

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CalCOFI Cruise 7805
13 May - 11 June 1978

CalCOFI Cruise 7807
21 June - 17 July 1978

CalCOFI Cruise 7808
31 July - 27 August 1978

CRUCERO JD-7805
13 de mayo - 11 de junio 1978

CRUCERO AH-7807, JD-7807
21 de junio - 17 de julio 1978

CRUCERO AH-7808, JD-7808
31 de julio - 27 de agosto 1978

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INTRODUCTION

The data in this report were collected during Cruises 7805*, 7807, and 7808 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *David Starr Jordan* of the National Marine Fisheries Service, and the RV *Alejandro de Humboldt* of the Instituto Nacional de Pesca of the Mexican Federal Government. In addition, tritium data from Cruises 7801, 7803, 7804 and 7808 are included in this report. The report preceding this one in the series was SIO Ref. 82-21, which included data for 1977 and 1978.

These data were collected and processed by personnel of the Data Collection and Processing Group, Marine Life Research Group (DCPG**, MLRG) of 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

* 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 7805*, 7807, y 7808 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 BI *David Starr Jordan*, del National Marine Fisheries Service de los Estados Unidos y el BI *Alejandro de Humboldt*, del Departamento de Pesca, México. Además los datos de tritio de los cruceros 7801, 7803, 7804 y 7808 se incluyen en este reporte. El informe precedente a éste en la serie era el SIO Ref. 82-21, que incluye datos para 1977 y 1978.

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 centésimos. La temperatura superficial se determinó empleando termómetros de cubeta no protegidos, registrándola en décimas

* 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).

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 or Plessey (now Grundy Environmental Systems, Inc.) inductive salinometers, an Autolab inductive salinometer, and a Guildline model 8400 Autosol 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. 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).

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

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

Proportioning Pump: Technicon[®] Auto-Analyzer[®] II Proportioning Pump with air bar.

Detectors: Hitachi Model 100-10 spectrophotometers 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. Nitrites tend to vary between poor and very poor after the first week of each cruise, depending on whether or not contamina-

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 o Plessey (ahora Grundy Environmental Systems, Inc.), un salinómetro inducción Autolab, y un salinómetro de inducción Autosol modelo 8400. 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 muestreos se hicieron de nuevo). Todas las muestras 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 descritas por Anderson (1971).

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

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

Bomba abastecedora: Technicon[®] Auto-Analyzer[®] II Bomba Abastecedora con barra de aire.

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

Registadores: 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

tion 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.

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 was 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 $\mu\text{g-at/L}$) and two, a plot of phosphate 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.

Chlorophyll samples were collected from the first 12 levels of 18 bottle casts or all levels of shallow casts.

Chlorophyll samples were analyzed on all cruises by fluorometer using the technique of Owen (1974).

Secchi disk observations were made on most stations occurring between 0900 and 1600 Pacific

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, dependiendo de si la contaminación ocurrió cuando las botellas muestreadoras no fueron limpiadas rutinamente con ácido hidroclicó. 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 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 3.1 $\mu\text{g-at/L}$) y, un diagrama de fosfato contra nitrato es esencialmente lineal 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.

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.

Las muestras de clorofila en todos los cruceros se analizaron por fluorometría utilizando la técnica de Owen (1974).

Standard Time (PST, +8) for all cruises. These data are tabulated following the chlorophyll data.

Tritium samples were collected at selected stations along CalCOFI lines 63, 77, 83 and 93 (or 97) spanning the period from January through August, 1978. All samples were drawn into gallon glass bottles filled with argon and returned to the laboratory for the tritium analysis by the method outlined by Bainbridge (1965). All samples were analyzed by personnel at the Mount Soledad Tritium Laboratory. The results which are tabulated at the end of this report give the tritium concentrations and one sigma counting error.

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

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 the messenger release. 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.

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. Estos datos son tabulados por separado y siguen a los datos de clorofila.

Muestras de tritio fueron colectadas en ciertas estaciones de las líneas CalCOFI 63, 77, 83 y 93 (ó 97) durante el período de Enero 1978 a Agosto del mismo año. Todas las muestras se pusieron en botellas de vidrio de un galon conteniendo argon y se regresaron al laboratorio para el análisis del tritio utilizando la técnica descrita por Bainbridge (1965). Todas las muestras se analizaron en el laboratorio de tritio de Mt. Soledad. Los resultados que se tabulan al final de este informe dan las concentraciones del tritio y la desviación estándar.

Los datos colectados con una unidad de conductividad/temperatura/profundidad/oxígeno (CTDO) *in situ* durante los cruceros que aquí se reportan aparecerán en un reporte 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 505 μ en el lado estribor y una red de 333 μ 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).

Bottom depths, determined acoustically, have been corrected using Matthews' (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.

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

With the addition of chlorophyll-a, phaeophytin, Secchi disk observations and tritium, 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 20 years. The 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:

Cuando se realizó más de un lance por estación se anota la hora del envío del primer mensajero y del último. Múltiples 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 *BI 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).

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, datos del disco Secchi, y tritio aparecen en una sección separada.

Con la adición de clorofila-a, feofitina, observaciones del disco Secchi, y tritio, 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

Z	Depth	Meters
T	Temperature	°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" nitrite-nitrogen	μg-at/L
NO3	"Reactive" nitrate-nitrogen	μg-at/L
DT	δ_T = Thermosteric anomaly	cl/ton
SIGT	$\sigma_t = (\rho_{s,t,0} - 1) 10^3$ where $\rho_{s,t,0}$ is the density the parcel would have if moved isothermally to the sea surface.	g/L
DD	Geopotential anomaly, referred to the sea surface.	dyn. meters
CHL.A	Chlorophyll-a	mg/m ³
PHAE0	Phaeophytin	mg/m ³
TU ± σTU	Tritium (± sigma counting error)	TU

Z	Profundidad	Metros
T	Temperatura	°C
S	Salinidad	‰
O2	Oxeno	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	Nitrato-nitrógeno "reactivo"	μg-at/L
DT	δ_T = Anomalía termostérica	cl/ton
SIGT	$\sigma_t = (\rho_{s,t,0} - 1) 10^3$ 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
PHAE0	Feofitina	mg/m ³
TU ± σTU	Tritium (± error de conteo del sigma)	TU

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	Depth	Meters
T	Temperature	°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" nitrite-nitrogen	μg-at/L
NO3	"Reactive" nitrate-nitrogen	μg-at/L
DT	δ_T = Thermosteric anomaly	cl/ton
SIGT	$\sigma_t = (\rho_{s,t,0} - 1) 10^3$ where $\rho_{s,t,0}$ is the density the parcel would have if moved isothermally to the sea surface.	g/L
DD	Geopotential anomaly, referred to the sea surface.	dyn. meters
CHL.A	Chlorophyll-a	mg/m ³
PHAE0	Phaeophytin	mg/m ³
TU ± σTU	Tritium (± sigma counting error)	TU

Z	Profundidad	Metros
T	Temperatura	°C
S	Salinidad	‰
O2	Oxeno	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	Nitrato-nitrógeno "reactivo"	μg-at/L
DT	δ_T = Anomalía termostérica	cl/ton
SIGT	$\sigma_t = (\rho_{s,t,0} - 1) 10^3$ 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
PHAE0	Feofitina	mg/m ³
TU ± σTU	Tritium (± error de conteo del sigma)	TU

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.

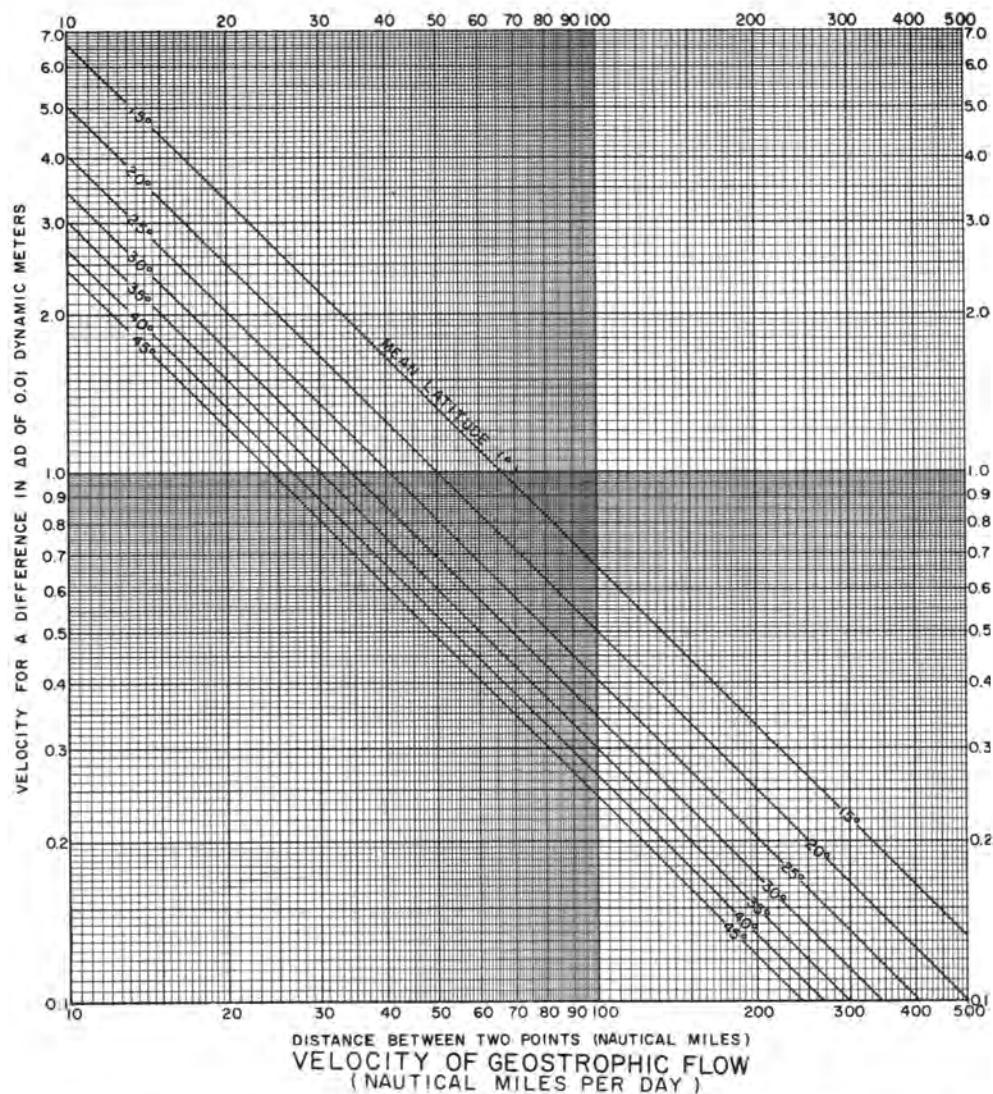
NOTAS AL CALCE

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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cm/sec	0	1	2	3	4	5	6	7	8	9
0	<i>KNOTS</i> 0.02 <i>NM/DAY</i>	0.04 0.47	0.06 0.93	0.08 1.40	0.10 1.86	0.12 2.33	0.14 2.80	0.16 3.26	0.18 3.73	0.20 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 7808

1. CalCOFI Cruise 7808, 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

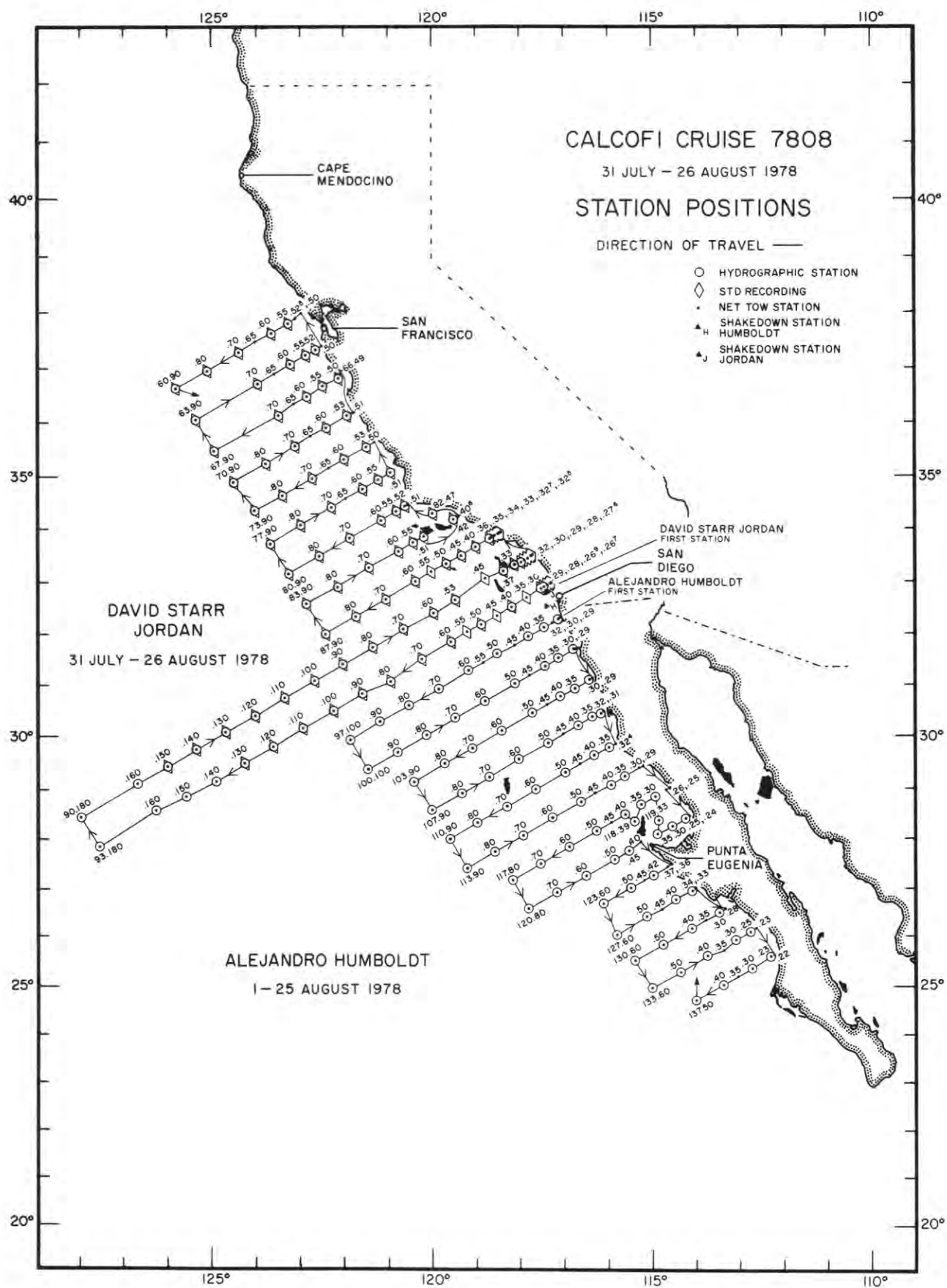


FIGURE 1

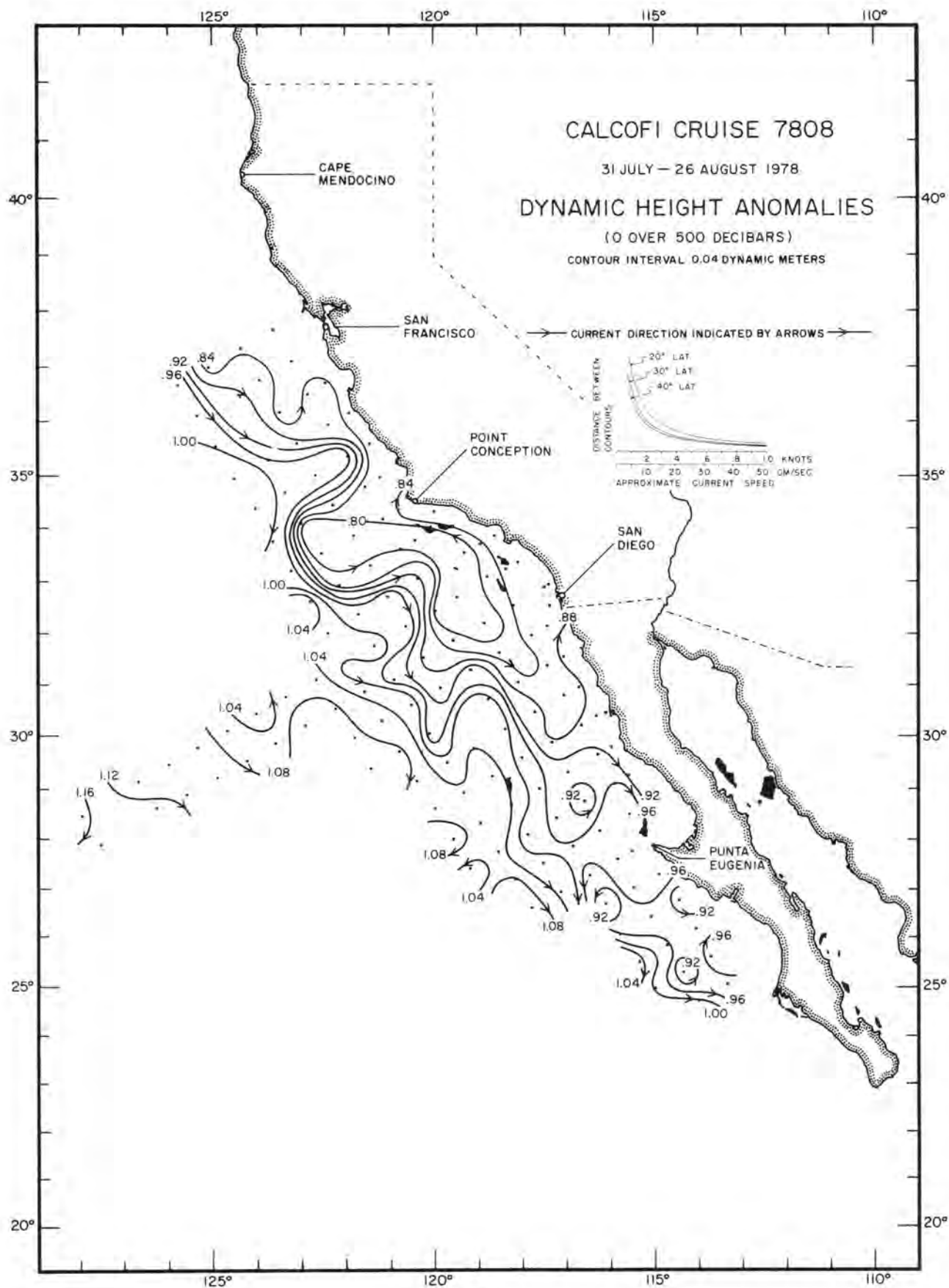


FIGURE 2

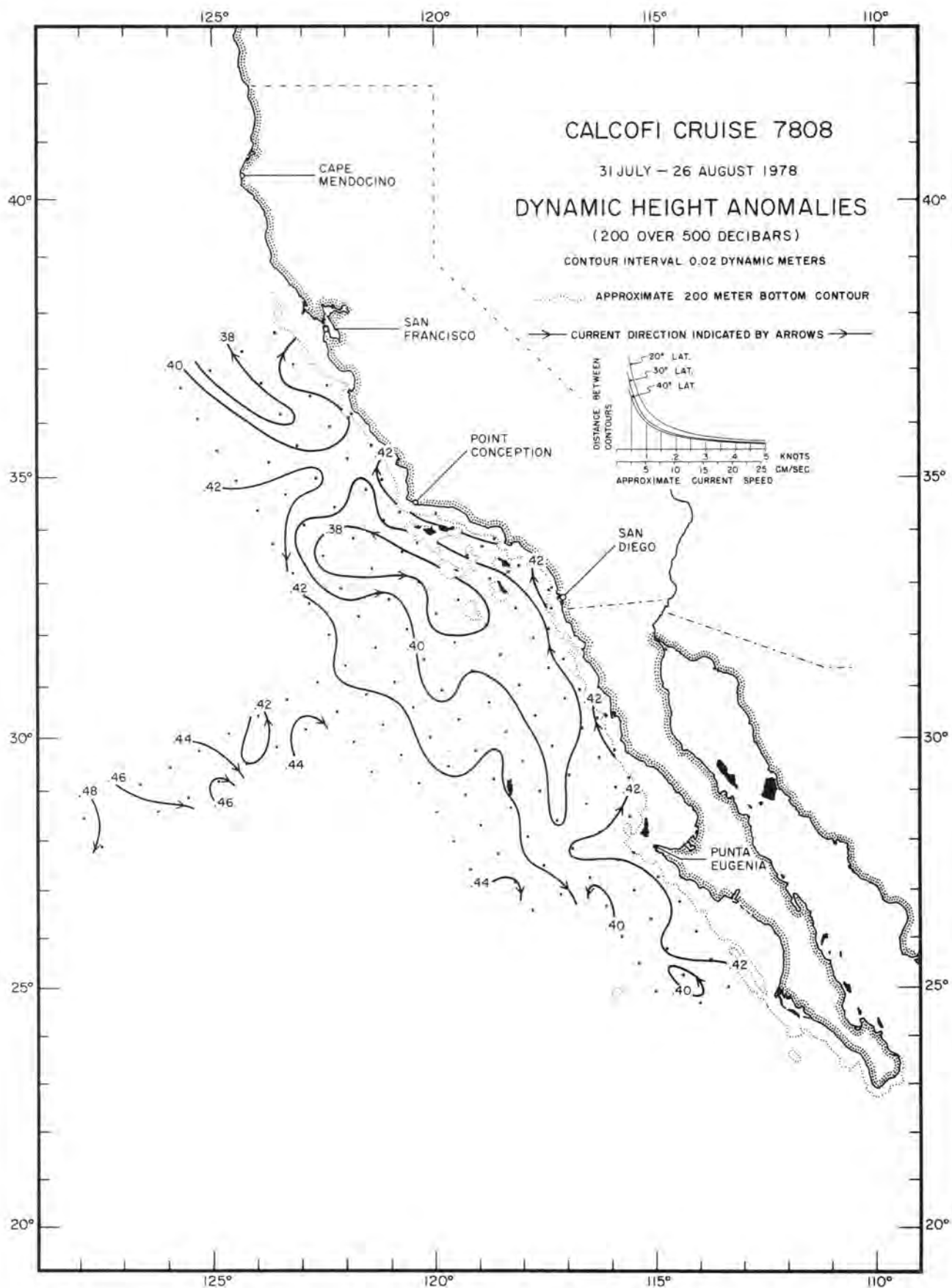


FIGURE 3

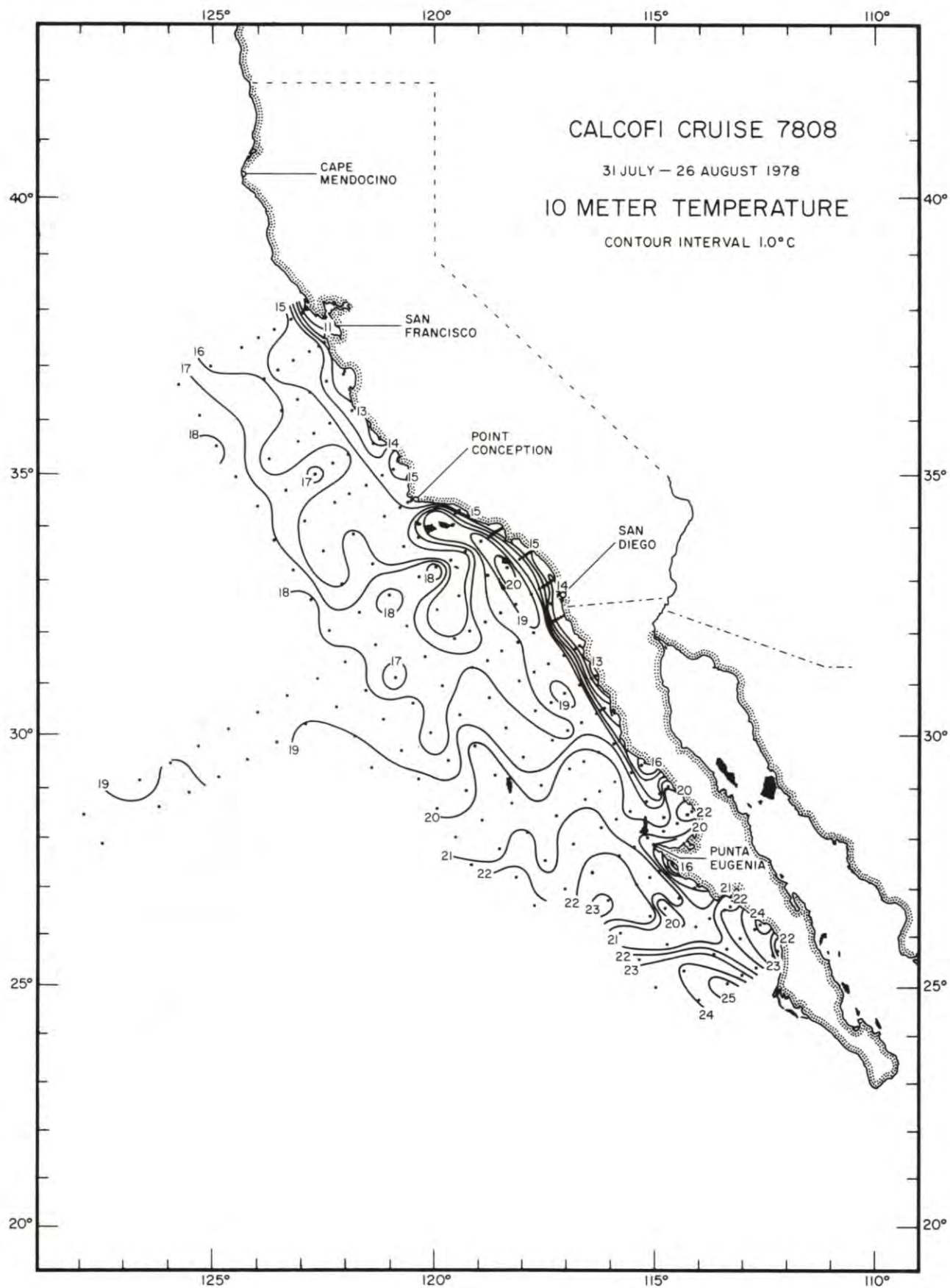


FIGURE 4

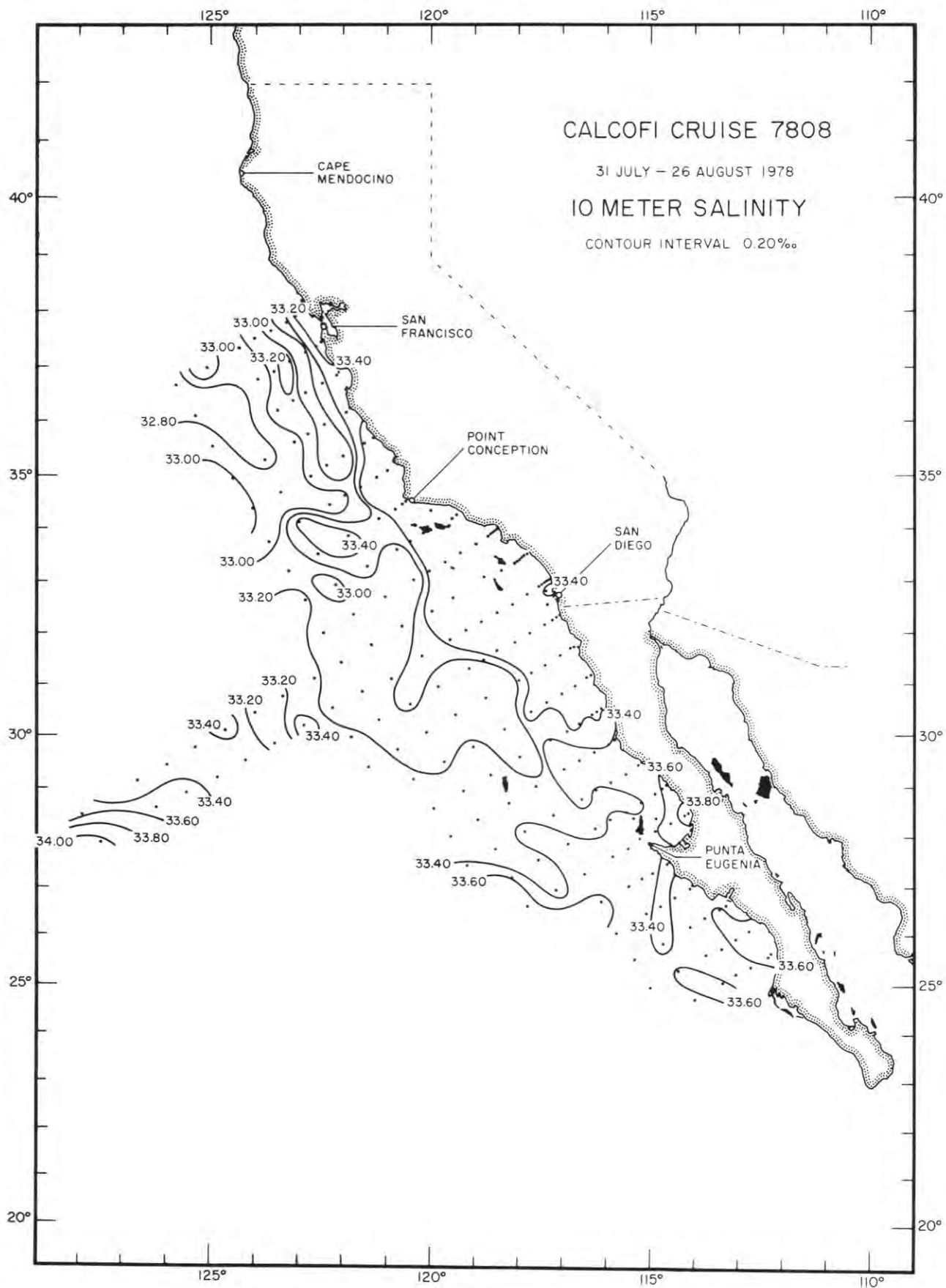


FIGURE 5

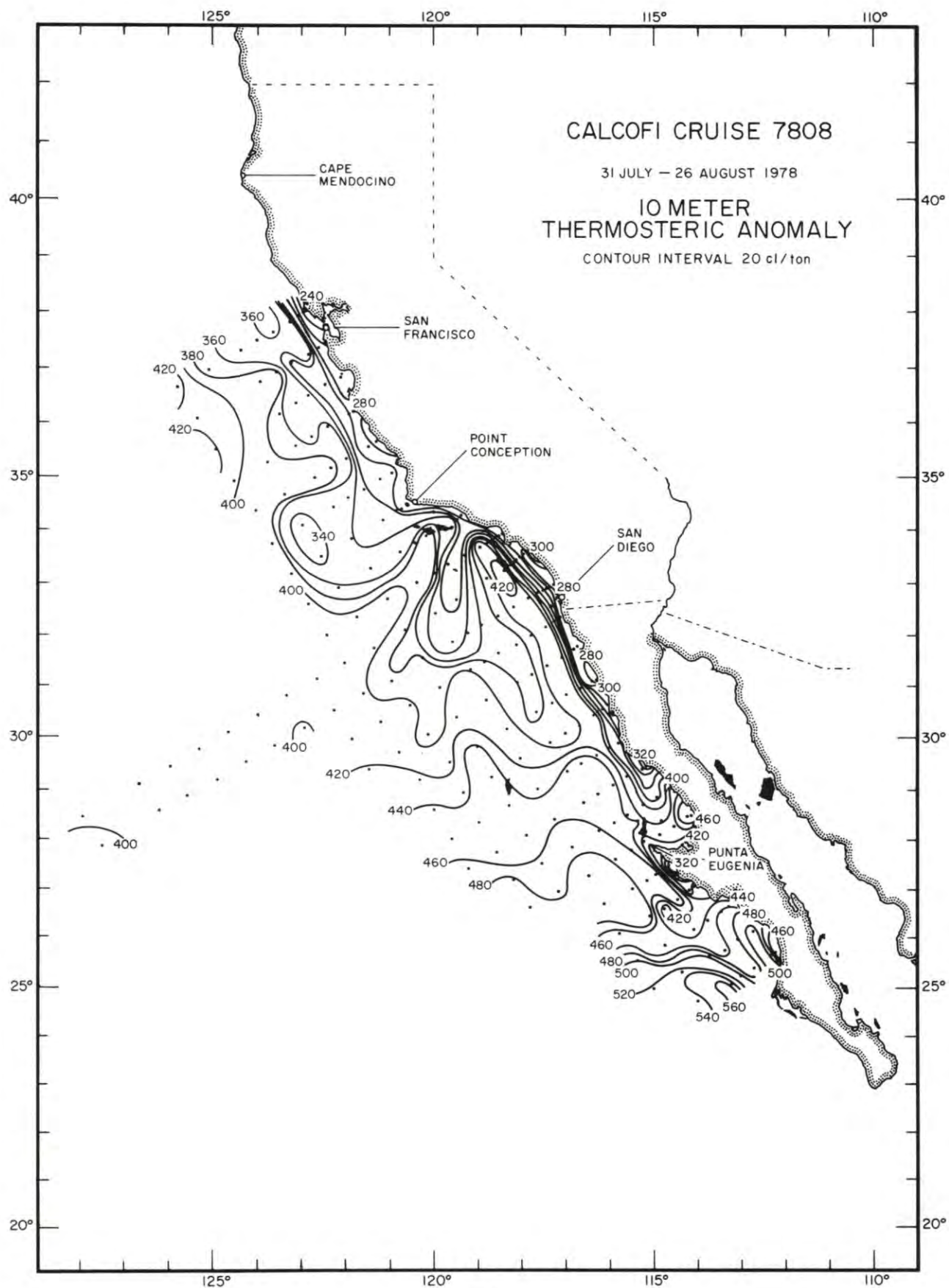


FIGURE 6

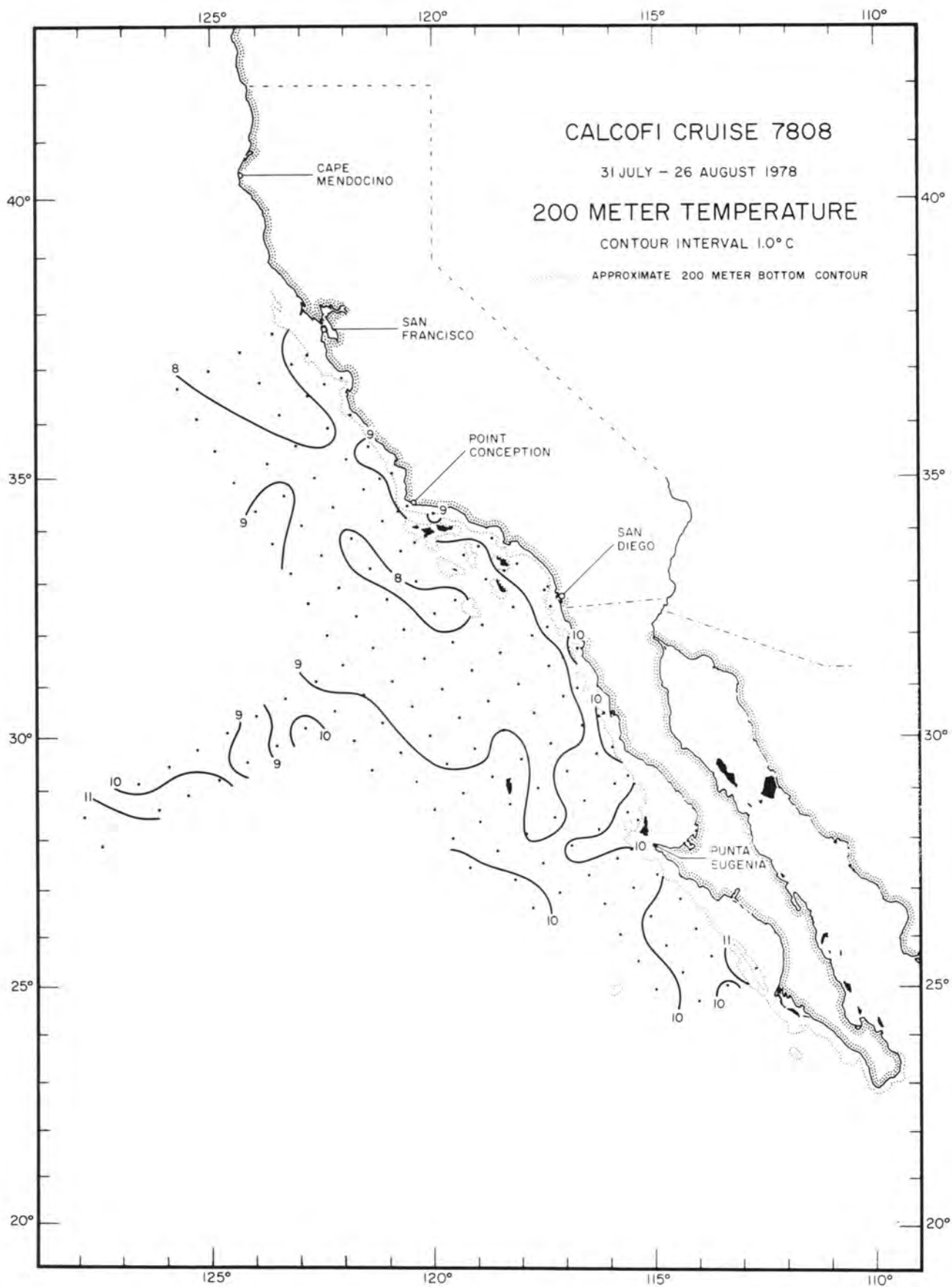


FIGURE 7

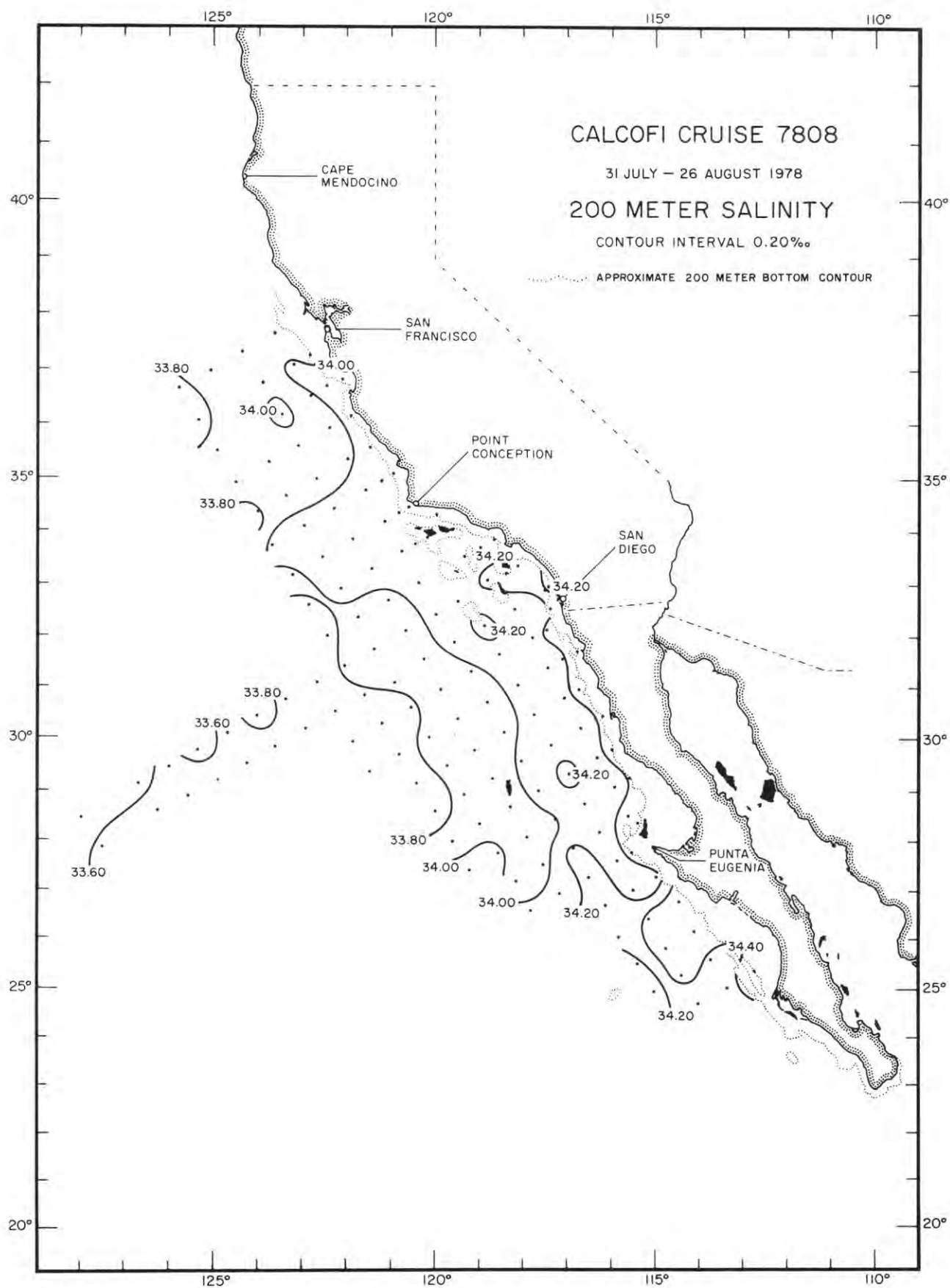


FIGURE 8

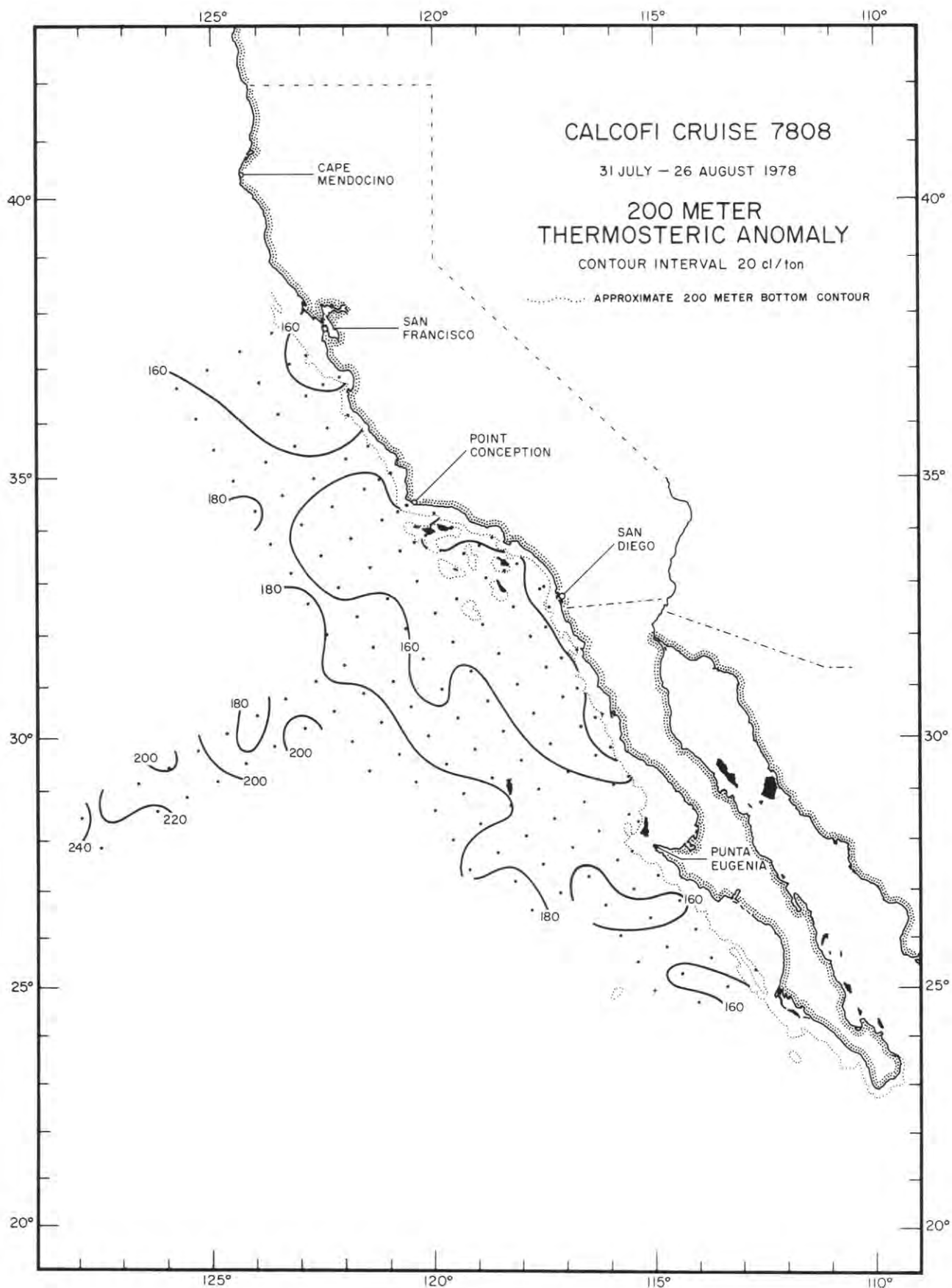


FIGURE 9

PERSONNEL

Cruise 7808

SHIP'S CAPTAINS

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

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

RV David Starr Jordan:

