	0.01
02/21/78	10	0.21	0.03
1752 GMT	29	0.41	0.04
	39	0.61	0.20
30 56.0N	54	0.25	0.06
116 44.9W	69	0.09	0.04
	93	0.01	0.03
	153	0.01	0.02
	217	0.01	0.01
STATION 103040	0	0.47	0.02
02/21/78	10	0.47	0.04
1436 GMT	30	0.82	0.20
	40	1.17	0.30
30 46.0N	56	0.45	0.20
117 04.5W	70	0.16	0.09
	95	0.01	0.06
	115	0.01	0.03
	135	0.01	0.01
	155	0.01	0.02
	184	0.01	0.01
STATION 103050	2	0.12	0.02
02/21/78	12	0.11	0.03
0705 GMT	23	0.14	0.04
	31	0.33	0.17
30 26.0N	47	0.17	0.06
117 44.5W	61	0.04	0.04
	66	0.01	0.04
	71	0.15	0.01
	85	0.22	0.05
	96	0.31	0.17
	100	0.02	0.03
	125	0.01	0.02
STATION 103060	0	0.07	0.03
02/21/78	10	0.07	0.03
0125 GMT	31	0.09	0.02
	61	0.21	0.04
30 06.0N	71	0.32	0.12
118 25.0W	87	0.18	0.11
	102	0.09	0.06
	117	0.04	0.05
STATION 103070	0	0.06	0.01
02/20/78	10	0.06	0.02
2004 GMT	45	0.07	0.03
	75	0.15	0.07
29 46.2N	96	0.20	0.09
119 04.8W	111	0.13	0.09
	125	0.05	0.05
	145	0.02	0.03
STATION 103080	0	0.11	0.01
02/20/78	10	0.08	0.03
1502 GMT	45	0.11	0.02
	74	0.15	0.02
29 26.5N	94	0.37	0.13
119 43.0W	109	0.23	0.06
	124	0.08	0.06
	144	0.03	0.03
	163	0.01	0.03
	194	0.01	0.00
	218	0.01	0.00
	244	0.01	0.00
STATION 107032	0	0.49	0.00
02/22/78	10	0.80	0.17
0330 GMT	43	0.70	0.36
	58	0.24	0.11
30 25.8N	72	0.02	0.06
116 11.0W	86	0.02	0.04
	106	0.01	0.03
	130	0.01	0.01
STATION 107035	0	0.16	0.03
02/22/78	10	0.21	0.03
0608 GMT	29	0.42	0.03
	39	0.56	0.46
30 21.5N	53	0.20	0.10
116 22.5W	68	0.09	0.05
	92	0.02	0.02
STATION 107040	0	0.11	0.04
02/22/78	10	0.13	0.02
0927 GMT	29	0.15	0.02
	59	0.43	0.25
30 11.0N	69	0.27	0.12
116 42.0W	83	0.07	0.05
	98	0.03	0.03
	113	0.01	0.02
	138	0.02	0.00
STATION 107050	0	0.17	0.01
02/22/78	9	0.18	0.03
1533 GMT	28	0.36	0.07
	56	0.21	0.11
29 50.5N	65	0.12	0.08
117 22.0W	79	0.07	0.03
	93	0.07	0.03
	107	0.01	0.03
STATION 107060	0	0.06	0.03
02/22/78	10	0.09	0.00
2048 GMT	45	0.16	0.04
	75	0.25	0.11
29 32.0N	94	0.06	0.03
118 01.5W	98	0.06	0.03
	108	0.01	0.03
	123	0.01	0.01
	137	0.01	0.01
STATION 107070	0	0.08	0.01
02/23/78	10	0.02	0.07
0242 GMT	45	0.12	0.03
	75	0.23	0.08
29 11.0N	94	0.20	0.07
118 41.0W	109	0.18	0.11
	124	0.06	0.05
	144	0.03	0.00
	165	0.01	0.01
STATION 107080	0	0.06	0.01
02/23/78	10	0.07	0.00
0721 GMT	30	0.07	0.00
	61	0.12	0.00