Smith, Paul E., Dr. (scientist in charge)	Research Fishery Biologist NMFS
Alvarez, Manuel M.	Oceanologist INP
Baumert, Judith	Biologist NMFS-Seattle
Bos, David L.	Staff Research Associate GOG*
Bryan, Walter R. (senior DCPG observer)	Marine Technician DCPG*
Costello, Mark A.	Staff Volunteer SIO
Fastenau, Henry C.	Marine Technician DCPG
Hogan, Hilary M.	Physical Science Aid NMFS
Lehmann, Virginia	Staff Research Associate DCPG
Majors, Anthony P.	Fishery Biologist NMFS
MacLeod, John S.	Marine Technician DCPG
Methot, Richard D., Jr.	Staff Research Associate SIO
Sanchez, Carol A. (technician in charge)	Biological Technician NMFS
Wolf, Robert S.	Fishery Biologist NMFS
Young, Cindy	Fishery Biologist NMFS-Seattle

RV Alejandro de Humboldt:

Anderson, George C. (in charge)	Staff Research Associate DCPG
Aremas, Pablo Roberto F.	Biologist INP
Conway, Carol	Principle Engineering Aid DCPG
Cota, Alfredo	Oceanologist INP
De la Garza, Claudia M. M.	Biologist INP
Granados, Maria Luisa G.	Oceanologist INP
Hendrix, Sharon	Marine Technician NMFS
Johnson, Treve L.	Marine Technician DCPG
Mead, Richard V.	Marine Technician DCPG
Patla, Susan M.	Marine Technician DCPG
Sweet, Paul R.	Marine Technician DCPG

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

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

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

60055

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
37 47.0N		123 15.0W		08/25/78		1645 GMT			127M	200	3KT	4	260 4 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	15.76	32.964	6.06	0.31	2.	0.01	0.0	367.2	0	15.76	32.964	6.06	24.259	367.2	0.000
10	14.96	33.037	6.29	0.35	2.	0.00	0.0	345.2	10	14.96	33.037	6.29	24.491	345.2	0.036
24	12.33	33.100	6.24	0.55	5.	0.15	3.8	289.6	20	13.04	33.066	6.25	24.911	305.2	0.068
33	12.04	33.264	6.18	0.68	5.	0.25	5.5	272.3	30	12.13	33.221	6.20	25.205	277.1	0.097
43	10.52	33.136	5.32	0.95	11.	0.76	9.4	255.6	50	9.94	33.193	5.04	25.574	242.1	0.149
56	9.65	33.273	4.92	1.24	16.	0.09	14.8	231.5	75	9.25	33.433	4.51	25.874	213.6	0.207
71	9.34	33.382	4.66	1.41	20.	0.15	17.3	218.7	100	8.83	33.690	3.74	26.141	188.1	0.257
94	8.90	33.655	3.83	1.69	26.	0.20	22.2	191.8							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

60060

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
37 37.0N		123 37.0W		08/25/78		2054 GMT			3259M	210	6KT	4	260 5 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	16.78	32.972	6.01	0.34	2.		0.0	388.8	0	16.78	32.972	6.01	24.033	388.8	0.000
11	15.62	32.996	6.20	0.39	2.		0.0	361.9	10	15.73	32.993	6.19	24.288	364.5	0.038
30	13.88	33.120	6.30	0.43	2.		1.4	317.4	20	15.17	33.073	6.25	24.473	346.8	0.073
39	10.77	33.136	5.64	1.06	9.		9.6	259.7	30	13.88	33.120	6.30	24.782	317.4	0.107
49	10.90	33.289	5.42	1.21	9.		10.9	250.6	50	10.85	33.305	5.38	25.504	248.7	0.163
62	10.11	33.454	4.85	1.41	17.		15.6	225.4	75	9.57	33.492	4.46	25.868	214.2	0.222
76	9.54	33.493	4.43	1.58	19.		18.4	213.5	100	8.84	33.658	3.79	26.115	190.7	0.273
95	8.92	33.626	3.88	1.74	25.		21.5	194.2	125	8.61	33.797	3.35	26.259	176.9	0.319
118	8.67	33.761	3.51	1.93	29.		23.8	180.5	150	8.25	33.880	3.13	26.379	165.6	0.362
134	8.52	33.837	3.17	2.04	32.		25.2	172.7	200	7.49	33.967	3.18	26.559	148.5	0.442
164	7.98	33.903	3.10	2.20	37.		27.4	160.0	250	7.01	34.022	2.35	26.669	138.1	0.516
191	7.55	33.950	3.24	2.13	40.		27.1	150.6	300	6.56	34.030	1.90	26.736	131.7	0.585
218	7.38	33.995	2.96	2.25	43.		28.9	144.9	400	6.30	34.209	0.70	26.911	115.1	0.714
255	6.95	34.024	2.25	2.50	51.		31.5	137.1	500	5.58	34.227	0.53	27.016	105.1	0.830
310	6.50	34.034	1.84	2.76	58.		35.2	130.6							
380	6.35	34.184	0.83	3.11	70.		38.0	117.5							
451	6.07	34.238	0.56	3.26	78.		39.7	110.1							
527	5.21	34.206	0.51	3.35	89.		41.9	102.5							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

60070

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
37 17.0N		124 21.0W		08/26/78		0443 GMT			3919M	330	8KT				
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	15.78	32.952	6.00	0.57	2.		1.1	368.5	0	15.78	32.952	6.00	24.246	368.5	0.000
9	15.26	32.942	6.19	0.56	2.		1.4	358.3	10	15.20	32.940	6.19	24.364	357.3	0.036
28	13.48	33.021	6.19	0.72	2.		2.9	316.9	20	14.40	32.955	6.19	24.547	339.8	0.071
38	11.81	33.238	6.02	1.12	4.		8.3	270.1	30	13.16	33.073	6.17	24.892	307.0	0.104
47	10.48	33.133	5.60	1.28	10.		11.6	255.2	50	10.46	33.176	5.63	25.473	251.7	0.160
61	10.38	33.301	5.73	1.44	12.		13.7	241.1	75	9.27	33.256	4.80	25.733	226.9	0.220
75	9.27	33.256	4.80	1.63	19.		17.4	226.9	100	8.79	33.481	4.22	25.985	203.0	0.274
94	8.87	33.429	4.33	1.79	23.		19.9	208.1	125	8.51	33.689	3.73	26.190	183.5	0.323
117	8.60	33.622	3.92	1.97	28.		23.9	189.8	150	8.13	33.842	3.33	26.368	166.7	0.367
136	8.37	33.770	3.49	2.15	33.		26.3	175.5	200	7.61	33.958	3.27	26.535	150.8	0.448
162	7.93	33.885	3.28	2.15	36.		26.9	160.7	250	6.88	33.976	2.96	26.651	139.7	0.522
191	7.72	33.943	3.33	2.14	38.		27.2	153.4	300	6.19	33.967	2.42	26.735	131.8	0.592
218	7.36	33.980	3.11	2.26	42.		28.8	145.8	400	5.61	34.077	1.17	26.894	116.7	0.721
255	6.80	33.973	2.94	2.36	48.		30.6	139.0	500	5.27	34.175	0.63	27.013	105.4	0.837
310	6.08	33.969	2.28	2.67	59.		35.0	130.3							
379	5.64	34.044	1.37	3.04	73.		39.5	119.5							
448	5.55	34.145	0.82	3.25	81.		41.2	110.9							
523	5.08	34.176	0.60	3.37	91.		42.8	103.3							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

60080

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
36 56.6N		125 04.0W		08/26/78		1028 GMT			4207M	240	9KT				
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	16.90	33.014	5.92	0.34	2.	0.07	1.3	388.4	0	16.90	33.014	5.92	24.037	388.4	0.000
11	15.85	33.071	6.11	0.41	1.	0.08	1.6	361.3	10	15.97	33.066	6.09	24.289	364.3	0.038
29	13.09	33.219	6.35	0.61	1.	0.28	4.2	294.9	20	14.52	33.142	6.23	24.664	328.6	0.072
38	11.81	33.276	6.08	0.84	4.	0.36	7.7	267.3	30	12.94	33.228	6.33	25.055	291.5	0.103
48	10.72	33.247	5.72	0.97	10.	0.33	10.7	250.7	50	10.63	33.266	5.67	25.514	247.8	0.158
62	10.37	33.413	5.45	1.19	14.	0.42	13.8	232.7	75	10.05	33.508	5.15	25.801	220.5	0.216
76	10.01	33.511	5.12	1.33	18.	0.40	16.7	219.6	100	8.62	33.489	4.09	26.017	200.0	0.269
94	8.67	33.443	4.29	1.48	24.	0.11	20.7	204.1	125	8.44	33.669	3.68	26.185	184.0	0.318
117	8.48	33.604	3.73	1.67	30.	0.08	24.2	189.4	150	8.23	33.833	3.38	26.345	168.8	0.363
136	8.38	33.753	3.63	1.77	33.	0.03	26.1	176.9	200	7.62	33.986	2.86	26.556	148.8	0.443
164	8.06	33.894	3.11	1.87	37.	0.02	27.6	161.8	250	6.97	34.004	2.46	26.661	138.8	0.517
191	7.82	33.973	2.95	1.89	41.	0.02	28.8	151.2	300	6.04	33.980	2.18	26.764	129.1	0.586
219	7.39	34.000	2.67	2.01	45.	0.02	30.6	144.7	400	5.87	34.142	0.86	26.914	114.8	0.712
256	6.88	34.005	2.42	2.17	51.	0.01	32.5	137.6	500	5.42	34.223	0.51	27.033	103.5	0.827
312	5.85	33.977	2.09	2.33	64.	0.01	36.2	127.0							
382	5.96	34.124	0.99	2.68	74.	0.00	39.2	117.3							
450	5.56	34.179	0.67	2.82	83.	0.01	41.1	108.5							
525	5.39	34.246	0.46	3.02	91.	0.00	42.1	101.5							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

60090

	LATITUDE 36 37.0N		LONGITUDE 125 47.0W		MO/DAY/YR 08/26/78		MESSENGER 1618 GMT	TIME	BOTTOM 4493M	WIND 280	SPEED 4KT	WEATHER 1	DOMINANT WAVES 300 6 8			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	18.29	32.786	5.63	0.28	3.	0.00	0.1	436.7	0	18.29	32.786	5.63	23.531	436.7	0.000	
10	17.96	32.789	5.68	0.26	3.	0.00	0.1	428.8	10	17.96	32.789	5.68	23.614	428.8	0.043	
29	16.88	32.732	5.81	0.25	3.	0.00	0.1	408.5	20	17.35	32.755	5.76	23.734	417.3	0.086	
37	16.57	32.742	5.85		3.	0.00	0.1	400.9	30	16.86	32.733	5.81	23.832	408.0	0.127	
46	15.34	32.622	6.06	0.28	3.	0.00	0.1	383.4	50	14.95	32.724	6.15	24.252	367.9	0.205	
62	13.98	33.098	6.32	0.19	4.	0.00	0.1	321.0	75	12.89	33.132	6.20	24.991	297.6	0.288	
75	12.89	33.132	6.20	0.20	4.	0.00	0.0	297.6	100	11.58	33.104	5.88	25.218	275.9	0.361	
94	12.08	33.101	6.04	0.25	4.	0.04	0.0	285.0	125	9.52	33.149	5.36	25.609	238.7	0.425	
117	10.07	33.108	5.43	0.66	11.	0.08	7.9	250.4	150	8.82	33.394	4.77	25.911	210.0	0.482	
135	9.00	33.223	5.26	0.91	15.	0.03	12.4	225.3	200	8.29	33.771	3.53	26.288	174.2	0.580	
163	8.67	33.508	4.29	1.36	25.	0.08	20.0	199.3	250	7.39	33.930	2.80	26.544	149.9	0.663	
191	8.41	33.723	3.72	1.68	30.	0.03	23.5	179.5	300	6.93	34.002	2.47	26.664	138.6	0.737	
219	7.98	33.848	3.18	1.80	36.	0.08	26.2	164.1	400	5.73	34.016	1.83	26.832	122.6	0.872	
256	7.28	33.941	2.75	2.03	44.	0.06	29.6	147.6	500	5.10	34.095	0.94	26.968	109.7	0.994	
311	6.87	34.009	2.42	2.14	51.	0.09	30.8	137.2								
380	5.92	34.009	2.03	2.51	64.	0.06	35.6	125.4								
450	5.36	34.045	1.30	2.75	76.	0.09	38.7	116.2								
526	5.02	34.128	0.80	2.94	88.	0.02	41.4	106.2								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

63052

	LATITUDE 37 19.0N		LONGITUDE 122 36.0W		MO/DAY/YR 08/25/78		MESSENGER 0708 GMT	TIME	BOTTOM 86M	WIND 190	SPEED 2KT	WEATHER	DOMINANT WAVES			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
1	14.77	33.502	6.98	0.34	0.	0.01	0.1	307.3	0	14.77	33.502	6.98	24.889	307.3	0.000	
11	14.30	33.490	7.09	0.29	1.	0.01	0.2	298.6	10	14.35	33.492	7.08	24.971	299.5	0.030	
20	12.86	33.379	6.66	0.37	2.	0.09	1.1	278.9	20	12.86	33.379	6.66	25.187	278.9	0.059	
30	11.05	33.191	5.76	0.77	8.	0.20	7.0	260.4	30	11.05	33.191	5.76	25.381	260.4	0.086	
48	10.02	33.477	4.35	1.53	21.	0.35	16.5	222.3	50	9.96	33.491	4.27	25.802	220.4	0.135	
73	9.61	33.595	3.76	1.77	29.	0.27	20.5	207.1	75	9.58	33.610	3.72	25.959	205.5	0.188	

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

63055

	LATITUDE 37 13.0N		LONGITUDE 122 50.0W		MO/DAY/YR 08/25/78		MESSENGER 0408 GMT	TIME	BOTTOM 288M	WIND 200	SPEED 4KT	WEATHER 1	DOMINANT WAVES 270 4 5			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	14.98	32.996	6.22	0.52	2.	0.02	0.0	348.6	0	14.98	32.996	6.22	24.455	348.6	0.000	
10	14.84	32.995	6.28	0.53	2.	0.01	0.0	345.8	10	14.84	32.995	6.28	24.484	345.8	0.035	
29	11.61	33.064	5.80	0.89	8.	0.24	4.8	279.4	20	13.23	33.005	6.09	24.825	313.3	0.068	
43	10.81	33.193	5.35	1.15	11.	0.26	9.6	256.2	30	11.53	33.074	5.77	25.204	277.3	0.097	
53	10.29	33.255	5.07	1.43	15.	0.22	13.4	243.1	50	10.43	33.240	5.14	25.528	246.4	0.150	
66	10.07	33.276	4.96	1.39	16.	0.20	13.2	238.0	75	9.66	33.386	4.63	25.770	223.4	0.209	
80	9.44	33.452	4.44	1.67	20.	0.12	18.0	215.0	100	9.26	33.539	4.17	25.954	205.9	0.263	
98	9.28	33.526	4.22	1.77	23.	0.07	19.3	207.1	125	9.02	33.698	3.60	26.117	190.4	0.313	
121	9.08	33.677	3.67	2.02	27.	0.09	22.7	192.8	150	8.84	33.839	3.09	26.257	177.2	0.360	
140	8.83	33.774	3.34	2.12	30.	0.14	24.3	181.9	200	8.53	33.980	2.78	26.415	162.2	0.446	
173	8.85	33.957	2.66	2.35	34.	0.02	26.9	168.6	250	7.66	34.034	2.56	26.587	145.8	0.525	
201	8.51	33.981	2.79	2.30	36.	0.09	26.7	161.8								
240	7.89	34.027	2.61	2.43	41.	0.06	29.2	149.5								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

63060

	LATITUDE 37 03.1N		LONGITUDE 123 11.8W		MO/DAY/YR 08/24/78		MESSENGER 2255 GMT	TIME	BOTTOM 2410M	WIND 200	SPEED 4KT	WEATHER 1	DOMINANT WAVES 280 4 4			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
1	15.24	33.248	6.63	0.36	1.		0.0	335.5	0	15.24	33.248	6.63	24.592	335.5	0.000	
10	14.23	33.234	6.80	0.41	1.		0.5	316.0	10	14.23	33.234	6.80	24.797	316.0	0.033	
29	11.68	33.202	5.99	0.80	6.		5.9	270.5	20	12.90	33.208	6.54	25.047	292.2	0.063	
38	10.59	33.231	5.21	1.19	12.		11.8	246.7	30	11.54	33.205	5.90	25.302	268.0	0.091	
47	9.99	33.273	4.97	1.35	15.		14.2	236.9	50	9.88	33.333	4.83	25.692	230.8	0.141	
61	9.65	33.567	4.29	1.70	20.		18.9	209.8	75	9.42	33.679	3.85	26.039	197.9	0.195	
75	9.42	33.679	3.85	1.79	23.		20.8	197.9	100	9.36	33.818	3.24	26.158	186.6	0.244	
93	9.34	33.775	3.44	1.90	26.		22.7	189.6	125	9.32	33.932	2.69	26.252	177.7	0.290	
116	9.38	33.905	2.82	2.10	29.		25.1	180.6	150	9.14	33.985	2.47	26.322	171.0	0.334	
135	9.24	33.953	2.59	2.18	31.		26.0	174.8	200	8.80	34.055	2.13	26.432	160.5	0.418	
163	9.06	34.007	2.39	2.22	34.		26.4	168.1	250	8.39	34.097	1.94	26.528	151.5	0.498	
191	8.85	34.038	2.18	2.30	36.		27.9	162.6	300	7.52	34.099	1.79	26.657	139.2	0.573	
218	8.68	34.086	2.04	2.32	38.		28.5	156.5	400	6.56	34.168	1.01	26.844	121.5	0.709	
256	8.32	34.098	1.93	2.39	41.		29.4	150.4	500	6.05	34.225	0.66	26.956	110.8	0.831	
312	7.30	34.102	1.73	2.63	51.		32.9	135.9								
382	6.75	34.168	1.08	2.89	62.		36.3	123.8								
452	6.11	34.169	0.87	2.99	72.		38.8	115.7								
529	6.01	34.255	0.50	3.16	78.		39.4	108.1								

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63070

LATITUDE 36 42.5N			LONGITUDE 123 55.0W			MO/DAY/YR 08/24/78		MESSENGER TIME 1554 GMT		BOTTOM 3731M	WIND 190	SPEED 12KT	WEATHER 1	DOMINANT WAVES 200 2 3		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD
1	16.55	32.813	5.87	0.41	3.		0.0	395.3		0	16.55	32.813	5.87	23.965	395.3	0.000
12	16.01	32.814	6.14	0.41	3.		0.0	383.5		10	16.11	32.814	6.10	24.066	385.7	0.039
29	12.44	32.828	6.32	0.61	5.		1.7	311.6		20	14.30	32.821	6.22	24.465	347.6	0.076
39	12.09	32.870	6.20	0.61	5.		2.4	302.2		30	12.40	32.843	6.31	24.861	309.9	0.109
48	11.84	32.918	6.09	0.73	6.		4.2	294.2		50	11.70	32.919	6.04	25.053	291.6	0.169
61	10.96	32.950	5.78	0.85	8.		5.9	276.7		75	11.05	33.183	5.88	25.374	261.1	0.238
76	11.06	33.199	5.89	1.12	8.		10.3	260.0		100	9.43	33.278	5.01	25.724	227.8	0.300
94	9.69	33.238	5.24	1.07	14.		10.3	234.7		125	8.84	33.491	4.41	25.985	203.0	0.354
117	8.97	33.418	4.50	1.53	21.		17.4	210.4		150	8.42	33.701	3.92	26.213	181.3	0.403
135	8.70	33.581	4.32	1.70	26.		20.5	194.3		200	7.50	33.931	3.13	26.528	151.4	0.488
162	8.18	33.781	3.59	1.98	33.		24.9	171.9		250	7.01	34.005	2.55	26.656	139.3	0.562
189	7.63	33.888	3.28	2.05	38.		26.5	156.3		300	6.46	34.028	1.92	26.748	130.6	0.632
217	7.35	33.982	2.90	2.17	44.		29.5	145.5		400	5.53	34.063	1.19	26.893	116.8	0.760
253	6.98	34.006	2.52	2.25	49.		30.7	138.8		500	5.13	34.186	0.60	27.037	103.2	0.875
308	6.37	34.031	1.82	2.60	60.		36.0	129.2								
376	5.79	34.055	1.32	2.78	70.		38.8	120.4								
446	5.12	34.093	0.96	2.97	83.		41.9	110.0								
519	5.14	34.215	0.45	3.09	92.		42.2	101.0								

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63090

LATITUDE 36 02.5N			LONGITUDE 125 20.2W			MO/DAY/YR 08/26/78		MESSENGER TIME 2330 GMT		BOTTOM 4499M	WIND 270	SPEED 3KT	WEATHER 1	DOMINANT WAVES 300 8 8		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD
1	18.82	32.776	5.74	0.45	4.		0.1	450.0		0	18.82	32.776	5.74	23.392	450.0	0.000
11	17.09	32.754	5.84	0.45	4.		0.1	411.6		10	17.22	32.754	5.83	23.764	414.4	0.043
29	16.61	32.822	5.93	0.44	3.		0.1	396.0		20	16.90	32.785	5.88	23.861	405.2	0.084
38	14.77	32.868	6.24	0.45	3.		0.1	353.6		30	16.41	32.825	5.97	24.006	391.4	0.124
48	13.90	32.986	6.30	0.46	3.		0.1	327.6		50	13.75	32.983	6.29	24.703	324.9	0.196
62	13.04	32.973	6.14	0.48	4.		0.8	312.1		75	12.54	33.075	5.90	25.015	295.3	0.274
75	12.54	33.075	5.90	0.64	5.		1.3	295.3		100	10.97	33.120	5.53	25.339	264.4	0.344
94	11.36	33.110	5.59	0.76	6.		4.8	271.7		125	9.71	33.270	4.90	25.673	232.7	0.407
117	10.01	33.189	5.23	1.05	12.		10.3	243.4		150	9.08	33.504	4.14	25.957	205.7	0.463
135	9.41	33.379	4.47	1.51	19.		16.6	220.0		200	8.85	33.895	2.81	26.299	173.2	0.559
163	8.91	33.604	3.90	1.76	25.		20.3	195.7		250	7.95	33.966	3.32	26.491	154.9	0.643
191	8.89	33.848	3.00	2.00	30.		24.4	177.3		300	7.22	34.015	2.74	26.634	141.4	0.719
218	8.67	33.952	2.65	2.12	34.		26.2	166.3		400	6.33	34.095	1.33	26.819	123.9	0.857
255	7.83	33.968	3.43	2.00	36.		25.5	153.1		500	5.12	34.090	0.99	26.963	110.2	0.980
309	7.16	34.026	2.44	2.36	48.		30.3	139.7								
379	6.61	34.103	1.38	2.76	62.		35.2	126.9								
449	5.64	34.072	1.20	2.95	75.		37.9	117.4								
525	4.92	34.109	0.86	3.15	90.		40.6	106.6								

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67050

LATITUDE 36 48.0N			LONGITUDE 122 05.0W			MO/DAY/YR 08/23/78		MESSENGER TIME 1746 GMT		BOTTOM 390M	WIND 010	SPEED 3KT	WEATHER 1	DOMINANT WAVES 320 3 5		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD
1	12.71	33.252	6.37	0.66	4.		2.8	285.4		0	12.71	33.252	6.37	25.118	285.4	0.000
10	12.34	33.275	6.44	0.68	4.		3.2	276.9		10	12.34	33.275	6.44	25.208	276.9	0.028
29	12.11	33.252	6.27	0.70	4.		4.0	274.4		20	12.26	33.271	6.35	25.220	275.7	0.056
42	11.16	33.227	5.89	0.88	7.		7.0	259.6		30	12.05	33.250	6.26	25.242	273.6	0.083
56	9.92	33.240	4.98	1.28	14.		13.9	238.2		50	10.46	33.236	5.35	25.520	247.2	0.136
70	10.01	33.582	4.09	1.58	19.		18.4	214.4		75	10.00	33.631	3.94	25.905	210.6	0.193
84	9.96	33.673	3.77	1.72	21.		20.2	206.8		100	9.92	33.749	3.50	26.011	200.5	0.245
102	9.91	33.758	3.46	1.79	23.		21.6	199.8		125	9.72	33.885	2.79	26.150	187.3	0.294
125	9.72	33.885	2.79	1.98	27.		24.0	187.3		150	9.48	33.960	2.57	26.248	178.0	0.340
153	9.45	33.966	2.56	2.04	29.		24.9	177.1		200	8.91	34.052	2.20	26.412	162.4	0.427
185	9.22	34.020	2.31	2.19	33.		26.7	169.6		250	8.08	34.108	1.88	26.583	146.2	0.506
217	8.52	34.086	2.09	2.27	38.		28.5	154.2		300	7.39	34.132	1.57	26.702	135.0	0.579
258	7.99	34.110	1.83	2.43	44.		31.0	144.8								
295	7.45	34.129	1.60	2.48	50.		32.3	135.9								
333	7.13	34.146	1.40	2.65	55.		34.3	130.4								

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67055

LATITUDE 36 39.5N			LONGITUDE 122 27.0W			MO/DAY/YR 08/23/78		MESSENGER TIME 2120 GMT		BOTTOM 2222M	WIND 290	SPEED 8KT	WEATHER 1	DOMINANT WAVES 330 4 5		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD
1	14.00	33.027	6.23	0.38	3.		1.0	326.6		0	14.00	33.027	6.23	24.686	326.6	0.000
10	13.28	33.042	6.37	0.41	3.		1.1	311.5		10	13.28	33.042	6.37	24.844	311.5	0.032
29	12.92	33.021	6.27	0.44	4.		1.8	306.3		20	13.09	33.028	6.32	24.870	309.1	0.063
39	12.07	33.069	5.91	0.60	6.		4.3	287.2		30	12.87	33.024	6.25	24.911	305.2	0.094
48	10.32	33.186	5.17	1.10	12.		12.1	248.6		50	10.24	33.228	5.09	25.550	244.4	0.149
63	9.75	33.327	4.71	1.33	16.		15.9	229.1		75	10.12	33.609	4.00	25.867	214.2	0.207
77	10.20	33.656	3.88	1.61	20.		19.0	212.0		100	9.97	33.824	3.05	26.060	195.9	0.258
95	10.02	33.798	3.19	1.90	24.		22.4	198.6		125	9.69	33.922	2.52	26.183	184.2	0.306
119	9.77	33.899	2.63	2.06	28.		24.7	187.1		150	9.39	34.005	2.21	26.297	173.4	0.352
137	9.54	33.964	2.35	2.16	31.		25.7	178.7		200	9.00	34.102	1.89	26.435	160.2	0.437
165	9.25	34.044	2.10	2.25	34.		26.6	168.2		250	8.67	34.152	1.70	26.527	151.5	0.517
192	9.05	34.088	1.95	2.29	36.		27.8	161.9		300	8.18	34.195	1.36	26.635	141.3	0.593
220	8.89	34.131	1.77	2.43	39.		28.5	156.3		400	6.86	34.204	0.92	26.832	122.6	0.730
257	8.61	34.155	1.68	2.48	42.		29.2	150.4		500	5.56	34.147	0.81	26.955	110.9	0.853
311	8.06	34.204	1.27	2.69	50.		31.8	138.8								
380	7.22	34.228	0.93	2.88	61.		35.0	125.5								
451	6.01	34.144	0.91	3.02	73.		38.6	116.4								
526	5.45	34.165	0.72	3.19	84.		40.3	108.3								

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67060

LATITUDE 36 28.0N		LONGITUDE 122 50.2W		MO/DAY/YR 08/24/78		MESSENGER TIME 0115 GMT		BOTTOM 3021M		WIND 290		SPEED 9KT		WEATHER 1		DOMINANT WAVES 310 3 5	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	15.61	32.953	6.07	0.40	2.	0.01	0.1	364.8	0	15.61	32.953	6.07	24.284	364.8	0.000		
10	15.05	32.953	6.18	0.40	2.	0.01	0.0	353.2	10	15.05	32.953	6.18	24.407	353.2	0.036		
28	14.47	32.934	6.31	0.39	3.	0.00	0.0	342.7	20	14.74	32.940	6.28	24.463	347.8	0.071		
38	12.89	32.958	6.23	0.54	4.	0.10	1.2	310.3	30	14.16	32.937	6.30	24.583	336.4	0.105		
48	12.50	32.946	6.03	0.61	5.	0.28	1.9	304.0	50	12.37	32.961	5.97	24.959	300.6	0.169		
62	11.49	33.056	5.63	0.79	7.	0.19	5.2	277.9	75	10.67	33.057	5.34	25.343	264.0	0.240		
77	10.55	33.058	5.30	1.04	11.	0.09	9.6	261.9	100	9.29	33.374	4.58	25.822	218.5	0.301		
95	9.44	33.298	4.79	1.40	17.	0.04	15.7	226.4	125	8.86	33.658	3.73	26.111	191.0	0.353		
119	8.96	33.617	3.84	1.65	24.	0.11	20.7	195.5	150	8.51	33.828	3.28	26.298	173.2	0.399		
137	8.69	33.724	3.57	1.95	27.	0.05	23.2	183.5	200	7.95	33.985	2.84	26.506	153.5	0.482		
164	8.34	33.927	2.99	2.10	35.	0.08	26.5	163.4	250	7.17	33.988	2.86	26.621	142.6	0.558		
193	8.04	33.976	2.84	2.10	38.	0.03	27.4	155.4	300	6.51	33.979	2.66	26.702	134.9	0.629		
220	7.65	33.999	2.88	2.15	41.	0.09	28.2	148.3	400	5.96	34.129	1.10	26.892	116.9	0.760		
258	7.04	33.983	2.85	2.24	47.	0.04	29.7	141.3	500	5.31	34.165	0.67	27.000	106.7	0.877		
313	6.39	33.985	2.55	2.43	56.	0.06	32.4	132.9									
382	6.09	34.122	1.26	2.96	70.	0.02	37.8	119.0									
452	5.56	34.132	0.85	3.15	81.	0.04	40.3	112.0									
527	5.21	34.193	0.60	3.27	90.	0.00	41.8	103.5									

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67070

LATITUDE 36 08.4N		LONGITUDE 123 27.8W		MO/DAY/YR 08/24/78		MESSENGER TIME 0803 GMT		BOTTOM 3541M		WIND 270		SPEED 6KT		WEATHER		DOMINANT WAVES	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	16.62	33.116	5.92	0.44	1.	0.01	0.1	374.7	0	16.62	33.116	5.92	24.180	374.7	0.000		
11	16.05	33.082	6.09	0.46	1.	0.00	0.0	364.8	10	16.10	33.084	6.08	24.275	365.7	0.037		
29	15.68	33.149	6.19	0.47	1.	0.01	0.1	352.0	20	15.86	33.116	6.14	24.352	358.4	0.073		
37	12.46	33.308	6.58	0.76	1.	0.28	3.9	276.7	30	15.28	33.164	6.27	24.518	342.6	0.108		
47	10.87	33.409	5.32	1.32	10.	0.88	11.3	241.3	50	10.52	33.421	5.08	25.653	234.5	0.166		
61	9.59	33.457	4.49	1.62	18.	0.38	17.3	217.0	75	9.08	33.591	4.00	26.025	199.2	0.221		
75	9.08	33.591	4.00	1.83	23.	0.12	21.1	199.2	100	8.76	33.760	3.52	26.208	181.8	0.269		
93	8.77	33.698	3.65	1.95	28.	0.11	23.2	186.6	125	8.57	33.896	3.39	26.344	168.9	0.313		
116	8.72	33.880	3.33	2.00	30.	0.10	24.0	172.4	150	8.19	33.939	3.31	26.434	160.4	0.355		
134	8.39	33.901	3.46	2.03	32.	0.17	24.5	166.0	200	7.37	34.019	2.62	26.617	143.0	0.432		
161	8.06	33.966	3.14	1.99	36.	0.05	25.9	156.5	250	6.67	34.036	1.94	26.726	132.7	0.503		
189	7.55	34.007	2.83	2.22	42.	0.12	28.4	146.4	300	6.15	34.061	1.38	26.814	124.3	0.569		
216	7.12	34.030	2.30	2.48	50.	0.04	31.7	138.9	400	5.22	34.090	0.99	26.951	111.3	0.691		
252	6.65	34.036	1.92	2.66	58.	0.09	34.0	132.4	500	5.00	34.193	0.55	27.058	101.2	0.802		
307	6.08	34.064	1.31	2.97	68.	0.03	37.8	123.2									
376	5.32	34.072	1.11	3.04	80.	0.06	39.7	113.8									
446	5.13	34.135	0.76	3.26	87.	0.03	41.5	106.9									
521	4.96	34.218	0.48	3.37	96.	0.01	42.7	98.8									

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67090

LATITUDE 35 28.0N		LONGITUDE 124 55.0W		MO/DAY/YR 08/27/78		MESSENGER TIME 0546 GMT		BOTTOM 4309M		WIND 310		SPEED 3KT		WEATHER		DOMINANT WAVES	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	18.62	32.916	5.60	0.22	3.		0.1	435.0	0	18.62	32.916	5.60	23.548	435.0	0.000		
9	18.27	32.916	5.71	0.22	3.		0.1	426.8	10	18.25	32.915	5.71	23.639	426.4	0.043		
29	17.37	32.908	5.72	0.23	3.		0.1	406.6	20	17.92	32.912	5.72	23.717	418.9	0.085		
38	16.19	32.905	5.92	0.19	3.		0.1	380.8	30	17.25	32.907	5.74	23.873	404.0	0.127		
48	14.93	32.798	6.15	0.19	3.		0.1	362.0	50	14.86	32.808	6.16	24.336	359.9	0.203		
62	14.61	32.912	6.23	0.17	2.		0.1	347.2	75	13.57	32.976	6.20	24.734	322.0	0.289		
77	13.38	32.983	6.19	0.24	4.		0.1	317.8	100	11.56	33.071	5.60	25.196	278.0	0.364		
96	11.83	33.059	5.69	0.41	6.		3.4	283.6	125	10.14	33.174	5.13	25.525	246.7	0.431		
119	10.45	33.139	5.22	0.87	11.		10.2	254.2	150	9.28	33.420	4.43	25.858	215.1	0.489		
138	9.59	33.273	4.89	1.16	16.		14.3	230.6	200	8.63	33.856	3.17	26.302	172.9	0.588		
166	9.04	33.619	3.78	1.77	26.		22.2	196.5	250	7.87	34.013	2.60	26.540	150.3	0.670		
193	8.79	33.827	3.16	1.85	30.		24.4	177.4	300	7.07	34.020	2.40	26.660	139.0	0.745		
220	8.16	33.917	3.24	1.99	35.		26.3	161.5	400	5.77	34.037	1.52	26.843	121.6	0.880		
257	7.82	34.029	2.44	2.25	43.		29.3	148.4	500	5.29	34.144	0.87	26.986	108.0	1.000		
310	6.88	34.016	2.39	2.46	52.		32.5	136.8									
382	5.97	34.030	1.65	2.76	66.		36.8	124.4									
453	5.34	34.073	1.19	3.04	79.		40.2	113.9									
527	5.26	34.180	0.68	3.24	88.		41.4	105.0									

RV DAVID STARR JORDAN

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
36 06.5N		121 54.1W		08/21/78		1959 GMT			1110M	320	20KT	4	320 5 3		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	13.56	33.263	6.58	0.45	1.	0.09	1.5	300.7	0	13.56	33.263	6.58	24.958	300.7	0.000
10	13.53	33.261	6.69	0.42	1.	0.12	1.4	300.3	10	13.53	33.261	6.69	24.962	300.3	0.030
29	10.59	33.349	5.14	1.18	13.	0.41	12.1	241.0	20	12.05	33.286	5.94	25.271	270.9	0.059
39	10.18	33.409	4.87	1.32	15.	0.37	14.5	229.9	30	10.53	33.357	5.10	25.600	239.6	0.084
48	9.69	33.412	4.72	1.42	17.	0.22	16.0	221.9	50	9.62	33.420	4.69	25.804	220.2	0.130
62	9.35	33.479	4.49	1.49	19.	0.11	17.4	211.6	75	9.17	33.537	4.31	25.968	204.6	0.184
76	9.16	33.542	4.30	1.58	22.	0.07	19.0	204.1	100	8.82	33.719	3.96	26.166	185.8	0.233
94	8.89	33.680	3.97	1.68	25.	0.10	20.7	189.8	125	8.54	33.833	3.93	26.299	173.2	0.278
117	8.63	33.807	3.92	1.72	27.	0.11	21.9	176.5	150	8.60	33.976	3.11	26.400	163.6	0.321
135	8.46	33.867	3.94	1.74	29.	0.15	22.1	169.6	200	8.29	34.094	2.15	26.541	150.2	0.401
163	8.73	34.063	2.34	2.23	36.	0.01	27.9	159.0	250	8.02	34.195	1.33	26.660	138.9	0.475
190	8.38	34.075	2.29	2.25	39.	0.15	28.2	153.0	300	7.74	34.217	1.12	26.719	133.3	0.546
218	8.16	34.135	1.84	2.44	44.	0.00	30.7	145.3	400	7.00	34.236	0.86	26.839	121.9	0.679
253	8.01	34.199	1.29	2.61	51.	0.09	31.9	138.5	500	6.25	34.264	0.55	26.962	110.3	0.802
307	7.69	34.218	1.10	2.83	56.	0.03	34.0	132.6							
376	7.23	34.229	0.95	2.87	61.	0.08	35.4	125.5							
443	6.99	34.249	0.70	3.12	71.	0.07	37.8	115.7							
518	6.18	34.268	0.52	3.20	80.	0.05	39.1	109.2							

RV DAVID STARR JORDAN

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
35 53.3N		122 22.6W		08/21/78		1424 GMT			3069M	330	14KT	1	320 5 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	15.82	32.847	5.90	0.36	3.		0.0	377.0	0	15.82	32.847	5.90	24.156	377.0	0.000
10	15.78	32.846	5.95	0.37	2.		0.0	376.3	10	15.78	32.846	5.95	24.164	376.3	0.038
27	13.31	32.873	6.35	0.41	4.		0.0	324.5	20	14.38	32.860	6.23	24.478	346.4	0.074
38	12.85	33.034	6.04	0.42	5.		0.6	304.0	30	13.12	32.914	6.29	24.776	318.0	0.107
47	12.30	33.104	5.86	0.51	5.		1.8	288.7	50	12.02	33.098	5.79	25.131	284.2	0.168
62	10.90	33.076	5.52	0.87	10.		7.5	266.4	75	10.10	33.193	5.28	25.548	244.6	0.234
75	10.10	33.193	5.28	0.99	12.		8.8	244.6	100	9.25	33.420	4.47	25.864	214.5	0.292
94	9.38	33.352	4.67	1.48	18.		16.3	221.5	125	8.88	33.674	3.71	26.121	190.1	0.343
117	8.99	33.607	3.93	1.75	24.		21.3	196.7	150	8.57	33.827	3.28	26.290	174.1	0.389
136	8.74	33.751	3.45	1.99	28.		23.8	182.3	200	7.95	33.986	2.91	26.507	153.4	0.472
165	8.38	33.889	3.18	1.99	32.		24.8	166.8	250	7.41	34.013	2.58	26.606	144.0	0.549
192	8.02	33.971	3.01	2.07	36.		26.8	155.5	300	6.55	34.013	2.17	26.724	132.9	0.620
220	7.78	34.009	2.68	2.15	40.		28.2	149.4	400	5.63	34.065	1.25	26.882	117.8	0.750
257	7.31	34.014	2.57	2.26	45.		29.2	142.6	500	5.34	34.191	0.64	27.016	105.1	0.867
312	6.35	34.014	2.02	2.54	57.		34.0	130.2							
379	5.79	34.053	1.38	2.80	68.		37.2	120.6							
453	5.34	34.110	0.96	2.98	79.		39.9	111.1							
526	5.34	34.235	0.44	3.11	86.		40.0	101.8							