28 51.5N	71	0.23	0.10
119 20.0W	86	0.27	0.21
	101	0.18	0.07
	116	0.11	0.05
	142	0.06	0.02
	162	0.02	0.01
	192	0.01	0.00
	222	0.01	0.00
STATION 110035	0	0.11	0.02
02/24/78	9	0.13	0.01
1604 GMT	28	0.12	0.03
	38	0.24	0.12
29 46.0N	52	0.37	0.23
116 00.0W	66	0.19	0.09
	89	0.06	0.03
	107	0.02	0.02
	125	0.01	0.01
	143	0.01	0.01
STATION 110040	1	0.11	0.03
02/24/78	11	0.12	0.01
1233 GMT	30	0.12	0.05
	60	0.35	0.16
29 36.5N	69	0.15	0.11
116 19.5W	84	0.15	0.18
	99	0.13	0.00
	113	0.04	0.04
	137	0.01	0.02
	186	0.01	0.01
	215	0.01	0.01
STATION 110050	1	0.20	0.04
02/24/78	11	0.24	0.00
0552 GMT	31	0.51	0.16
	61	0.06	0.07
29 16.5N	71	0.05	0.04
116 59.0W	86	0.02	0.04
	101	0.03	0.01
	116	0.01	0.03
	141	0.03	0.00
	161	0.01	0.01
	192	0.01	0.01
	222	0.01	0.00
STATION 110060	0	0.08	0.01
02/24/78	10	0.07	0.01
0010 GMT	44	0.14	0.05
	74	0.44	0.18
28 56.5N	93	0.15	0.23
117 39.0W	107	0.06	0.03
	122	0.04	0.03
	141	0.01	0.01
	160	0.01	0.01
	188	0.01	0.01
	211	0.01	0.01
STATION 110070	0	0.07	0.00
02/23/78	10	0.06	0.03
1837 GMT	31	0.07	0.01
	61	0.12	0.05
28 36.5N	71	0.17	0.05
118 18.0W	86	0.22	0.10
	102	0.11	0.08
	117	0.07	0.04
	142	0.04	0.03
	162	0.01	0.01
	223	0.01	0.00
STATION 110080	0	0.06	0.01
02/23/78	10	0.07	0.00
1318 GMT	30	0.06	0.01
	59	0.07	0.02
28 16.5N	69	0.09	0.02
118 57.5W	83	0.12	0.07
	98	0.15	0.11
	112	0.22	0.08
	136	0.07	0.03
	155	0.01	0.03
STATION 113035	1	0.14	0.04
02/25/78	11	0.17	0.04
0325 GMT	30	0.34	0.00
	37	0.48	0.01
29 11.5N	50	0.66	0.26
115 38.0W	64	0.33	0.15
	86	0.12	0.04
	102	0.05	0.03
	119	0.12	0.18
	135	0.02	0.00
	160	0.01	0.00
	190	0.01	0.00
STATION 113040	2	0.16	0.01
02/25/78	12	0.17	0.00
0654 GMT	31	0.21	0.04
	59	0.38	0.12
29 02.0N	68	0.40	0.19
115 57.0W	82	0.18	0.10
	96	0.09	0.06
	109	0.02	0.01
	124	0.01	0.02

	DEPTH	CHL A	PHAEO
STATION 113050	0	0.14	0.01
02/25/78	10	0.14	0.01
1302 GMT	30	0.13	0.02
	59	0.25	0.07
28 41.5N	69	0.44	0.24
116 36.5W	84	0.13	0.06
	99	0.01	0.03
STATION 113060	1	0.15	0.02
02/25/78	11	0.16	0.02
1901 GMT	33	0.23	0.00
	62	0.22	0.18
28 22.0N	72	0.34	0.24
117 16.0W	86	0.26	0.20
	102	0.17	0.10
	117	0.07	0.03
	142	0.01	0.02
	162	0.01	0.01
	192	0.01	0.01
	221	0.01	0.00
STATION 113070	0	0.09	0.01
02/26/78	10	0.09	0.01
0129 GMT	31	0.08	0.02
	62	0.12	0.03
28 01.9N	72	0.33	0.17
117 54.9W	87	0.25	0.16
	103	0.14	0.14
	118	0.08	0.09
	143	0.02	0.02
	163	0.01	0.02
STATION 113080	0	0.09	0.01
02/26/78	10	0.07	0.02
0621 GMT	45	0.11	0.00
	75	0.25	0.11
27 42.0N	95	0.24	0.12
118 33.5W	110	0.20	0.10
	125	0.10	0.07
	145	0.04	0.03
STATION 117030	0	0.92	0.05
02/27/78	10	0.61	0.00
2127 GMT	20	0.67	0.07
	30	0.58	0.26
28 48.0N	50	0.40	0.22
114 56.5W	75	0.08	0.07
STATION 117035	1	0.71	0.13
02/27/78	11	0.75	0.08
1823 GMT	30	0.81	0.13
	40	0.68	0.21
28 38.0N	55	0.40	0.17
115 16.0W	70	0.15	0.10
	85	0.04	0.09
	104	0.03	0.06
	128	0.03	0.06
STATION 117040	0	0.25	0.01
02/27/78	10	0.24	0.06
1224 GMT	31	0.66	0.17
	41	0.54	0.19
28 28.0N	56	0.33	0.23
115 35.5W	71	0.16	0.11
	97	0.05	0.05
	117	0.03	0.01
	188	0.01	0.02
	224	0.01	0.02
STATION 117050	0	0.11	0.00
02/27/78	10	0.11	0.00
0524 GMT	30	0.15	0.02
	60	0.54	0.43
28 08.0N	70	0.34	0.30
116 15.0W	86	0.17	0.09
	101	0.03	0.05
	116	0.03	0.04
	141	0.02	0.03
	160	0.01	0.04
	190	0.01	0.01
	220	0.01	0.01
STATION 117060	0	0.16	0.00
02/26/78	10	0.25	0.00
2338 GMT	31	0.26	0.07
	41	0.32	0.09
27 47.9N	51	0.37	0.12
116 52.9W	66	0.31	0.16
	81	0.12	0.05
	102	0.03	0.03
	127	0.01	0.03
	147	0.01	0.02
	178	0.01	0.01
STATION 117070	0	0.07	0.02
02/26/78	10	0.07	0.01
1710 GMT	30	0.11	0.02
	61	0.19	0.02
27 27.5N	71	0.20	0.11
117 32.5W	87	0.34	0.22
	101	0.18	0.08
	116	0.06	0.05
	141	0.03	0.01
	162	0.01	0.02
STATION 117080	0	0.07	0.01
02/26/78	10	0.07	0.02
1215 GMT	31	0.07	0.02
	61	0.14	0.03
27 08.0N	72	0.19	0.03
118 10.5W	87	0.29	0.09
	102	0.30	0.12
	117	0.14	0.07
	142	0.07	0.04
	162	0.02	0.01
STATION 118039	0	0.78	0.36
02/27/78	10	0.79	0.35
1527 GMT	30	0.91	0.31
	45	0.79	0.39
28 18.5N	55	0.48	0.33
115 23.6W	70	0.15	0.09
	85	0.06	0.10
	105	0.07	0.09
	130	0.04	0.06
	149	0.02	0.02
STATION 119033	0	0.31	0.01
03/05/78	10	0.32	0.00
0516 GMT	20	0.29	0.02
	30	0.58	0.04
28 19.0N	50	0.75	0.16
114 53.0W	75	0.08	0.07
STATION 120025	0	0.23	0.00
03/04/78	10	0.22	0.01
2359 GMT	20	0.29	0.03
28 22.2N	30	0.71	0.16
114 15.0W	50	0.23	0.08
STATION 120030	0	0.16	0.02
03/05/78	10	0.19	0.00
0233 GMT	20	0.34	0.02
	30	0.55	0.08
28 13.0N	50	0.26	0.07
114 34.0W	75	0.16	0.09
STATION 120035	0	0.14	0.04
03/05/78	20	0.21	0.03