RV DAVID STARR JORDAN

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LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
35 33.0N		123 05.9W		08/21/78		0746 GMT			3731M	340	14KT				
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	15.53	32.832	5.97	0.26	2.	0.01	0.0	372.0	0	15.53	32.832	5.97	24.209	372.0	0.000
10	15.51	32.831	6.07	0.21	2.	0.01	0.0	371.7	10	15.51	32.831	6.07	24.213	371.7	0.037
27	15.35	32.822	6.10	0.18	2.	0.00	0.0	369.0	20	15.42	32.826	6.09	24.229	370.1	0.074
38	14.07	32.944	6.23	0.28	2.	0.08	1.4	334.0	30	15.04	32.862	6.14	24.337	359.8	0.111
46	13.17	32.889	6.25	0.26	3.	0.07	1.3	320.7	50	12.94	32.908	6.21	24.807	315.0	0.179
61	12.47	32.972	6.06	0.46	3.	0.19	3.9	301.6	75	11.44	32.937	5.85	25.113	285.9	0.254
74	11.53	32.931	5.88	0.52	6.	0.19	4.9	287.8	100	9.56	33.199	4.96	25.642	235.6	0.320
93	9.98	33.113	5.23	0.96	14.	0.07	12.4	248.6	125	8.75	33.463	4.40	25.977	203.8	0.375
117	8.87	33.398	4.44	1.41	23.	0.04	19.0	210.4	150	8.56	33.709	3.76	26.197	182.9	0.424
135	8.68	33.540	4.35	1.53	25.	0.11	20.6	197.0	200	8.04	33.940	3.23	26.458	158.0	0.511
163	8.46	33.838	3.25	1.82	32.	0.01	25.4	171.7	250	7.59	34.028	2.48	26.592	145.3	0.589
191	8.11	33.909	3.41	1.83	34.	0.07	25.3	161.4	300	6.79	34.019	2.30	26.697	135.4	0.661
219	7.89	33.999	2.77	2.08	40.	0.02	28.7	151.6	400	5.77	34.076	1.23	26.874	118.6	0.793
256	7.52	34.028	2.46	2.16	45.	0.04	30.1	144.4	500	5.23	34.175	0.62	27.017	105.1	0.910
311	6.60	34.015	2.25	2.34	55.	0.02	33.4	133.3							
381	5.92	34.056	1.42	2.66	70.	0.02	37.8	121.9							
450	5.45	34.131	0.84	2.95	83.	0.03	40.5	110.8							
526	5.16	34.194	0.58	3.04	91.	0.00	41.9	102.9							

LATITUDE 35 13.5N		LONGITUDE 123 45.4W		MO/DAY/YR 08/21/78		MESSENGER TIME 0158 GMT		TIME	BOTTOM 4022M	WIND 340	SPEED 12KT	WEATHER 1	DOMINANT WAVES 350 5 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	16.22	32.801	5.88	0.40	3.	0.01	0.1	389.0	0	16.22	32.801	5.88	24.031	389.0	0.000
9	15.87	32.770	5.97	0.39	3.	0.01	0.1	383.7	10	15.86	32.770	5.98	24.088	383.5	0.039
28	15.71	32.775	6.06	0.38	3.	0.01	0.1	380.0	20	15.78	32.773	6.02	24.109	381.6	0.077
38	15.68	32.777	5.99	0.39	3.	0.01	0.0	379.2	30	15.70	32.775	6.05	24.128	379.8	0.115
47	14.09	32.869	6.27	0.34	3.	0.00	0.0	359.9	50	14.03	32.889	6.25	24.573	337.4	0.187
61	13.82	32.959	6.19	0.32	3.	0.00	0.0	328.0	75	13.18	33.037	6.09	24.859	310.1	0.268
74	13.24	33.036	6.10	0.34	4.	0.00	0.0	311.2	100	11.29	33.081	5.59	25.253	272.6	0.342
93	11.95	33.049	5.77	0.63	5.	0.41	3.3	286.5	125	9.54	33.288	4.87	25.713	228.8	0.405
117	9.87	33.212	5.10	1.12	13.	0.05	12.2	239.5	150	9.08	33.549	4.03	25.992	202.3	0.459
133	9.33	33.366	4.64	1.47	18.	0.04	17.0	219.7	200	8.20	33.852	3.35	26.365	166.9	0.553
163	8.94	33.671	3.65	1.88	25.	0.16	22.5	191.2	250	7.83	34.020	2.73	26.551	149.2	0.634
191	8.30	33.796	3.53	1.99	30.	0.04	24.5	172.5	300	7.20	34.033	2.34	26.652	139.7	0.709
219	8.05	33.957	2.95	2.03	35.	0.05	26.9	157.0	400	6.04	34.069	1.36	26.834	122.4	0.845
255	7.79	34.023	2.71	2.29	39.	0.03	28.6	148.5	500	5.32	34.130	0.83	26.971	109.4	0.966
310	7.05	34.035	2.25	2.53	48.	0.05	32.0	137.6							
380	6.26	34.063	1.49	2.96	61.	0.00	37.2	125.5							
450	5.57	34.089	1.11	3.21	73.	0.08	39.7	115.3							
526	5.27	34.157	0.69	3.44	82.	0.08	40.9	106.8							

LATITUDE 34 53.1N		LONGITUDE 124 29.7W		MO/DAY/YR 08/20/78		MESSENGER TIME 1913 GMT		TIME	BOTTOM 4309M	WIND 340	SPEED 13KT	WEATHER 5	DOMINANT WAVES 350 5 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	17.71	33.050	5.60	0.40	3.	0.01	0.0	404.1	0	17.71	33.050	5.60	23.873	404.1	0.000
9	17.62	33.052	5.76	0.40	3.	0.00	0.0	401.9	10	17.62	33.052	5.76	23.896	401.9	0.040
28	17.57	33.047	5.73	0.36	3.	0.00	0.0	401.1	20	17.59	33.049	5.74	23.901	401.4	0.081
51	16.12	32.969	5.91	0.36	3.	0.00	0.0	374.6	30	17.54	33.051	5.75	23.914	400.2	0.121
62	14.41	32.813	6.26	0.37	3.	0.00	0.0	350.4	50	16.23	32.978	5.90	24.162	376.5	0.199
70	13.97	32.867	6.23	0.35	3.	0.00	0.0	337.7	75	13.82	32.904	6.21	24.627	332.1	0.288
83	13.58	32.950	6.16	0.33	3.	0.00	0.0	324.0	100	12.49	32.992	5.96	24.960	300.5	0.367
98	12.64	32.978	6.02	0.34	4.	0.11	0.1	304.2	125	10.61	33.185	5.18	25.454	253.5	0.437
121	10.89	33.161	5.27	0.79	9.	0.12	7.2	259.9	150	9.43	33.396	4.59	25.816	219.0	0.497
140	9.74	33.287	4.85	1.17	14.	0.69	11.8	231.9	200	8.66	33.848	3.66	26.291	173.9	0.597
164	9.18	33.557	4.21	1.54	20.	0.02	19.0	203.3	250	7.87	33.991	3.39	26.523	151.9	0.680
191	8.86	33.800	3.59	1.82	26.	0.19	21.9	180.4	300	7.21	34.005	2.78	26.628	141.9	0.756
218	8.25	33.914	3.85	2.01	31.	0.02	23.5	163.0	400	6.21	34.075	1.41	26.817	124.0	0.894
255	7.82	33.997	3.29	2.18	38.	0.07	25.7	150.8	500	5.48	34.168	0.71	26.981	108.5	1.016
311	7.06	34.009	2.64	2.56	48.	0.02	30.6	139.7							
380	6.37	34.053	1.64	2.94	62.	0.11	35.5	127.6							
450	5.85	34.130	0.96	3.33	75.	0.05	39.2	115.5							
524	5.31	34.180	0.66	3.55	87.	0.01	40.7	105.6							

LATITUDE 35 32.0N		LONGITUDE 121 28.3W		MO/DAY/YR 08/19/78		MESSENGER TIME 1307 GMT		TIME	BOTTOM 722M	WIND 320	SPEED 19KT	WEATHER	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	13.77	33.593	5.83	0.89	6.	0.19	5.6	280.6	0	13.77	33.593	5.83	25.169	280.6	0.000
10	13.75	33.591	5.83	0.93	6.	0.27	5.6	280.3	10	13.75	33.591	5.83	25.172	280.3	0.028
29	12.84	33.594	5.41	1.06	8.	0.41	7.9	262.7	20	13.46	33.592	5.61	25.232	274.6	0.056
39	11.61	33.603	4.68	1.40	14.	0.49	12.7	239.7	30	12.72	33.595	5.34	25.380	260.5	0.083
48	10.73	33.611	4.29	1.56	17.	0.21	16.2	224.0	50	10.59	33.628	4.15	25.802	220.4	0.131
62	10.03	33.745	3.35	1.84	23.	0.12	21.2	202.6	75	9.83	33.804	3.15	26.067	195.2	0.183
76	9.83	33.806	3.14	1.91	25.	0.10	22.4	194.9	100	9.70	33.857	2.98	26.131	189.1	0.232
95	9.77	33.834	3.04	1.97	25.	0.07	23.0	191.9	125	9.41	33.938	2.74	26.242	178.6	0.278
118	9.45	33.933	2.76	2.07	29.	0.07	24.9	179.6	150	9.31	33.959	2.64	26.275	175.4	0.323
136	9.37	33.939	2.71	2.08	30.	0.07	25.4	177.9	200	9.13	34.086	2.06	26.403	163.3	0.410
164	9.25	33.989	2.52	2.16	32.	0.03	26.2	172.3	250	8.59	34.146	1.80	26.535	150.8	0.490
191	9.18	34.069	2.13	2.32	35.	0.04	27.7	165.3	300	7.95	34.160	1.59	26.643	140.6	0.566
220	8.97	34.113	1.96	2.48	38.	0.01	28.6	158.9	400	6.99	34.242	0.77	26.845	121.4	0.702
257	8.49	34.151	1.76	2.59	44.	0.03	30.4	148.9	500	5.83	34.225	0.59	26.985	108.1	0.823
312	7.81	34.161	1.53	2.73	50.	0.03	32.6	138.5							
382	7.13	34.230	0.87	3.02	62.	0.12	36.0	124.1							
452	6.50	34.251	0.60	3.21	74.	0.04	38.0	114.4							
527	5.36	34.199	0.58	3.29	86.	0.04	41.7	104.7							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

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	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
	35 17.6N		121 57.8W		08/19/78		1757 6MT		2222M		330		13KT		2		320 7 5	
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD			
1	16.42	32.893	5.77	0.40	3.		0.0	386.6	0	16.42	32.893	5.77	24.056	386.6	0.000			
10	16.39	32.891	5.84	0.38	3.		0.0	386.1	10	16.39	32.891	5.84	24.061	386.1	0.039			
29	16.19	32.886	5.84	0.37	3.		0.0	382.1	20	16.28	32.889	5.84	24.085	383.9	0.077			
38	15.52	32.967	6.02	0.38	3.		0.0	361.9	30	16.14	32.897	5.86	24.123	380.2	0.115			
47	14.63	32.907	6.19	0.42	2.		0.0	347.9	50	14.40	32.914	6.18	24.515	342.8	0.188			
62	13.66	32.977	6.15	0.49	2.		0.7	323.6	75	13.08	33.032	6.01	24.875	308.6	0.270			
76	13.04	33.034	6.00	0.62	3.		2.3	307.6	100	11.59	33.069	5.63	25.189	278.7	0.344			
94	12.06	33.059	5.75	0.83	5.		5.3	287.7	125	10.14	33.307	4.93	25.628	236.9	0.409			
117	10.39	33.177	5.18	1.17	12.		11.6	250.4	150	9.82	33.696	3.79	25.985	203.0	0.464			
136	9.96	33.501	4.53	1.52	18.		16.8	219.5	200	8.97	33.996	2.38	26.359	167.5	0.559			
164	9.69	33.841	3.09	2.04	27.		23.0	190.1	250	7.95	34.007	3.09	26.522	152.0	0.641			
191	9.08	33.962	2.53	2.27	33.		26.4	171.7	300	7.17	34.008	2.69	26.637	141.1	0.716			
218	8.74	34.040	2.25	2.38	37.		28.1	160.8	400	6.19	34.109	1.07	26.847	121.2	0.852			
256	7.80	33.996	3.26	2.15	39.		26.3	150.6	500	5.69	34.195	0.57	26.977	108.8	0.973			
312	7.04	34.018	2.38	2.56	50.		31.6	138.7										
381	6.31	34.090	1.24	2.94	67.		36.8	124.1										
450	5.95	34.155	0.77	3.23	76.		39.6	114.8										
525	5.56	34.212	0.51	3.29	85.		40.7	106.0										

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

73070

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	34 57.0N		122 40.8W		08/20/78		0125		6MT	3919M	330	17KT	2	320 7 6		
Z	T	S	02	P04	SI03	N02	N03	DT		Z	T	S	02	SIGT	DT	DD
1	17.43	33.045	5.61	0.29	2.	0.01	0.1	398.0		0	17.43	33.045	5.61	23.936	398.0	0.000
11	17.42	33.039	5.64	0.29	3.	0.01	0.0	398.2		10	17.42	33.040	5.64	23.934	398.2	0.040
29	17.42	33.040	5.67	0.29	3.	0.00	0.0	398.2		20	17.42	33.040	5.66	23.935	398.2	0.080
38	16.21	33.008	5.95	0.29	3.	0.00	0.0	373.7		30	17.31	33.038	5.70	23.959	395.9	0.119
48	15.12	32.955	6.07	0.26	3.	0.00	0.0	354.5		50	14.91	32.962	6.08	24.444	349.6	0.194
63	13.51	33.018	6.14	0.29	3.	0.00	0.0	317.7		75	12.13	32.998	5.84	25.034	293.5	0.275
76	12.02	32.996	5.81	0.51	5.	0.13	2.2	291.7		100	10.58	33.143	5.28	25.425	256.2	0.344
93	10.98	33.092	5.45	0.79	8.	0.05	6.9	266.5		125	9.51	33.329	4.87	25.751	225.2	0.405
117	9.78	33.273	4.93	1.15	14.	0.05	12.9	233.6		150	9.07	33.546	4.42	25.991	202.4	0.459
136	9.23	33.408	4.77	1.32	17.	0.04	15.4	215.1		200	8.57	33.878	3.48	26.328	170.4	0.554
164	8.98	33.680	4.02	1.64	23.	0.09	20.4	191.1		250	8.00	33.993	3.22	26.506	153.6	0.637
192	8.68	33.849	3.45	1.87	28.	0.05	23.9	174.1		300	7.45	34.042	2.42	26.624	142.3	0.713
219	8.31	33.927	3.59	1.93	32.	0.06	24.5	162.9		400	6.46	34.078	1.53	26.788	126.8	0.853
257	7.93	34.004	3.10	2.15	37.	0.04	27.1	151.8		500	5.74	34.141	0.93	26.928	113.5	0.979
312	7.31	34.047	2.24	2.47	48.	0.03	31.5	140.1								
381	6.56	34.063	1.70	2.80	59.	0.03	35.8	129.2								
451	6.19	34.120	1.13	3.07	68.	0.04	38.7	120.4								
525	5.45	34.146	0.90	3.22	82.	0.07	40.8	109.7								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

73080

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
	34	38.1N	123	22.1W	08/20/78		0740 GMT		4309M		330		17KT					
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
1	16.69	32.932	5.71	0.45	3.	0.00	0.0	389.7	0	16.69	32.932	5.71	24.023	389.7	0.000			
11	16.69	32.920	5.83	0.45	3.	0.00	0.0	390.6	10	16.69	32.921	5.83	24.015	390.5	0.039			
30	16.67	32.920	5.74	0.43	3.	0.00	0.0	390.1	20	16.68	32.920	5.79	24.017	390.4	0.078			
38	15.35	32.922	6.12	0.43	2.	0.00	0.0	361.7	30	16.67	32.920	5.74	24.019	390.1	0.117			
49	14.40	32.966	6.29	0.47	2.	0.00	0.0	339.0	50	14.33	32.966	6.29	24.570	337.6	0.190			
63	13.34	32.972	6.13	0.56	2.	0.08	0.9	317.8	75	12.15	32.965	5.86	25.004	296.3	0.270			
76	12.05	32.965	5.83	0.77	6.	0.34	3.3	294.5	100	10.56	33.090	5.29	25.388	259.8	0.340			
95	10.91	33.070	5.37	1.08	10.	0.08	8.9	267.0	125	9.89	33.407	4.67	25.748	225.5	0.401			
119	9.73	33.264	4.89	1.43	15.	0.06	14.4	233.4	150	10.08	33.804	3.63	26.025	199.2	0.455			
138	10.32	33.710	4.13	1.79	19.	0.75	17.9	209.9	200	9.17	33.993	2.53	26.324	170.8	0.549			
165	9.59	33.838	3.09	2.12	26.	0.05	23.5	188.8	250	8.60	34.131	1.91	26.521	152.1	0.632			
192	9.26	33.957	2.65	2.30	30.	0.04	25.6	174.8	300	7.57	34.057	2.26	26.618	142.9	0.708			
220	8.95	34.070	2.27	2.51	36.	0.03	27.7	161.8	400	6.45	34.077	1.53	26.787	126.8	0.848			
256	8.52	34.134	1.87	2.67	41.	0.02	29.9	150.6	500	5.64	34.142	0.85	26.943	112.1	0.973			
310	7.35	34.035	2.37	2.66	47.	0.01	31.6	141.6										
377	6.72	34.068	1.74	2.93	57.	0.01	35.3	130.9										
447	5.95	34.099	1.16	3.19	71.	0.00	38.8	119.0										
524	5.57	34.166	0.75	3.43	81.	0.00	40.7	109.6										

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	34 20.0N		124 01.4W		08/20/78		1300 GMT			3926M	340	17KT				
Z	T	S	O2	P04	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
1	17.50	33.107	5.75	0.42	3.		0.0	395.1	0	17.50	33.107	5.75	23.967	395.1	0.000	
11	17.48	33.107	5.71	0.37	3.		0.0	394.7	10	17.48	33.107	5.71	23.971	394.7	0.040	
44	17.48	33.103	5.62	0.36	3.		0.0	394.9	20	17.48	33.107	5.69	23.971	394.7	0.079	
71	15.57	33.072	5.98	0.34	3.		0.0	355.3	30	17.48	33.106	5.66	23.971	394.7	0.119	
90	14.38	33.088	5.98	0.39	3.		0.0	329.6	50	17.13	33.091	5.70	24.043	387.9	0.197	
105	12.72	32.943	6.00	0.38	4.		0.0	308.3	75	15.36	33.077	5.98	24.434	350.5	0.290	
119	11.57	33.078	5.62	0.32	7.		0.0	277.7	100	13.29	32.982	5.99	24.796	316.1	0.374	
137	10.32	33.160	5.19	0.82	11.		7.3	250.6	125	11.11	33.107	5.47	25.305	267.6	0.447	
155	9.65	33.327	4.82	1.23	15.		12.8	227.5	150	9.79	33.277	4.93	25.664	233.5	0.511	
183	9.26	33.609	4.01		22.			200.6	200	9.05	33.782	3.41	26.178	184.6	0.617	
206	8.98	33.833	3.23		28.			179.8	250	8.49	33.974	2.84	26.416	162.1	0.706	
230	8.74	33.918	2.98		31.			169.9	300	7.66	34.021	2.67	26.576	146.9	0.785	
261	8.34	33.997	2.79		36.			158.2	400	6.56	34.095	1.38	26.787	126.8	0.927	
299	7.68	34.020	2.68		42.			147.2	500	5.91	34.167	0.77	26.928	113.5	1.054	
345	7.04	34.033	2.20		51.			137.6								
411	6.49	34.109	1.23		64.			124.9								
489	5.97	34.158A	0.82		75.			114.9								
570	5.60	34.232A	0.51		84.			105.0								

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	35 02.0N		120 56.8W		08/19/78		0506 GMT			316M	320	10KT				
Z	T	S	O2	P04	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD	
0	15.37	33.552	6.07	0.55	3.		1.2	316.0	0	15.37	33.552	6.07	24.796	316.0	0.000	
10	15.36	33.546	6.10	0.56	3.		1.3	316.3	10	15.36	33.546	6.10	24.794	316.3	0.032	
29	11.57	33.584	4.24	1.39	14.		13.2	240.4	20	13.50	33.570	5.14	25.207	277.0	0.061	
43	10.56	33.662	3.48	1.75	20.		19.6	217.4	30	11.46	33.588	4.16	25.615	238.1	0.087	
51	10.05	33.743	3.28	1.88	23.		21.8	203.1	50	10.10	33.733	3.30	25.967	204.7	0.132	
65	9.92	33.816	2.96	1.97	25.		23.0	195.6	75	9.88	33.841	2.87	26.088	193.2	0.182	
80	9.87	33.848	2.85	2.02	26.		23.7	192.5	100	9.77	33.877	2.77	26.135	188.7	0.230	
98	9.78	33.873	2.78	2.04	27.		24.0	189.2	125	9.64	33.914	2.63	26.185	184.0	0.277	
122	9.65	33.911	2.64	2.11	29.		24.9	184.3	150	9.55	33.946	2.57	26.226	180.1	0.323	
141	9.60	33.931	2.60	2.19	30.		25.2	182.0	200	9.29	34.025	2.35	26.330	170.3	0.413	
172	9.41	33.985	2.48	2.21	32.		25.8	175.1								
200	9.29	34.025	2.35	2.28	33.		26.6	170.3								
238	9.14	34.076	2.14	2.35	36.		27.7	164.2								

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	34	54.5N	121	13.0W	08/19/78		0052 GMT			556M	310	15KT	2	310	6	5
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	15.01	33.563	6.25	0.46	2.	0.05	1.0	307.7	0	15.01	33.563	6.25	24.884	307.7		0.000
11	14.96	33.559	6.40	0.46	2.	0.02	1.3	307.0	10	14.96	33.560	6.38	24.891	307.1		0.031
29	13.56	33.554	5.52	0.77	6.	0.16	5.5	279.3	20	14.49	33.553	6.13	24.987	297.9		0.061
43	11.09	33.623	3.99	1.40	16.	0.34	15.2	229.2	30	13.38	33.555	5.41	25.220	275.7		0.090
53	10.35	33.720	3.46	1.59	21.	0.52	18.6	209.7	50	10.51	33.693	3.58	25.866	214.3		0.139
68	10.02	33.774	3.30	1.70	22.	0.15	21.0	200.3	75	9.92	33.819	3.14	26.065	195.4		0.191
80	9.85	33.852	3.02	1.76	25.	0.14	22.2	191.9	100	9.50	33.949	2.62	26.235	179.2		0.238
94	9.57	33.920	2.72	1.89	28.	0.05	24.6	182.4	125	9.35	34.032	2.35	26.324	170.8		0.282
118	9.39	34.017	2.41	1.99	31.	0.05	25.9	172.4	150	9.25	34.058	2.24	26.362	167.2		0.325
137	9.30	34.048	2.28	2.02	33.	0.04	26.6	168.7	200	8.91	34.121	1.92	26.464	157.5		0.408
166	9.18	34.069	2.20	2.00	35.	0.15	27.0	165.3	250	8.58	34.186	1.54	26.568	147.7		0.486
194	8.97	34.109	1.98	2.08	37.	0.05	28.1	159.2	300	8.25	34.219	1.30	26.645	140.3		0.561
221	8.73	34.159	1.72	2.21	41.	0.04	29.7	151.8	400	7.53	34.237	1.01	26.765	129.0		0.701
260	8.54	34.192	1.49	2.31	44.	0.01	30.8	146.6	500	6.55	34.267	0.65	26.924	113.9		0.830
314	8.14	34.227	1.25	2.36	49.	0.04	32.1	138.2								
366	7.83	34.247	1.13	2.44	53.	0.01	33.7	132.4								
420	7.33	34.231	0.93	2.56	60.	0.08	35.0	126.7								
476	6.75	34.255	0.69	2.69	69.	0.12	37.0	117.3								

A) THE SALINITY BOTTLES AT 489 AND 570 METERS APPEAR TO HAVE BEEN REVERSED. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

77060

LATITUDE 34 44.0N		LONGITUDE 121 34.0W		MO/DAY/YR 08/18/78		MESSENGER TIME 1909 GMT		TIME	BOTTOM 935M	WIND 310	SPEED 13KT	WEATHER 2	DOMINANT WAVES 310 8 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	15.84	33.523	6.11	0.26	2.	0.00	0.0	328.1	0	15.84	33.523	6.11	24.670	328.1	0.000
10	15.72	33.514	6.26	0.23	2.	0.00	0.1	326.2	10	15.72	33.514	6.26	24.690	326.2	0.033
28	13.32	33.336	6.36	0.39	3.	0.13	2.4	290.7	20	14.55	33.439	6.32	24.888	307.4	0.064
38	12.08	33.131	5.81	0.64	6.	0.29	5.4	282.8	30	13.05	33.285	6.26	25.077	289.4	0.094
47	11.35	33.218	5.52	0.81	9.	0.39	8.4	263.5	50	11.23	33.277	5.36	25.416	257.1	0.149
61	10.90	33.499	4.73	1.17	15.	0.36	13.6	235.1	75	10.21	33.644	4.18	25.880	213.0	0.208
75	10.21	33.644	4.18	1.42	19.	0.43	17.8	213.0	100	9.62	33.786	3.37	26.089	193.1	0.259
94	9.74	33.742	3.61	1.62	23.	0.07	21.4	198.2	125	9.26	33.981	2.47	26.299	173.2	0.306
117	9.34	33.917	2.72	1.84	29.	0.10	24.4	179.0	150	9.06	34.071	2.17	26.402	163.4	0.349
136	9.18	34.052	2.22	2.10	34.	0.11	26.7	166.6	200	8.69	34.178	1.65	26.545	149.8	0.429
164	8.95	34.073	2.13	2.11	37.	0.02	28.1	161.5	250	8.16	34.209	1.34	26.650	139.9	0.503
191	8.79	34.166	1.73	2.22	41.	0.18	28.7	152.2	300	7.75	34.236	1.02	26.732	132.1	0.573
219	8.45	34.189	1.53	2.36	44.	0.03	30.6	145.5	400	6.81	34.258	0.61	26.882	117.8	0.704
256	8.11	34.212	1.30	2.43	49.	0.06	31.5	138.9	500	5.99	34.275	0.48	27.003	106.4	0.822
312	7.65	34.241	0.95	2.62	57.	0.03	34.0	130.3							
381	6.96	34.251	0.64	2.80	67.	0.12	35.8	120.3							
451	6.42	34.274	0.55	2.81	74.	0.09	38.0	111.7							
528	5.73	34.271	0.43	2.92	83.	0.03	40.8	103.6							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

77070

LATITUDE 34 24.2N		LONGITUDE 122 16.0W		MO/DAY/YR 08/18/78		MESSENGER TIME 1144 GMT		TIME	BOTTOM 4111M	WIND 310	SPEED 17KT	WEATHER 0	DOMINANT WAVES 330 6 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
2	15.05	32.970	6.14	0.29	1.	0.00	0.0	351.9	0	15.05	32.970	6.14	24.420	351.9	0.000
11	15.05	32.972	6.18	0.30	1.	0.00	0.0	351.8	10	15.05	32.972	6.18	24.421	351.8	0.035
30	12.62	33.025	5.85	0.47	4.	0.21	1.3	300.4	20	13.90	32.996	6.02	24.683	326.9	0.069
39	11.80	33.132	5.43	0.80	6.	0.31	6.3	277.7	30	12.62	33.025	5.83	24.961	300.4	0.101
53	10.79	33.296	4.85	1.06	11.	0.41	11.4	248.3	50	10.96	33.257	4.98	25.448	254.1	0.156
66	10.50	33.534	4.05	1.38	15.	0.52	15.6	225.9	75	10.33	33.631	3.75	25.849	215.9	0.215
90	10.04	33.735	3.41	1.68	21.	0.30	20.9	203.5	100	9.81	33.802	3.12	26.070	195.0	0.267
108	9.64	33.851	2.90	1.90	25.	0.10	23.6	188.6	125	9.40	33.956	2.53	26.258	177.1	0.314
126	9.39	33.962	2.51	2.05	30.	0.04	25.7	176.5	150	9.20	34.070	2.10	26.379	165.6	0.358
146	9.24	34.060	2.15	2.21	33.	0.02	27.3	166.9	200	8.89	34.128	1.82	26.474	156.5	0.440
173	9.01	34.103	1.93	2.32	36.	0.01	28.4	160.2	250	8.55	34.203	1.37	26.586	145.9	0.518
207	8.86	34.135	1.78	2.43	39.	0.01	29.2	155.6	300	8.04	34.215	1.25	26.672	137.8	0.591
234	8.67	34.186	1.40	2.53	42.	0.00	30.1	149.0	400	6.90	34.243	0.76	26.858	120.1	0.726
282	8.26	34.217	1.30	2.68	47.	0.01	32.0	140.7	500	6.17	34.285	0.41	26.988	107.8	0.846
334	7.61	34.208	1.13	2.89	54.	0.01	34.3	132.2							
415	6.76	34.253	0.67	3.13	68.	0.01	37.6	117.6							
494	6.21	34.284	0.41	3.27	77.	0.01	39.6	108.4							
575	5.59	34.275	0.41	3.38	86.	0.00	41.7	101.6							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

77080

LATITUDE 34 03.6N		LONGITUDE 122 57.8W		MO/DAY/YR 08/18/78		MESSENGER TIME 0437 GMT		TIME	BOTTOM 4117M	WIND 320	SPEED 15KT	WEATHER 1	DOMINANT WAVES 330 6 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	15.98	33.535	6.22	0.41	1.		0.0	330.2	0	15.98	33.535	6.22	24.647	330.2	0.000
10	15.95	33.532	6.29	0.38	1.		0.1	329.8	10	15.95	33.532	6.29	24.652	329.8	0.033
29	12.78	33.588	5.46	0.99	7.		7.4	262.0	20	14.33	33.552	5.91	25.021	294.7	0.064
39	12.19	33.587	5.09	1.15	11.		10.6	251.2	30	12.71	33.588	5.43	25.378	260.7	0.092
48	11.57	33.638	4.44	1.42	15.		14.7	236.4	50	11.41	33.635	4.36	25.660	233.8	0.142
63	10.38	33.608	4.07	1.55	18.		18.2	218.4	75	9.68	33.673	3.85	25.992	202.4	0.197
76	9.63	33.680	3.83	1.67	22.		20.7	201.1	100	9.19	33.860	3.07	26.217	181.0	0.245
94	9.29	33.814	3.23	1.89	26.		24.0	185.9	125	8.95	34.021	2.43	26.380	165.5	0.289
118	8.97	33.983	2.62	2.05	32.		26.6	168.5	150	8.81	34.100	2.08	26.465	157.4	0.330
136	8.94	34.069	2.18	2.21	36.		28.0	161.7	200	8.50	34.179	1.66	26.576	146.9	0.408
164	8.67	34.119	2.03	2.26	39.		28.9	153.9	250	8.16	34.222	1.30	26.660	138.9	0.481
191	8.56	34.169	1.72	2.38	42.		30.0	148.6	300	7.28	34.158	1.33	26.737	131.6	0.551
220	8.34	34.196	1.54	2.47	46.		30.9	143.4	400	6.40	34.198	0.79	26.890	117.1	0.680
257	8.10	34.224	1.26	2.60	49.		32.3	137.9	500	6.06	34.298	0.56	27.013	105.5	0.798
313	7.02	34.136	1.36	2.58	57.		35.3	129.7							
383	6.45	34.178	0.89	2.76	67.		37.8	119.2							
453	6.28	34.260	0.57	2.97	75.		39.0	111.0							
528	5.88	34.314	0.56	3.03	82.		39.9	102.1							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

77090

	LATITUDE 33 43.0N	LONGITUDE 123 39.0W	MO/DAY/YR 08/17/78	MESSENGER 2036 GMT	TIME	BOTTOM 4499M	WIND 330	SPEED 17KT	WEATHER 1	Dominant Waves 330 6 5						
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD	
1	17.04	32.916	5.74	0.32	3.	0.01	0.0	398.6	0	17.04	32.916	5.74	23.930	398.6	0.000	
11	17.02	32.917	5.81	0.34	3.	0.01	0.0	398.1	10	17.02	32.918	5.81	23.935	398.2	0.040	
29	17.14	33.024	5.72	0.35	3.	0.00	0.0	393.0	20	17.08	32.971	5.77	23.962	395.6	0.080	
38	16.66	33.023	5.78	0.35	3.	0.01	0.0	382.4	30	17.10	33.024	5.72	23.998	392.1	0.119	
48	15.94	32.968	5.92	0.34	3.	0.00	0.0	370.8	50	15.76	32.962	5.96	24.256	367.5	0.195	
61	14.70	32.947	6.12	0.40	3.	0.00	0.0	346.4	75	13.26	32.989	6.01	24.807	315.0	0.281	
74	13.36	32.986	6.03	0.45	4.	0.02	0.0	317.2	100	10.90	33.109	5.47	25.344	264.0	0.354	
94	11.46	33.071	5.62	0.81	7.	0.05	5.6	276.3	125	9.73	33.408	4.77	25.776	222.9	0.415	
117	9.75	33.271	5.01	1.22	14.	0.03	12.2	233.2	150	9.50	33.703	3.82	26.044	197.4	0.468	
135	9.71	33.550	4.44	1.53	18.	0.03	17.6	212.0	200	9.18	34.027	2.25	26.348	168.5	0.562	
163	9.31	33.804	3.27	1.89	26.	0.12	22.8	186.9	250	8.76	34.102	1.96	26.475	156.5	0.645	
191	9.24	34.004	2.29	2.14	32.	0.04	25.7	171.0	300	8.32	34.160	1.65	26.587	145.9	0.723	
219	9.03	34.048	2.17	2.34	35.	0.05	26.8	164.6	400	7.38	34.190	1.22	26.749	130.5	0.867	
256	8.70	34.111	1.92	2.48	39.	0.03	28.5	155.0	500	6.37	34.233	0.65	26.921	114.1	0.996	
312	8.22	34.168	1.59	2.63	45.	0.06	30.3	143.8								
381	7.60	34.185	1.34	2.70	53.	0.02	33.3	133.8								
451	6.80	34.207	0.89	2.85	65.	0.09	36.4	121.5								
525	6.19	34.249	0.55	3.02	75.	0.05	38.5	110.7								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

80052

	LATITUDE 34 24.8N	LONGITUDE 120 35.8W	MO/DAY/YR 08/16/78	MESSENGER 1054 GMT	TIME	BOTTOM 270M	WIND 310	SPEED 16KT	WEATHER	Dominant Waves 310 2 3						
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD	
1	14.34	33.494	5.91	0.71	4.	0.10	2.9	299.1	0	14.34	33.494	5.91	24.974	299.1	0.000	
11	14.28	33.496	5.88	0.75	4.	0.10	3.1	297.8	10	14.29	33.496	5.88	24.987	297.9	0.030	
30	11.94	33.558	4.64	1.32	12.	0.34	11.4	248.9	20	13.31	33.509	5.39	25.197	277.9	0.059	
44	10.67	33.677	3.67	1.77	19.	0.40	18.1	218.1	30	11.94	33.558	4.64	25.502	248.9	0.085	
53	10.38	33.736	3.23	1.93	21.	0.27	20.5	209.0	50	10.45	33.719	3.36	25.897	211.4	0.131	
67	10.20	33.794	3.01	2.07	23.	0.09	21.9	201.7	75	10.09	33.820	2.95	26.037	198.1	0.183	
81	10.02	33.836	2.93	2.10	25.	0.17	22.7	195.7	100	9.91	33.865	2.85	26.103	191.8	0.232	
100	9.91	33.865	2.85	2.14	26.	0.12	23.3	191.8	125	9.74	33.971	2.55	26.213	181.3	0.279	
123	9.77	33.965	2.57	2.31	28.	0.10	24.8	182.2	150	9.45	34.019	2.34	26.299	173.2	0.324	
142	9.51	34.010	2.37	2.35	31.	0.11	26.3	174.8	200	9.15	34.084	2.09	26.398	163.7	0.410	
174	9.32	34.038	2.28	2.40	33.	0.05	27.1	169.8								
202	9.13	34.088	2.07	2.51	36.	0.09	28.0	163.1								
239	8.55	34.183	1.46	2.83	45.	0.08	31.1	147.4								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

80055

	LATITUDE 34 19.0N	LONGITUDE 120 48.0W	MO/DAY/YR 08/16/78	MESSENGER 1421 GMT	TIME	BOTTOM 741M	WIND 330	SPEED 15KT	WEATHER 2	Dominant Waves 310 2 3						
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD	
0	15.72	33.505	6.12	0.30	2.		0.1	326.9	0	15.72	33.505	6.12	24.683	326.9	0.000	
28	15.17	33.508	6.11					315.1	10	15.52	33.506	6.12	24.728	322.5	0.032	
37	15.51	33.503	5.50	0.33	3.		0.7	282.1	20	15.33	33.507	6.11	24.771	318.5	0.065	
46	12.40	33.517	4.99	0.47	7.		3.0	260.2	30	14.85	33.505	6.00	24.874	308.6	0.096	
60	10.67	33.580	4.18	0.89	10.		9.5	225.3	50	11.85	33.530	4.75	25.498	249.3	0.152	
74	10.12	33.669	3.65	1.27	17.		15.8	209.7	75	10.09	33.679	3.61	25.928	208.4	0.210	
92	9.65	33.839	3.10	1.42	21.		18.6	189.6	100	9.55	33.877	2.98	26.171	185.3	0.259	
116	9.42	33.932	2.80	1.71	26.		21.9	179.2	125	9.31	33.980	2.62	26.291	173.9	0.305	
133	9.21	34.020	2.47	1.83	30.		23.9	169.4	150	9.07	34.063	2.30	26.395	164.1	0.348	
161	8.99	34.079	2.21	1.96	33.		25.2	161.7	200	8.67	34.139	1.77	26.516	152.5	0.428	
188	8.74	34.125	1.86	2.02	36.		25.7	154.5	250	8.48	34.171	1.55	26.572	147.3	0.505	
215	8.61	34.151	1.69	2.21	41.		28.2	150.7	300	8.30	34.206	1.36	26.626	142.1	0.580	
252	8.47	34.172A	1.54	2.27	43.		29.0	147.1	400	6.64	34.103	1.31	26.783	127.3	0.721	
307	8.28	34.212	1.34	2.36	45.		30.4	141.3	500	6.19	34.207	0.66	26.923	113.9	0.847	
376	6.87	34.097	1.44	2.40	49.		30.3	130.6								
447	6.40	34.147	0.97	2.37	58.		32.3	120.9								
523	6.14	34.238	0.54	2.66	68.		37.2	110.9								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

80060

	LATITUDE 34 09.0N	LONGITUDE 121 09.0W	MO/DAY/YR 08/16/78	MESSENGER 1841 GMT	TIME	BOTTOM 2037M	WIND 300	SPEED 10KT	WEATHER 2	Dominant Waves 310 5 5						
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD	
1	15.56	33.277	6.18	0.41	2.		0.0	340.1	0	15.56	33.277	6.18	24.544	340.1	0.000	
9	15.54	33.283	6.21	0.40	2.		0.0	339.3	10	15.40	33.280	6.20	24.581	336.5	0.034	
28	12.22	33.151	5.79	0.76	6.		5.2	283.8	20	13.60	33.205	5.96	24.905	305.7	0.066	
38	11.24	33.370	5.34	1.12	9.		10.7	250.4	30	12.00	33.194	5.70	25.210	276.7	0.095	
48	10.12	33.326	5.15	1.07	13.		10.3	235.1	50	10.02	33.331	5.12	25.667	233.2	0.146	
61	9.77	33.385	4.88	1.27	15.		13.7	225.1	75	9.52	33.481	4.25	25.868	214.1	0.203	
76	9.51	33.491	4.19	1.57	21.		17.9	213.2	100	9.55	33.884	2.89	26.176	184.8	0.253	
94	9.63	33.837	3.05	1.91	26.		23.0	189.5	125	9.18	34.013	2.41	26.337	169.5	0.298	
117	9.26	33.956	2.63	2.08	31.		25.0	174.9	150	9.01	34.141	1.96	26.465	157.5	0.339	
135	9.11	34.081	2.15	2.31	36.		27.3	163.4	200	8.66	34.180	1.62	26.551	149.3	0.418	
162	8.94	34.168	1.87	2.45	39.		28.2	154.3	250	8.27	34.205	1.36	26.630	141.7	0.492	
189	8.72	34.184	1.66	2.50	42.		29.0	149.9	300	7.91	34.214	1.10	26.692	135.9	0.564	
217	8.56	34.173	1.56	2.59	45.		30.0	148.3	400	6.67	34.188	0.87	26.846	121.3	0.698	
253	8.24	34.208	1.34	2.73	49.		31.7	141.1	500	5.88	34.222	0.57	26.976	109.0	0.820	
308	7.85	34.216	1.07	2.86	54.		33.1	134.9								
379	6.97	34.199	0.93	3.02	63.		36.6	124.3								
449	6.08	34.177	0.72	3.19	74.		39.6	114.8								
527	5.77	34.241	0.49	3.40	82.		40.9	106.3								

A) AN ERROR OF -0.01 (0.393 PPT) IN THE CONDUCTIVITY RATIO HAS BEEN ASSUMED FOR THIS VALUE.