0803 GMT	30	0.34	0.18
28 03.0N	40	0.68	0.22
114 54.0W	50	0.53	0.08
STATION 120045	1	0.17	0.00
03/05/78	10	0.17	0.00
1505 GMT	29	0.27	0.04
	58	0.34	0.08
27 43.0N	68	0.15	0.06
115 33.0W	82	0.05	0.05
	97	0.02	0.04
	111	0.02	0.04
	136	0.01	0.02
	156	0.01	0.03
	186	0.01	0.01
STATION 120050	0	0.22	0.00
03/05/78	10	0.21	0.00
1858 GMT	30	0.18	0.04
	40	0.27	0.02
27 33.0N	55	0.52	0.07
115 52.5W	70	0.20	0.05
	95	0.06	0.03
	115	0.01	0.04
	134	0.01	0.02
	154	0.01	0.01
STATION 120060	1	0.14	0.00
03/06/78	11	0.11	0.01
0035 GMT	30	0.13	0.02
	59	0.43	0.02
27 13.0N	68	0.40	0.00
116 30.5W	83	0.04	0.01
	97	0.01	0.02
	112	0.01	0.02
	136	0.01	0.02
STATION 120070	0	0.07	0.02
03/06/78	10	0.07	0.02
0714 GMT	29	0.10	0.00
	59	0.20	0.06
26 53.0N	68	0.38	0.19
117 10.0W	83	0.24	0.13
	97	0.14	0.10
	112	0.04	0.04
STATION 120080	0	0.06	0.00
03/06/78	10	0.06	0.01
1248 GMT	45	0.14	0.03
	75	0.25	0.08
26 32.5N	95	0.28	0.11
117 49.0W	110	0.15	0.10
	125	0.07	0.11
	145	0.01	0.06
	165	0.01	0.03
	195	0.01	0.01

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STATION 123042	0	0.26	0.00
03/07/78	10	0.26	0.01
1056 GMT	35	0.54	0.16
	45	0.31	0.08
27 14.0N	60	0.09	0.09
114 59.0W	75	0.04	0.04
	99	0.03	0.04
	139	0.01	0.05
	168	0.01	0.04
	198	0.02	0.06
	237	0.01	0.04
STATION 123050	0	0.17	0.01
03/07/78	10	0.15	0.02
0452 GMT	30	0.21	0.02
	59	0.55	0.03
26 58.0N	69	0.42	0.04
115 31.0W	83	0.18	0.09
	97	0.06	0.06
	112	0.02	0.03
	135	0.01	0.04
	209	0.01	0.01
STATION 123060	0	0.09	0.00
03/06/78	10	0.07	0.01
2312 GMT	29	0.09	0.00
	59	0.15	0.04
26 38.5N	68	0.27	0.05
116 09.0W	83	0.39	0.19
	98	0.25	0.09
	112	0.13	0.08
	136	0.05	0.04
	156	0.01	0.02
STATION 127034	0	0.27	0.05
03/07/78	9	0.31	0.04
2231 GMT	18	1.24	0.25
	28	0.71	0.32
26 55.0N	47	0.18	0.06
114 06.5W	71	0.07	0.07
STATION 127040	0	0.19	0.01
03/08/78	8	0.16	0.00
0246 GMT	27	0.18	0.02
	36	0.22	0.00
26 43.5N	50	0.64	0.18
114 29.0W	64	0.38	0.10
	86	0.10	0.06
	104	0.04	0.04
	122	0.01	0.03
STATION 127050	0	0.16	0.02
03/08/78	9	0.16	0.03
1013 GMT	28	0.16	0.03
	37	0.26	0.01
26 23.0N	51	0.30	0.09
115 08.0W	65	0.64	0.25
	88	0.22	0.07
	107	0.04	0.03
	125	0.01	0.03
	204	0.01	0.02
STATION 127060	0	0.09	0.00
03/08/78	10	0.07	0.03
1546 GMT	30	0.15	0.00
	60	0.10	0.04