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
33 48.5N		121 51.0W		08/17/78		0137 GMT		3546M	330	12KT	2	310 4 5			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	16.27	33.423	6.17	0.58	2.	0.03	0.4	344.7	0	16.27	33.423	6.17	24.496	344.7	0.000
10	16.12	33.432	6.26	0.55	2.	0.03	0.5	340.8	10	16.12	33.432	6.26	24.537	340.8	0.034
29	12.63	33.480	5.78	1.00	6.	0.32	6.3	267.2	20	14.43	33.454	6.01	24.924	303.9	0.067
38	11.65	33.437	5.17	1.29	10.	0.74	9.8	252.6	30	12.51	33.476	5.71	25.330	265.2	0.095
47	10.80	33.435	4.86	1.39	12.	0.92	12.0	238.2	50	10.66	33.467	4.68	25.664	233.5	0.145
61	10.27	33.595	4.05	1.71	18.	0.45	17.6	217.6	75	9.36	33.630	3.89	26.010	200.6	0.200
75	9.36	33.630	3.89	1.81	22.	0.07	20.0	200.6	100	8.90	33.813	3.40	26.226	180.1	0.248
92	9.05	33.764	3.47	1.98	26.	0.06	22.7	185.9	125	8.52	33.929	3.07	26.376	165.9	0.291
117	8.62	33.896	3.26	2.09	31.	0.23	24.1	169.8	150	8.26	34.003	2.68	26.473	156.7	0.332
135	8.42	33.964	2.84	2.22	34.	0.26	26.4	161.8	200	7.73	34.051	2.38	26.591	145.5	0.409
162	8.14	34.024	2.61	2.37	38.	0.05	28.5	153.3	250	7.03	34.062	1.96	26.698	135.4	0.481
195	7.79	34.048	2.43	2.48	42.	0.18	29.5	146.6	300	6.72	34.117	1.35	26.784	127.2	0.549
222	7.43	34.062	2.16	2.58	48.	0.04	31.4	140.6	400	6.11	34.196	0.71	26.926	113.7	0.674
261	6.90	34.064	1.88	2.70	55.	0.05	33.3	133.5	500	5.61	34.261	0.48	27.039	103.0	0.789
316	6.68	34.142	1.13	3.00	63.	0.04	36.8	124.8							
386	6.20	34.189	0.75	3.18	73.	0.05	39.0	115.3							
456	5.78	34.224	0.59	3.31	82.	0.09	40.2	107.7							
531	5.54	34.293	0.40	3.44	89.	0.03	41.6	99.7							

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
33 28.7N		122 32.0W		08/17/78		0736 GMT		3926M	320	13KT					
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	16.02	33.388	6.06	0.56	1.	0.02	0.3	341.8	0	16.02	33.388	6.06	24.526	341.8	0.000
9	15.96	33.387	6.12	0.55	1.	0.01	0.3	340.6	10	15.76	33.393	6.09	24.589	335.8	0.034
27	12.03	33.583	5.38	1.20	9.	0.40	9.1	248.6	20	13.62	33.483	5.73	25.114	285.8	0.065
37	11.57	33.607	4.98	1.43	12.	0.48	11.8	238.7	30	11.84	33.594	5.26	25.550	244.4	0.092
47	10.96	33.669	4.60	1.60	14.	0.79	14.5	223.6	50	10.74	33.682	4.47	25.817	219.0	0.138
60	10.06	33.716	4.07	1.83	19.	1.04	19.0	205.3	75	9.57	33.768	3.62	26.083	193.6	0.190
75	9.57	33.768	3.62	1.96	23.	0.06	22.8	193.6	100	9.02	33.886	2.97	26.264	176.5	0.237
93	9.18	33.855A	3.09	2.15	28.	0.03	25.0	181.2	125	8.71	34.008	2.50	26.409	162.7	0.280
117	8.73	33.963A	2.69	2.24	33.	0.02	27.0	166.4	150	8.67	34.106	2.01	26.491	154.9	0.320
135	8.68	34.054A	2.26	2.42	36.	0.03	28.7	158.9	200	8.13	34.136	1.77	26.597	144.9	0.396
164	8.66	34.142	1.86	2.55	40.	0.06	29.6	152.1	250	7.80	34.203	1.30	26.698	135.3	0.468
191	8.20	34.127	1.83	2.64	43.	0.02	30.5	146.5	300	7.23	34.219	1.04	26.793	126.3	0.536
219	8.03	34.162	1.60	2.68	47.	0.03	31.6	141.5	400	6.25	34.227	0.74	26.932	113.1	0.661
256	7.75	34.209	1.25	2.86	52.	0.02	33.5	134.1	500	5.46	34.277	0.46	27.070	100.1	0.773
311	7.09	34.217	1.01	3.02	61.	0.03	35.8	124.5							
381	6.39	34.215	0.82	3.18	70.	0.02	38.9	115.7							
450	5.89	34.261	0.53	3.27	80.	0.03	40.3	106.2							
523	5.25	34.279	0.43	3.40	92.	0.01	42.2	97.5							

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
33 09.0N		123 13.0W		08/17/78		1329 GMT		4117M		330		15KT					
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	17.25	33.077	5.65	0.39	3.	0.01	0.0	391.6	0	17.25	33.077	5.65	24.003	391.6	0.000		
11	17.25	33.074	5.73	0.38	3.	0.00	0.0	391.8	10	17.25	33.075	5.73	24.001	391.8	0.039		
30	17.24	33.076	5.66	0.36	3.	0.00	0.0	391.5	20	17.25	33.075	5.69	24.002	391.8	0.078		
39	16.66	33.055	5.78	0.35	3.	0.00	0.0	380.1	30	17.24	33.076	5.66	24.005	391.5	0.118		
54	14.27	32.894	6.12	0.38	1.	0.00	0.0	341.7	50	14.88	32.913	6.05	24.413	352.6	0.192		
67	14.13	33.201	5.94	0.38	4.	0.02	0.0	316.4	75	13.54	33.167	5.89	24.888	307.3	0.275		
91	12.26	33.103	5.74	0.53	6.	0.14	1.7	288.1	100	11.28	33.106	5.53	25.273	270.7	0.348		
110	10.30	33.152	5.26	0.93	11.	0.02	8.9	250.8	125	9.70	33.301	4.87	25.697	230.3	0.411		
128	9.64	33.335	4.79	1.22	16.	0.07	13.3	226.8	150	9.14	33.587	4.19	26.012	200.4	0.466		
147	9.17	33.552	4.30	1.47	21.	0.17	17.6	203.5	200	8.64	33.968	2.84	26.389	164.7	0.559		
174	8.97	33.827	3.31	1.87	28.	0.05	23.4	180.1	250	8.06	34.060	2.34	26.548	149.6	0.639		
207	8.54	33.990	2.77	2.04	34.	0.13	25.6	161.6	300	7.14	34.052	2.12	26.675	137.5	0.713		
234	8.25	34.039	2.49	2.19	39.	0.04	28.0	153.8	400	5.94	34.098	1.22	26.871	118.9	0.846		
280	7.62	34.074	2.13	2.35	46.	0.04	29.8	142.3	500	5.50	34.202	0.60	27.007	106.0	0.964		
330	6.45	34.022	2.10	2.51	57.	0.03	33.6	130.9									
408	5.92	34.111	1.10	2.89	72.	0.05	38.0	117.8									
488	5.50	34.183	0.65	3.04	84.	0.08	39.8	107.5									
570	5.47	34.302	0.38	3.19	90.	0.03	40.9	98.2									

A) THE SALINITY BOTTLES FROM 93 TO 135 METERS INCLUSIVE, APPEAR TO HAVE BEEN LISTED OUT OF ORDER ON THE ORIGINAL DATA SHEET. COMPARISON WITH THE CTDO DATA INDICATES THEY ARE NOW IN THE CORRECT ORDER.

LATITUDE 34 16.5N		LONGITUDE 119 59.0W		MO/DAY/YR 08/15/78		MESSENGER TIME 1646 GMT		BOTTOM 547M	WIND 200	SPEED 7KT	WEATHER 4	DOMINANT WAVES 230 2 4			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD
2	18.22	33.526	5.98	0.20	2.		0.0	381.3	0	18.22	33.526	5.98	24.112	381.3	0.000
10	18.05	33.521	6.07	0.21	2.		0.0	377.7	10	18.05	33.521	6.07	24.150	377.7	0.038
29	12.75	33.513	5.03	0.79	10.		8.0	266.9	20	15.30	33.517	5.48	24.785	317.1	0.073
44	11.33	33.552	4.34	1.09	15.		12.8	238.6	30	12.59	33.514	4.99	25.343	264.0	0.102
52	10.76	33.629	3.82	1.34	19.		17.3	223.2	50	10.89	33.609	3.95	25.734	226.8	0.151
67	10.31	33.744	3.27	1.49	23.		19.9	207.2	75	10.08	33.808	3.02	26.029	198.8	0.205
81	9.94	33.855	2.86	1.68	26.		22.3	193.0	100	9.78	33.981	2.45	26.215	181.1	0.253
94	9.83	33.948	2.55	1.75	28.		23.7	184.4	125	9.51	34.060	2.21	26.321	171.1	0.297
118	9.60	34.048	2.26	2.00	32.		25.4	173.4	150	9.29	34.087	2.08	26.378	165.7	0.340
136	9.38	34.071	2.15	1.97	34.		26.3	168.3	200	8.98	34.161	1.65	26.485	155.5	0.422
164	9.23	34.104	1.99	2.04	36.		26.8	163.5	250	8.67	34.188	1.33	26.555	148.9	0.500
192	9.05	34.151	1.73	2.15	39.		28.3	157.3	300	8.27	34.196	1.12	26.623	142.4	0.576
220	8.82	34.178	1.48	2.28	42.		29.8	151.8	400	7.28	34.211	0.68	26.780	127.5	0.716
257	8.64	34.188	1.31	2.38	45.		31.1	148.4	500	6.54	34.240	0.07	26.907	115.7	0.845
312	8.15	34.197	1.07	2.54	52.		32.3	140.6							
363	7.62	34.202	0.84	2.61	59.		32.8	132.8							
419	7.12	34.217	0.59	2.81	70.		34.3	124.9							
475	6.73	34.233	0.25	3.01	82.		32.2U	118.7							

LATITUDE 34 10.0N		LONGITUDE 119 29.5W		MO/DAY/YR 08/15/78		MESSENGER TIME 1003 GMT		BOTTOM 194M	WIND 310	SPEED 5KT	WEATHER	DOMINANT WAVES			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD
1	18.05	33.502	6.17	0.32	2.	0.02	0.1	379.0	0	18.05	33.502	6.17	24.135	379.0	0.000
10	17.53	33.471	6.37	0.29	2.	0.01	0.0	369.3	10	17.53	33.471	6.37	24.237	369.3	0.037
29	10.92	33.501	4.46	1.25	14.	0.40	13.4	235.3	20	14.04	33.486	5.41	25.031	293.7	0.071
38	10.46	33.562	4.07	1.55	17.	0.08	17.4	223.2	30	10.87	33.504	4.44	25.656	234.3	0.097
53	10.33	33.744	3.12	1.82	21.	0.17	20.5	207.6	50	10.36	33.718	3.29	25.912	209.9	0.142
67	10.25	33.775	3.00	1.90	22.	0.10	21.4	204.0	75	10.21	33.798	2.93	26.000	201.6	0.193
81	10.18	33.813	2.89	1.95	23.	0.05	22.1	200.0	100	10.13	33.834	2.83	26.041	197.7	0.244
100	10.13	33.834	2.83	2.00	24.	0.04	22.3	197.7	125	10.05	33.874	2.74	26.087	193.3	0.293
118	10.09	33.848	2.80	2.00	24.	0.10	22.2	196.0	150	9.80	33.992	2.42	26.220	180.7	0.341
141	9.90	33.951	2.54	2.13	27.	0.06	23.9	185.3							
164	9.62	34.056	2.22	2.35	33.	0.17	25.8	173.1							

LATITUDE 33 52.0N		LONGITUDE 120 08.5W		MO/DAY/YR 08/15/78		MESSENGER TIME 0303 GMT		BOTTOM 223M	WIND 300	SPEED 14KT	WEATHER 1	DOMINANT WAVES 290 4 4			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD
0	18.49	33.494	5.94	0.45	2.	0.00	0.0	390.0	0	18.49	33.494	5.94	24.021	390.0	0.000
10	18.35	33.497	6.00	0.46	2.	0.00	0.0	386.4	10	18.35	33.497	6.00	24.058	386.4	0.039
30	12.82	33.432	5.79	0.86	6.	0.17	5.0	274.2	20	15.71	33.464	5.90	24.654	329.6	0.075
44	11.90	33.450	5.08	1.19	9.	0.40	9.3	256.1	30	12.82	33.432	5.79	25.236	274.2	0.105
53	10.95	33.517	4.22	1.51	14.	0.44	14.4	234.6	50	11.26	33.490	4.51	25.574	242.0	0.157
68	10.16	33.731	3.33	1.82	21.	0.07	20.4	205.8	75	10.12	33.756	3.26	25.981	203.4	0.213
82	10.09	33.780	3.19	1.86	22.	0.09	20.9	201.0	100	9.98	33.847	3.00	26.076	194.4	0.263
101	9.98	33.850	2.99	1.95	25.	0.07	21.5	194.1	125	9.97	33.862	2.89	26.090	193.0	0.312
124	9.97	33.860	2.89	2.05	25.	0.07	22.8	193.2	150	9.88	33.927	2.71	26.156	186.8	0.360
143	9.91	33.901	2.79	2.05	26.	0.07	23.1	189.2	200	9.75	34.020	2.44	26.250	177.8	0.453
170	9.80	33.995	2.51	2.16	29.	0.19	24.1	180.5							
192	9.76	34.014	2.46	2.17	29.	0.04	24.5	178.4							

LATITUDE 33 44.0N		LONGITUDE 120 24.5W		MO/DAY/YR 08/14/78		MESSENGER TIME 2300 GMT		BOTTOM 898M	WIND 290	SPEED 10KT	WEATHER 1	DOMINANT WAVES 270 5 4			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD
1	17.34	33.43 B	6.04	0.25	3.	0.00	0.1	368.0	0	17.34	33.430	6.04	24.252	368.0	0.000
11	16.48	33.46 B	6.00	0.26	3.	0.02	0.8	346.6	10	16.58	33.457	6.00	24.450	349.1	0.036
31	13.73	33.58 B	5.41	0.68	6.	0.18	6.3	280.7	20	15.30	33.511	5.81	24.780	317.6	0.069
41	12.52	33.612	4.90	0.98	10.	0.28	10.5	255.4	30	13.88	33.574	5.45	25.131	284.2	0.099
52	9.85	33.673	3.79	1.46	20.	0.34	18.3	205.1	50	10.31	33.656	3.99	25.871	213.8	0.149
66	9.42	33.777	3.47	1.70	24.	0.11	21.9	190.7	75	9.37	33.876	3.15	26.200	182.6	0.199
82	9.33	33.933	2.93	1.82	28.	0.03	23.9	177.7	100	9.23	33.963	2.80	26.291	173.9	0.244
102	9.22	33.964	2.80	1.90	30.	0.01	24.5	173.7	125	8.89	34.069	2.35	26.429	160.9	0.287
126	8.87	34.075	2.32	2.08	35.	0.23	26.1	160.2	150	8.65	34.119	2.15	26.505	153.6	0.327
146	8.68	34.114	2.17	2.18	38.	0.15	27.7	154.5	200	8.36	34.178	1.80	26.595	145.1	0.403
176	8.47	34.146	1.99	2.31	42.	0.03	28.9	149.0	250	7.87	34.201	1.45	26.687	136.4	0.475
205	8.34	34.184	1.76	2.40	44.	0.11	29.5	144.3	300	7.47	34.230	1.14	26.768	128.6	0.544
234	8.10	34.207	1.51	2.51	49.	0.03	31.3	139.1	400	6.84	34.276	0.85	26.892	116.9	0.672
273	7.56	34.194	1.37	2.60	53.	0.02	32.6	132.6	500	6.43	34.321	0.50	26.982	108.3	0.791
330	7.43	34.276	0.89	2.79	60.	0.04	34.5	124.7							
402	6.82	34.275	0.85	2.93	67.	0.03	36.5	116.7							
474	6.56	34.311	0.53	3.01	73.	0.08	37.5	110.7							
550	6.13	34.335	0.43	3.12	79.	0.03	39.2	103.6							

A) MEAN OF 12.79 AND 12.84 DEGREES.

B) THESE SALINITY SAMPLES WERE NOT COLLECTED. THE LISTED OBSERVED VALUES ARE FROM THE CTDO LOWERING AT THIS STATION.

LATITUDE 33 34.0N		LONGITUDE 120 45.0W		MO/DAY/YR 08/14/78		MESSENGER 1740 GMT		TIME	BOTTOM 1387M	WIND 320	SPEED 13KT	WEATHER 2	DOMINANT WAVES 300 6 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	15.47	33.071	6.08	0.24	2.		0.1	353.3	0	15.47	33.071	6.08	24.406	353.3	0.000
9	15.40	33.065	6.10	0.23	2.		0.1	352.3	10	15.34	33.065	6.10	24.429	351.1	0.035
29	13.48	33.056	6.19	0.34	3.		0.2	314.3	20	14.47	33.060	6.15	24.613	333.5	0.069
38	12.74	33.107	6.02	0.50	4.		2.6	296.6	30	13.39	33.057	6.18	24.833	312.6	0.102
47	12.03	33.311	5.61	0.84	8.		8.2	268.7	50	11.69	33.304	5.53	25.352	263.1	0.160
61	10.54	33.283	5.21	0.93	11.		9.4	245.1	75	9.91	33.357	4.96	25.707	229.4	0.222
76	9.89	33.367	4.93	1.08	14.		12.6	228.3	100	9.80	33.796	3.26	26.066	195.3	0.275
95	9.85	33.744	3.45	1.57	22.		20.1	199.8	125	9.36	33.959	2.70	26.266	176.3	0.322
117	9.55	33.908	2.88	1.87	28.		23.7	183.0	150	8.98	34.070	2.25	26.414	162.2	0.365
135	9.14	34.015	2.49	2.05	33.		26.0	168.7	200	8.46	34.164	1.68	26.569	147.5	0.444
164	8.89	34.104	2.07	2.25	37.		27.6	158.3	250	7.74	34.184	1.31	26.693	135.8	0.517
191	8.62	34.154	1.78	2.37	42.		29.5	150.6	300	7.27	34.226	0.93	26.793	126.3	0.585
217	8.15	34.177	1.51	2.54	46.		31.5	142.1	400	6.58	34.277	0.54	26.927	113.6	0.710
255	7.69	34.185	1.28	2.69	53.		33.6	135.0	500	5.97	34.304	0.39	27.028	104.0	0.825
310	7.19	34.236	0.86	2.85	61.		35.6	124.5							
380	6.70	34.268	0.59	2.99	70.		37.2	115.7							
450	6.30	34.295	0.45	3.15	77.		39.1	108.6							
525	5.80	34.306	0.38	3.17	85.		40.3	101.8							

LATITUDE 33 14.5N		LONGITUDE 121 26.0W		MO/DAY/YR 08/14/78		MESSENGER 1104 GMT		TIME	BOTTOM 3738M	WIND 310	SPEED 15KT	WEATHER	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	16.10	33.281	6.05	0.39	2.		0.3	351.4	0	16.10	33.281	6.05	24.426	351.4	0.000
11	16.07	33.297	6.06	0.38	1.		0.4	349.5	10	16.07	33.296	6.06	24.443	349.7	0.035
29	13.90	33.531	6.16	0.57	2.		3.7	288.7	20	15.17	33.400	6.11	24.723	323.1	0.069
38	12.95	33.617	5.77	0.82	5.		7.0	262.1	30	13.86	33.549	6.13	25.117	285.5	0.099
47	10.81	33.412	5.09	1.12	12.		12.2	240.0	50	10.35	33.364	4.98	25.637	236.1	0.152
60	9.59	33.327	4.69	1.30	17.		15.8	226.6	75	10.11	33.672	3.94	25.919	209.3	0.208
73	10.20	33.672	3.93	1.55	19.		19.3	210.8	100	9.07	33.738	3.68	26.140	188.2	0.258
92	9.06	33.656	3.98	1.52	23.		20.4	194.1	125	9.07	33.945	2.57	26.302	172.9	0.303
115	9.10	33.872	2.95	1.86	29.		25.2	178.7	150	8.72	34.050	2.29	26.440	159.8	0.346
133	9.05	33.998	2.34	2.02	33.		27.0	168.6	200	7.64	34.030	2.51	26.586	145.9	0.424
161	8.43	34.058	2.26	2.11	38.		28.6	154.9	250	7.18	34.075	1.88	26.687	136.3	0.496
189	7.76	34.027	2.57	2.11	42.		29.3	147.7	300	6.69	34.102	1.37	26.776	128.0	0.564
216	7.52	34.040	2.33	2.19	46.		30.4	143.5	400	5.99	34.180	0.73	26.928	113.5	0.690
253	7.15	34.078	1.84	2.39	52.		33.0	135.7	500	5.42	34.238	0.46	27.045	102.4	0.803
309	6.61	34.106	1.30	2.65	62.		36.4	126.6							
378	6.15	34.164	0.82	2.81	74.		38.7	116.6							
450	5.66	34.212	0.58	3.01	82.		40.5	107.2							
526	5.32	34.249	0.42	3.04	91.		41.8	100.5							

LATITUDE 32 53.3N		LONGITUDE 122 07.8W		MO/DAY/YR 08/14/78		MESSENGER 0442 GMT		TIME	BOTTOM 4022M	WIND 350	SPEED 15KT	WEATHER 1	DOMINANT WAVES 340 4 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	15.93	32.940	6.00	0.41	1.	0.00	0.0	372.6	0	15.93	32.940	6.00	24.203	372.6	0.000
10	15.91	32.936	6.01	0.43	1.	0.00	0.0	372.5	10	15.91	32.936	6.01	24.204	372.5	0.037
29	13.48	33.068	6.39	0.54	2.	0.10	1.2	313.4	20	14.83	32.988	6.24	24.480	346.2	0.073
39	12.19	33.149		0.84	4.	0.24	5.0	283.4	30	13.33	33.078	6.37	24.862	309.8	0.106
48	11.96	33.161	5.85	0.92	5.	0.25	5.9	278.4	50	11.95	33.201	5.80	25.224	275.4	0.165
63	11.90	33.458	5.53	1.12	8.	0.35	8.3	255.5	75	11.33	34.504	5.27	26.349	168.4	0.221
77	11.19	33.516	5.22	1.28	12.	0.32	11.4	238.8	100	9.21	33.485	4.36	25.921	209.1	0.268
95	9.26	33.418	4.49	1.55	19.	0.06	16.7	214.8	125	9.02	33.768	3.49	26.172	185.2	0.318
119	9.02	33.697	3.80	1.80	25.	0.03	21.2	190.4	150	8.93	33.954	2.74	26.331	170.1	0.363
137	9.03	33.891	2.89	2.08	30.	0.03	24.9	176.2	200	8.22	34.060	2.40	26.525	151.8	0.445
167	8.73	33.993	2.54	2.19	34.	0.05	26.5	164.2	250	7.38	34.037	2.43	26.629	141.8	0.521
196	8.30	34.063	2.36	2.33	39.	0.03	27.9	152.7	300	6.82	34.055	1.87	26.721	133.2	0.591
223	7.77	34.032	2.62	2.30	42.	0.02	28.6	147.5	400	5.98	34.135	0.86	26.894	116.7	0.721
260	7.26	34.043	2.30	2.46	48.	0.02	31.3	139.7	500	5.41	34.220	0.51	27.031	103.7	0.937
313	6.70	34.060	1.72	2.70	57.	0.04	34.3	131.2							
383	6.09	34.116	0.99	3.02	70.	0.01	38.3	119.4							
452	5.69	34.190	0.59	3.14	81.	0.06	39.8	109.2							
527	5.25	34.229	0.47	3.30	91.	0.02	41.5	101.2							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

83090

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
32 34.5N		122 50.0W		08/13/78		2133 GMT			3926M	350	14KT	1	350 4 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	18.81	33.291	5.50	0.35	2.		0.0	412.3	0	18.81	33.291	5.50	23.786	412.3	0.000
11	18.77	33.289	5.53	0.36	2.		0.0	411.5	10	18.77	33.290	5.53	23.794	411.6	0.041
29	18.36	33.286	5.61	0.33	2.		0.0	402.0	20	18.55	33.287	5.56	23.848	406.4	0.082
38	18.39	33.447	5.67	0.31	2.		0.0	391.0	30	18.36	33.302	5.62	23.905	401.0	0.123
47	17.47	33.327	5.77	0.29	2.		0.0	378.4	50	17.24	33.296	5.79	24.172	375.5	0.201
61	16.51	33.202	5.86	0.29	2.		0.0	366.0	75	15.58	33.135	5.90	24.430	350.9	0.292
75	15.58	33.135	5.90	0.30	2.		0.0	350.9	100	14.23	33.191	5.87	24.764	319.1	0.376
94	14.60	33.163	5.90	0.33	3.		0.0	328.6	125	12.17	33.243	5.62	25.215	276.2	0.451
117	12.96	33.253	5.72	0.45	5.		1.4	290.0	150	10.36	33.274	5.35	25.566	242.8	0.517
135	11.22	33.234	5.49	0.66	8.		5.5	260.1	200	8.84	33.660	4.48	26.117	190.5	0.627
163	9.86	33.339	5.21	0.94	12.		10.1	230.0	250	8.16	33.977	3.61	26.468	157.1	0.716
191	9.00	33.581	4.63	1.31	20.		16.7	198.8	300	7.37	34.022	2.82	26.619	142.8	0.793
219	8.57	33.810	4.18	1.62	26.		21.0	175.4	400	6.32	34.088	1.40	26.813	124.4	0.932
256	8.08	33.997	3.50	1.88	34.		25.3	154.5	500	5.62	34.174	0.73	26.970	109.5	1.055
311	7.20	34.028	2.66	2.21	47.		30.0	140.1							
381	6.48	34.075	1.59	2.64	61.		34.8	127.3							
452	5.94	34.128	1.02	2.94	73.		38.8	116.8							
527	5.45	34.203	0.60	3.06	85.		40.1	105.4							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

87036

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 49.0N		118 40.0W		08/12/78		0005 GMT			768M	260	10KT	2	270 3 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	20.76	33.516	5.65	0.26	1.		0.0	444.2	0	20.76	33.516	5.65	23.452	444.2	0.000
11	17.73	33.443	6.31	0.27	2.		0.0	375.9	10	18.04	33.449	6.30	24.097	382.7	0.041
29	12.11	33.402	5.19	0.88	8.		9.0	263.4	20	14.90	33.422	5.90	24.799	315.8	0.076
39	11.57	33.417	4.79	1.11	11.		12.6	252.7	30	12.01	33.405	5.14	25.371	261.4	0.105
48	10.73	33.471	4.42	1.30	15.		14.9	234.4	50	10.69	33.500	4.32	25.684	231.6	0.155
62	10.47	33.607	3.73	1.50	18.		17.6	220.0	75	10.47	33.724	3.29	25.897	211.4	0.210
76	10.47	33.731	3.26	1.63	21.		19.7	210.8	100	10.28	33.866	2.68	26.040	197.8	0.262
95	10.31	33.835	2.82	1.84	24.		21.5	200.5	125	10.15	34.004	2.24	26.170	185.4	0.311
118	10.19	33.970	2.27	2.07	28.		24.1	188.6	150	9.87	34.072	2.20	26.270	175.9	0.356
137	10.05	34.049	2.18	2.16	30.		25.1	180.5	200	9.38	34.160	1.89	26.421	161.6	0.443
164	9.67	34.088	2.21	2.15	32.		25.4	171.5	250	9.18	34.225	1.58	26.502	153.9	0.524
192	9.43	34.144	1.95	2.25	35.		26.8	163.6	300	8.66	34.250	1.33	26.605	144.1	0.601
219	9.28	34.194	1.76	2.41	37.		28.1	157.6	400	7.71	34.285	0.83	26.776	127.9	0.743
256	9.16	34.228	1.55	2.50	39.		29.0	153.2	500	6.63	34.288	0.51	26.930	113.3	0.871
311	8.52	34.255	1.28	2.61	46.		30.7	141.7							
380	7.96	34.288	0.91	2.84	54.		33.3	131.1							
451	7.07	34.276	0.66	3.01	64.		36.1	119.9							
527	6.45	34.301	0.44	3.21	74.		38.5	110.1							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

87040

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
33 40.0N		118 58.0W		08/12/78		0425 GMT			888M	250	10KT	2	270 3 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.58	33.522	5.65	0.44	2.		0.1	414.2	0	19.58	33.522	5.65	23.767	414.2	0.000
11	19.12	33.514	5.85	0.41	2.		0.1	403.6	10	19.17	33.515	5.83	23.867	404.6	0.041
30	12.28	33.445		0.92	6.		7.3	263.3	20	15.95	33.478	5.67	24.610	333.8	0.078
38	11.41	33.456	4.77	1.27	10.		11.7	247.0	30	12.28	33.445	5.23	25.351	263.3	0.108
47	10.86	33.504	4.20	1.45	14.		14.9	234.1	50	10.70	33.528	4.07	25.704	229.7	0.157
61	10.25	33.617	3.72	1.64	19.		18.5	215.6	75	10.00	33.690	3.50	25.951	206.3	0.212
76	9.99	33.694	3.49	1.77	21.		20.4	205.8	100	9.64	33.836	3.15	26.124	189.8	0.262
95	9.68	33.807	3.21	1.78	25.		21.3	192.5	125	9.43	33.976	2.73	26.268	176.1	0.308
117	9.53	33.930	2.90	2.01	28.		24.0	181.0	150	9.20	34.065	2.33	26.375	166.0	0.352
135	9.31	34.027	2.52	2.16	31.		25.4	170.4	200	8.77	34.173	1.81	26.528	151.4	0.433
164	9.11	34.087	2.20	2.30	35.		27.2	162.9	250	8.46	34.233	1.42	26.624	142.4	0.508
191	8.84	34.158	1.91	2.43	39.		28.3	153.6	300	8.16	34.262	1.14	26.692	135.9	0.580
220	8.64	34.199	1.61	2.54	43.		29.8	147.6	400	7.27	34.266	0.79	26.825	123.3	0.716
256	8.42	34.238	1.39	2.62	46.		30.5	141.4	500	6.44	34.299	0.47	26.964	110.1	0.839
311	8.09	34.265	1.08	2.83	53.		32.8	134.7							
381	7.48	34.263	0.88	2.88	58.		34.9	126.3							
450	6.75	34.279	0.58	3.09	69.		37.4	115.5							
522	6.36	34.309	0.45	3.21	77.		39.0	108.3							

A) MEAN OF 17.67 AND 17.79 DEGREES.

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

87045

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
33 30.0N		119 19.0W		08/12/78		0934 GMT			1664M	270	6KT					
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	17.84	33.577	6.10	0.30	0.		0.0	368.7	0	17.84	33.577	6.10	24.243	368.7	0.000	
10	15.58	33.581	6.25	0.43	1.		0.6	318.3	10	15.58	33.581	6.25	24.772	318.3	0.034	
38	11.54	33.703	4.14	1.36	16.		15.0	231.1	20	13.76	33.617	5.66	25.189	278.7	0.064	
61	9.75	33.832	3.15	1.78	25.		22.3	191.7	30	12.36	33.667	4.89	25.507	248.5	0.091	
80	9.44	33.911	2.85	2.03	29.		24.4	181.0	50	10.42	33.774	3.54	25.943	206.9	0.136	
94	9.11	34.000	2.58	2.15	32.		26.1	169.4	75	9.48	33.890	2.91	26.194	183.2	0.185	
107	8.92	34.041	2.54	2.16	33.		26.7	163.5	100	9.01	34.022	2.56	26.372	166.3	0.230	
126	8.68	34.075	2.46	2.24	36.		27.5	157.4	125	8.69	34.074	2.47	26.463	157.6	0.271	
144	8.58	34.073	2.29	2.34	38.		28.4	156.0	150	8.61	34.087	2.20	26.487	155.4	0.310	
167	8.72	34.137	1.96	2.45	39.		29.0	153.4	200	8.64	34.193	1.65	26.563	148.1	0.388	
190	8.79	34.181	1.75	2.48	40.		29.4	151.1	250	8.19	34.222	1.30	26.656	139.3	0.462	
213	8.42	34.203	1.53	2.65	46.		30.8	144.1	300	7.83	34.248	1.06	26.730	132.3	0.532	
241	8.24	34.213	1.34	2.71	47.		31.9	140.7	400	7.21	34.268	0.76	26.834	122.4	0.665	
273	8.04	34.244	1.20	2.85	50.		33.0	135.5	500	6.58	34.294	0.55	26.941	112.3	0.789	
319	7.68	34.246	0.96	2.92	55.		34.3	130.3								
379	7.34	34.264	0.81	2.98	60.		35.4	124.4								
449	6.91	34.277	0.64	3.14	67.		37.1	117.7								
525	6.42	34.305	0.52	3.13	76.		38.3	109.4								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

87050

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
33 20.0N		119 39.5W		08/12/78		1346 GMT			73M	250	7KT	2	270 1 4			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	17.51	33.573	5.94	0.39	1.		0.2	361.4	0	17.51	33.573	5.94	24.320	361.4	0.000	
10	15.67	33.580	5.70	0.61	3.		2.9	320.3	10	15.67	33.580	5.70	24.751	320.3	0.034	
18	12.45	33.574	5.06	1.12	10.		10.4	256.9	20	12.33	33.574	5.02	25.441	254.7	0.063	
28	11.53	33.576	4.68	1.38	12.		13.5	240.3	30	11.34	33.589	4.54	25.637	236.0	0.087	
48	9.98	33.767	3.32	1.83	22.		20.5	200.2	50	9.88	33.787	3.23	26.047	197.1	0.131	
60	9.52	33.886	2.90	2.09	28.		23.7	184.1								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

87060

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
33 00.0N		120 21.5W		08/12/78		2102 GMT			706M	280	4KT	2	330 5 5			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	17.53	33.023	5.65	0.45	3.		0.2	401.9	0	17.53	33.023	5.65	23.895	401.9	0.000	
10	17.19	33.013	5.57	0.36	3.		0.0	394.9	10	17.19	33.013	5.57	23.968	394.9	0.040	
29	15.25	32.953A	6.02	0.38	2.		0.0	357.3	20	16.17	32.973	5.77	24.173	375.5	0.078	
38	14.89	32.972	6.13	0.35	2.		0.0	348.5	30	15.22	32.954	6.04	24.371	356.6	0.115	
48	13.75	33.059	6.02	0.34	3.		0.0	319.3	50	13.56	33.062	5.99	24.801	315.6	0.183	
62	12.39	33.061	5.69	0.57	6.		2.5	293.6	75	10.59	33.150	5.10	25.430	255.7	0.254	
76	10.46	33.161	1.11	1.12			11.4	252.8	100	9.63	33.532	4.01	25.889	212.1	0.313	
94	9.78	33.456	4.20	1.44	18.		16.9	220.0	125	9.13	33.778	3.36	26.162	186.2	0.364	
117	9.30	33.706	3.57	1.82	24.		21.6	194.0	150	8.62	33.921	3.04	26.354	168.0	0.438	
136	8.91	33.859	3.12	1.96	29.		24.2	176.8	200	8.15	34.065	2.32	26.539	150.4	0.490	
163	8.39	33.957	3.01	2.84W	34.		25.8	161.9	250	8.15	34.181	1.53	26.631	141.7	0.565	
191	8.09	34.024	2.59	2.35	39.		28.5	152.6	300	7.75	34.224	1.13	26.722	133.0	0.636	
218	8.30	34.143	1.81	2.67	43.		30.2	146.8	400	6.72	34.260	1.22	26.896	116.5	0.766	
254	8.11	34.182	1.52	2.73	47.		31.6	141.1	500	6.07	34.314	0.54	27.024	104.4	0.883	
309	7.67	34.230	1.08	2.90	54.		33.3	131.4								
378	6.89	34.242	1.37	3.06	65.		35.9	120.1								
448	6.40	34.299		3.28	74.		38.7	109.6								
524	5.93	34.313	0.38	3.31	82.		39.0	102.8								

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

87070

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES			
32 39.6N		121 02.0W		08/13/78		0342 GMT			3738M	310	10KT	2	320 4 5			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	18.44	33.181	5.36	0.43	3.	0.00	0.0	411.5	0	18.44	33.181	5.36	23.795	411.5	0.000	
11	18.42	33.174	5.50	0.44	3.	0.00	0.0	411.6	10	18.42	33.175	5.49	23.794	411.6	0.041	
30	18.38	33.181	5.55	0.41	3.	0.00	0.0	410.1	20	18.41	33.178	5.52	23.800	411.0	0.082	
39	18.32	33.173	5.55	0.39	3.	0.00	0.0	409.3	30	18.38	33.181	5.55	23.810	410.1	0.123	
48	16.55	33.057	5.89	0.39	2.	0.00	0.0	377.5	50	16.38	33.057	5.90	24.190	373.8	0.202	
62	15.69	33.075	5.94	0.37	3.	0.00	0.0	357.6	75	14.28	33.018	6.09	24.619	332.9	0.291	
76	14.16	33.014	6.09	0.44	2.	0.01	0.0	330.7	100	11.39	33.171	5.29	25.303	267.8	0.367	
94	11.84	33.138	5.41	0.76	6.	0.03	5.1	278.0	125	10.24	33.327	4.68	25.628	236.9	0.430	
117	10.56	33.261	4.97	1.12	12.	0.03	11.4	247.0	150	9.52	33.536	4.11	25.910	210.1	0.487	
136	9.87	33.422	4.29	1.37	16.	0.02	15.7	224.0	200	8.64	33.931	3.14	26.360	167.4	0.583	
163	9.26	33.642	3.98	1.62	22.	0.03	19.5	198.2	250	7.89	34.030	2.64	26.551	149.3	0.664	
191	8.73	33.899	3.24	1.95	29.	0.03	24.4	171.2	300	7.14	34.063	2.03	26.683	136.7	0.738	
219	8.45	33.964	3.01	2.09	34.	0.02	26.1	162.2	400	6.41	34.169	0.99	26.865	119.5	0.871	
255	7.79	34.039	2.58	2.28	42.	0.01	29.2	147.3	500	5.83	34.257	0.56	27.010	105.7	0.990	
310	7.03	34.065	1.91	2.57	53.	0.02	33.3	135.1								
380	6.56	34.147	1.11	2.87	64.	0.02	35.9	122.9								
449	6.08	34.218	0.79	3.14	76.	0.02	39.6	111.7								
523	5.74	34.271	0.45	3.42	84.		40.1	103.7								

A) IT WAS BEEN ASSUMED THAT THE CONDUCTIVITY RATIO OF .94781 WAS RECORDED AS .97481, EQUIVALENT TO AN ERROR OF -1.056 PPT.

	LATITUDE 32 19.5N	LONGITUDE 121 43.0W	MO/DAY/YR 08/13/78			MESSENGER 0939 GMT		TIME	BOTTOM 3926M	WIND 350	SPEED 10KT	WEATHER	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	17.72	33.088	5.27U	0.43	3.	0.00	0.0	401.5	0	17.72	33.088		23.899	401.5	0.000
10	17.71	33.090	5.22U	0.39	3.	0.00	0.0	401.2	10	17.71	33.090	5.28	23.903	401.2	0.040
29	17.22	33.075	5.69	0.41	3.	0.00	0.0	391.1	20	17.57	33.082	5.51	23.931	398.5	0.080
38	16.55	33.022	5.48U	0.49	3.	0.00	0.0	380.1	30	17.14	33.070	5.71	24.023	389.8	0.120
47	16.31	33.005	5.05U	0.37	3.	0.00	0.0	376.0	50	16.09	32.993	5.96	24.207	372.2	0.196
61	15.06	32.974	6.03	0.43	2.	0.00	0.0	351.8	75	13.81	33.090	6.04	24.773	318.2	0.283
75	13.81	33.090	6.04	0.46	3.	0.04	0.3	318.2	100	12.59	33.361	5.56	25.225	275.3	0.358
93	13.42	33.408	5.69	0.39	5.	0.23	0.6	287.3	125	10.22	33.310	4.81	25.618	237.9	0.422
116	10.64	33.243	5.16	0.99	11.	0.04	10.7	249.7	150	9.48	33.566	4.08	25.940	207.3	0.479
134	9.98	33.405	4.46	1.37	16.	0.02	15.9	227.0	200	8.64	33.914	3.24	26.346	168.7	0.574
162	9.19	33.680	3.86	1.68	23.	0.02	20.8	194.3	250	7.83	34.024	2.75	26.554	149.0	0.656
189	8.85	33.860	3.35	1.96	29.	0.02	24.2	175.8	300	7.21	34.072	1.91	26.681	136.9	0.729
217	8.31	33.977	3.10	2.15	34.	0.02	26.6	159.2	400	6.45	34.158	1.00	26.852	120.7	0.863
254	7.78	34.026	2.70	2.28	41.	0.01	29.3	148.1	500	5.84	34.243	0.55	26.997	107.0	0.983
309	7.11	34.080	1.75	2.65	54.	0.02	33.9	135.0							
378	6.56	34.132	1.15	2.92	64.	0.01	37.3	124.0							
447	6.21	34.210	0.75	3.13	74.	0.02	39.3	113.9							
521	5.67	34.250	0.49	3.27	85.	0.02	41.2	104.5							

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	31 59.0N		122 24.0W		08/13/78		1543 GMT			4022M	350	13KT	2	360 2 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	17.84	33.111	5.63	0.40	3.		0.0	402.6	0	17.84	33.111	5.63	23.888	402.6	0.000	
11	17.79	33.108	5.62	0.36	3.		0.0	401.7	10	17.79	33.109	5.62	23.897	401.8	0.040	
29	17.11	33.075	5.81	0.37	3.		0.0	388.6	20	17.46	33.092	5.70	23.965	395.3	0.080	
38	16.94	33.067	5.84	0.36	3.		0.0	385.4	30	17.09	33.074	5.82	24.039	388.3	0.119	
47	16.66	33.034	5.80	0.33	3.		0.0	381.6	50	16.39	33.034	5.84	24.170	375.7	0.196	
61	15.23	33.034	6.01	0.30	3.		0.0	351.0	75	14.09	33.024	6.10	24.665	328.6	0.284	
75	14.09	33.024	6.10	0.35	3.		0.0	328.6	100	13.35	33.412	5.63	25.115	285.7	0.362	
94	13.86	33.424	5.67	0.29	4.		0.0	294.7	125	11.22	33.298	5.52	25.433	255.5	0.430	
117	11.70	33.298	5.59	0.60	7.		4.4	263.8	150	9.96	33.396	5.19	25.729	227.3	0.491	
135	10.72	33.318	5.41	0.72	10.		7.3	245.5	200	8.67	33.768	3.94	26.228	179.9	0.595	
163	9.40	33.486	4.94	1.08	16.		13.5	211.9	250	8.12	33.986	3.27	26.482	155.8	0.681	
191	8.74	33.689	4.13	1.52	24.		19.8	186.9	300	7.42	34.024	2.58	26.614	143.3	0.758	
217	8.57	33.900	3.64	1.78	30.		23.1	168.7	400	6.62	34.152	1.03	26.824	123.4	0.896	
255	8.04	33.989	3.22	1.98	36.		26.2	154.5	500	5.90	34.227	0.55	26.977	108.9	1.019	
311	7.28	34.029	2.41	2.26	46.		30.3	141.1								
380	6.78	34.134	1.20	2.68	61.		36.0	126.7								
449	6.25	34.188	0.77	2.89	71.		38.3	116.0								
523	5.76	34.245	0.47	3.11	81.		40.2	105.9								

	LATITUDE 33 18.5N	LONGITUDE 118 07.0W	MO/DAY/YR 08/10/78			MESSENGER TIME 0239 GMT		BOTTOM 759M	WIND 190	SPEED 4KT	WEATHER 1	DOMINANT WAVES 260 2 4			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	22.07	33.534	5.43	0.26	1.		0.0	477.1	0	22.07	33.534	5.43	23.108	477.1	0.000
10	17.42	33.404	6.43	0.25	1.		0.0	371.7	10	17.42	33.404	6.43	24.213	371.7	0.042
38	12.16	33.433	5.29	0.89	8.		8.2	262.0	20	14.51	33.409	6.02	24.873	308.8	0.077
62	10.79	33.508	4.25	1.22	15.		13.9	232.6	30	12.88	33.424	5.62	25.218	275.9	0.106
81	10.20	33.641	3.79	1.54	19.		19.1	213.1	50	11.36	33.460	4.74	25.534	245.8	0.158
95	10.17	33.773	3.34	1.63	21.		20.1	202.8	75	10.33	33.593	3.93	25.820	218.7	0.217
109	10.55	33.929	2.86	1.74	22.		21.6	197.5	100	10.31	33.830	3.16	26.007	200.9	0.269
127	10.28	34.049	2.51	1.88	26.		23.2	184.2	125	10.33	34.040	2.54	26.166	185.8	0.318
147	9.97	34.123	2.32	1.99	29.		25.3	173.7	150	9.94	34.133	2.28	26.307	172.5	0.364
169	9.79	34.195	1.94	1.99	32.		25.4	165.5	200	9.58	34.274	1.45	26.475	156.5	0.448
192	9.71	34.275	1.42	2.18	36.		27.3	158.3	250	8.59	34.205	1.67	26.581	146.4	0.526
215	9.26	34.247	1.62	2.21	37.		28.3	153.4	300	8.71	34.344	0.98	26.671	137.8	0.600
242	8.50	34.166	1.86	2.21	41.		29.5	148.0	400	7.34	34.292	0.76	26.834	122.4	0.736
274	9.01	34.347	1.00	2.39	43.		30.1	142.1	500	6.74	34.295	0.56	26.920	114.2	0.861
319	8.32	34.308	0.97	2.49	48.		32.1	134.8							
378	7.52	34.290	0.82	2.46	56.		33.6	124.9							
448	7.06	34.298	0.64	2.62	62.		36.2	118.1							
523	6.61	34.291	0.54	2.55	69.		35.7	112.8							

LATITUDE 33 11.0N			LONGITUDE 118 22.5W			MO/DAY/YR 08/09/78		MESSENGER 2221 GMT	TIME	BOTTOM 1156M	WIND 170	SPEED 5KT	WEATHER 1	DOMINANT WAVES 270 2 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	21.25	33.508	5.45	0.35	1.		0.1	457.4	0	21.25	33.508	5.45	23.314	457.4	0.000	
10	20.43	33.494	5.53	0.33	1.		0.0	437.4	10	20.43	33.494	5.53	23.523	437.4	0.045	
28	14.13	33.409	6.37	0.48	3.		1.2	301.2	20	17.12	33.448	6.18	24.317	361.7	0.085	
37	12.14	33.453	5.33	0.86	8.		7.8	260.2	30	13.56	33.415	6.18	25.074	289.6	0.117	
46	11.59	33.496	4.70	0.99	11.		9.8	247.2	50	11.41	33.521	4.41	25.571	242.3	0.171	
60	11.02	33.581	3.84	1.30	16.		15.5	231.1	75	10.39	33.660	3.59	25.861	214.8	0.228	
74	10.42	33.649	3.62	1.46	19.		18.5	216.1	100	9.72	33.860	3.16	26.130	189.2	0.279	
93	9.91	33.843	3.15	1.48	24.		18.7	193.5	125	9.28	33.931	3.01	26.257	177.1	0.326	
117	9.35	33.882	3.19	1.69	27.		22.6	181.8	150	9.16	34.056	2.50	26.375	166.0	0.369	
134	9.24	33.989	2.78	1.75	30.		24.1	172.2	200	9.04	34.239	1.57	26.537	150.6	0.450	
162	9.10	34.094	2.32	1.96	34.		26.5	162.2	250	8.81	34.314	1.06	26.632	141.6	0.525	
190	8.96	34.185	1.84	2.07	39.		27.4	153.4	300	8.25	34.303	0.94	26.710	134.2	0.597	
218	9.15	34.321	1.14	2.24	42.		27.5	146.2	400	7.28	34.294	0.67	26.845	121.4	0.730	
256	8.72	34.313	1.04	2.36	46.		30.0	140.3	500	6.48	34.306	0.46	26.965	110.0	0.853	
311	8.16	34.301	0.92	2.45	51.		32.1	133.0								
381	7.47	34.296	0.71	2.54	59.		34.4	123.8								
451	6.81	34.293	0.56	2.66	68.		37.2	115.2								
526	6.34	34.317	0.41	2.76	76.		39.2	107.5								

LATITUDE 33 03.0N			LONGITUDE 118 48.0W			MO/DAY/YR 08/09/78		MESSENGER 1737 GMT	TIME	BOTTOM 1387M	WIND 170	SPEED 7KT	WEATHER 1	DOMINANT WAVES 280 2 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	19.04	33.523	5.56	0.29	2.		0.0	401.0	0	19.04	33.523	5.56	23.905	401.0	0.000	
10	18.72	33.517	0.27	2.			0.0	393.8	10	18.72	33.517	5.78	23.981	393.8	0.040	
28	15.34	33.439	6.18	0.34	3.		0.2	323.7	20	17.53	33.478	6.00	24.242	368.8	0.078	
37	11.86	33.437	5.19	0.90	10.		8.9	256.3	30	14.50	33.439	5.97	24.898	306.4	0.112	
47	11.10	33.472	4.58	1.08	14.		12.4	240.5	50	10.88	33.498	4.40	25.649	234.9	0.166	
62	10.22	33.612	3.81	1.40	19.		18.0	215.5	75	10.05	33.686	3.62	25.938	207.4	0.222	
76	10.05	33.691	3.61	1.47	21.		19.2	207.0	100	9.54	33.909	2.96	26.197	182.8	0.271	
94	9.63	33.872	3.06	1.65	26.		22.0	186.9	125	9.18	34.010	2.73	26.336	169.7	0.316	
117	9.33	33.982	2.79	1.80	30.		24.4	174.1	150	9.05	34.122	2.26	26.445	159.3	0.357	
135	9.02	34.045	2.63	1.85	33.		25.3	164.7	200	8.72	34.209	1.72	26.564	148.0	0.436	
164	9.07	34.177	1.93	2.07	38.		27.5	155.6	250	8.46	34.249	1.25	26.636	141.2	0.510	
191	8.72	34.187	1.84	2.10	41.		28.4	149.6	300	7.95	34.255	1.12	26.717	133.5	0.581	
220	8.71	34.249	1.43	2.24	44.		29.9	144.9	400	6.89	34.289	0.67	26.896	116.6	0.712	
256	8.40	34.249	1.23	2.26	47.		30.6	140.3	500	6.20	34.319	0.48	27.010	105.7	0.830	
312	7.83	34.258	1.09	2.35	53.		32.3	131.5								
382	7.05	34.288	0.69	2.52	65.		35.0	118.7								
451	6.50	34.293	0.63	2.63	73.		37.0	111.3								
525	6.08	34.338	0.37	2.80	81.		39.4	102.7								

LATITUDE 32 39.0N			LONGITUDE 119 28.5W			MO/DAY/YR 08/09/78		MESSENGER 1037 GMT	TIME	BOTTOM 1295M	WIND 300	SPEED 9KT	WEATHER	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	16.91	33.571	5.99	0.28	1.		0.1	348.0	0	16.91	33.571	5.99	24.461	348.0	0.000	
10	15.62	33.579	6.10	0.38	2.		1.8	319.3	10	15.62	33.579	6.10	24.762	319.3	0.033	
29	12.44	33.579	4.86	1.00	12.		10.7	256.4	20	13.99	33.579	5.52	25.113	285.9	0.064	
38	11.04	33.538	4.53	1.22	15.		14.2	234.6	30	12.27	33.576	4.81	25.454	253.5	0.091	
47	10.16	33.484	4.47	1.29	17.		15.8	224.0	50	10.00	33.503	4.36	25.806	220.0	0.138	
61	9.65	33.626	3.85	1.55	21.		20.3	205.4	75	9.37	33.774	3.27	26.121	190.1	0.190	
75	9.37	33.774	3.27	1.73	26.		23.2	190.1	100	8.98	33.900	2.88	26.282	174.8	0.236	
94	9.07	33.880	2.90	1.78	30.		24.7	177.7	125	8.61	33.955	2.81	26.383	165.2	0.279	
117	8.72	33.938	2.84	1.90	33.		26.4	168.1	150	8.28	34.003	2.62	26.471	156.8	0.320	
135	8.47	33.974	2.76	1.87	35.		27.0	161.8	200	7.78	34.076	2.07	26.603	144.3	0.397	
163	8.13	34.027	2.47	2.07	40.		29.1	152.9	250	7.41	34.176	1.33	26.734	131.9	0.467	
190	7.87	34.068	2.14	2.09	44.		30.3	146.2	300	7.20	34.240	0.88	26.814	124.3	0.534	
219	7.62	34.096	1.91	2.17	50.		31.4	140.7	400	6.75	34.274	0.63	26.903	115.9	0.659	
256	7.38	34.192	1.21	2.46	56.		34.2	130.3	500	6.10	34.329	0.41	27.031	103.7	0.775	
312	7.16	34.245	0.85	2.59	62.		35.8	123.4								
382	6.88	34.262	0.69	2.68	67.		37.0	118.4								
453	6.36	34.311	0.46	2.79	77.		38.8	108.2								
527	5.99	34.333	0.38	2.87	83.		40.2	102.0								

	LATITUDE 32 22.5N			LONGITUDE 119 58.0W			MO/DAY/YR 08/09/78			MESSENGER 0414 GMT	TIME	BOTTOM 1206M	WIND 310	SPEED 10KT	WEATHER 4	DOMINANT WAVES 310 4 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
1	15.69	33.463	6.54	0.26	3.	0.01	0.1	329.3	0	15.69	33.463	6.54	24.657	329.3	0.000			
10	15.45	33.452	6.51	0.27	2.	0.01	0.1	325.0	10	15.45	33.452	6.51	24.702	325.0	0.033			
29	14.25	33.440	6.13	0.47	4.	0.11	2.8	301.3	20	14.84	33.446	6.35	24.831	312.8	0.065			
38	13.91	33.482	5.89	0.56	7.	0.14	4.1	291.5	30	14.22	33.447	6.10	24.963	300.2	0.095			
48	12.88	33.398	5.68	0.67	8.	0.23	5.9	277.8	50	12.58	33.400	5.57	25.257	272.2	0.153			
62	10.89	33.480	4.76	1.10	13.	0.39	12.5	236.4	75	9.99	33.610	3.99	25.889	212.1	0.214			
76	9.95	33.620	3.94	1.35	20.	0.31	18.3	210.6	100	9.20	33.864	2.99	26.218	180.8	0.263			
94	9.34	33.810	3.18	1.67	27.	0.13	23.2	187.0	125	8.92	34.033	2.33	26.395	164.0	0.307			
117	8.94	33.987	2.54	1.86	33.	0.05	26.6	167.8	150	8.48	34.062	2.37	26.486	155.5	0.347			
136	8.87	34.075	2.15	1.99	37.	0.11	27.8	160.2	200	7.68	34.095	2.04	26.632	141.6	0.423			
163	8.07	34.035	2.62	1.99	40.	0.03	28.5	151.5	250	7.75	34.246	1.09	26.740	131.4	0.493			
191	7.65	34.064	2.27	2.11	46.	0.04	30.5	143.5	300	7.24	34.265	0.80	26.828	123.0	0.559			
219	7.80	34.167	1.55	2.26	51.	0.05	31.9	137.9	400	6.41	34.308	0.49	26.975	109.1	0.680			
256	7.74	34.260	1.03	2.42	55.	0.06	33.2	130.1	500	5.97	34.334	0.39	27.052	101.7	0.792			
311	7.09	34.267	0.77	2.55	63.		35.6	120.8										
381	6.52	34.302	0.52	2.69	74.		37.7	110.9										
451	6.18	34.322	0.43	2.76	80.		38.8	105.2										
527	5.87	34.340	0.37	2.86	86.		40.1	100.1										

	LATITUDE 32 04.5N			LONGITUDE 120 38.5W			MO/DAY/YR 08/08/78			MESSENGER 2138 GMT	TIME	BOTTOM 3926M	WIND 310	SPEED 15KT	WEATHER 2	DOMINANT WAVES 310 5 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
1	17.53	33.085	5.63	0.43	3.		0.0	397.4	0	17.53	33.085	5.63	23.943	397.4	0.000			
10	17.52	33.083	5.65	0.44	3.		0.0	397.3	10	17.52	33.083	5.65	23.944	397.3	0.040			
29	16.84	33.067	5.79	0.41	3.		0.0	383.2	20	17.16	33.075	5.73	24.023	389.8	0.079			
38	16.73	33.057	5.80	0.44	3.		0.0	381.5	30	16.83	33.066	5.79	24.094	383.0	0.118			
46	16.60	33.041	5.80	0.40	3.		0.0	379.8	50	16.55	33.035	5.81	24.135	379.0	0.194			
61	16.14	33.025	5.84	0.46	3.		0.0	370.9	75	14.71	33.042	6.03	24.548	339.7	0.285			
75	14.71	33.042	6.03	0.41	3.		0.0	339.7	100	11.72	33.144	5.47	25.223	275.4	0.362			
93	12.38	33.121	5.63	0.51	6.		1.4	289.0	125	10.18	33.305	4.82	25.620	237.7	0.427			
116	10.60	33.218	5.08	0.98	11.		9.9	250.9	150	9.52	33.545	4.10	25.918	209.4	0.483			
135	9.85	33.410	4.53	1.27	17.		14.5	224.5	200	8.66	33.902	3.13	26.334	169.9	0.580			
162	9.33	33.643	3.78	1.66	23.		20.6	199.2	250	8.15	34.068	2.21	26.542	150.1	0.662			
190	8.82	33.849	3.25	1.87	29.		22.9	176.2	300	7.63	34.124	1.66	26.661	138.8	0.736			
219	8.39	33.980	2.90	1.99	35.		24.7	160.2	400	6.58	34.218	0.79	26.881	117.9	0.870			
256	8.11	34.080	2.07	2.31	42.		29.4	148.7	500	5.97	34.292	0.41	27.019	104.8	0.988			
311	7.50	34.129	1.60	2.56	51.		32.7	136.6										
381	6.71	34.201	0.91	2.90	65.		36.7	120.8										
452	6.29	34.258	0.56	3.06	73.		38.9	111.3										
527	5.77	34.309	0.35	3.25	84.		41.2	101.2										

	LATITUDE			LONGITUDE			MO/DAY/YR			MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	31 44.4N			121 20.8W			08/08/78			1527 GMT		3738M	280	12KT	2	310 4 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
1	17.87	33.089	5.60	0.49	3.		0.0	404.9	0	17.87	33.089	5.60	23.864	404.9	0.000			
10	17.66	33.085	5.65	0.48	3.		0.0	400.4	10	17.66	33.085	5.65	23.912	400.4	0.040			
29	16.80	33.063	5.78	0.47	3.		0.0	382.6	20	17.19	33.072	5.73	24.014	390.6	0.080			
38	16.63	33.061	5.81	0.45	3.		0.0	379.0	30	16.78	33.063	5.78	24.103	382.1	0.119			
48	16.22	33.047A	5.85	0.42	3.		0.0	371.1	50	16.08	33.039	5.87	24.244	368.7	0.194			
62	15.25	32.999	6.00	0.46	2.		0.0	353.9	75	14.77	33.027	6.02	24.524	342.0	0.283			
75	14.77	33.027	6.02	0.43	3.		0.0	342.0	100	13.14	33.092	5.91	24.911	305.2	0.365			
94	13.70	33.086	5.97	0.45	4.		0.0	316.4	125	10.89	33.217	5.30	25.428	255.9	0.435			
117	11.49	33.147	5.57	0.78	7.		5.7	271.2	150	9.73	33.480	4.29	25.832	217.5	0.495			
136	10.23	33.330	4.88	1.13	13.		12.2	236.5	200	8.78	33.901	3.01	26.315	171.7	0.594			
164	9.42	33.622	3.75	1.61	22.		19.3	202.1	250	7.92	34.012	2.92	26.532	151.0	0.677			
192	8.91	33.854	3.12	1.90	29.		23.8	177.2	300	7.33	34.058	2.19	26.653	139.6	0.752			
219	8.46	33.980	2.86	2.17	35.		26.4	161.2	400	6.59	34.169	0.98	26.842	121.7	0.888			
256	7.82	34.012	2.93	2.18	39.		27.6	149.7	500	5.97	34.248	0.51	26.985	108.1	1.009			
312	7.23	34.071	1.94	2.54	50.		32.4	137.3										
381	6.72	34.147	1.14	2.85	61.		35.8	125.0										
451	6.26	34.219	0.68	3.08	71.		38.8	113.8										
525	5.83	34.256	0.48	3.18	80.		39.3	105.9										

A) ALTERNATE VALUE, 33.086 PPT.

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90090

LATITUDE 31 24.0N		LONGITUDE 122 01.0W		MO/DAY/YR 08/08/78		MESSENGER 0834 GMT		TIME	BOTTOM 4117M	WIND 300	SPEED 17KT	WEATHER	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	18.75	33.168	5.51	0.47	2.		0.1	419.8	0	18.75	33.168	5.51	23.708	419.8	0.000
10	18.71	33.172	5.51	0.42	2.		0.1	418.6	10	18.71	33.172	5.51	23.721	418.6	0.042
29	18.07	33.147	5.61	0.40	2.		0.1	405.3	20	18.39	33.160	5.57	23.791	411.9	0.084
38	17.86	33.134	5.63	0.41	2.		0.1	401.4	30	18.05	33.146	5.61	23.864	404.9	0.124
46	16.51	33.056	5.88	0.38	2.		0.0	376.7	50	15.95	33.038	5.96	24.273	365.9	0.202
61	14.66	33.025	6.05	0.41	2.		0.0	339.9	75	13.39	33.054	6.00	24.831	312.7	0.237
75	13.39	33.054	6.00	0.51	2.		0.1	312.7	100	11.62	33.121	5.49	25.223	275.4	0.361
93	11.97	33.105	5.60	0.64	5.		1.9	282.7	125	10.42	33.243	4.96	25.532	246.0	0.427
115	10.97	33.171	5.22	0.98	9.		7.6	260.5	150	9.42	33.516	4.12	25.911	210.0	0.484
135	9.90	33.336	4.66	1.25	16.		12.6	230.8	200	8.74	33.898	3.10	26.318	171.4	0.581
162	9.18	33.657	3.71	1.74	25.		21.1	195.8	250	7.94	34.004	2.87	26.522	152.0	0.664
190	8.91	33.857	3.13	1.89	30.		23.2	177.0	300	7.46	34.066	2.14	26.641	140.7	0.740
218	8.41	33.949	3.04	2.03	35.		25.0	162.7	400	6.29	34.122	1.06	26.843	121.5	0.876
256	7.87	34.011	2.82	2.21	41.		28.3	150.5	500	5.68	34.197	0.58	26.980	108.6	0.997
310	7.37	34.075	1.97	2.64	52.		32.8	138.8							
380	6.48	34.111	1.20	2.91	65.		37.9	124.6							
447	5.95	34.151	0.82	3.14	76.		40.3	115.1							
519	5.62	34.216	0.51	3.35	87.		42.2	106.4							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90100

LATITUDE 31 05.0N		LONGITUDE 122 39.0W		MO/DAY/YR 08/08/78		MESSENGER 0247 GMT		TIME	BOTTOM 4022M	WIND 280	SPEED 14KT	WEATHER 1	DOMINANT WAVES 300 5 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	18.78	33.269	5.48	0.63	3.		0.1	413.2	0	18.78	33.269	5.48	23.777	413.2	0.000
10	18.71	33.267	5.52	0.49	3.		0.1	411.7	10	18.71	33.267	5.52	23.793	411.7	0.041
29	18.14	33.247	5.65	0.49	3.		0.0	399.7	20	18.46	33.250	5.58	23.841	407.1	0.082
52	17.11	33.401	5.85	0.35	3.		0.0	364.9	30	18.10	33.253	5.66	23.932	398.4	0.123
61	16.61	33.428	5.93	0.29	3.		0.0	351.8	50	17.21	33.386	5.83	24.248	368.3	0.200
70	16.11	33.463	6.03	0.25	3.		0.0	338.3	75	15.93	33.481	5.98	24.616	333.2	0.288
84	15.66	33.503	5.85	0.25	3.		0.0	325.8	100	14.93	33.492	5.79	24.846	311.4	0.369
98	15.09	33.503	5.80	0.23	4.		0.0	313.8	125	12.44	33.300	5.66	25.208	276.9	0.443
121	12.89	33.337	5.68	0.40	5.		1.5	282.5	150	10.48	33.318	5.12	25.580	241.5	0.509
140	10.94	33.230	5.47	0.71	9.		6.2	255.7	200	8.99	33.776	3.84	26.183	184.2	0.617
163	10.12	33.477	4.64	1.59	17.		16.7	223.9	250	8.21	33.999	3.08	26.478	156.2	0.704
191	9.15	33.702	4.19	1.59	22.		18.9	192.1	300	7.50	34.035	2.67	26.611	143.6	0.781
219	8.75	33.908	3.15	1.95	30.		24.9	170.8	400	6.33	34.098	1.42	26.820	123.6	0.920
256	8.11	34.006	3.07	2.04	36.		26.6	154.2	500	5.92	34.217	0.60	26.966	109.9	1.043
312	7.35	34.035	2.53	2.32	46.		30.1	141.6							
384	6.50	34.089	1.57	2.69	61.		35.4	126.5							
454	5.94	34.142	0.97	2.97	73.		38.5	115.7							
529A	5.90	34.256	0.95U	3.15	79.		40.0	106.7							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90110

LATITUDE 30 45.1N		LONGITUDE 123 19.9W		MO/DAY/YR 08/07/78		MESSENGER 2108 GMT		TIME	BOTTOM 4117M	WIND 280	SPEED 10KT	WEATHER 2	DOMINANT WAVES 300 6 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.28	33.224	5.49	0.42	3.		0.0	428.5	0	19.28	33.224	5.49	23.617	428.5	0.000
10	18.72	33.199	5.54	0.38	3.		0.0	416.8	10	18.72	33.199	5.54	23.739	416.8	0.042
29	18.59	33.196	5.58	0.43	3.		0.0	414.0	20	18.65	33.198	5.56	23.756	415.3	0.084
38	18.25	33.167	5.63	0.41	3.		0.0	408.1	30	18.56	33.193	5.59	23.774	413.5	0.125
47	17.87	33.163	5.67	0.36	3.		0.0	399.5	50	17.66	33.148	5.70	23.960	395.7	0.207
61	16.76	33.080	5.83	0.38	3.		0.0	380.5	75	15.67	33.019	5.99	24.321	361.3	0.302
75	15.67	33.019	5.99	0.36	3.		0.0	361.3	100	13.76	33.199	5.86	24.868	309.3	0.386
94	14.15	33.167	5.90	0.41	4.		0.0	319.3	125	11.67	33.211	5.46	25.283	269.7	0.459
117	12.53	33.235	5.66	0.52	6.		2.5	283.3	150	9.80	33.322	4.88	25.697	230.4	0.522
135	10.65	33.200	5.18	0.79	11.		7.9	253.0	200	9.21	33.777	4.11	26.149	187.4	0.629
163	9.44	33.465	4.67	1.19	17.		14.5	214.0	250	8.33	33.981	3.43	26.447	159.2	0.717
191	9.34	33.717	4.26	1.34	21.		17.5	193.8	300	7.44	34.033	2.68	26.617	143.0	0.795
219	8.87	33.877	3.80	1.59	26.		21.4	174.9	400	6.38	34.105	1.37	26.820	123.8	0.934
256	8.22	33.994	3.36	1.87	34.		25.2	156.7	500	5.72	34.203	0.65	26.980	108.6	1.056
311	7.26	34.034	2.50	2.19	46.		30.2	140.4							
381	6.49	34.080	1.59	2.55	60.		35.1	127.1							
450	6.11	34.169	0.90	2.88	70.		38.9	115.7							
525	5.49	34.210	0.61	3.03	83.		39.6	105.4							

A) IT APPEARS AS THOUGH THE OXYGEN SAMPLE AT THIS LEVEL WAS NOT DRAWN, THE TABULATED VALUE BEING A REPLICATE FROM THE BOTTLE CAST AT 454 METERS. THE VALUE AT 500 METERS WAS DETERMINED FROM THE CTDO CHECK SAMPLE BOTTLE CAST AT 524 METERS.

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90120

LATITUDE 30 25.0N		LONGITUDE 124 00.0W		MO/DAY/YR 08/07/78		MESSENGER 1455 GMT		TIME	BOTTOM 4117M	WIND 220	SPEED 6KT	WEATHER 2	DOMINANT WAVES 320 5 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.42	33.174	5.47	0.50	3.		0.0	435.5	0	19.42	33.174	5.47	23.543	435.5	0.000
10	18.59	33.157	5.51	0.42	3.		0.0	416.8	10	18.59	33.157	5.51	23.739	416.8	0.043
29	18.46	33.157	5.52	0.41	3.		0.0	413.7	20	18.49	33.157	5.52	23.764	414.5	0.084
38	17.78	33.103	5.69	0.39	4.		0.0	401.8	30	18.40	33.153	5.54	23.782	412.7	0.126
48	16.94	33.047	5.80	0.44	3.		0.0	386.9	50	16.81	33.049	5.82	24.084	383.9	0.206
61	16.25	33.091	5.88	0.34	3.		0.0	368.5	75	15.78	33.190	5.89	24.428	351.1	0.298
75	15.78	33.190	5.89	0.33	3.		0.0	351.1	100	13.69	33.163	5.82	24.854	310.5	0.381
94	14.40	33.190	5.89	0.34	4.		0.0	322.6	125	10.90	33.189	5.22	25.406	258.1	0.453
117	11.63	33.137	5.47	0.82	8.		5.8	274.4	150	9.62	33.397	4.57	25.786	221.9	0.514
135	10.18	33.276	4.89	1.21	13.		11.0	239.7	200	8.84	33.847	3.54	26.263	176.6	0.615
164	9.37	33.515	4.31	1.47	19.		17.0	209.3	250	8.06	33.995	2.97	26.497	154.4	0.700
190	8.96	33.788	3.69	1.72	26.		21.1	182.8	300	7.19	34.025	2.39	26.646	140.2	0.776
218	8.61	33.916	3.33	1.84	31.		23.2	168.1	400	6.29	34.096	1.26	26.824	123.3	0.912
255	7.97	34.002	2.91	2.01	39.		25.4	152.5	500	5.68	34.202	0.75	26.984	108.2	1.034
310	7.04	34.025	2.27	2.38	51.		30.0	138.2							
379	6.50	34.084	1.41	2.69	63.		35.0	126.9							
449	5.84	34.131	1.00	2.97	75.		38.4	115.3							
524	5.61	34.231	0.65	3.13	84.		40.6	105.2							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90130

LATITUDE 30 05.1N		LONGITUDE 124 39.8W		MO/DAY/YR 08/07/78		MESSENGER 0856 GMT		TIME	BOTTOM 4309M	WIND 200	SPEED 3KT	WEATHER	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.60	33.430	5.43	0.79	3.	0.01	0.0	421.4	0	19.60	33.430	5.43	23.691	421.4	0.000
10	18.94	33.428	5.47	0.50	3.	0.00	0.0	405.5	10	18.94	33.428	5.47	23.858	405.5	0.041
29	18.85	33.420	5.53	0.57	3.	0.00	0.0	403.9	20	18.89	33.424	5.52	23.867	404.6	0.082
38	18.79	33.414	5.49	0.53	3.	0.00	0.0	402.9	30	18.84	33.420	5.52	23.876	403.8	0.122
48	18.16	33.309	5.62	0.48	3.	0.00	0.0	395.6	50	17.86	33.276	5.66	24.007	391.2	0.202
62	16.10	33.123	5.90	0.47	3.	0.00	0.0	362.9	75	15.47	33.139	5.92	24.457	348.4	0.295
76	15.44	33.142	5.92	0.54	3.	0.00	0.0	347.5	100	13.58	33.186	5.83	24.894	306.8	0.378
94	14.02	33.163	5.88	0.56	3.	0.02	0.0	317.0	125	11.83	33.206	5.57	25.250	272.8	0.451
117	12.39	33.231	5.64	0.71	6.	0.14	2.8	281.1	150	10.29	33.235	5.13	25.547	244.6	0.516
136	11.10	33.176	5.44	0.86	9.	0.11	5.7	262.3	200	9.14	33.656	4.02	26.066	195.3	0.628
164	9.68	33.341	4.78	1.37	15.	0.05	14.2	227.0	250	8.46	33.931	3.35	26.387	164.8	0.720
192	9.23	33.590	4.19	1.68	21.	0.06	19.0	201.6	300	7.56	34.011	2.74	26.584	146.1	0.800
220	8.92	33.798	3.64	2.24	27.	0.03	23.2	181.5	400	6.43	34.099	1.29	26.807	124.9	0.941
258	8.32	33.954	3.29	2.20	34.	0.02	26.3	161.1	500	5.91	34.200	0.63	26.954	111.0	1.065
313	7.33	34.017	2.55	2.52	46.	0.04	31.4	142.6							
383	6.55	34.079	1.47	2.97	61.	0.05	37.1	127.9							
454	6.14	34.159	0.87	3.34	72.	0.02	40.4	116.8							
527	5.79	34.220	0.54	3.56	82.		41.8	108.1							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90140

LATITUDE 29 45.0N		LONGITUDE 125 19.6W		MO/DAY/YR 08/07/78		MESSENGER 0325 GMT		TIME	BOTTOM 4309M	WIND 230	SPEED 3KT	WEATHER 2	DOMINANT WAVES 340 3 8		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	19.58	33.272	5.50	0.36	3.	0.00	0.0	432.3	0	19.58	33.272	5.50	23.577	432.3	0.000
9	18.68	33.277	5.51	0.22	3.	0.01	0.0	410.2	10	18.66	33.277	5.51	23.813	409.7	0.042
28	18.33	33.272	5.56	0.29	3.	0.01	0.0	402.3	20	18.48	33.274	5.53	23.856	405.7	0.083
38	17.99	33.282	5.62	0.27	3.	0.00	0.0	393.6	30	18.26	33.274	5.57	23.910	400.5	0.123
47	17.93	33.287	5.62	0.35	3.	0.01	0.0	391.9	50	17.75	33.293	5.66	24.048	387.4	0.202
61	16.99	33.326	5.82	0.21	3.	0.01	0.0	367.7	75	16.52	33.370	5.85	24.398	354.0	0.296
75	16.52	33.370	5.85	0.14	3.	0.01	0.0	354.0	100	15.40	33.456	5.83	24.716	323.7	0.381
94	15.69	33.424	5.83	0.16	3.	0.01	0.0	332.2	125	13.58	33.376	5.77	25.042	292.7	0.459
117	14.32	33.471	5.83	0.20	4.	0.03	0.0	300.4	150	11.36	33.254	5.46	25.374	261.1	0.529
135	12.60	33.261	5.66	0.90	5.	0.07	1.9	282.7	200	9.30	33.588	4.45	25.987	202.8	0.646
163	10.29	33.246	5.24		11.	0.04	8.7	243.7	250	8.65	33.893	3.62	26.329	170.3	0.742
190	9.50	33.492	4.67	1.52	17.	0.73	12.8	213.0	300	7.85	34.005	3.12	26.536	150.7	0.824
218	9.02	33.741	4.07	1.65	23.	0.05	20.1	187.2	400	6.62	34.102	1.51	26.784	127.1	0.969
255	8.59	33.908	3.57	1.94	30.	0.04	23.7	168.4	500	5.71	34.188	0.78	26.969	109.6	1.093
310	7.68	34.016	3.01	2.36	41.	0.04	28.1	147.5							
379	6.79	34.072	1.81	2.65	56.	0.01	33.5	131.5							
449	6.25	34.163	0.96	3.04	70.	0.06	35.8	117.9							
524	5.42	34.189	0.69	3.25	85.	0.05	40.3	106.1							

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90150

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
29 25.1N		125 59.2W		08/06/78		2042 GMT		4352M		220		4KT		2		350 6 8	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	19.41	33.386	5.46	0.35	3.		0.0	419.9	0	19.41	33.386	5.46	23.707	419.9	0.000		
10	19.14	33.381	5.47	0.30	3.		0.0	413.7	10	19.14	33.381	5.47	23.772	413.7	0.042		
28	19.12	33.402	5.46	0.32	3.		0.0	411.7	20	19.13	33.393	5.47	23.783	412.6	0.083		
51	18.31	33.391	5.64	0.25	3.		0.0	393.2	30	19.05	33.402	5.46	23.810	410.0	0.124		
61	16.64	33.216	5.87	0.29	3.		0.0	367.9	50	18.35	33.391	5.62	23.977	394.1	0.205		
70	16.49	33.256	5.86	0.26	3.		0.0	361.7	75	16.38	33.263	5.87	24.348	358.8	0.300		
84	16.18	33.283	5.88	0.28	3.		0.0	353.0	100	15.83	33.399	5.84	24.577	336.9	0.387		
98	15.93	33.399	5.84	0.28	3.		0.0	339.1	125	13.83	33.366	5.73	24.982	298.4	0.467		
121	14.25	33.383	5.76	0.33	4.		0.0	305.4	150	11.31	33.253	5.50	25.382	260.3	0.538		
139	12.33	33.304	5.59	0.53	6.		3.0	274.6	200	9.93	33.763	4.71	26.019	199.6	0.655		
161	10.53	33.251	5.39	0.65	10.		5.9	247.3	250	8.75	33.968	4.02	26.371	166.3	0.749		
190	10.16	33.690	4.83	1.00	14.		11.9	208.8	300	7.80	34.000	3.31	26.540	150.3	0.930		
217	9.51	33.842	4.52	1.21	19.		15.4	187.2	400	6.43	34.061	1.73	26.777	127.8	0.974		
254	8.66	33.978	3.96	1.61	29.		21.0	164.3	500	5.56	34.148	0.89	26.957	110.7	1.100		
310	7.64	34.008	3.16	2.00	40.		26.7	147.5									
379	6.68	34.044	1.99	2.52	55.		33.9	132.1									
450	5.93	34.104	1.24	2.83	71.		38.0	118.4									
524	5.42	34.169	0.78	3.11	84.		40.6	107.6									

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90160

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
29 05.0N		126 39.6W		08/06/78		1433 GMT		3834M		080		4KT		2		340 6 6	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	18.82	33.284	5.46	0.36	3.		0.0	413.1	0	18.82	33.284	5.46	23.779	413.1	0.000		
10	18.81	33.281	5.51	0.32	3.		0.0	413.0	10	18.81	33.281	5.51	23.779	413.0	0.041		
29	18.81	33.280	5.50	0.34	3.		0.0	413.1	20	18.81	33.280	5.50	23.778	413.1	0.083		
38	18.79	33.275	5.50	0.31	3.		0.0	413.0	30	18.81	33.280	5.50	23.778	413.1	0.124		
48	18.54	33.251	5.60	0.32	3.		0.0	408.8	50	18.51	33.296	5.62	23.865	404.8	0.206		
62	18.32	33.631	5.70	0.23	3.		0.0	376.0	75	17.13	33.578	5.77	24.414	352.5	0.301		
76	17.03	33.568	5.77					350.9	100	15.87	33.630	5.71	24.744	321.1	0.386		
94	16.25	33.652	5.71	0.21	4.		0.0	327.6	125	13.92	33.467	5.64	25.040	292.8	0.464		
117	14.61	33.518	5.68	0.29	4.		0.2	302.8	150	11.93	33.371	5.45	25.359	262.5	0.534		
136	12.98	33.409	5.56	0.43	6.		1.9	278.9	200	9.26	33.562	4.73	25.973	204.1	0.652		
164	11.00	33.370	5.30	0.73	10.		7.4	246.3	250	8.62	33.899	4.02	26.338	169.5	0.748		
192	9.45	33.496	4.86	1.18	17.		14.1	211.9	300	7.84	34.000	3.26	26.535	150.8	0.930		
220	8.99	33.728	4.42	1.43	22.		18.1	187.7	400	6.31	34.054	1.73	26.788	126.8	0.974		
257	8.53	33.927	3.93	1.76	30.		22.2	166.1	500	5.60	34.164	0.79	26.964	110.1	1.099		
312	7.63	34.004	3.07	2.08	41.		27.1	147.7									
381	6.51	34.035	1.99	2.50	58.		33.9	130.7									
451	5.91	34.111	1.14	2.91	73.		38.5	117.7									
524	5.48	34.189	0.70	3.15	85.		40.7	106.8									

RV DAVID STARR JORDAN

CALCOFI CRUISE 7808

90180

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
28 25.1N		127 57.3W		08/06/78		0530 GMT		4507M		010		10KT		2			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	19.40	33.553	5.42	0.50	3.	0.00	0.0	407.6	0	19.40	33.553	5.42	23.836	407.6	0.000		
9	19.37	33.551	5.40	0.40	2.	0.00	0.0	407.0	10	19.38	33.555	5.40	23.844	406.9	0.041		
28	19.58	33.733	5.42	0.39	2.	0.00	0.0	398.9	20	19.47	33.629	5.41	23.875	403.8	0.081		
37	19.67	33.890	5.41	0.34	2.	0.00	0.0	389.7	30	19.61	33.766	5.42	23.945	397.2	0.121		
46	19.62	34.040	5.43	0.32	2.	0.00	0.0	377.6	50	19.56	34.061	5.44	24.182	374.6	0.199		
61	19.32	34.062	5.46	0.28	2.	0.00	0.0	368.7	75	18.95	34.066	5.49	24.340	359.6	0.291		
74	18.97	34.060	5.49	0.31	2.	0.00	0.0	360.3	100	18.29	34.111	5.49	24.539	340.5	0.379		
92	18.63	34.142	5.49	0.24	2.	0.00	0.0	346.2	125	17.27	34.027	5.46	24.723	323.0	0.463		
115	17.59	34.030	5.49	0.19	2.	0.00	0.0	330.0	150	15.66	33.876	5.41	24.981	298.5	0.542		
135	16.87	34.011	5.43	0.16	3.	0.03	0.0	315.1	200	11.69	33.539	5.21	25.534	245.8	0.680		
161	14.62	33.759	5.39	0.16	3.	0.02		285.4	250	9.61	33.811	4.60	26.110	191.1	0.792		
189	12.27	33.530	5.30	0.25	7.	0.04	2.7	256.9	300	8.40	33.970	3.70	26.426	161.1	0.883		
216	10.82	33.559	5.04	0.52	11.		7.4	229.4	400	6.73	34.026	2.28	26.710	134.1	1.036		
253	9.53	33.836	4.56	1.16	20.	0.24	14.7	188.0	500	5.83	34.118	1.08	26.899	116.2	1.167		
308	8.25	33.977	3.55	1.72	33.	0.02	24.8	158.4									
376	7.05	34.008	2.65	2.06	48.	0.00	31.0	139.6									
445	6.25	34.065	1.62	2.53	64.	0.03	36.3	125.2									
517	5.74	34.135	0.96	2.94	78.	0.01	40.9	113.9									

LATITUDE 32 52.7N		LONGITUDE 117 26.6W		MO/DAY/YR 08/01/78		MESSENGER 1203 GMT		TIME	BOTTOM 602M	WIND 130	SPEED 6KT	WEATHER 1	DOMINANT WAVES			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	20.77	33.517	5.65	0.57	1.	0.00	0.5	444.4	0	20.77	33.517	5.65	23.450	444.4	0.000	
10	15.36	33.368	6.57	0.44	1.	0.00	0.2	329.3	10	15.36	33.368	6.57	24.658	329.3	0.039	
29	11.50	33.382	5.17	0.93	10.	0.54	9.7	254.0	20	13.23	33.375	5.78	25.111	286.1	0.070	
38	11.08	33.396	4.80	1.10	11.	0.55	11.7	245.8	30	11.41	33.382	5.13	25.463	252.6	0.097	
48	10.95	33.539	4.14	1.35	15.	0.43	14.8	233.0	50	10.89	33.560	4.07	25.694	230.6	0.145	
62	10.57	33.663	3.69	1.51	18.	0.23	18.1	217.5	75	10.45	33.786	3.00	25.948	206.5	0.200	
76	10.45	33.795	2.95	1.70	22.	0.07	21.4	205.8	100	10.36	33.939	2.26	26.083	193.7	0.250	
94	10.39	33.919	2.38	1.94	26.	0.04	23.4	195.6	125	10.22	34.014	1.93	26.165	185.9	0.299	
117	10.27	33.982		2.01	28.	0.02	24.3	189.0	150	10.09	34.112	1.87	26.265	176.4	0.345	
136	10.16	34.059	1.88	2.13	31.	0.00	26.0	181.5	200	9.70	34.187	1.83	26.389	164.6	0.432	
164	10.00	34.153	1.86	2.21	33.	0.01	26.6	172.0	250	9.58	34.269	1.57	26.472	156.7	0.514	
192	9.74	34.177	1.89	2.19	34.	0.00	27.1	166.1	300	9.04	34.309	1.31	26.591	145.4	0.593	
220	9.62	34.216	1.66	2.25	36.	0.01	27.8	161.3	400	7.82	34.293	0.95	26.767	128.8	0.736	
257	9.56	34.280	1.55	2.38	38.	0.02	28.6	155.6	500	6.74	34.304	0.59	26.928	113.5	0.864	
312	8.86	34.311	1.24	2.32	43.	0.01	29.6	142.5								
383	8.03	34.294	1.01	2.68	52.	0.00	32.8	131.7								
454	7.18	34.295	0.76	2.83	62.	0.00	35.8	119.9								
529	6.50	34.312	0.48	3.15	73.	0.01	39.1	109.9								

LATITUDE 32 50.5N		LONGITUDE 117 31.0W		MO/DAY/YR 08/01/78		MESSENGER 1535 GMT		TIME	BOTTOM 824M	WIND 180	SPEED 5KT	WEATHER 1	DOMINANT WAVES 270 2 6			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	21.10	33.521	5.67	0.22	2.	0.00	0.1	452.6	0	21.10	33.521	5.67	23.365	452.6	0.000	
10	17.67	33.401	6.20	0.25	1.	0.00	0.1	377.6	10	17.67	33.401	6.20	24.150	377.6	0.042	
28	12.85	33.415	5.57	0.73	5.	0.33	5.2	276.0	20	14.69	33.408	5.98	24.834	312.5	0.076	
38	11.53	33.375	5.19	0.98	9.	0.51	9.0	255.1	30	12.51	33.410	5.52	25.279	270.1	0.105	
47	11.20	33.489	4.38	1.24	13.	0.51	12.9	241.0	50	11.07	33.524	4.22	25.636	236.2	0.156	
61	10.66	33.642	3.74	1.52	18.	0.32	17.2	220.5	75	10.57	33.780	2.84	25.923	208.9	0.212	
75	10.57	33.780	2.84	1.79	22.	0.08	21.2	208.9	100	10.29	33.860	3.09	26.034	198.4	0.263	
93	10.25	33.823	3.15	2.07	23.	0.06	21.0	200.4	125	10.11	33.956	2.81	26.139	188.4	0.312	
117	10.34	33.945	2.84	1.90	24.	0.06	22.3	192.9	150	9.88	34.068	2.28	26.266	176.3	0.359	
136	9.80	33.973	2.77	2.19	27.	0.03	23.7	182.1	200	9.69	34.215	1.84	26.412	162.4	0.445	
164	9.96	34.147	1.80	2.31	33.	0.04	26.4	171.8	250	9.70	34.384	0.89	26.543	150.0	0.526	
192	9.67	34.186	1.95	2.30	33.	0.05	26.9	164.3	300	8.83	34.320	1.04	26.633	141.5	0.601	
220	9.73	34.286	1.45	2.44	36.	0.08	28.0	157.8	400	7.67	34.289	0.73	26.785	127.1	0.742	
257	9.69	34.406	0.79	2.69	41.	0.03	29.5	148.3	500	6.72	34.313	0.46	26.938	112.5	0.869	
313	8.53	34.281	1.17	2.62	46.	0.03	31.2	139.9								
381	7.86	34.266	0.80	2.86	54.	0.05	33.8	129.9								
453	7.16	34.301	0.57	2.99	63.	0.02	36.5	119.2								
526	6.48	34.321	0.42	3.12	73.	0.02	39.1	109.0								

LATITUDE 32 30.0N		LONGITUDE 118 11.5W		MO/DAY/YR 08/02/78		MESSENGER 0020 GMT		TIME	BOTTOM 1572M	WIND 260	SPEED 5KT	WEATHER 1	DOMINANT WAVES 250 2 4			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	19.42	33.496	5.54	0.46	0.	0.00	0.0	412.2	0	19.42	33.496	5.54	23.788	412.2	0.000	
10	19.00	33.481	5.56	0.41	0.	0.01	0.0	403.1	10	19.00	33.481	5.56	23.883	403.1	0.041	
29	14.18	33.337	6.38	0.43	2.	0.04	0.3	307.4	20	16.63	33.381	6.11	24.381	355.7	0.079	
38	12.84	33.332	5.75	0.75	5.	0.51	4.7	281.9	30	14.01	33.335	6.32	24.921	304.2	0.112	
47	11.82	33.371	5.17	1.00	9.	0.66	9.0	260.5	50	11.59	33.376	5.07	25.427	256.0	0.168	
61	11.00	33.420	4.72	1.22	12.	0.27	13.3	242.7	75	10.60	33.628	3.75	25.800	220.6	0.228	
75	10.60	33.628	3.75	1.51	17.	0.19	17.8	220.6	100	10.21	33.784	3.31	25.988	202.7	0.281	
93	10.35	33.723	3.45	1.66	19.	0.05	19.7	209.5	125	9.71	33.982	2.81	26.228	180.0	0.330	
116	9.87	33.924	2.98	1.81	24.	0.03	22.8	186.8	150	9.35	34.075	2.49	26.359	167.4	0.374	
134	9.56	34.028	2.66	1.97	28.	0.03	24.7	174.2	200	8.53	34.112	2.20	26.517	152.5	0.455	
161	9.20	34.090	2.42	2.12	32.	0.03	26.4	164.1	250	7.90	34.150	1.76	26.643	140.5	0.531	
188	8.74	34.104	2.31	2.16	35.	0.04	27.5	156.1	300	7.73	34.227	1.22	26.728	132.5	0.601	
215	8.29	34.122	2.05	2.33	41.	0.01	29.7	148.2	400	6.75	34.273	0.64	26.902	116.0	0.731	
251	7.89	34.151	1.75	2.48	46.	0.05	31.7	140.3	500	6.13	34.337	0.35	27.033	103.5	0.847	
305	7.72	34.234	1.17	2.71	52.	0.00	33.5	131.8								
374	6.97	34.252	0.79	2.90	62.	0.00	36.7	120.4								
443	6.44	34.308	0.44	3.09	72.	0.00	39.0	109.4								
519	6.06	34.342	0.32	3.20	80.	0.00	40.4	102.2								

A) BOTH PROTECTED THERMOMETERS AT THIS LEVEL MALFUNCTIONED. THE TEMPERATURE IS FROM THE CTDO LOWERING AT THIS STATION.