26 03.5N	70	0.17	0.06
115 46.5W	85	0.33	0.15
	99	0.14	0.09
	114	0.09	0.06
	139	0.04	0.04
	190	0.02	0.00
STATION 130030	0	1.36	0.47
03/09/78	10	1.64	0.32
1749 GMT	20	1.50	0.39
26 29.0N	31	0.64	0.32
113 29.0W	52	0.22	0.11
STATION 130040	0	0.09	0.02
03/09/78	10	0.12	0.00
1147 GMT	29	0.11	0.02
	58	0.22	0.06
26 09.0N	68	0.38	0.05
114 07.0W	80	0.26	0.04
	96	0.13	0.07
	109	0.07	0.04
	134	0.02	0.02
	209	0.01	0.04
STATION 130050	1	0.10	0.01
03/09/78	11	0.08	0.03
0605 GMT	30	0.11	0.02
	39	0.12	0.03
25 49.0N	54	0.19	0.04
114 45.0W	68	0.44	0.16
	92	0.14	0.09
	111	0.07	0.03
	130	0.03	0.03
STATION 130060	1	0.09	0.01
03/08/78	11	0.10	0.01
2302 GMT	30	0.11	0.03
	59	0.20	0.05
25 26.0N	70	0.32	0.06
115 22.2W	84	0.28	0.20
	98	0.18	0.12
	113	0.12	0.08
	137	0.02	0.04
	157	0.01	0.01
STATION 133025	0	0.16	0.02
03/10/78	10	0.16	0.02
0219 GMT	20	0.19	0.03
	30	0.77	0.13
26 02.9N	50	0.32	0.10
112 47.7W	75	0.12	0.12
STATION 133040	0	0.06	0.00
03/10/78	10	0.06	0.02
1259 GMT	29	0.07	0.01
	57	0.09	0.03
25 34.5N	66	0.11	0.05
113 45.5W	80	0.36	0.11
	94	0.22	0.10
	108	0.13	0.09
	131	0.04	0.05
	150	0.01	0.03
STATION 133050	0	0.11	0.02
03/10/78	10	0.10	0.03
1826 GMT	45	0.16	0.05
	75	0.38	0.09
25 14.5N	95	0.20	0.11
114 24.0W	109	0.14	0.05
	124	0.07	0.07
	144	0.02	0.03
	164	0.02	0.01
	193	0.01	0.01
	242	0.01	0.01
STATION 133060	0	0.07	0.00
03/10/78	9	0.06	0.01
2333 GMT	41	0.07	0.01
	68	0.20	0.04
24 54.5N	86	0.44	0.17
115 02.0W	100	0.26	0.10
	113	0.15	0.08
	132	0.05	0.05
	149	0.02	0.03
	175	0.01	0.02
	219	0.01	0.00
STATION 137023	0	0.11	0.01
03/12/78	10	0.25	0.04
0403 GMT	20	0.30	0.04
25 34.0N	30	0.46	0.06
112 19.0W	50	0.51	0.17
STATION 137030	0	0.12	0.03
03/11/78	9	0.14	0.02
2348 GMT	28	0.19	0.02
	42	0.38	0.06
25 20.0N	56	0.64	0.11
112 46.0W	71	0.38	0.08
	85	0.17	0.07
	104	0.05	0.05
	130	0.05	0.10
	158	0.03	0.06
	193	0.04	0.08
	227	0.03	0.06
STATION 137040	0	0.09	0.01
03/11/78	10	0.09	0.00
1744 GMT	30	0.10	0.00
	59	0.10	0.03
25 00.0N	69	0.11	0.04
113 23.5W	84	0.15	0.06
	98	0.36	0.08
	113	0.20	0.11
	138	0.06	0.04
	158	0.01	0.02
STATION 137050	0	0.06	0.00
03/11/78	9	0.06	0.01
1158 GMT	28	0.06	0.01
	56	0.11	0.01
24 40.0N	138	0.06	0.00
114 02.0W	156	0.05	0.01
	184	0.06	0.02
	211	0.07	0.01