LATITUDE 32 10.0N		LONGITUDE 118 52.5W		MO/DAY/YR 08/02/78		MESSENGER 1016 GMT		TIME	BOTTOM 1479M	WIND 300	SPEED 7KT	WEATHER 1	DOMINANT WAVES		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	17.79	33.527	5.63	0.24	1.	0.01	0.0	371.2	0	17.79	33.527	5.63	24.217	371.2	0.000
11	17.25	33.512	5.69	0.29	1.	0.03	0.4	360.0	10	17.30	33.514	5.68	24.324	361.1	0.037
29	11.59	33.538	4.92	0.98	10.	0.44	11.1	244.1	20	14.41	33.524	5.29	24.983	298.3	0.070
39	11.12	33.576	4.41	1.28	13.	0.84	14.4	233.2	30	11.54	33.542	4.87	25.564	243.0	0.097
48	10.46	33.619	3.91	1.45	17.	0.49	17.4	218.9	50	10.34	33.636	3.82	25.851	215.7	0.143
62	9.77	33.737	3.43	1.70	23.	0.07	21.8	199.1	75	9.44	33.802	3.17	26.132	189.0	0.194
76	9.42	33.806	3.16	1.71	25.	0.05	23.6	188.5	100	9.29	33.939	2.91	26.262	176.7	0.240
95	9.30	33.914	2.95	1.90	28.	0.05	24.4	178.6	125	9.17	34.026	2.70	26.350	168.4	0.284
118	9.24	34.010	2.77	1.97	30.	0.04	25.5	170.6	150	8.92	34.098	2.30	26.445	159.3	0.325
137	9.03	34.050	2.54	2.08	32.	0.04	26.5	164.4	200	8.51	34.202	1.67	26.592	145.4	0.403
165	8.81	34.151	2.02	2.29	38.	0.03	28.5	153.6	250	8.18	34.254	1.24	26.682	136.9	0.476
193	8.55	34.192	1.74	2.38	41.	0.03	29.7	146.8	300	7.75	34.283	0.90	26.769	128.6	0.544
220	8.39	34.227	1.48	2.53	45.	0.03	30.8	141.8	400	6.69	34.321	0.47	26.949	111.5	0.670
258	8.12	34.259	1.18	2.60	49.	0.05	31.8	135.6	500	6.09	34.338	0.37	27.040	102.9	0.783
314	7.61	34.289	0.82	2.76	56.	0.10	33.9	126.2							
383	6.82	34.317	0.51	2.98	67.	0.01	37.1	113.6							
453	6.35	34.330	0.41	3.07	74.	0.01	38.8	106.6							
527	5.96	34.342	0.35	3.20	81.	0.00	40.4	101.0							

LATITUDE 31 50.0N		LONGITUDE 119 34.0W		MO/DAY/YR 08/02/78		MESSENGER 2019 GMT		TIME	BOTTOM 2980M	WIND 300	SPEED 3KT	WEATHER 2	DOMINANT WAVES 300 5 6		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	16.33	33.553	6.12	0.45	4.	0.06	1.4	336.5	0	16.33	33.553	6.12	24.581	336.5	0.000
10	16.05	33.547	6.05	0.44	4.	0.03	1.7	330.9	10	16.05	33.547	6.05	24.641	330.9	0.033
29	14.53	33.506	5.89	0.58	4.	0.12	4.3	302.1	20	15.37	33.525	5.99	24.774	318.1	0.066
38	13.61	33.500	5.65	0.81	5.	0.27	6.1	284.3	30	14.43	33.505	5.87	24.964	300.1	0.097
49	12.62	33.481	5.38	0.91	7.	0.41	8.0	266.9	50	12.48	33.476	5.33	25.337	264.6	0.154
62	10.82	33.439	4.67	1.24	12.	0.52	13.3	238.2	75	10.04	33.475	4.24	25.777	222.7	0.215
76	10.01	33.480	4.21	1.33	17.	0.25	16.9	221.9	100	9.74	33.679	3.57	25.985	203.0	0.268
94	9.78	33.625	3.75	1.63	21.	0.20	19.7	207.5	125	9.34	33.869	2.99	26.199	182.6	0.317
117	9.57	33.819	3.11	1.77	26.	0.18	21.8	189.9	150	8.83	33.981	2.69	26.369	166.5	0.362
136	9.02	33.926	2.87	1.98	30.	0.02	25.3	173.5	200	8.20	34.111	1.97	26.566	147.8	0.442
163	8.71	34.020	2.52	2.11	34.	0.06	27.0	161.9	250	7.84	34.181	1.45	26.675	137.5	0.515
191	8.32	34.089	2.13	2.26	40.	0.02	29.1	151.1	300	7.50	34.214	1.11	26.751	130.3	0.584
219	8.00	34.150	1.66	2.49	46.	0.01	31.5	141.9	400	6.74	34.256	0.68	26.890	117.1	0.713
256	7.82	34.184	1.43	2.54	49.	0.02	32.5	136.9	500	6.09	34.309	0.43	27.017	105.0	0.831
311	7.41	34.220	1.04	2.71	56.	0.02	34.3	128.6							
382	6.88	34.248	0.74	2.91	65.	0.00	37.3	119.5							
452	6.36	34.281	0.53	3.00	73.	0.01	39.0	110.4							
528	5.96	34.327	0.38	3.21	82.	0.00	41.2	102.1							

LATITUDE 31 30.0N		LONGITUDE 120 14.0W		MO/DAY/YR 08/03/78		MESSENGER 0615 GMT		TIME	BOTTOM 3926M	WIND 290	SPEED 8KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	O2	P04	S103	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	17.79	33.236	5.62	0.45	2.	0.00	0.1	392.4	0	17.79	33.236	5.62	23.995	392.4	0.000
10	17.43	33.231	5.68	0.43	2.	0.00	0.0	384.5	10	17.43	33.231	5.68	24.078	384.5	0.039
29	15.61	33.340	6.18	0.48	2.	0.03	0.7	336.6	20	16.69	33.293	5.97	24.300	363.3	0.076
39	13.85	33.318	6.07	0.58	2.	0.11	2.5	302.3	30	15.44	33.339	6.17	24.617	333.1	0.111
48	12.55	33.304	5.67	0.83	4.	0.40	4.5	278.6	50	12.42	33.311	5.62	25.220	275.7	0.172
62	11.94	33.362	5.34	0.99	6.	0.62	7.4	263.3	75	11.13	33.400	4.88	25.529	246.4	0.238
76	11.06	33.402	4.84	1.26	11.	0.61	11.9	245.0	100	9.72	33.511	4.24	25.859	215.0	0.296
95	9.84	33.475	4.37	1.46	18.	0.09	17.4	219.6	125	9.34	33.702	3.75	26.070	194.9	0.348
118	9.49	33.651	3.85	1.77	23.	0.02	20.7	201.0	150	8.91	33.838	3.55	26.245	178.3	0.395
137	9.08	33.779	3.62	1.88	26.	0.03	22.9	185.3	200	8.26	33.981	3.02	26.456	158.3	0.481
164	8.75	33.885	3.47	1.99	30.	0.01	24.5	172.5	250	7.64	34.030	2.62	26.587	145.8	0.559
192	8.34	33.967	3.09	2.14	34.	0.02	26.5	160.4	300	7.05	34.088	1.83	26.715	133.7	0.631
220	8.08	34.006	2.87	2.22	38.	0.10	27.9	153.8	400	6.23	34.190	0.82	26.905	115.7	0.761
257	7.53	34.035	2.55	2.38	45.	0.04	30.4	144.0	500	5.70	34.271	0.45	27.036	103.2	0.876
312	6.94	34.103	1.62	2.82	57.	0.04	35.3	131.1							
381	6.38	34.176	0.92	3.12	69.	0.03	38.3	118.5							
450	5.90	34.224	0.65	3.27	79.	0.01	40.3	109.1							
525A	5.64	34.300		3.43	87.	0.00	41.9	100.4							

A) THE OXYGEN SAMPLE AT THIS LEVEL WAS LOST. THE VALUE AT 500 M WAS DETERMINED FROM THE CTDO
CHECK SAMPLE BOTTLE CAST AT 508 METERS.

LATITUDE 31 04.0N		LONGITUDE 120 54.5W		MO/DAY/YR 08/03/78		MESSENGER 1344 GMT		TIME	BOTTOM 3879M	WIND 010	SPEED 3KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	17.18	33.090	5.70	0.30	3.	0.00	0.1	389.1	0	17.18	33.090	5.70	24.030	389.1	0.000
10	16.83	33.086	5.73	0.38	3.	0.00	0.0	381.6	10	16.83	33.086	5.73	24.109	381.6	0.039
28	15.66	33.033	5.97	0.40	3.	0.00	0.0	360.1	20	16.18	33.048	5.86	24.228	370.2	0.076
37	15.30	33.079	6.05	0.46	2.	0.02	0.1	349.1	30	15.56	33.042	5.99	24.362	357.4	0.113
46	15.21	33.127	6.03	0.43	2.	0.03	0.1	343.8	50	15.07	33.126	6.04	24.535	340.9	0.183
60	14.44	33.101	6.05	0.40	2.	0.03	0.2	329.9	75	12.88	33.100	5.93	24.968	299.7	0.263
73	13.06	33.098	5.95	0.55	4.	0.14	1.7	303.3	100	11.07	33.177	5.44	25.366	261.8	0.334
91	11.63	33.137	5.67	0.58	6.	0.27	5.0	274.4	125	9.82	33.322	4.77	25.694	230.6	0.396
113	10.39	33.249	5.07	0.94	12.	0.03	11.6	245.1	150	9.27	33.585	3.97	25.989	202.6	0.451
131	9.59	33.366	4.61	1.43	18.	0.03	16.1	223.7	200	8.61	33.952	2.95	26.380	165.5	0.544
158	9.21	33.681	3.71	1.86	26.	0.01	21.9	194.5	250	7.93	34.036	2.58	26.549	149.5	0.625
185	8.82	33.896	3.13	2.06	30.	0.01	25.4	172.7	300	7.23	34.100	1.72	26.700	135.1	0.699
212	8.45	33.978	2.85	2.21	36.	0.02	27.5	161.2	400	6.53	34.215	0.82	26.886	117.5	0.830
248	7.96	34.033	2.61	2.35	40.	0.01	29.3	150.1	500	5.79	34.253	0.49	27.011	105.6	0.948
302	7.20	34.102	1.68	2.40	53.			134.6							
370	6.68	34.174	1.06	3.05	64.	0.01	37.2	122.5							
437	6.33	34.254	0.60	3.23	74.	0.05	38.8	112.1							
510	5.61	34.253	0.46	3.14	85.		41.3	103.5							

LATITUDE 30 50.0N		LONGITUDE 121 34.5W		MO/DAY/YR 08/03/78		MESSENGER 1917 GMT		TIME	BOTTOM 4117M	WIND 300	SPEED 8KT	WEATHER 2	DOMINANT WAVES 310 6 7		
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	18.40	33.172	5.60	0.42	3.	0.01	0.0	411.2	0	18.40	33.172	5.60	23.798	411.2	0.000
10	18.10	33.148	5.64	0.44	4.	0.00	0.0	405.9	10	18.10	33.148	5.64	23.853	405.9	0.041
28	17.91	33.141	5.63	0.44	3.	0.01	0.0	402.1	20	17.95	33.141	5.63	23.884	403.0	0.081
38	17.88	33.140	5.64	0.38	3.	0.01	0.0	401.4	30	17.90	33.141	5.63	23.895	401.9	0.122
47	16.71	33.201	5.92	0.38	3.	0.00	0.0	370.5	50	16.67	33.245	5.91	24.268	366.4	0.199
62	16.49	33.296	5.89	0.32	3.	0.00	0.0	358.7	75	15.87	33.314	5.90	24.503	344.0	0.288
76	15.80	33.314	5.90	0.29	3.	0.00	0.0	342.5	100	12.98	33.035	5.93	24.897	306.5	0.370
94	13.47	33.037	5.97	0.45	3.	0.06	0.5	315.5	125	11.28	33.160	5.46	25.316	266.6	0.442
117	11.88	33.118	5.68	0.70	6.	0.46	3.4	280.2	150	10.08	33.296	4.90	25.631	236.6	0.506
135	10.60	33.219	5.17	1.12	11.	0.03	10.3	250.8	200	9.00	33.769	3.86	26.175	184.9	0.613
163	9.81	33.379	4.67	1.35	16.	0.03	14.2	226.2	250	8.21	33.997	3.15	26.477	156.2	0.700
190	9.16	33.692	3.93	1.66	23.	0.05	19.9	192.9	300	7.63	34.089	2.17	26.635	141.3	0.777
217	8.77	33.867	3.78	1.81	27.	0.04	22.2	174.1	400	6.40	34.118	1.27	26.826	123.1	0.914
254	8.14	34.008	3.06	2.08	37.	0.03	26.4	154.5	500	5.50	34.172	0.92	26.983	108.3	1.036
309	7.54	34.096	2.02	2.46	48.	0.03	32.1	139.6							
379	6.69	34.117	1.40	2.78	62.	0.03	35.7	126.8							
449	5.82	34.130	1.06	2.96	75.	0.03	38.6	115.2							
525	5.44	34.201	0.89	3.26	85.	0.03	41.5	105.5							

LATITUDE 30 30.0N		LONGITUDE 122 14.0W		MO/DAY/YR 08/04/78		MESSENGER 0208 GMT		TIME	BOTTOM 3926M	WIND 310	SPEED 10KT	WEATHER 2	DOMINANT WAVES 310 4 6		
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	18.50	33.165	5.57	0.37	3.	0.00	0.1	414.1	0	18.50	33.165	5.57	23.768	414.1	0.000
10	18.07	33.144	5.59	0.35	3.	0.00	0.1	405.5	10	18.07	33.144	5.59	23.857	405.5	0.041
28	17.90	33.135	5.65	0.39	3.	0.01	0.0	402.3	20	17.96	33.141	5.62	23.881	403.3	0.081
53	16.55	33.038	5.85	0.32	3.	0.00	0.1	378.9	30	17.85	33.132	5.66	23.901	401.4	0.122
62	15.60	32.977	5.98	0.35	3.	0.00	0.1	362.9	50	16.80	33.056	5.82	24.093	383.1	0.200
71	15.41	32.994	5.95	0.34	3.	0.00	0.1	357.6	75	15.36	33.004	5.95	24.377	356.0	0.293
85	15.14	33.018	5.96	0.33	2.	0.00	0.1	350.3	100	14.24	33.012	5.97	24.624	332.4	0.380
99	14.26	33.003	5.98	0.33	2.	0.00	0.1	333.5	125	13.14	33.171	5.81	24.971	299.4	0.460
122	13.45	33.176	5.86	0.60	3.	0.17	0.8	304.9	150	10.66	33.168	5.37	25.430	255.7	0.530
141	11.36	33.144	5.50	0.71	7.	0.03	5.7	269.2	200	9.17	33.691	4.17	26.088	193.2	0.644
164	9.89	33.252	5.15	0.90	13.	0.01	10.8	236.9	250	8.35	33.950	3.50	26.418	161.9	0.735
192	9.26	33.618	4.33	1.28	20.	0.07	17.5	200.0	300	7.74	34.030	2.72	26.572	147.2	0.814
219	8.97	33.821	3.86	1.54	25.	0.04	21.2	180.5	400	6.74	34.128	1.31	26.789	126.7	0.957
256	8.23	33.966	3.44	1.84	34.	0.02	25.0	158.9	500	5.71	34.171	0.80	26.956	110.8	1.081
312	7.64	34.037	2.51	2.23	43.	0.07	29.9	145.3							
381	6.96	34.116	1.48	2.65	57.	0.05	34.8	130.4							
451	6.17	34.151	0.99	2.92	71.	0.02	38.3	117.8							
527	5.49	34.180	0.74	3.16	85.	0.00	41.3	107.6							

RV DAVID STARR JORDAN

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LATITUDE 30 09.5N		LONGITUDE 122 55.0W		MO/DAY/YR 08/04/78		MESSENGER 0740 GMT		TIME	BOTTOM 3452M	WIND 320	SPEED 8KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	19.15	33.569	5.51	0.31	3.	0.00	0.0	400.3	0	19.15	33.569	5.51	23.912	400.3	0.000
10	19.13	33.583	5.44	0.29	2.	0.00	0.0	398.8	10	19.13	33.583	5.44	23.928	398.8	0.040
29	19.40	33.754	5.43	0.23	2.	0.01	0.0	393.0	20	19.26	33.670	5.43	23.960	395.7	0.080
52	19.38	33.767	5.42	0.25	2.	0.00	0.0	391.6	30	19.40	33.755	5.43	23.990	392.9	0.119
61	19.08	33.736	5.49	0.21	2.	0.00	0.1	386.5	50	19.38	33.766	5.42	24.003	391.7	0.198
70	18.40	33.701	5.61	0.18	2.	0.00	0.1	372.8	75	18.18	33.736	5.63	24.282	365.0	0.293
85	17.86	33.827	5.66	0.17	3.	0.01	0.0	351.0	100	17.32	33.853	5.64	24.579	336.7	0.381
99	17.37	33.854	5.64	0.13	3.	0.01	0.0	337.8	125	15.73	33.791	5.52	24.901	306.1	0.463
121	16.02	33.813	5.54	0.17	3.	0.09	0.0	310.8	150	13.57	33.580	5.41	25.199	277.7	0.537
141	14.43	33.675	5.44	0.30	4.	0.12	1.2	287.7	200	10.40	33.606	4.85	25.816	219.0	0.663
163	12.39	33.476	5.35	0.52	7.	0.03	4.5	263.0	250	8.92	33.895	3.87	26.288	174.2	0.763
191	10.83	33.575	5.00	0.85	11.	0.02	9.5	228.3	300	7.85	34.000	3.43	26.533	151.0	0.847
218	9.68	33.678	4.52	1.23	17.	0.02	15.7	202.0	400	6.55	34.067	1.70	26.767	128.8	0.992
256	8.81	33.933	3.76	1.71	27.	0.02	21.6	169.8	500	5.69	34.163	0.83	26.952	111.2	1.118
310	7.66	34.004	3.32	2.01	38.	0.07	26.5	148.1							
381	6.75	34.047	1.97	2.58	55.	0.01	33.7	132.8							
450	6.09	34.121	1.15	2.92	70.	0.01	38.5	119.1							
523	5.53	34.179	0.76	3.19	83.	0.00	40.9	108.1							

RV DAVID STARR JORDAN

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LATITUDE 29 49.0N		LONGITUDE 123 35.0W		MO/DAY/YR 08/04/78		MESSENGER 1505 GMT		TIME	BOTTOM 4022M	WIND 330	SPEED 8KT	WEATHER 2	DOMINANT WAVES 340 4 6		
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	18.66	33.201	5.51	0.35	3.	0.03	0.1	415.3	0	18.66	33.201	5.51	23.755	415.3	0.000
10	18.64	33.198	5.53	0.29	3.	0.04	0.1	415.0	10	18.64	33.198	5.53	23.758	415.0	0.042
29	18.63	33.190	5.57	0.31	3.	0.00	0.1	415.4	20	18.63	33.194	5.55	23.756	415.2	0.083
53	17.54	33.098	5.71	0.30	3.	0.00	0.1	396.7	30	18.62	33.189	5.57	23.756	415.2	0.125
62	16.55	33.044	5.86	0.30	3.	0.00	0.1	378.5	50	17.77	33.115	5.68	23.907	400.8	0.207
72	15.70	33.023	5.97	0.28	3.	0.00	0.0	361.6	75	15.54	33.034	5.97	24.362	357.5	0.302
85	15.02	33.090	5.95	0.27	3.	0.00	0.0	342.5	100	13.81	33.188	5.86	24.849	311.0	0.386
99	13.90	33.190	5.87	0.47	4.	0.06	0.2	312.7	125	11.59	33.137	5.50	25.241	273.8	0.460
122	11.83	33.129	5.57	0.60	7.	0.03	5.1	278.5	150	10.18	33.294	5.06	25.612	238.4	0.524
140	10.59	33.214	5.15	0.84	11.	0.04	8.5	251.0	200	9.04	33.765	3.62	26.166	185.8	0.632
163	9.81	33.415	4.91	0.98	15.	0.01	12.4	223.5	250	8.29	33.968	3.30	26.441	159.7	0.721
189	9.19	33.682	3.86	1.47	24.	0.03	19.7	194.1	300	7.42	34.036	2.46	26.622	142.5	0.798
216	8.86	33.858	3.41	1.72	28.	0.04	23.6	176.1	400	6.25	34.103	1.23	26.835	122.3	0.936
253	8.24	33.973	3.29	1.83	34.	0.02	25.7	158.5	500	5.69	34.219	0.67	26.996	107.1	1.056
305	7.34	34.039	2.35	2.16	47.	0.04	30.4	141.1							
375	6.55	34.097	1.39	2.60	62.	0.02	36.6	126.5							
445	5.80	34.124	1.03	2.90	75.	0.00	40.0	115.4							
521	5.65	34.253	0.51	3.34	84.		41.4	104.0							

RV DAVID STARR JORDAN

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LATITUDE 29 29.0N		LONGITUDE 124 14.0W		MO/DAY/YR 08/04/78		MESSENGER 2212 GMT		TIME	BOTTOM 4309M	WIND 340	SPEED 10KT	WEATHER 1	DOMINANT WAVES 330 4 4		
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
0	18.85	33.208	5.49	0.45	4.	0.00	0.0	419.3	0	18.85	33.208	5.49	23.713	419.3	0.000
10	18.72	33.205	5.51	0.48	3.	0.00	0.0	416.4	10	18.72	33.205	5.51	23.743	416.4	0.042
28	18.58	33.193	5.55	0.47	3.	0.00	0.0	414.0	20	18.66	33.198	5.53	23.753	415.5	0.083
37	18.35	33.269	5.58	0.49	3.	0.00	0.0	403.0	30	18.54	33.212	5.56	23.794	411.6	0.125
46	18.08	33.231	5.63	0.46	3.	0.00	0.0	399.4	50	17.64	33.168	5.70	23.979	393.9	0.206
60	16.48	33.038	5.87	0.45	3.	0.00	0.0	377.4	75	15.89	33.120	5.92	24.350	358.6	0.300
74	15.96	33.123	5.91	0.44	3.	0.00	0.0	359.9	100	13.81	33.119	5.92	24.794	316.2	0.385
93	14.42	33.103	5.97	0.43	2.	0.00	0.0	329.4	125	11.76	33.158	5.57	25.226	275.2	0.460
115	12.54	33.159	5.74	0.55	5.	0.56	0.4	289.1	150	10.18	33.314	5.07	25.627	237.0	0.525
134	11.12	33.170	5.40	0.88	8.	0.08	6.8	263.1	200	8.89	33.790	3.71	26.210	181.7	0.631
161	9.69	33.441	4.81	1.21	15.	0.04	13.1	219.7	250	8.16	33.986	3.20	26.476	156.4	0.717
190	9.04	33.713	3.94	1.59	23.	0.07	19.8	189.6	300	7.40	34.041	2.44	26.630	141.8	0.794
217	8.67	33.894	3.40	1.86	28.	0.06	23.6	170.6	400	6.43	34.146	1.06	26.844	121.5	0.931
255	8.08	33.992	3.18	2.10	35.	0.01	25.8	154.8	500	5.96	34.265	0.52	26.999	106.7	1.051
310	7.26	34.047	2.25	2.41	47.	0.01	30.9	139.5							
379	6.55	34.113	1.29	2.85	62.	0.03	36.7	125.3							
448	6.23	34.218	0.67	3.02	71.		38.2	113.5							
522	5.83	34.276	0.46	3.07	81.		37.8	104.4							

	LATITUDE 29 08.2N		LONGITUDE 124 53.4W		MO/DAY/YR 08/05/78		MESSENGER 0404 GMT		TIME	BOTTOM 4217M	WIND 340	SPEED 10KT	WEATHER 2	DOMINANT WAVES 330 4 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	18.66	33.228	5.51	0.43	3.	0.00	0.0	413.3	0	18.66	33.228	5.51	23.776	413.3	0.000	
9	18.64	33.227	5.53	0.39	3.	0.00	0.0	412.9	10	18.65	33.240	5.53	23.787	412.2	0.041	
28	18.98	33.556	5.53	0.30	2.	0.00	0.0	397.1	20	18.80	33.395	5.53	23.868	404.5	0.082	
38	19.22	33.703	5.52	0.25	2.	0.00	0.0	392.3	30	19.04	33.592	5.53	23.957	396.0	0.122	
48	19.08	33.702	5.53	0.19	2.	0.00	0.0	389.0	50	18.87	33.692	5.58	24.075	384.7	0.201	
61	17.74	33.669	5.82	0.10	2.	0.00	0.0	359.7	75	17.79	33.820	5.72	24.441	349.9	0.293	
75	17.79	33.820	5.72	0.09	3.	0.00	0.0	349.9	100	17.17	33.884	5.65	24.639	331.0	0.379	
94	17.45	33.913	5.66	0.08	3.	0.01	0.0	335.3	125	15.42	33.703	5.58	24.902	306.0	0.459	
117	16.06	33.751	5.64	0.11	3.	0.01	0.0	316.2	150	13.27	33.533	5.40	25.223	275.4	0.533	
136	14.48	33.640	5.49	0.30	4.	0.12	1.0	291.3	200	10.34	33.654	4.86	25.866	214.4	0.657	
165	12.09	33.459	5.30	0.59	7.	0.04	4.9	258.8	250	9.02	33.920	3.94	26.291	173.9	0.757	
192	10.61	33.566	4.99	0.94	11.	0.04	10.1	225.3	300	8.07	33.980	3.34	26.484	155.6	0.841	
219	9.82	33.853	4.51	1.26	17.	0.03	15.4	191.3	400	6.65	34.048	1.98	26.738	131.5	0.990	
258	8.84	33.924	3.81	1.80	27.	0.02	21.9	170.9	500	5.71	34.136	0.99	26.928	113.4	1.119	
313	7.87	34.000	3.21	2.11	37.	0.04	26.4	151.3								
381	6.87	34.038	2.20	2.61	53.	0.03	32.8	135.0								
453	6.13	34.083	1.44	2.90	67.	0.10	37.0	122.4								
524	5.51	34.169	0.77	3.27	83.	0.04	41.0	108.7								

LATITUDE 28 50.4N		LONGITUDE 125 33.6W		MO/DAY/YR 08/05/78		MESSENGER 0928 GMT		TIME	BOTTOM 4313M	WIND 010	SPEED 10KT	WEATHER 2	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.41	33.556	5.41	0.33	3.	0.00	0.0	407.6	0	19.41	33.556	5.41	23.836	407.6	0.000
10	19.39	33.554	5.41	0.31	3.	0.00	0.0	407.2	10	19.39	33.554	5.41	23.840	407.2	0.041
29	19.35	33.551	5.43	0.30	3.	0.00	0.0	406.5	20	19.37	33.553	5.42	23.844	406.8	0.082
39	18.64	33.421	5.57	0.34	3.	0.00	0.0	398.8	30	19.29	33.537	5.44	23.851	406.1	0.122
48	17.87	33.423	5.71	0.30	3.	0.00	0.0	380.6	50	17.73	33.411	5.73	24.142	378.4	0.201
62	17.13	33.358	5.80	0.30	3.	0.00	0.0	368.5	75	16.80	33.466	5.79	24.406	353.2	0.293
76	16.79	33.479	5.79	0.23	3.	0.00	0.0	352.0	100	17.21	33.910	5.59	24.648	330.2	0.379
95	17.30	33.861	5.63	0.19	3.	0.00	0.0	335.7	125	15.91	33.917	5.43	24.955	300.9	0.459
118	16.40	33.951	5.46	0.14	3.	0.02	0.0	309.0	150	13.92	33.757	5.33	25.265	271.5	0.531
137	14.96	33.834	5.39	0.08	4.	0.00	0.0	286.9	200	10.26	33.640	4.87	25.868	214.1	0.655
165	12.71	33.681	5.24	0.38	7.	0.04	3.0	253.9	250	8.84	33.967	4.07	26.356	167.8	0.752
193	10.59	33.593	5.02	0.64	12.	0.04	7.8	223.0	300	7.97	34.004	3.72	26.518	152.4	0.835
221	9.54	33.821	4.39	1.14	19.	0.04	16.2	189.2	400	6.36	34.030	2.10	26.763	129.2	0.981
258	8.69	33.990	4.02	1.40	27.	0.03	21.1	163.8	500	5.53	34.135	1.08	26.951	111.4	1.107
313	7.77	34.009	3.60	1.62	36.	0.04	24.3	149.2							
383	6.57	34.017	2.32	1.72	54.	0.15	27.1	132.8							
452	5.86	34.082	1.54	2.82	71.	0.03	40.2	119.2							
526	5.40	34.166	0.85	2.86	83.	0.04	42.2	107.6							

LATITUDE 28 32.6N		LONGITUDE 126 14.8W		MO/DAY/YR 08/05/78		MESSENGER 1428 GMT		TIME	BOTTOM 4217M	WIND 350	SPEED 12KT	WEATHER 2	DOMINANT WAVES 340 6 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.29	33.504	5.45	0.22	3.	0.00	0.2	408.4	0	19.29	33.504	5.45	23.827	408.4	0.000
11	19.27	33.503	5.43	0.22	3.	0.00	0.2	408.0	10	19.27	33.503	5.43	23.831	408.0	0.041
30	19.25	33.516	5.44	0.20	3.	0.00	0.2	406.6	20	19.26	33.510	5.43	23.839	407.3	0.082
38	19.06	33.585	5.51	0.21	3.	0.00	0.2	397.0	30	19.25	33.516	5.44	23.846	406.6	0.122
48	18.42	33.691	5.66	0.18	3.	0.02	0.2	374.0	50	18.36	33.719	5.66	24.223	370.6	0.200
61	18.21	33.865	5.66	0.14	3.	0.01	0.2	356.4	75	18.03	33.974	5.61	24.501	344.2	0.290
77	18.00	33.984A	5.60	0.14	3.	0.01	0.2	342.8	100	17.51	34.022	5.57	24.663	328.7	0.375
95	17.60	34.019A	5.59	0.17	3.	0.01	0.2	331.0	125	16.58	33.973	5.45	24.845	311.4	0.456
118	17.13	34.053	5.45	0.16	3.	0.01	0.2	317.9	150	14.42	33.713	5.41	25.126	284.7	0.531
137	15.46	33.813	5.44	0.32	4.	0.08	0.5	298.9	200	10.98	33.619	5.03	25.726	227.6	0.662
166	13.22	33.641	5.37	0.47	6.	0.02	2.7	266.4	250	9.45	33.857	4.54	26.173	185.1	0.767
193	11.36	33.608	5.11	0.75	10.	0.07	7.5	235.0	300	8.41	34.002	4.06	26.450	158.8	0.856
222	10.03	33.689	4.78	1.08	15.	0.01	13.0	206.8	400	6.54	34.021	2.30	26.731	132.2	1.007
259	9.32	33.910	4.46	1.44	22.	0.02	17.7	179.2	500	5.64	34.139	0.90	26.940	112.3	1.135
313	8.12	34.010	3.90	1.71	32.	0.02	23.3	154.1							
382	6.79	34.004	2.67	2.18	50.	0.01	30.7	136.5							
453	5.99	34.085	1.36	2.73	67.	0.03	37.0	120.5							
528	5.49	34.170	0.79	2.92	79.	0.03	40.3	108.3							

A) THE SALINITY SAMPLES AT 77 AND 95 METERS APPEAR TO HAVE BEEN REVERSED. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES		
27 50.4N		127 31.0W		08/05/78		2316 GMT		4507M		010		14KT		2		350 5 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
1	20.01	34.047	5.35	0.33	2.	0.01	0.0	386.8	0	20.01	34.047	5.35	24.054	386.8	0.000			
10	19.97	34.044	5.37	0.31	2.	0.00	0.0	386.0	10	19.97	34.044	5.37	24.062	386.0	0.039			
29	19.92	34.044	5.36	0.27	2.	0.00	0.0	384.8	20	19.95	34.044	5.37	24.067	385.5	0.077			
38	19.86	34.036	5.37	0.26	2.	0.00	0.0	383.9	30	19.91	34.043	5.36	24.076	384.7	0.116			
47	19.41	34.045	5.44	0.23	3.	0.00	0.0	372.1	50	19.31	34.059	5.46	24.244	368.6	0.191			
62	18.90	34.083	5.54	0.18	3.	0.00	0.0	357.0	75	18.20	33.967	5.60	24.453	348.8	0.282			
76	18.15	33.958	5.60	0.18	3.	0.01	0.0	348.2	100	17.76	34.042	5.52	24.618	333.1	0.368			
94	17.93	34.053	5.54	0.16	3.	0.00	0.0	336.2	125	16.54	33.971	5.44	24.853	310.6	0.449			
116	17.08	34.021	5.39	0.15	3.	0.00	0.0	319.1	150	14.98	33.873	5.31	25.129	284.4	0.524			
136	15.82	33.906	5.39	0.21	4.	0.02	0.0	299.7	200	11.81	33.814	4.78	25.726	227.6	0.655			
163	14.19	33.859	5.21	0.32	5.	0.04	1.9	269.4	250	9.59	33.908	4.53	26.188	183.7	0.760			
191	12.39	33.829	4.85	0.60	9.	0.10	6.4	237.1	300	8.42	34.000	3.92	26.447	159.1	0.948			
219	10.70	33.805	4.67	0.91	13.	0.07	11.9	209.2	400	6.93	34.033	2.37	26.689	136.1	1.001			
256	9.44	33.931	4.50	1.29	21.	0.03	16.7	179.6	500	5.83	34.107	1.23	26.890	117.1	1.134			
312	8.20	34.007	3.72	1.77	33.	0.04	23.3	155.4										
381	7.15	34.023	2.63	2.28	49.	0.04	30.3	139.8										
451	6.38	34.066	1.75	2.66	63.		34.8	126.7										
525	5.55	34.130	0.99	2.84	81.		37.3	112.0										

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES		
32 47.5N		117 23.5W		08/01/78		0012 GMT		334M		250		7KT		1		290 3 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
1A	21.46	33.527	5.65	0.30	1.	0.00	0.0	461.5	0	21.46	33.527	5.65	23.271	461.5	0.000			
10	14.79	33.375	6.60	0.39	1.	0.00	0.0	317.0	10	14.79	33.375	6.60	24.787	317.0	0.039			
20	13.33	33.396	6.31	0.62	3.	0.16	2.1	286.5	20	13.33	33.396	6.31	25.107	286.5	0.069			
29	11.88	33.427	5.03	1.10	11.	0.49	10.2	257.4	30	11.74	33.442	4.93	25.449	253.9	0.096			
38	10.95	33.564	4.31	1.41	13.	0.32	14.2	231.2	50	10.82	33.665	3.48	25.790	221.5	0.144			
46	10.83	33.625	3.85	1.46	16.	0.33	16.2	224.6	75	10.48	33.849	2.55	25.992	202.3	0.197			
55	10.78	33.718	3.05	1.64	21.	0.12	20.1	216.9	100	10.21	33.996	2.11	26.153	187.0	0.246			
64	10.47	33.813	2.74	1.87	23.	0.15	21.8	204.8	125	10.13	34.045	1.97	26.205	182.1	0.293			
75	10.48	33.849	2.29U	1.90	25.	0.04	23.0	202.3	150	9.99	34.098	2.00	26.270	175.9	0.336			
83	10.33	33.916	2.47	2.00	26.	0.02	23.3	194.9										
93	10.23	33.954	2.32	2.21	28.	0.03	23.9	190.4										
100	10.21	33.996	2.11	2.16	29.	0.02	24.8	187.0										
110	10.15	34.012	2.05	2.17	30.	0.01	25.1	184.8										
119	10.11	34.053U	2.03	2.21	30.	0.01	25.6											
128	10.14	34.055	1.93	2.26	30.	0.01	25.6	181.5										
138	10.09	34.078	1.87	2.20	31.	0.00	26.1	179.0										
148	10.01	34.095	1.96	2.20	31.	0.01	26.1	176.4										
158	9.88	34.073U	2.05U	2.15U	31.	0.05	26.0											

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES		
32 30.0N		117 23.0W		08/02/78		0233 GMT		650M		250		4KT		1		270 2 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
0A	18.89	33.504	6.40	0.23	2.	0.00	0.1	398.8	0	18.89	33.504	6.40	23.929	398.8	0.000			
10	14.42	33.425	6.48	0.44	3.	0.10	1.4	305.8	10	14.42	33.425	6.48	24.904	305.8	0.035			
30	11.44	33.541	4.03	1.08	13.	0.48	14.2	241.3	20	12.23	33.473	5.38	25.381	260.4	0.064			
40	11.16	33.666	1.42	1.5.	15.	0.39	16.9	227.3	30	11.44	33.541	4.03	25.582	241.3	0.089			
51	10.76	33.727	2.98	1.65	21.	0.36	20.5	215.9	50	10.79	33.724	3.01	25.840	216.8	0.135			
66	10.50		2.518	1.84	23.	0.27	23.4		75	10.48	33.833	2.52	25.979	203.5	0.188			
81	10.47	33.850B	2.538	1.84	24.	0.18	24.6	202.0	100	10.36	33.893	2.33	26.048	197.0	0.238			
101	10.35	33.894B	2.328	1.92	25.	0.05	25.6	196.8	125	10.30	33.950	2.27	26.102	191.9	0.287			
126	10.30	33.953B	2.278	1.96	26.	0.03	25.8	191.6	150	10.08	34.056	1.94	26.221	180.6	0.335			
146	10.12	34.049B	1.958	2.05	29.	0.03	27.3	181.6	200	9.88	34.190	1.66	26.360	167.4	0.423			
175	9.91	34.087B	1.918	2.02	33.	0.07	28.0	175.4	250	9.57	34.279	1.37	26.482	155.8	0.507			
205	9.88	34.211B	1.618	2.23	37.	0.03	30.0	165.8	300	9.07	34.314	1.10	26.591	145.5	0.585			
235	9.69	34.262B	1.478	2.25	37.	0.02	30.2	159.0	400	7.77	34.314	0.95	26.790	126.6	0.727			
274	9.34	34.298B	1.218	2.35	41.	0.01	31.2	150.8	500	6.67	34.298	0.69	26.932	113.1	0.854			
334	8.68	34.326B	1.018	2.50	46.	0.01	33.4	138.7										
408	7.66	34.311	0.94	2.63	57.	0.01	36.3	125.2										
483	6.83	34.295	0.75	2.83	67.	0.01	39.4	115.3										
564	6.19	34.332	0.38	3.00	77.	0.01	41.4	104.5										

A) A SHAKEDOWN STATION.