	238	0.04	0.03
	286	0.02	0.03
STATION 137060	1	0.05	0.01
03/11/78	11	0.02	0.03
0518 GMT	30	0.03	0.03
	60	0.04	0.04
24 20.0N	69	0.07	0.03
114 39.5W	84	0.12	0.04
	98	0.29	0.13
	113	0.23	0.13
	137	0.10	0.07
	156	0.02	0.03
	185	0.01	0.00

Secchi Disk Observations

CalCOFI Cruise 7803

Stat #	Mo	Dy	Local Time (+8: PST)	Depth (m)	Weather	Clouds Type/Amt
60.050	3	15	0830	2	1	0 2
63.070	3	14	0910	14	1	8 7
67.050	3	13	0900	12	1	6 7
67.055	3	13	1240	12	2	6 8
67.060	3	11	1507	18	6	9 8
67.065	3	11	1145	23	2	9 8
67.070	3	11	0907	23	1	7 5
70.051	3	9	0950	3	2	7 8
73.080	3	8	0930	21	1	7 7
77.070	3	7	0924	21	1	0 4
77.080	3	7	1448	21	1	7 7
80.051	3	6	1125	2	1	8 3
80.052	3	6	0954	2	1	8 4
80.080	3	5	1355	20	1	8 3
82.047	3	3	1309	8	2	7 8
83.042	3	3	0915	14	5	7 8
83.070	3	4	1100	16	1	8 1
87.032[7]	3	2	1000	4	2	7 8
87.033	3	2	1104	4	2	7 8
87.034	3	2	1225	4	2	7 8
87.035	3	2	1345	14	1	7 6
87.036	3	2	1555	9	1	8 7
87.090	2	27	1137	25	2	6 8
90.037	2	25	0845	18	2	7 8
90.045	2	25	1504	14	2	7 8
90.070	2	26	0917	29	2	6 8
90.080	2	26	1509	20	2	6 8
93.026[7]	2	23	1102	10	4	7 5
93.026[9]	2	23	0945	13	4	7 6
93.050	2	21	1110	22	2	7 8
94.030	2	18	1252	8	0	- 0
97.040	2	19	1025	29	0	0 0
97.045	2	19	1358	24	0	0 0
97.080	2	20	1300	25	1	4 6
100.030	2	18	0910	11	0	- 0
100.035	2	18	1307	34	0	- 0
100.070	2	19	1045	31	0	- 0
103.030	2	21	1240	8	1	6 1

Secchi Disk Observations

CalCOFI Cruise 7803

Stat #	Mo	Dy	Local Time (+8: PST)	Depth (m)	Weather	Clouds Type/Amt
103.035	2	21	0924	23	1	0 1
103.070	2	20	1135	36	1	8 4
107.060	2	22	1225	31	1	7 6
110.032[4]	2	24	1006	13	1	7 7
110.070	2	23	1009	32	1	4 3
113.029	2	24	1527	11	1	4 6
113.060	2	25	0943	28	1	8 6
117.030	2	27	1315	13	6	5 8
117.035	2	27	1010	14	6	5 8
117.060	2	26	1505	21	2	6 8
117.070	2	26	0930	33	2	4 8
120.024	3	4	1440	16	1	6 7
120.025	3	4	1540	20	2	6 8
120.050	3	5	1030	23	1	5 2
120.060	3	5	1603	23	1	5 2
123.060	3	6	1628	26	1	8 6
127.033	3	7	1236	10	1	0 5
127.034	3	7	1400	13	1	0 5
130.028	3	9	1030	19	0	- 0
130.030	3	9	0935	9	1	7 1
130.060	3	8	1425	32	0	- 0
133.050	3	10	0950	39	1	8 5
133.060	3	10	1513	37	1	8 5
137.030	3	11	1515	26	1	3 4
137.035	3	11	1230	23	1	8 7
137.040	3	11	0910	28	1	8 7

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