B) THE SALINITY AND OXYGEN SAMPLES AT 66 THROUGH 334 METERS WERE DRAWN AND ANALYZED OUT OF ORDER. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

RV ALEJANDRO DE HUMBOLDT										CALCOFI CRUISE 7808										97030
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES						
32 16.0N		117 07.9W		08/02/78		0738 GMT				57M	310	1KT	1	320 2 9						
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD				
0	18.58	33.479	6.07	0.24	2.	0.02	0.1	393.2		0	18.58	33.479	6.07	23.987	393.2	0.000				
10	13.97	33.456	6.84	0.35	3.	0.12	1.4	294.5		10	13.97	33.456	6.84	25.022	294.5	0.034				
19	12.19	33.481	5.69	0.59	4.	0.29	5.8	259.0		20	12.07	33.496	5.47	25.431	255.7	0.062				
29	11.30	33.641	3.54	1.15	15.	0.34	15.4	231.5		30	11.28	33.645	3.51	25.691	230.9	0.086				
50	10.86	33.707	2.94	1.43	20.	0.36	19.3	219.1		50	10.86	33.707	2.94	25.815	219.1	0.132				

RV ALEJANDRO DE HUMBOLDT										CALCOFI CRUISE 7808										97035
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES						
32 05.5N		117 27.5W		08/02/78		1247 GMT				1250M	020	3KT	1	240 3 5						
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD				
0	19.68	33.484	5.44	0.42	2.	0.04	0.0	419.4		0	19.68	33.484	5.44	23.712	419.4	0.000				
10	18.91	33.446	5.58	0.44	2.	0.00	0.0	403.4		10	18.91	33.446	5.58	23.879	403.4	0.041				
30	14.73	33.436	6.04	0.52	1.	0.04	0.5	311.3		20	16.97	33.440	5.89	24.346	359.0	0.079				
41	12.89	33.321	5.66	0.71	5.	0.33	4.4	283.7		30	14.73	33.436	6.04	24.847	311.3	0.113				
51	12.28	33.352	5.28	0.90	7.	0.64	7.5	270.2		50	12.32	33.347	5.32	25.267	271.2	0.171				
66	11.56	33.419	4.61	1.13	12.	0.08	12.9	252.4		75	11.23	33.458	4.40	25.556	243.8	0.236				
81	11.04	33.493	4.27	1.26	15.	0.02	15.8	238.0		100	10.50	33.712	3.48	25.883	212.7	0.294				
101	10.47	33.724	3.44	1.56	21.	0.01	20.8	211.3		125	9.90	33.925	2.90	26.150	187.3	0.344				
126	9.88	33.931	2.88	1.78	27.	0.00	24.6	186.5		150	9.53	34.045	2.50	26.306	172.5	0.390				
146	9.58	34.033	2.54	1.99	32.	0.01	27.0	174.2		200	9.28	34.214	1.81	26.478	156.2	0.474				
176	9.30	34.113	2.27	2.18	36.	0.01	28.5	163.9		250	9.00	34.325	1.10	26.611	143.6	0.551				
207	9.28	34.242	1.66	2.26	39.	0.01	30.4	154.1		300	8.09	34.278	1.02	26.715	133.7	0.623				
237	9.25	34.340	1.06	2.44	43.	0.01	31.7	146.3		400	7.25	34.330	0.53	26.877	118.3	0.755				
276	8.40	34.272	1.17					136.6		500	6.40	34.341	0.34	27.003	106.4	0.874				
336	7.77	34.309	0.71	2.66	56.	0.00	36.0	126.9												
411	7.17	34.332	0.51	2.73	65.	0.01	38.8	117.0												
485	6.51	34.339	0.35	2.94	73.	0.00	41.2	108.0												
564	5.99	34.349	0.31	3.02	80.	0.00	42.6	100.8												

RV ALEJANDRO DE HUMBOLDT										CALCOFI CRUISE 7808										97040
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES						
31 56.0N		117 48.0W		08/02/78		1716 GMT				1300M	270	3KT	2	300 2 9						
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SIGT	DT	DD				
1	18.79	33.471	5.56	0.36	1.	0.00	0.0	398.8		0	18.79	33.471	5.56	23.929	398.8	0.000				
11	18.56	33.454	5.64	0.37	0.	0.00	0.0	394.5		10	18.58	33.456	5.63	23.968	395.0	0.040				
32	14.04	33.479	5.93	0.62	2.	0.16	3.3	294.2		20	16.81	33.458	5.76	24.398	354.0	0.077				
42	12.74	33.391	5.50	0.83	4.	0.32	5.8	275.7		30	14.54	33.473	5.90	24.916	304.7	0.110				
57	11.81	33.454	4.99	1.08	9.	0.55	10.2	254.2		50	12.16	33.415	5.23	25.350	263.4	0.167				
72	10.96	33.464	4.36	1.22	13.	0.16	15.1	233.7		75	10.82	33.483	4.27	25.649	234.9	0.230				
97	9.97	33.653	3.73	1.54	20.	0.02	21.8	208.5		100	9.89	33.671	3.66	25.954	205.9	0.285				
117	9.49	33.761	3.30	1.72	24.	0.02	24.2	192.9		125	9.27	33.806	3.22	26.162	186.2	0.335				
137	8.99	33.874	3.12	1.80	28.	0.03	26.0	176.9		150	8.92	33.957	2.89	26.335	169.7	0.380				
157	8.89	33.991	2.76	1.97	32.	0.02	27.8	166.7		200	8.64	34.110	2.11	26.499	154.2	0.463				
187	8.74	34.083	2.29	2.16	37.	0.02	29.3	157.6		250	7.98	34.154	1.66	26.634	141.3	0.539				
221	8.42	34.138	1.87					148.9		300	7.34	34.187	1.21	26.752	130.1	0.609				
251	7.96	34.154	1.65	2.45	48.	0.01	33.3	141.1		400	6.63	34.241	0.70	26.893	116.8	0.738				
299	7.35	34.186	1.22	2.62	57.	0.01	36.0	130.3		500	6.12	34.339	0.33	27.037	103.1	0.854				
353	6.86	34.209	0.91	2.76	63.	0.01	38.3	122.1		600	5.51	34.372	0.27	27.139	93.5	0.959				
436	6.49	34.271	0.56	2.97	69.	0.01	40.1	112.8												
518	6.01	34.356	0.28	3.08	79.	0.01	42.3	100.5												
602	5.50	34.371	0.27	3.17	87.	0.01	44.1	93.4												

RV ALEJANDRO DE HUMBOLDT					CALCOFI CRUISE 7808										97050		
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
31 36.0N		118 30.5W		08/03/78		0021 GMT			2500M	270	4KT	2	260 3 9				
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	17.68	33.539	5.71	0.45	1.	0.00	0.1	367.8	0	17.68	33.539	5.71	24.253	367.8	0.000		
10	17.47	33.533	5.75	0.50	1.	0.00	0.0	363.4	10	17.47	33.533	5.75	24.299	363.4	0.037		
30	13.67	33.568	5.46	0.85	4.	0.18	6.8	280.5	20	15.81	33.540	5.60	24.688	326.4	0.071		
40	11.99	33.562	4.82	1.19	10.	0.38	11.9	249.5	30	13.67	33.568	5.46	25.170	280.5	0.102		
55	10.64	33.602	4.04	1.45	17.	0.49	18.5	223.2	50	10.97	33.587	4.26	25.703	229.8	0.153		
70	10.10	33.647	3.70	1.62	20.	0.29	21.3	211.0	75	9.87	33.663	3.71	25.950	206.3	0.208		
95	9.11	33.738	3.74	1.54	23.	0.02	22.8	188.8	100	9.02	33.763	3.70	26.168	185.6	0.257		
115	8.89	33.840		3.42	1.64	26.	0.01	25.0	177.9	125	8.87	33.894	3.04	26.293	173.7	0.302	
135	8.87	33.947	2.64	1.94	30.	0.03	28.1	169.7	150	8.78	34.028	2.26	26.414	162.2	0.345		
155	8.73	34.052	2.17	2.06	34.	0.01	30.0	159.8	200	8.24	34.140	1.79	26.584	146.1	0.424		
184	8.34	34.121	1.90	2.21	39.	0.01	31.7	149.0	250	7.75	34.149	1.59	26.664	138.6	0.497		
199	8.13	34.149	1.69	2.29	45.	0.02	33.1	143.9	300	7.46	34.214	1.07	26.757	129.7	0.566		
249	7.76	34.148	1.60	2.40	48.	0.02	34.3	138.8	400	6.44	34.219	0.74	26.901	118.0	0.694		
299	7.47	34.214	1.07	2.61	56.	0.01	36.6	129.9	500	6.13	34.301	0.40	27.005	106.2	0.812		
353	6.72	34.188	0.96	2.77	64.	0.01	39.6	121.9	600	5.56	34.350	0.29	27.115	95.7	0.920		
37	6.33	34.255	0.56	2.91	74.	0.00	41.5	112.0									
21	6.06	34.314	0.37	3.05	82.	0.00	42.7	104.3									
04	5.53	34.351	0.29	3.19	93.	0.00	44.4	95.3									

LATITUDE 31 15.5N		LONGITUDE 119 10.0W		MO/DAY/YR 08/03/78		MESSENGER 0808 GMT		TIME	BOTTOM 3550M	WIND 340	SPEED 8KT	WEATHER 2	DOMINANT WAVES			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	18.05	33.146	5.61	0.48	2.	0.00	0.6	404.9	0	18.05	33.146	5.61	23.864	404.9	0.000	
11	18.02	33.146	5.63	0.51	2.	0.00	0.5	404.2	10	18.02	33.147	5.63	23.870	404.3	0.040	
30	16.00	33.087	6.00	0.54	1.	0.00	0.5	363.4	20	17.22	33.116	5.79	24.038	388.3	0.080	
39	15.04	33.089	6.10	0.55	1.	0.00	0.6	343.0	30	16.00	33.087	6.00	24.300	363.4	0.118	
53	14.98	33.247	5.99	0.63	1.	0.06	1.3	330.2	50	14.99	33.229	6.03	24.631	331.8	0.188	
67	14.73	33.298	5.87	0.72	1.	0.08	1.8	321.4	75	14.05	33.308	5.80	24.891	307.0	0.268	
90	12.46	33.324	5.53	0.94	4.	0.52	5.8	275.5	100	11.56	33.334	5.13	25.399	258.7	0.339	
108	10.91	33.345	4.83	1.27	11.	0.12	14.4	246.7	125	9.85	33.386	4.66	25.740	226.3	0.400	
126	9.80	33.391	4.65	1.45	15.	0.04	17.2	225.2	150	9.29	33.708	3.70	26.082	193.8	0.453	
144	9.39	33.650	3.76	1.62	21.	0.00	22.5	199.6	200	8.68	33.950	3.11	26.367	166.7	0.545	
170	9.04	33.842	3.50	1.76	24.	0.01	24.3	180.0	250	7.79	34.022	2.71	26.559	148.5	0.626	
201	8.67	33.952	3.10	2.02	29.	0.00	27.3	166.3	300	7.17	34.079	1.87	26.692	135.9	0.699	
227	8.10	33.994	3.03	2.12	34.	0.01	29.1	154.9	400	6.35	34.189	0.86	26.889	117.2	0.831	
269	7.58	34.042	2.37	2.30	43.	0.00	32.6	144.2	500	5.80	34.288	0.45	27.037	103.1	0.947	
317	6.96	34.099	1.61	2.62	55.	0.00	37.0	131.6								
391	6.41	34.177	0.93	2.96	68.	0.01	40.5	118.8								
467	5.96	34.266	0.47	3.03	80.	0.00	42.4	106.7								
548	5.62	34.188U	0.41	2.99U	67.U	0.02	36.8U									

LATITUDE 30 55.0N		LONGITUDE 119 50.5W		MO/DAY/YR 08/03/78		MESSENGER 1454 GMT		TIME	BOTTOM 3400M	WIND 270	SPEED 7KT	WEATHER 2	DOMINANT WAVES 270 3 9			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	17.78	33.134	5.59	0.35	2.	0.02	0.0	399.6	0	17.78	33.134	5.59	23.920	399.6	0.000	
10	17.55	33.124	5.65	0.37	2.	0.00	0.1	395.0	10	17.55	33.124	5.65	23.968	395.0	0.040	
30	15.35	33.064	6.05	0.39	2.	0.00	0.1	351.3	20	16.53	33.079	5.86	24.172	375.6	0.078	
41	14.57	33.132	6.02	0.48	2.	0.04	0.1	330.3	30	15.35	33.064	6.05	24.427	351.3	0.115	
56	13.43	33.173	5.79	0.63	3.	0.61	0.9	304.8	50	13.90	33.164	5.90	24.810	314.7	0.182	
71	12.07	33.169	5.51	0.82	6.	0.13	4.7	279.8	75	11.79	33.177	5.42	25.234	274.4	0.256	
96	10.58	33.279	4.90	1.13	12.	0.05	10.7	246.0	100	10.33	33.317	4.80	25.604	239.2	0.320	
116	9.50	33.494	4.38	1.40	18.	0.03	15.3	212.8	125	9.29	33.610	4.12	26.006	201.0	0.376	
136	9.15	33.732	3.82	1.67	23.	0.03	19.0	189.8	150	8.99	33.805	3.54	26.205	182.1	0.424	
156	8.93	33.824	3.45	1.82	27.	0.03	21.1	179.7	200	8.19	33.987	3.16	26.473	156.7	0.511	
186	8.43	33.957	3.33	1.95	31.	0.02	22.8	162.4	250	7.53	34.029	2.48	26.602	144.5	0.588	
221	7.85	34.011	2.86	2.15	37.	0.01	25.9	150.2	300	7.03	34.073	1.78	26.707	134.5	0.660	
251	7.52	34.029	2.47	2.26	42.	0.01	27.6	144.3	400	6.34	34.188	0.83	26.889	117.2	0.771	
300	7.03	34.073	1.78	2.53	50.	0.01	31.3	134.5	500	5.81	34.264	0.45	27.018	105.0	0.908	
354	6.72	34.150	1.14	2.78	59.	0.01	33.6	124.7	600	5.30	34.325	0.28	27.127	94.6	1.014	
439	6.04	34.214	0.66	3.02	73.	0.00	36.2	111.5								
523	5.73	34.282	0.39	3.14	82.	0.00	37.4	102.8								
609	5.24	34.329	0.28	3.35	94.	0.00	38.7	93.6								

LATITUDE 30 35.0N		LONGITUDE 120 31.0W		MO/DAY/YR 08/03/78		MESSENGER 2100 GMT		TIME	BOTTOM 3950M	WIND 350	SPEED 5KT	WEATHER 2	DOMINANT WAVES 350 5 9			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	18.62	33.221	5.47	0.41	3.	0.00	0.1	412.9	0	18.62	33.221	5.47	23.781	412.9	0.000	
10	18.47	33.218	5.56	0.39	3.	0.00	0.1	409.5	10	18.47	33.218	5.56	23.815	409.5	0.041	
30	17.79	33.179	5.74	0.40	2.	0.00	0.0	396.5	20	18.19	33.204	5.68	23.873	404.1	0.082	
40	17.26	33.145	5.65	0.33	2.	0.00	0.0	386.9	30	17.79	33.179	5.74	23.952	396.5	0.122	
56	16.02	33.111	5.89	0.30	2.	0.00	0.0	362.1	50	16.48	33.119	5.78	24.215	371.4	0.199	
71	15.41	33.119	5.93	0.25	2.	0.00	0.0	348.5	75	15.12	33.140	5.92	24.534	341.0	0.289	
96	13.17	33.223	5.77	0.31	3.	0.21	0.0	296.2	100	12.69	33.198	5.74	25.081	289.0	0.368	
116	10.98	33.149	5.47	0.59	7.	0.05	3.2	262.3	125	10.56	33.251	5.11	25.513	247.8	0.436	
136	10.27	33.403	4.63	1.07	14.	0.07	11.0	231.8	150	9.84	33.524	4.22	25.849	215.9	0.494	
156	9.67	33.568	4.07	1.44	20.	0.02	14.6	210.0	200	8.78	33.870	3.21	26.290	174.0	0.593	
186	8.98	33.795	3.41	1.61	27.	0.01	18.5	182.6	250	8.10	34.027	2.54	26.516	152.6	0.677	
221	8.52	33.952	2.96	1.78	34.	0.01	21.0	164.1	300	7.55	34.070	2.02	26.631	141.7	0.753	
251	8.09	34.028	2.53	2.03	41.	0.01	23.0	152.3	400	6.36	34.121	1.19	26.834	122.4	0.990	
301	7.54	34.070	2.01	2.25	49.	0.01	25.7	141.5	500	5.76	34.209	0.59	26.980	108.6	1.012	
356	6.77	34.087	1.56	2.24U	49.U	0.01	25.5U	130.1	600	5.36	34.315	0.30	27.112	96.1	1.121	
441	6.09	34.159	0.88	2.70	74.	0.00	32.3	116.2								
526	5.64	34.232	0.50	2.84	85.	0.00	34.4	105.5								
610	5.33	34.327	0.28	2.97	93.	0.02	35.4	94.8								

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES		
	30 15.5N		121 10.5W		08/04/78		0251 GMT		3832M		310		9KT		2		310 5 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD				
0	18.71	33.177	5.52	0.45	2.	0.00	0.0	418.2	0	18.71	33.177	5.52	23.725	418.2	0.000				
10	18.49	33.167	5.58	0.43	2.	0.00	0.1	413.7	10	18.49	33.167	5.58	23.772	413.7	0.042				
30	17.84	33.117	5.66	0.39	2.	0.00	0.1	402.2	20	18.25	33.150	5.61	23.819	409.2	0.083				
40	17.13	33.064	5.76	0.35	2.	0.00	0.1	389.9	30	17.84	33.117	5.66	23.893	402.2	0.123				
55	16.50	33.115	5.88	0.35	3.	0.00	0.1	372.2	50	16.69	33.094	5.85	24.147	377.9	0.202				
69	15.79	33.096	5.89	0.32	3.	0.00	0.2	358.2	75	15.45	33.120	5.89	24.447	349.3	0.293				
94	14.17	33.184	5.89	0.38	4.	0.02	0.2	318.4	100	13.65	33.169	5.87	24.866	309.4	0.376				
113	12.52	33.127	5.80	0.50	5.	0.20	0.5	291.1	125	11.66	33.109	5.70	25.206	277.0	0.450				
133	11.13	33.116	5.58	0.70	8.	0.10	4.0	267.3	150	9.95	33.231	5.12	25.601	239.5	0.515				
153	9.78	33.260	5.03	1.26	14.	0.02	12.4	234.5	200	9.10	33.775	3.66	26.164	186.0	0.623				
182	9.33	33.633	4.28	1.47	20.	0.03	18.8	199.9	250	8.43	33.982	2.71	26.431	160.6	0.712				
216	8.91	33.861	3.17	1.82	28.	0.03	26.4	176.6	300	7.64	34.067	2.12	26.615	143.2	0.790				
245	8.51	33.968	2.77	2.03	32.	0.02	29.2	162.8	400	6.37	34.111	1.27	26.824	123.3	0.929				
293	7.74	34.060	2.20	2.28	41.	0.01	33.5	145.0	500	5.77	34.209	0.66	26.979	108.7	1.051				
347	7.03	34.092	1.65	2.53	51.	0.01	37.4	133.1											
429	6.08	34.125	1.10	2.81	67.	0.00	41.4	118.6											
512	5.74	34.224	0.59	3.04	79.	0.00	43.5	107.2											
596	5.44	34.244U	0.69U	3.11	83.	0.00	43.0												

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
29 55.0N		121 50.0W		08/04/78		0838 GMT		4200M		330		7KT		2		310 4 9	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	19.11	33.332	5.45	0.27	2.	0.00	0.0	416.5	0	19.11	33.332	5.45	23.742	416.5	0.000		
10	19.09	33.329	5.48	0.29	2.	0.00	0.0	416.3	10	19.09	33.329	5.48	23.745	416.3	0.042		
31	18.97	33.333	5.48	0.28	2.	0.00	0.0	413.1	20	19.06	33.341	5.48	23.761	414.8	0.083		
61	18.18	33.471	5.63	0.28	3.	0.00	0.0	384.3	30	18.98	33.335	5.48	23.777	413.2	0.125		
71	17.09	33.356	5.78	0.29	3.	0.00	0.0	367.7	50	18.47	33.372	5.57	23.932	398.4	0.206		
86	16.55	33.435	5.82	0.28	3.	0.00	0.0	349.9	75	16.90	33.366	5.79	24.306	362.7	0.302		
101	15.69	33.479	5.81	0.29	3.	0.00	0.0	328.1	100	15.77	33.476	5.81	24.649	330.0	0.389		
117	13.52	33.244	5.83	0.41	4.	0.06	0.1	301.3	125	12.84	33.250	5.70	25.091	288.0	0.467		
142	11.77	33.260	5.53	0.60	6.	0.04	4.5	267.8	150	11.21	33.265	5.42	25.410	257.7	0.536		
162	10.45	33.273	5.24	0.92	10.	0.01	10.4	244.3	200	9.34	33.678	4.30	26.050	196.8	0.651		
191	9.48	33.595	4.48	1.47	17.	0.00	18.3	205.1	250	8.51	33.956	3.43	26.398	163.7	0.744		
221	9.09	33.832	3.93	1.63	22.	0.01	21.9	181.5	300	7.64	34.006	3.08	26.568	147.6	0.824		
251	8.49	33.958	3.42	1.89	28.	0.00	25.9	163.2	400	6.32	34.081	1.47	26.808	124.9	0.965		
300	7.64	34.006	3.08	2.12	37.	0.00	29.8	147.6	500	5.70	34.192	0.73	26.974	109.1	1.088		
355	6.80	34.041	2.02	2.53	50.	0.00	35.4	133.9	600	5.29	34.302	0.35	27.110	96.3	1.198		
438	6.02	34.119	1.14	2.92	67.	0.05	40.0	118.4									
523	5.61	34.219	0.62	3.17	79.	0.01	43.0	106.1									
609	5.26	34.311	0.33	3.44	91.	0.00	44.9	95.2									

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
31 40.5N		116 46.5W		08/06/78		1058 GMT		424M		040		2KT		4		000 0 0	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	18.13	33.502	7.14	0.61	2.	0.00	0.2	380.9	0	18.13	33.502	7.14	24.116	380.9	0.000		
10	14.34	33.417	6.46	0.54	2.	0.00	0.9	304.8	10	14.34	33.417	6.46	24.915	304.8	0.034		
30	11.87	33.698A	4.68	0.99	8.	0.37	10.2	237.3	20	12.60	33.554	5.52	25.372	261.3	0.063		
45	10.81	33.749A	4.25	1.15	13.	0.01	15.0	215.2	30	11.87	33.698	4.68	25.624	237.3	0.088		
55	10.84	33.804	3.68B	1.46	20.	0.00	19.3	211.6	50	10.82	33.785	3.96	25.882	212.8	0.133		
71	10.81	33.838	3.28	1.49	22.	0.00	19.2	208.6	75	10.81	33.852	3.13	25.936	207.6	0.186		
86	10.82	33.901	2.72	1.70	25.	0.05	21.9	204.1	100	10.63	33.949	2.30	26.045	197.3	0.237		
101	10.61	33.952	2.28	1.90	29.	0.28	24.0	196.8	125	10.47	34.051	2.11	26.151	187.2	0.285		
125	10.47	34.051	2.11	2.01	29.	0.26	25.4	187.2	150	10.38	34.170	2.14	26.259	177.0	0.332		
145	10.37	34.147	2.13	1.93	30.	0.03	24.9	178.5	200	10.15	34.276	1.90	26.381	165.4	0.419		
175	10.41	34.255	2.17	1.89	30.	0.10	24.0	171.2	250	9.67	34.293	1.38	26.477	156.3	0.502		
205	10.09	34.276A	1.83	2.09	34.	0.01	27.3	164.3	300	9.18	34.321	1.02	26.578	146.7	0.581		
240	9.76	34.284A	1.49	2.29	37.	0.00	29.4	158.5	400	7.77	34.313	0.66	26.789	126.6	0.724		
294	9.24	34.322	1.04	2.54	43.	0.02	31.5	147.5									
349	8.58	34.312	0.91	2.70	51.	0.04	33.2	138.3									
410	7.59	34.315	0.59	2.89	61.	0.05	36.0	124.0									

A) THE SALINITY SAMPLES AT 30 AND 45 METERS APPEAR TO HAVE BEEN REVERSED WITH THOSE AT 205 AND 240 METERS. ALL SAMPLES ARE NOW ASSUMED TO BE IN THE CORRECT ORDER.
 B) ALTERNATE VALUE, 3.14 ML/L, NOT USED IN THE INTERPOLATION.

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
31 30.5N		117 07.0W		08/06/78		0710 GMT		1150M		290		6KT		1			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	19.48	33.469	5.80	0.38	1.	0.01	0.0	415.6	0	19.48	33.469	5.80	23.752	415.6	0.000		
10	18.99	33.455	5.78	0.37	1.	0.00	0.1	404.7	10	18.99	33.455	5.78	23.866	404.7	0.041		
30	14.89	33.333	6.12	0.43	2.	0.03	0.1	322.1	20	17.08	33.390	5.99	24.282	365.1	0.080		
41	13.44	33.247	5.84	0.46	3.	0.14	1.9	299.5	30	14.89	33.333	6.12	24.733	322.1	0.114		
56	12.10	33.225	5.44	0.63	6.	0.41	6.0	276.2	50	12.56	33.232	5.57	25.132	284.1	0.175		
71	11.25	33.504	4.19	1.04	12.	0.01	14.8	240.7	75	11.10	33.545	4.10	25.647	235.1	0.240		
96	10.49	33.670	3.64	1.37	17.	0.01	19.4	215.7	100	10.36	33.689	3.60	25.888	212.2	0.296		
117	9.95	33.768	3.43	1.62	22.	0.00	22.5	199.6	125	9.95	33.824	3.26	26.065	195.4	0.349		
137	9.94	33.905	3.00	1.58	24.	0.09	21.5	189.4	150	9.71	33.975	2.79	26.221	180.6	0.396		
157	9.56	34.006	2.69	1.91	28.	0.00	26.8	175.9	200	8.93	34.124	2.18	26.464	157.5	0.462		
187	9.08	34.095	2.32	2.02	33.	0.00	28.7	161.9	250	8.36	34.176	1.69	26.594	145.2	0.560		
222	8.70	34.158	1.95	2.16	37.	0.03	30.9	151.5	300	8.16	34.213	1.39	26.653	139.6	0.633		
252	8.34	34.177	1.67	2.28	41.	0.01	32.4	144.8	400	7.21	34.280	0.68	26.844	121.5	0.770		
301	8.16	34.214	1.38	2.39	44.	0.01	34.6	139.5	500	6.40	34.330	0.36	26.993	107.3	0.891		
356	7.65	34.258	0.93	2.55	51.	0.03	36.2	129.1	600	5.74	34.369	0.23	27.108	96.4	1.000		
440	6.84	34.298	0.51	2.60	62.	0.19	37.5	115.3									
525	6.24	34.342	0.32	2.91	74.	0.02	41.2	104.4									
610	5.68	34.371	0.22	3.07	86.	0.00	40.7	95.5									

LATITUDE 31 21.0N		LONGITUDE 117 27.0W		MO/DAY/YR 08/06/78		MESSENGER TIME 0330 GMT		BOTTOM 1900M		WIND 310		SPEED 9KT		WEATHER 2		DOMINANT WAVES 310 1 9	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	19.25	33.429	5.56	0.19	1.	0.00	0.0	412.9	0	19.25	33.429	5.56	23.780	412.9	0.000		
11	18.64	33.416	5.69	0.15	1.	0.00	0.0	399.2	10	18.75	33.418	5.67	23.899	401.6	0.041		
31	14.45	33.442	6.13	0.30	2.	0.13	1.9	305.1	20	16.82	33.419	5.96	24.365	357.2	0.079		
41	13.44	33.381	5.81	0.38	4.	0.28	3.0	289.7	30	14.67	33.439	6.12	24.861	309.9	0.112		
56	12.80	33.392	5.50	0.56	5.	0.37	5.4	276.8	50	13.05	33.386	5.64	25.155	281.9	0.172		
71	11.17	33.480	4.39	0.94	14.	0.14	15.0	241.1	75	10.83	33.510	4.25	25.667	233.2	0.236		
96	9.62	33.670	3.81	1.36	22.	0.03	21.5	201.7	100	9.53	33.700	3.69	26.037	198.1	0.291		
116	9.32	33.803	3.27	1.67	26.	0.01	24.5	187.2	125	9.17	33.849	3.12	26.211	181.5	0.339		
135	9.01	33.896	3.00	1.83	29.	0.02	26.8	175.5	150	8.77	33.974	2.86	26.373	166.1	0.383		
155	8.70	33.998	2.81	1.95	32.	0.04	27.9	163.4	200	8.38	34.089	2.27	26.523	151.9	0.464		
185	8.59	34.085	2.31	2.15	36.	0.04	30.0	155.3	250	7.81	34.137	1.87	26.645	140.3	0.539		
219	8.09	34.088	2.24	2.24	41.	0.02	31.1	147.8	300	7.50	34.205	1.25	26.743	131.0	0.609		
249	7.82	34.135	1.88	2.43	47.	0.05	33.4	140.5	400	7.03	34.306	0.58	26.889	117.2	0.739		
298	7.51	34.202	1.27	2.71	54.	0.03	35.9	131.3	500	6.11	34.325	0.39	27.028	104.1	0.856		
352	7.33	34.269	0.79	2.92	61.	0.03	37.4	123.9	600	5.46	34.362	0.29	27.138	93.6	0.962		
436	6.74	34.321	0.50	3.13	72.	0.04	39.7	112.2									
521	5.91	34.326	0.37	3.36	84.	0.02	42.9	101.6									
606	5.44	34.366	0.29	3.51	91.	0.02	44.0	93.1									

LATITUDE 31 00.5N		LONGITUDE 118 07.0W		MO/DAY/YR 08/05/78		MESSENGER TIME 2037 GMT		BOTTOM 1763M		WIND 300		SPEED 11KT		WEATHER 2		DOMINANT WAVES 300 2 9	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	18.04	33.149	5.61	0.39	3.	0.00	0.0	404.5	0	18.04	33.149	5.61	23.868	404.5	0.000		
10	17.31	33.137	5.81	0.35	3.	0.00	0.0	388.6	10	17.31	33.137	5.81	24.035	388.6	0.040		
30	14.33	33.150	6.09	0.40	4.	0.07	0.3	324.1	20	15.87	33.144	5.95	24.372	356.4	0.077		
39	13.37	33.195	5.82	0.49	4.	0.43	1.5	302.0	30	14.33	33.150	6.09	24.712	324.1	0.111		
54	13.07	33.310	5.67	0.57	4.	0.50	3.0	287.9	50	13.12	33.283	5.71	25.061	290.8	0.173		
69	11.79	33.337	5.24	0.92	7.	0.52	8.9	262.5	75	11.27	33.360	5.02	25.472	251.8	0.241		
93	9.99	33.460	4.40	1.40	18.	0.18	17.6	223.1	100	9.71	33.504	4.31	25.855	215.3	0.300		
112	9.42	33.599	4.08	1.67	22.	0.02	20.9	203.8	125	9.37	33.769	3.32	26.117	190.5	0.351		
132	9.35	33.852	2.94	2.14	30.	0.07	26.8	184.0	150	8.92	33.914	2.95	26.303	172.8	0.397		
151	8.89	33.915	2.95	2.33	33.	0.04	27.6	172.3	200	8.42	34.092	2.15	26.519	152.3	0.480		
180	8.59	34.058	2.31	2.58	40.	0.06	30.5	157.3	250	7.81	34.110	1.88	26.624	142.4	0.556		
213	8.30	34.098	2.10	2.78	45.	0.03	32.6	150.1	300	7.08	34.096	1.72	26.718	133.4	0.627		
241	7.98	34.117	1.88	2.97	48.	0.02	34.7	144.1	400	6.53	34.237	0.71	26.903	115.8	0.757		
289	7.15	34.083	1.84	3.09	58.	0.03	37.1	135.3	500	5.95	34.319	0.35	27.043	102.6	0.872		
341	6.93	34.165	1.21	3.30	66.	0.01	40.2	126.3	600	5.44	34.379	0.25	27.153	92.1	0.976		
422	6.37	34.259	0.58	3.59	79.	0.00	43.5	112.2									
504	5.93	34.321	0.34	3.81	87.	0.03	44.8	102.2									
588	5.50	34.370	0.26	3.91	95.	0.08	44.7	93.5									

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LATITUDE 30 40.5N		LONGITUDE 118 47.5W		MO/DAY/YR 08/05/78		MESSENGER TIME 1344 GMT		TIME	BOTTOM 3000M	WIND 300	SPEED 8KT	WEATHER 2	DOMINANT WAVES 300 2 9		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	18.46	33.187	5.52	0.57	3.	0.00	0.0	411.6	0	18.46	33.187	5.52	23.794	411.6	0.000
10	18.44	33.185	5.60	0.49	3.	0.00	0.0	411.2	10	18.44	33.185	5.60	23.798	411.2	0.041
30	17.91	33.166	5.65	0.53	3.	0.00	0.0	400.2	20	18.26	33.178	5.63	23.835	407.7	0.082
41	17.29	33.154	5.74	0.48	3.	0.00	0.0	386.9	30	17.91	33.166	5.65	23.913	400.2	0.123
56	16.22	33.118	5.89	0.47	2.	0.00	0.0	365.9	50	16.65	33.129	5.84	24.183	374.5	0.200
71	15.42	33.165	5.92	0.47	2.	0.00	0.0	345.3	75	15.23	33.184	5.91	24.544	340.1	0.290
96	13.76	33.224	5.73	0.57	2.	0.51	0.9	307.4	100	13.19	33.200	5.67	24.982	298.4	0.370
116	11.06	33.162	5.35	0.80	8.	0.07	7.9	262.7	125	10.54	33.242	5.06	25.510	248.1	0.439
136	10.21	33.360	4.69	1.11	14.	0.03	13.7	234.0	150	9.86	33.454	4.35	25.791	221.4	0.499
157	9.72	33.501	4.20	1.34	19.	0.04	18.9	215.7	200	8.88	33.911	3.32	26.306	172.5	0.599
187	9.08	33.846	3.49	1.71	27.	0.02	24.1	180.3	250	8.14	34.011	2.80	26.499	154.2	0.683
221	8.58	33.960	3.11	1.90	31.	0.05	26.7	164.4	300	7.47	34.051	2.27	26.627	142.1	0.759
251	8.12	34.012	2.79	2.14	38.	0.02	29.2	153.9	400	6.55	34.176	1.00	26.852	120.7	0.896
301	7.46	34.051	2.26	2.41	49.	0.02	33.0	141.9	500	6.05	34.285	0.43	27.004	106.3	1.015
356	6.84	34.116	1.46	2.71	60.	0.09	36.2	128.8	600	5.51	34.319	0.39	27.098	97.4	1.124
440	6.36	34.227	0.70	2.99	73.	0.06	39.0	114.5							
525	5.92	34.302	0.38	3.25	83.	0.02	42.5	103.5							
611	5.45	34.318	0.39	3.33	87.	0.02	43.2	96.8							

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LATITUDE 30 20.5N		LONGITUDE 119 27.5W		MO/DAY/YR 08/05/78		MESSENGER TIME 0715 GMT		TIME	BOTTOM 3750M	WIND 320	SPEED 9KT	WEATHER 1	DOMINANT WAVES 320		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	18.49	33.176	5.52	0.46	2.	0.00	0.0	413.1	0	18.49	33.176	5.52	23.779	413.1	0.000
10	18.48	33.172	5.61	0.42	2.	0.00	0.0	413.1	10	18.48	33.172	5.61	23.778	413.1	0.041
30	17.44	33.121	5.76	0.42	3.	0.00	0.1	392.7	20	18.04	33.148	5.69	23.867	404.6	0.082
40	16.93	33.105	5.83	0.35	3.	0.00	0.1	382.4	30	17.44	33.121	5.76	23.992	392.7	0.122
55	15.83	33.057	5.95	0.32	2.	0.00	0.1	361.9	50	16.21	33.072	5.92	24.240	369.0	0.199
70	14.90	33.060	5.89	0.36	1.	0.02	0.1	342.3	75	14.67	33.077	5.89	24.583	336.4	0.287
95	13.70	33.170	5.87	0.34	2.	0.09	0.3	310.2	100	13.32	33.198	5.80	24.955	301.0	0.367
115	12.22	33.279	5.52	0.65	6.	0.34	5.7	274.4	125	11.76	33.306	5.35	25.340	264.3	0.439
135	11.32	33.338	5.13	0.95	10.	0.06	11.2	254.2	150	10.29	33.464	4.58	25.725	227.7	0.501
155	9.96	33.515	4.39	1.30	17.	0.02	17.4	218.5	200	8.84	33.893	3.42	26.299	173.2	0.603
185	9.12	33.818	3.60	1.80	24.	0.00	23.9	183.0	250	7.89	34.021	2.73	26.543	150.0	0.686
220	8.50	33.950	3.24	2.01	31.	0.00	27.3	164.0	300	7.27	34.058	2.12	26.661	138.8	0.760
251	7.87	34.023	2.71	2.30	38.	0.00	31.0	149.6	400	6.41	34.164	1.07	26.862	119.8	0.895
301	7.26	34.058	2.11	2.57	45.	0.01	34.8	138.6	500	5.92	34.272	0.51	27.010	105.7	1.013
356	6.72	34.110	1.44	2.84	56.	0.00	38.2	127.7	600	5.52	34.351	0.30	27.121	95.2	1.121
440	6.19	34.213	0.82	3.12	68.	0.03	42.0	113.4							
524	5.82	34.292	0.42	3.38	78.	0.02	44.0	103.1							
608	5.49	34.356	0.29	3.55	88.	0.01	45.7	94.4							

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LATITUDE 30 00.9N		LONGITUDE 120 07.2W		MO/DAY/YR 08/05/78		MESSENGER TIME 0204 GMT		TIME	BOTTOM 3650M	WIND 340	SPEED 4KT	WEATHER 2	DOMINANT WAVES 310 2 9		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	18.74	33.157	5.56	0.31	2.	0.00	0.0	420.4	0	18.74	33.157	5.56	23.702	420.4	0.000
11	17.43	33.102	5.76	0.33	2.	0.00	0.1	393.9	10	17.54	33.106	5.74	23.955	396.2	0.041
30	15.77	33.088	6.14	0.33	2.	0.00	0.2	358.4	20	16.60	33.095	5.99	24.169	375.8	0.079
39	14.90	33.146	6.05	0.37	2.	0.02	0.2	336.0	30	15.77	33.088	6.14	24.352	358.4	0.116
54	14.01	33.209	5.91	0.50	2.	0.09	1.5	313.4	50	14.23	33.201	5.95	24.771	318.4	0.184
68	12.87	33.167	5.68	0.58	3.	0.52	3.4	294.6	75	12.49	33.181	5.60	25.105	286.6	0.260
92	11.61	33.228	5.37	0.79	6.	0.44	8.8	267.3	100	10.95	33.225	5.21	25.425	256.2	0.329
111	10.12	33.243	4.95	1.03	12.	0.03	14.0	241.2	125	9.71	33.359	4.61	25.741	226.2	0.389
130	9.65	33.414	4.47	1.30	16.	0.03	18.1	221.1	150	9.44	33.667	3.74	26.026	199.1	0.443
148	9.47	33.649	3.73	1.57	22.	0.03	22.6	200.9	200	8.68	33.925	3.59	26.348	168.5	0.537
177	8.98	33.835	3.86	1.66	25.	0.02	22.8	179.6	250	7.80	34.021	2.80	26.556	148.7	0.618
210	8.54	33.951	3.42	1.88	31.	0.01	26.2	164.5	300	7.19	34.075	1.86	26.686	136.4	0.692
238	7.99	34.005	3.03	2.05	37.	0.01	29.0	152.6	400	6.40	34.164	0.97	26.862	119.7	0.825
285	7.34	34.057	2.10	2.36	48.	0.00	33.8	139.8	500	5.77	34.262	0.48	27.020	104.8	0.943
337	6.87	34.117	1.38	2.68	63.	0.00	37.6	129.1	600	5.41	34.346	0.31	27.131	94.3	1.049
417	6.29	34.175	0.90	2.91	72.	0.00	40.5	117.5							
499	5.78	34.261	0.48	3.09	84.	0.00	42.7	104.9							
582	5.45	34.322	0.33	3.23	93.	0.00	44.0	96.5							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

100090

	LATITUDE 29 40.2N		LONGITUDE 120 47.3W		MO/DAY/YR 08/04/78		MESSENGER 1943 GMT		TIME	BOTTOM 3950M	WIND 360	SPEED 9KT	WEATHER 2	DOMINANT WAVES 360 3 9		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	18.72	33.187	5.55	0.40	2.	0.00	0.0	417.7	0	18.72	33.187	5.55	23.730	417.7	0.000	
11	18.42	33.151	5.62	0.41	2.	0.00	0.0	413.2	10	18.45	33.154	5.61	23.772	413.6	0.042	
31	18.06	33.128	5.64	0.39	2.	0.00	0.0	406.5	20	18.24	33.134	5.63	23.806	410.4	0.083	
61	17.32	33.212	5.76	0.37	2.	0.00	0.0	383.4	30	18.08	33.128	5.64	23.844	406.9	0.124	
71	16.70	33.173	5.85	0.39	2.	0.00	0.0	372.3	50	17.70	33.192	5.70	23.982	393.6	0.204	
86	15.99	33.153	5.91	0.38	2.	0.00	0.1	358.3	75	16.49	33.163	5.87	24.246	368.5	0.300	
101	15.41	33.196	5.91	0.41	2.	0.00	0.1	342.9	100	15.46	33.195	5.91	24.502	344.1	0.390	
116	14.05	33.125	5.90	0.57	2.	0.09	0.7	320.4	125	13.33	33.146	5.97	24.914	304.9	0.471	
141	12.10	33.200	6.10	0.80	5.	0.30	6.1	278.1	150	11.33	33.178	5.81	25.320	266.2	0.544	
161	10.49	33.178	5.36	1.01	10.	0.06	9.5	252.0	200	9.30	33.699	4.23	26.074	194.5	0.661	
191	9.44	33.604	4.43	1.45	19.	0.05	18.4	203.8	250	8.51	33.961	3.64	26.403	163.3	0.752	
221	9.05	33.862	3.89	1.82	25.	0.02	22.5	178.7	300	7.62	34.025	2.71	26.586	146.0	0.832	
251	8.49	33.963	3.63	1.94	29.	0.02	25.0	162.9	400	6.61	34.122	1.31	26.802	125.4	0.973	
301	7.60	34.025	2.69	2.30	40.	0.03	31.1	145.7	500	5.91	34.221	0.71	26.970	109.5	1.096	
356	7.06	34.071	1.88	2.62	50.	0.02	35.4	135.0	600	5.43	34.309	0.39	27.098	97.3	1.207	
441	6.24	34.171	0.91	2.99	65.	0.03	40.0	117.2								
526	5.80	34.241	0.67	3.22	76.	0.02	42.8	106.6								
613	5.37	34.321	0.33	3.37	88.	0.02	44.7	95.7								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

100100

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
29 20.0N		121 26.5W		08/04/78		1407 GMT			4200M	310	7KT	2	310	5	8
Z*	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	19.41	33.391	5.38	0.31	3.	0.01	0.1	419.5	0	19.41	33.391	5.38	23.711	419.5	0.000
10	19.44	33.390	5.50	0.30	2.	0.00	0.1	420.3	10	19.44	33.390	5.50	23.702	420.3	0.042
30	19.19	33.443	5.50	0.28	2.	0.00	0.1	410.4	20	19.44	33.390	5.50	23.702	420.3	0.084
60	18.76	33.588	5.53	0.20	2.	0.00	0.0	389.6	30	19.19	33.443	5.50	23.806	410.4	0.126
70	18.63	33.649	5.57	0.20	2.	0.00	0.0	382.0	50	18.87	33.538	5.52	23.958	395.9	0.207
85	16.85	33.491	5.77	0.19	2.	0.00	0.0	352.5	75	18.12	33.608	5.64	24.198	373.1	0.303
100	15.43	33.389	5.82	0.22	3.	0.00	0.0	329.2	100	15.43	33.389	5.82	24.658	329.2	0.392
115	14.20	33.406	5.77	0.25	4.	0.00	0.0	302.8	125	13.33	33.344	5.71	25.066	290.4	0.470
140	12.11	33.274	5.54	0.52	6.	0.06	4.2	272.8	150	11.45	33.332	5.36	25.417	257.0	0.539
160	10.90	33.414	5.16	0.78	10.	0.05	9.4	241.4	200	9.59	33.694	4.39	26.022	199.4	0.655
190	9.90	33.610	4.63	1.31	17.	0.01	15.9	210.5	250	8.45	33.965	3.61	26.415	162.1	0.748
220	9.03	33.847	3.94	1.61	26.	0.03	22.1	179.5	300	7.66	34.011	2.92	26.569	147.6	0.827
250	8.45	33.965	3.61	1.80	32.	0.04	25.0	162.1	400	6.49	34.110	1.37	26.809	124.8	0.969
300	7.66	34.011	2.92	2.11	42.	0.03	29.8	147.6	500	5.81	34.225	0.64	26.986	108.0	1.091
355	6.93	34.053	2.00	2.46	54.	0.02	35.2	134.7	600	5.30	34.303	0.41	27.110	96.3	1.200
440	6.18	34.164	0.94	2.85	71.	0.04	40.4	117.0							
524	5.69	34.245	0.58	3.11	83.	0.02	43.2	105.0							
609	5.26	34.309	0.40	3.25	91.	0.02	44.7	95.3							

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CALCOFI CRUISE 7808

103030

LATITUDE 31 06.0N		LONGITUDE 116 24.5W		MO/DAY/YR 08/06/78		MESSENGER 2126 GMT		TIME	BOTTOM 62M	WIND 290	SPEED 9KT	WEATHER 1	DOMINANT WAVES 290 1 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	15.72	33.485	6.51	0.65	3.	0.01	0.8	328.3	0	15.72	33.485	6.51	24.667	328.3	0.000
10	13.86	33.470	6.37	0.67	3.	0.07	1.8	291.4	10	13.86	33.470	6.37	25.056	291.4	0.031
20	12.15	33.448	5.17	1.04	8.	0.22	8.3	260.7	20	12.15	33.448	5.17	25.378	260.7	0.059
30	11.62	33.559	3.27	1.62	17.	0.41	14.8	243.1	30	11.62	33.559	3.27	25.563	243.1	0.084
50	11.24	33.677	2.81	1.89	24.	0.57	18.7	227.8	50	11.24	33.677	2.81	25.724	227.8	0.131

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

103035

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
30 56.0N		116 45.0W		08/07/78		0040 GMT			1700M	290	10KT	1	290	2	6
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	19.78	33.434	5.65	0.50	3.	0.00	0.0	425.5	0	19.78	33.434	5.65	23.648	425.5	0.000
10	18.59	33.427	5.90	0.50	3.	0.00	0.0	397.2	10	18.59	33.427	5.90	23.945	397.2	0.041
29	15.91	33.398	6.35	0.45	5.	0.01	0.0	338.7	20	17.25	33.420	6.22	24.265	366.7	0.079
40	14.09	33.337	6.05	0.56	6.	0.12	1.7	305.6	30	15.74	33.393	6.34	24.591	335.6	0.115
55	12.03	33.291	5.29	0.82	9.	0.45	7.9	270.1	50	12.64	33.299	5.55	25.169	280.6	0.176
70	10.95	33.327	4.84	1.04	12.	0.12	12.8	248.7	75	10.67	33.378	4.64	25.594	240.2	0.242
96	9.88	33.649	3.86	1.29	23.	0.00	20.5	207.3	100	9.85	33.701	3.80	25.985	203.0	0.298
116	9.72	33.864	3.50	1.57	24.	0.03	22.3	188.9	125	9.78	33.970	3.12	26.205	182.1	0.346
136	9.84	34.085	2.61	1.96	30.	0.03	25.7	174.4	150	9.63	34.173	2.12	26.389	164.6	0.390
156	9.53	34.202	1.93	2.31	36.	0.03	28.8	160.9	200	9.66	34.393	0.88	26.556	148.8	0.471
186	9.67	34.365	1.07	2.66	41.	0.02	30.8	151.0	250	9.38	34.433	0.61	26.633	141.4	0.545
221	9.64	34.423	0.74	2.78	44.	0.03	31.3	146.3	300	8.92	34.413	0.66	26.691	135.9	0.618
251	9.37	34.433	0.61	2.94	46.	0.02	32.1	141.3	400	7.49	34.368	0.46	26.873	118.7	0.751
301	8.91	34.412	0.66	3.01	50.	0.03	32.4	135.8	500	6.74	34.362	0.34	26.973	109.2	0.872
357	7.94	34.371	0.59	3.17	59.	0.02	35.2	124.7	600	6.06	34.361	0.28	27.062	100.2	0.985
442	7.18	34.371	0.35	3.26	70.	0.02	38.3	114.3							
527	6.55	34.358	0.33	3.46	76.	0.02	40.6	107.1							
612	5.98	34.362	0.27	3.55	82.	0.02	42.8	99.7							

LATITUDE 30 46.0N		LONGITUDE 117 04.5W		MO/DAY/YR 08/07/78		MESSENGER 0433 GMT		TIME	BOTTOM 1856M	WIND 300	SPEED 9KT	WEATHER 1	DOMINANT WAVES 300 3 9		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	19.75	33.465	5.65	0.39	1.	0.00	0.0	422.5	0	19.75	33.465	5.65	23.679	422.5	0.000
10	19.50	33.462	5.74	0.38	1.	0.00	0.0	416.6	10	19.50	33.462	5.74	23.742	416.6	0.042
30	13.83	33.360	6.20	0.51	3.	0.07	0.9	298.8	20	16.88	33.395	6.08	24.333	360.2	0.081
41	12.20	33.237	5.52	0.73	7.	0.50	5.6	277.2	30	13.83	33.360	6.20	24.977	298.8	0.114
56	11.37	33.350	4.85	1.06	11.	0.14	12.2	254.2	50	11.59	33.284	5.11	25.355	262.9	0.170
71	10.79	33.523	4.08	1.38	15.	0.07	17.2	231.5	75	10.63	33.563	3.95	25.743	226.0	0.232
96	9.93	33.721	3.57	1.66	20.	0.05	21.8	202.8	100	9.84	33.738	3.55	26.015	200.1	0.285
116	9.53	33.795	3.46	1.82	24.	0.04	23.5	191.0	125	9.33	33.836	3.33	26.176	184.9	0.334
136	9.15	33.897	3.11	1.97	28.	0.01	26.0	177.6	150	9.18	34.002	2.71	26.329	170.3	0.379
156	9.21	34.046	2.54	2.12	32.	0.02	27.7	167.5	200	8.71	34.178	1.84	26.542	150.2	0.461
186	8.87	34.148	2.03	2.31	36.	0.03	30.1	154.8	250	8.23	34.222	1.40	26.650	139.9	0.535
221	8.48	34.206	1.60	2.46	42.	0.02	32.4	144.7	300	7.75	34.247	1.05	26.740	131.3	0.606
251	8.22	34.222	1.39	2.56	43.	0.02	33.4	139.7	400	6.91	34.303	0.53	26.904	115.8	0.735
301	7.74	34.247	1.04	2.69	49.	0.01	36.0	131.1	500	6.26	34.341	0.33	27.020	104.7	0.852
355	7.24	34.287	0.70	2.86	58.	0.00	38.0	121.3	600	5.72	34.378	0.27	27.118	95.4	0.959
438	6.67	34.313	0.44	2.98	67.	0.00	40.7	111.9							
521	6.13	34.350	0.31	3.08	77.	0.01	42.2	102.4							
604	5.70	34.379	0.27	3.20	85.	0.00	43.6	95.1							

LATITUDE 30 26.0N		LONGITUDE 117 44.5W		MO/DAY/YR 08/07/78		MESSENGER 1105 GMT		TIME	BOTTOM 2450M	WIND 350	SPEED SKT	WEATHER 2	DOMINANT WAVES 350 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	17.94	33.469	5.77	0.30	1.	0.00	0.0	378.9	0	17.94	33.469	5.77	24.137	378.9	0.000
10	17.94	33.473	5.84	0.34	1.	0.00	0.0	378.6	10	17.94	33.473	5.84	24.140	378.6	0.038
31	15.75	33.386	6.11	0.29	1.	0.02	0.2	336.2	20	16.92	33.418	6.00	24.342	359.4	0.075
41	15.64	33.432	6.02	0.35	1.	0.02	0.7	330.5	30	15.86	33.388	6.10	24.562	338.4	0.110
56	13.02	33.265	5.64	0.59	3.	0.64	3.5	290.2	50	14.15	33.330	5.81	24.886	307.5	0.175
72	11.88	33.282	5.29	1.11	10.	0.51	12.6	268.1	75	11.67	33.285	5.25	25.341	264.2	0.246
97	10.42	33.316	4.82	1.51	12.	0.08	14.8	240.7	100	10.34	33.345	4.70	25.623	237.4	0.310
117	10.01	33.526	4.06	1.58	18.	0.26	19.6	218.5	125	9.73	33.589	3.99	25.917	209.5	0.366
137	9.34	33.680	3.91	1.83	22.	0.05	21.5	196.6	150	9.15	33.807	3.57	26.181	184.3	0.416
157	9.09	33.871	3.36	2.00	28.	0.03	24.7	178.6	200	8.52	34.025	2.60	26.451	158.7	0.503
187	8.72	34.005	2.67	2.25	33.	0.05	27.4	163.1	250	7.94	34.115	1.85	26.609	143.7	0.581
221	8.21	34.045	2.50	2.40	38.	0.01	30.0	152.7	300	7.37	34.168	1.34	26.734	131.9	0.652
251	7.93	34.117	1.83	2.69	43.	0.01	33.2	143.4	400	6.51	34.248	0.66	26.914	114.8	0.781
300	7.37	34.168	1.34	2.89	52.	0.02	36.1	131.9	500	5.92	34.308	0.45	27.038	103.1	0.896
354	6.88	34.214	0.95	3.09	60.	0.00	38.8	122.0	600	5.35	34.340	0.43	27.134	94.0	1.001
438	6.25	34.272	0.49	3.18	72.	0.00	41.6	109.7							
522	5.81	34.318	0.43	3.31	81.	0.01	43.5	101.0							
606	5.31	34.341	0.43	3.26	90.	0.10	43.9	93.5							

LATITUDE 30 06.0N		LONGITUDE 118 25.0W		MO/DAY/YR 08/07/78		MESSENGER 1653 GMT		TIME	BOTTOM 3350M	WIND 310	SPEED 15KT	WEATHER 2	DOMINANT WAVES 310 2 8		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	18.56	33.164	5.52	0.25	1.	0.02	0.1	415.6	0	18.56	33.164	5.52	23.752	415.6	0.000
10	18.54	33.161	5.54	0.32	2.	0.01	0.0	415.3	10	18.54	33.161	5.54	23.755	415.3	0.042
29	17.52	33.120	5.74	0.31	1.	0.00	0.0	394.6	20	18.17	33.148	5.62	23.835	407.7	0.083
39	16.42	33.070	5.89	0.30	1.	0.00	0.0	373.7	30	17.40	33.115	5.76	23.995	392.4	0.123
53	15.96	33.074	5.93	0.32	1.	0.00	0.0	363.5	50	16.03	33.070	5.92	24.279	365.3	0.199
67	14.94	33.113	5.95	0.30	2.	0.00	0.0	339.2	75	14.39	33.145	5.90	24.695	325.7	0.286
90	13.29	33.183	5.74	0.52	3.	0.61	1.5	301.4	100	12.40	33.160	5.64	25.106	286.6	0.363
109	11.62	33.153	5.49	0.72	7.	0.13	5.9	273.0	125	10.51	33.281	4.98	25.545	244.9	0.430
128	10.35	33.309	4.88	1.22	13.	0.04	13.6	240.0	150	9.75	33.451	4.45	25.807	219.9	0.489
147	9.81	33.414	4.54	1.45	16.	0.02	16.9	223.6	200	9.01	33.887	3.32	26.266	176.3	0.589
176	9.33	33.774	3.65	1.80	24.	0.04	23.0	189.5	250	8.15	34.012	2.83	26.497	154.4	0.674
209	8.89	33.907	3.24	2.01	28.	0.03	26.1	172.9	300	7.53	34.057	2.31	26.623	142.4	0.750
238	8.35	33.996	2.93	2.16	34.	0.02	28.4	158.4	400	6.50	34.165	1.06	26.851	120.8	0.887
285	7.67	34.039	2.51	2.41	41.	0.01	31.8	145.6	500	6.11	34.305	0.41	27.011	105.6	1.007
338	7.22	34.103	1.76	2.73	49.	0.00	35.6	134.8	600	5.58					
420	6.29	34.186	0.88	3.16	64.	0.00	40.9	116.7							
502	6.11	34.307	0.40	3.21	65.	0.00	41.6	105.4							
585	5.62	34.310U	0.47U	3.45	81.	0.01	42.9								

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LATITUDE 29 45.3N		LONGITUDE 119 05.3W		MO/DAY/YR 08/07/78		MESSENGER 2251 GMT		TIME	BOTTOM 3400M	WIND 300	SPEED 17KT	WEATHER 1	DOMINANT WAVES 300 3 8		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	20.29	33.298	5.37	0.25	3.	0.00	0.1	448.1	0	20.29	33.298	5.37	23.412	448.1	0.000
11	20.22	33.295	5.39	0.30	3.	0.00	0.1	446.6	10	20.23	33.296	5.39	23.426	446.7	0.045
30	19.46	33.243	5.50	0.26	2.	0.00	0.1	431.5	20	19.86	33.270	5.44	23.502	439.4	0.029
39	18.05	33.188	5.69	0.29	3.	0.00	0.1	401.9	30	19.46	33.243	5.50	23.585	431.5	0.133
54	17.13	33.102	5.79	0.31	3.	0.00	0.1	387.1	50	17.29	33.124	5.78	24.029	389.1	0.215
68	16.24	33.076	5.87	0.31	1.	0.00	0.2	369.4	75	15.81	33.089	5.89	24.343	359.3	0.309
92	14.47	33.119	5.95	0.38	3.	0.02	0.1	329.2	100	13.45	33.108	5.88	24.861	309.9	0.393
111	12.07	33.114	5.72	0.63	6.	0.24	3.0	283.9	125	11.03	33.182	5.38	25.376	260.6	0.465
129	10.82	33.211	5.26	0.93	10.	0.03	9.4	255.0	150	9.94	33.459	4.61	25.781	222.4	0.526
148	10.00	33.435	4.65	1.37	14.	0.02	15.7	225.1	200	8.98	33.853	3.64	26.245	178.3	0.628
176	9.40	33.724	4.18	1.65	20.	0.02	19.9	194.3	250	8.07	34.017	2.76	26.513	152.9	0.713
209	8.83	33.885	3.43	1.99	28.	0.02	25.4	173.7	300	7.32	34.060	2.11	26.655	139.4	0.788
236	8.31	33.992	2.95	2.23	35.	0.02	28.7	158.1	400	6.33	34.169	0.93	26.876	118.4	0.922
283	7.57	34.044	2.36	2.49	44.	0.02	32.7	143.9	500	5.76	34.263	0.46	27.023	104.5	1.040
335	6.87	34.092A	1.62	2.83	53.	0.02	37.0	131.0	600	5.40	34.345	0.27	27.131	94.2	1.146
414	6.24	34.185B	0.82	3.21	69.	0.02	41.4	116.1							
496	5.78	34.260	0.47	3.35	77.	0.02	43.7	105.0							
580	5.46	34.329	0.30	3.52	88.	0.02	45.0	96.1							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

103090

LATITUDE 29 26.5N		LONGITUDE 119 43.0W		MO/DAY/YR 08/08/78		MESSENGER 0413 GMT		TIME	BOTTOM 3750M	WIND 320	SPEED 13KT	WEATHER 1	DOMINANT WAVES 320		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	18.97	33.152	5.53	0.22	1.	0.01	0.1	426.2	0	18.97	33.152	5.53	23.640	426.2	0.000
11	18.03	33.105	5.67	0.26	1.	0.00	0.1	407.4	10	18.11	33.110	5.66	23.820	409.1	0.042
30	16.90	33.048	5.83	0.27	1.	0.00	0.1	385.9	20	17.44	33.072	5.76	23.955	396.2	0.082
40	16.34	33.046	5.85	0.27	1.	0.00	0.2	373.7	30	16.90	33.048	5.83	24.063	385.9	0.121
55	15.55	33.024	5.91	0.29	1.	0.00	0.3	358.4	50	15.80	33.028	5.89	24.299	363.4	0.196
70	14.95	33.099	5.89	0.34	1.	0.00	0.4	340.4	75	14.75	33.129	5.85	24.606	334.2	0.284
94	13.68	33.196	5.65	0.52	3.	0.36	2.8	307.9	100	13.10	33.182	5.60	24.988	297.8	0.364
114	11.74	33.156	5.48	0.68	7.	0.02	6.0	274.9	125	11.07	33.175	5.42	25.365	261.9	0.434
133	10.67	33.207	5.34	0.84	9.	0.00	9.0	252.8	150	9.81	33.349	4.91	25.718	228.4	0.496
153	9.68	33.380	4.82	1.20	16.	0.03	15.0	224.1	200	8.99	33.843	3.79	26.235	179.2	0.600
182	9.28	33.720	4.09	1.55	20.	0.00	20.7	192.7	250	8.00	34.006	2.86	26.515	152.7	0.685
217	8.68	33.917	3.52	1.81	27.	0.02	25.3	169.1	300	7.44	34.054	2.20	26.635	141.3	0.761
246	8.06	34.000	2.92	2.03	34.	0.01	28.4	154.0	400	6.40	34.148	1.08	26.851	120.8	0.897
295	7.50	34.049	2.27	2.34	45.	0.01	32.6	142.5	500	5.82	34.238	0.55	26.995	107.1	1.017
348	6.86	34.099	1.57	2.62	53.	0.00	36.7	130.3	600	5.45	34.346	0.30	27.126	94.7	1.125
431	6.18	34.176	0.86	2.92	68.	0.01	40.7	116.1							
513	5.77	34.250	0.51	3.10	77.	0.01	43.1	105.6							
595	5.47	34.339	0.31	3.25	84.	0.00	44.6	95.5							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

103090

LATITUDE 29 06.0N		LONGITUDE 120 23.5W		MO/DAY/YR 08/08/78		MESSENGER 1017 GMT		TIME	BOTTOM 3750M	WIND 280	SPEED 12KT	WEATHER 1	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.67	33.231	5.43	0.32	2.	0.00	0.0	437.5	0	19.67	33.231	5.43	23.522	437.5	0.000
11	19.58	33.229	5.49	0.41	2.	0.00	0.0	435.4	10	19.59	33.230	5.49	23.542	435.7	0.044
31	18.60	33.371	5.61	0.29	2.	0.00	0.0	401.5	20	19.34	33.264	5.51	23.632	427.1	0.087
41	17.27	33.056	5.77	0.34	2.	0.00	0.0	393.6	30	18.69	33.356	5.59	23.866	404.7	0.129
56	16.98	33.162	5.82	0.30	2.	0.00	0.0	379.4	50	17.10	33.116	5.81	24.069	385.4	0.208
71	16.06	33.118	5.90	0.35	2.	0.00	0.0	362.4	75	15.76	33.123	5.90	24.381	355.7	0.301
96	14.13	33.168	5.91	0.39	3.	0.07	0.0	318.8	100	13.86	33.174	5.89	24.827	313.1	0.385
116	12.78	33.173	5.78	0.50	4.	0.24	1.4	292.5	125	12.06	33.135	5.70	25.151	282.3	0.460
136	11.23	33.110	5.57	0.69	7.	0.05	5.6	269.4	150	10.43	33.201	5.29	25.497	249.4	0.527
156	10.17	33.261	5.15	1.09	12.	0.03	11.7	240.7	200	9.42	33.746	4.07	26.091	192.9	0.640
186	9.70	33.631	4.33	1.46	18.	0.01	18.5	205.8	250	8.46	33.960	3.28	26.409	162.7	0.731
221	8.98	33.866	3.75	1.63	25.	0.01	23.3	177.3	300	7.55	34.025	2.64	26.595	145.1	0.810
252	8.43	33.964	3.25	1.94	32.	0.02	27.2	161.9	400	6.48	34.125	1.22	26.822	123.6	0.950
302	7.52	34.026	2.61	2.26	43.	0.02	31.7	144.5	500	5.87	34.238	0.56	26.989	107.7	1.071
356	6.89	34.083	1.70	2.55	56.	0.02	36.6	131.9	600	5.36	34.312	0.32	27.110	96.3	1.180
440	6.18	34.164	0.91	2.89	72.	0.02	41.0	117.0							
524	5.77	34.265	0.47	3.12	83.	0.02	43.3	104.5							
608	5.32	34.315	0.32	3.20	90.	0.02	45.0	95.6							

A) AN ERROR OF 0.02 (-0.782 PPT) IN THE CONDUCTIVITY RATIO HAS BEEN ASSUMED FOR THIS VALUE.
 B) AN ERROR OF 0.01 (-0.392 PPT) IN THE CONDUCTIVITY RATIO HAS BEEN ASSUMED FOR THIS VALUE.

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107032

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
30 24.7N		116 11.1W		08/10/78		0331 GMT				450M	320	5KT		320	1	5
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	18.85	33.430	5.95	0.24	1.	0.00	0.0	403.2	0	18.85	33.430	5.95	23.882	403.2	0.000	
11	17.27	33.411	6.34	0.30	1.	0.00	0.0	367.7	10	17.47	33.415	6.30	24.210	372.0	0.039	
31	12.26	33.356	5.24	0.75	8.	0.27	7.5	269.5	20	15.12	33.383	5.85	24.722	323.2	0.074	
46	11.50	33.492	4.28	1.12	13.	0.28	12.4	246.0	30	12.49	33.360	5.33	25.245	273.4	0.103	
56	11.32	33.654	3.34	1.47	17.	0.28	16.7	230.9	50	11.41	33.557	3.90	25.599	239.7	0.155	
71	11.05	33.812	2.56	1.89	23.	0.27	21.2	214.6	75	11.02	33.830	2.45	25.882	212.8	0.212	
86	10.97	33.858	2.27	2.07	25.	0.07	23.2	209.8	100	10.86	33.908	2.08	25.971	204.3	0.265	
100	10.86	33.908	2.08	2.11	28.	0.09	23.6	204.3	125	10.70	33.977	1.91	26.053	196.5	0.315	
125	10.70	33.977	1.91	2.17	29.	0.05	25.8	196.5	150	10.47	34.084	1.69	26.176	184.8	0.364	
145	10.50	34.069	1.71	2.20	29.	0.03	25.0	186.4	200	10.29	34.215	1.54	26.310	172.1	0.455	
175	10.39	34.145	1.64	2.26	32.	0.10	26.0	178.9	250	9.88	34.353	1.11	26.487	155.3	0.539	
204	10.27	34.227	1.52	2.36	33.	0.02	28.1	170.9	300	9.41	34.396	0.85	26.599	144.7	0.617	
239	10.01	34.337	1.18	2.53	36.	0.00	29.9	158.5	400	8.25	34.406	0.42	26.791	126.5	0.759	
293	9.42	34.387	0.90	2.65	41.	0.01	31.5	145.5								
349	9.24	34.435	0.53	2.77	46.	0.02	32.7	139.1								
409	7.99	34.396	0.40	2.90	58.	0.00	34.8	123.5								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107035

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
30 21.5N		116 22.5W		08/10/78		0119 GMT				1757M	300	8KT	1	300	2	6
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
0	20.28	33.433	5.53	0.41	1.	0.01	0.0	438.0	0	20.28	33.433	5.53	23.517	438.0	0.000	
10	18.60	33.318	5.66	0.41	1.	0.00	0.0	405.4	10	18.60	33.318	5.66	23.859	405.4	0.042	
29	14.56	33.229	6.10	0.44	1.	0.01	0.0	322.9	20	16.37	33.243	5.95	24.335	360.0	0.080	
38	13.62	33.229	5.91	0.51	3.	0.13	0.8	304.3	30	14.43	33.230	6.08	24.751	320.4	0.115	
53	12.70	33.216	5.67	0.67	5.	0.24	3.0	287.8	50	12.87	33.216	5.73	25.059	291.0	0.176	
67	11.51	33.316	4.98	1.01	10.	0.15	10.7	259.1	75	11.20	33.461	4.34	25.564	243.0	0.243	
91	10.91	33.759	3.12	1.64	19.	0.06	20.1	216.1	100	10.75	33.853	2.74	25.949	206.5	0.300	
110	10.61	33.922	2.48	1.97	25.	0.05	23.6	199.1	125	10.50	33.973	2.38	26.086	193.4	0.350	
129	10.48	33.982	2.37	2.15	26.	0.03	24.2	192.5	150	10.39	34.065	1.94	26.176	184.8	0.398	
148	10.39	34.056	1.97	2.26	29.	0.03	26.3	185.5	200	9.93	34.193	1.85	26.355	167.9	0.488	
176	10.31	34.167	1.70	2.28	31.	0.03	27.0	176.0	250	9.37	34.307	1.34	26.536	150.7	0.570	
210	9.75	34.202	1.90	2.31	33.	0.04	28.5	164.4	300	8.82	34.325	1.01	26.639	140.9	0.646	
238	9.50	34.290	1.46	2.46	38.	0.04	29.9	153.9	400	7.62	34.313	0.66	26.812	124.5	0.785	
287	8.96	34.323	1.08	2.47	44.	0.03	31.7	143.2	500	6.72	34.359	0.32	26.973	109.2	0.909	
340	8.38	34.327	0.83	2.65	50.	0.04	33.7	134.3	600	5.92	34.359	0.25	27.078	99.3	1.021	
422	7.35	34.311	0.60	2.88	60.	0.03	37.5	121.0								
505	6.69	34.362	0.31	2.98	69.	0.03	40.7	108.5								
588	6.00	34.359	0.26	3.12	78.	0.02	42.9	100.2								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107040

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
30 11.0N		116 42.0W		08/09/78		2141 GMT				2602M	310	3KT	1	250	2	6
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD	
1	20.09	33.388	5.44	0.29	1.	0.00	0.0	436.6	0	20.09	33.388	5.44	23.532	436.6	0.000	
11	18.47	33.409	5.97	0.30	0.	0.00	0.0	395.7	10	18.64	33.408	5.93	23.918	399.8	0.042	
31	14.76	33.439	6.14	0.45	1.	0.12	1.5	311.6	20	16.72	33.426	6.05	24.393	354.5	0.080	
41	13.60	33.403	5.76	0.60	2.	0.28	2.8	291.2	30	14.93	33.439	6.13	24.805	315.2	0.113	
51	13.21	33.445	5.53	0.73	2.	0.55	4.6	280.6	50	13.24	33.442	5.55	25.159	281.5	0.173	
66	11.71	33.357	5.16	0.91	7.	0.59	9.3	259.6	75	10.86	33.324	5.02	25.518	247.4	0.240	
82	10.32	33.321	4.92	1.06	12.	0.07	12.9	238.7	100	9.83	33.450	4.60	25.792	221.3	0.299	
102	9.82	33.470	4.56	1.28	16.	0.01	15.5	219.6	125	9.53	33.705	3.82	26.041	197.7	0.351	
127	9.51	33.725	3.75	1.53	21.	0.00	21.2	195.9	150	9.17	33.885	3.26	26.239	178.8	0.399	
147	9.20	33.869	3.32	1.69	25.	0.01	24.3	180.4	200	8.70	34.052	2.52	26.445	159.3	0.485	
177	8.97	33.994	2.80	1.89	30.	0.00	26.9	167.7	250	8.38	34.184	1.75	26.597	144.9	0.564	
207	8.63	34.070	2.43	1.97	36.	0.06	28.6	157.0	300	7.67	34.185	1.46	26.704	134.7	0.636	
237	8.67	34.199	1.75	2.23	41.	0.01	30.8	148.0	400	7.10	34.306	0.54	26.880	118.0	0.768	
278	7.68	34.130	1.75	2.35	49.	0.02	33.4	139.0	500	6.30	34.334	0.36	27.010	105.7	0.886	
338	7.65	34.272	0.87	2.61	55.	0.01	35.9	128.0								
413	6.96	34.307	0.52	2.76	65.	0.01	38.5	116.1								
489	6.38	34.330	0.38	2.89	72.	0.01	40.6	107.0								
569	5.86	34.367	0.27	3.00	81.	0.00	42.6	97.9								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107050

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
29 50.5N		117 22.0W		08/09/78		1524 GMT		2400M		250		4KT		2		250 2 8	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	19.10	33.456	5.58	0.36	0.	0.00	0.1	407.3	0	19.10	33.456	5.58	23.839	407.3	0.000		
11	18.82	33.477	5.76	0.37	0.	0.00	0.1	399.1	10	18.85	33.475	5.74	23.917	399.9	0.040		
31	14.50	33.302	6.11	0.45	1.	0.04	1.1	316.4	20	16.98	33.387	6.00	24.304	363.0	0.079		
41	13.61	33.267	5.82	0.59	2.	0.41	2.2	301.4	30	14.74	33.309	6.11	24.747	320.7	0.113		
56	13.04	33.341	5.57	0.72	3.	0.89	4.4	285.0	50	13.24	33.304	5.66	25.055	291.5	0.174		
72	12.02	33.408	5.27	0.94	6.	0.79	8.2	261.3	75	11.83	33.408	5.18	25.406	258.1	0.243		
97	10.56	33.437	4.55	1.27	14.	0.09	16.0	234.0	100	10.38	33.463	4.52	25.708	229.3	0.305		
116	9.59	33.617	4.35	1.32	18.	0.03	17.4	205.1	125	9.37	33.685	4.12	26.052	196.7	0.359		
136	9.19	33.760	3.82	1.57	23.	0.04	21.9	188.4	150	8.95	33.864	3.52	26.259	177.0	0.406		
156	8.85	33.903	3.41	1.82	28.	0.02	24.9	172.6	200	8.44	34.051	2.52	26.484	155.6	0.491		
186	8.46	34.006	2.86	1.98	34.	0.03	28.2	159.3	250	7.70	34.088	2.12	26.624	142.4	0.567		
220	8.41	34.105	2.14	2.26	40.	0.03	30.9	151.2	300	7.36	34.159	1.40	26.728	132.5	0.638		
250	7.70	34.088	2.12	2.28	44.	0.03	32.1	142.4	400	6.59	34.242	0.70	26.900	116.2	0.768		
300	7.36	34.159	1.40	2.50	52.	0.03	35.0	132.5	500	5.99	34.302	0.39	27.025	104.3	0.884		
354	6.93	34.209	0.96	2.68	59.	0.02	38.3	123.1	600	5.45	34.348	0.28	27.127	94.6	0.991		
439	6.32	34.266	0.54	2.86	70.	0.03	41.0	111.1									
525	5.86	34.315	0.36	2.97	80.	0.02	43.0	101.8									
609	5.40	34.351	0.28	3.05	87.	0.03	44.4	93.8									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107060

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
29 32.0N		118 01.5W		08/09/78		0930 GMT		3600M		290		6KT		2		260 1 7	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	18.69	33.174	5.55	0.20	2.	0.00	0.1	418.0	0	18.69	33.174	5.55	23.727	418.0	0.000		
10	18.68	33.173	5.62	0.22	2.	0.00	0.0	417.8	10	18.68	33.173	5.62	23.729	417.8	0.042		
30	17.11	33.096	5.90	0.21	2.	0.00	0.0	387.1	20	17.99	33.137	5.77	23.871	404.2	0.083		
40	16.53	33.070	5.89	0.21	2.	0.00	0.0	376.1	30	17.11	33.096	5.90	24.051	387.1	0.123		
55	15.68	33.139	5.92	0.23	2.	0.00	0.0	352.8	50	15.97	33.111	5.91	24.324	361.1	0.198		
71	14.55	33.175	5.88	0.25	2.	0.06	0.1	326.7	75	14.19	33.178	5.83	24.763	319.2	0.283		
96	12.29	33.224	5.41	0.52	6.	0.02	5.9	279.7	100	11.98	33.248	5.30	25.254	272.5	0.358		
116	10.97	33.353	4.92	0.79	11.	0.02	11.2	247.1	125	10.66	33.396	4.85	25.610	238.7	0.422		
136	10.37	33.463	4.77	0.95	13.	0.02	13.1	229.0	150	9.92	33.633	4.46	25.920	209.2	0.479		
156	9.76	33.713	4.26	1.24	18.	0.02	18.0	200.7	200	9.26	34.010	2.55	26.323	170.9	0.576		
186	9.57	34.002	2.51	1.91	29.	0.01	26.3	176.3	250	8.25	34.039	2.50	26.503	153.8	0.659		
221	8.73	34.023	2.60	1.96	34.	0.02	28.4	161.9	300	7.79	34.156	1.59	26.664	138.5	0.734		
251	8.24	34.040	2.50	2.11	38.	0.03	30.0	153.6	400	6.81	34.253	0.69	26.877	118.3	0.868		
301	7.78	34.159	1.57	2.51	48.	0.02	33.6	138.2	500	6.09	34.316	0.37	27.023	104.5	0.986		
355	7.21	34.219	0.99	2.83	57.	0.03	37.3	126.0	600	5.54	34.365	0.24	27.130	94.4	1.097		
439	6.51	34.276	0.53	3.12	72.	0.02	40.2	112.7									
523	5.95	34.330	0.33	3.17	79.	0.03	42.8	101.8									
607	5.51	34.367	0.24	3.36	87.	0.03	44.4	93.8									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107070

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
29 11.0N		118 41.0W		08/09/78		0403 GMT		3100M		340		9KT		2			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	20.45	33.324	5.30	0.17	2.	0.01	0.0	450.3	0	20.45	33.324	5.30	23.389	450.3	0.000		
11	20.45	33.319	5.38	0.18	1.	0.00	0.0	450.6	10	20.45	33.320	5.37	23.385	450.6	0.045		
31	18.32	33.175	5.68	0.21	1.	0.00	0.0	409.1	20	19.55	33.246	5.52	23.565	433.4	0.089		
41	17.99	33.186	5.70	0.21	1.	0.00	0.0	400.6	30	18.44	33.181	5.67	23.795	411.5	0.132		
55	17.24	33.143	5.77	0.18	1.	0.00	0.0	386.6	50	17.56	33.160	5.74	23.993	392.6	0.212		
70	15.86	33.162	5.94	0.13	1.	0.00	0.0	354.9	75	15.36	33.151	5.94	24.489	345.3	0.305		
95	13.35	33.110	5.96	0.20	2.	0.00	0.0	307.9	100	12.80	33.117	5.85	24.996	297.0	0.386		
115	11.41	33.166	5.48	0.41	6.	0.03	2.8	268.4	125	11.04	33.206	5.34	25.394	259.1	0.456		
134	10.84	33.256	5.21	0.66	9.	0.02	9.2	252.1	150	10.26	33.427	4.82	25.702	229.9	0.513		
154	10.12	33.474	4.72	0.94	13.	0.01	14.4	224.1	200	9.06	33.860	3.85	26.237	179.1	0.622		
184	9.44	33.762	4.14	1.36	19.	0.00	19.4	192.1	250	8.43	34.058	2.85	26.491	154.9	0.707		
218	8.71	33.942	3.52	1.54	27.	0.08	23.4	167.7	300	7.54	34.068	2.20	26.630	141.7	0.784		
248	8.46	34.056	2.88	1.93	34.	0.01	27.3	155.5	400	6.53	34.143	1.16	26.829	122.9	0.922		
297	7.58	34.065	2.24	2.29	44.	0.13	32.0	142.4	500	5.82	34.216	0.62	26.978	108.7	1.043		
351	6.98	34.115	1.53	2.65	56.	0.01	36.6	130.7	600	5.51	34.342	0.28	27.115	95.8	1.153		
435	6.26	34.161	0.97	2.90	68.	0.01	39.3	118.1									
519	5.72	34.236	0.53	3.12	80.	0.01	41.7	106.1									
603	5.51	34.346	0.27	3.30	86.	0.00	43.6	95.4									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107080

LATITUDE 28 51.5N		LONGITUDE 119 20.0W		MO/DAY/YR 08/08/78		MESSENGER TIME 2119 GMT		TIME	BOTTOM 3700M	WIND 310	SPEED 13KT	WEATHER 2	DOMINANT WAVES 310 2 9		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
0	19.46	33.226	5.43	0.20	2.	0.00	0.0	432.7	0	19.46	33.226	5.43	23.572	432.7	0.000
10	19.46	33.225	5.48	0.24	2.	0.00	0.0	432.8	10	19.46	33.225	5.48	23.572	432.8	0.043
28	18.38	33.156	5.61	0.22	2.	0.00	0.0	411.9	20	18.94	33.188	5.55	23.676	422.9	0.086
38	17.85	33.143	5.70	0.22	2.	0.00	0.0	400.5	30	18.27	33.154	5.63	23.814	409.6	0.128
52	17.04	33.113	5.81	0.23	2.	0.01	0.0	384.3	50	17.17	33.119	5.80	24.054	386.8	0.208
65	15.92	33.072	5.89	0.25	2.	0.01	0.0	362.8	75	15.06	33.081	5.89	24.502	344.1	0.300
88	13.92	33.121	5.90	0.27	3.	0.02	0.0	318.1	100	12.77	33.173	5.72	25.045	292.3	0.380
106	12.25	33.199	5.61	0.43	6.	0.04	2.6	280.9	125	11.29	33.235	5.31	25.372	261.2	0.449
124	11.34	33.231	5.33	0.67	8.	0.03	7.2	262.4	150	10.22	33.397	4.83	25.686	231.4	0.512
142	10.48	33.328	4.99	0.91	11.	0.03	11.5	240.8	200	9.21	33.803	3.83	26.169	185.5	0.618
169	9.75	33.573	4.44	1.28	17.	0.03	17.4	210.9	250	8.36	33.971	3.18	26.434	160.4	0.706
200	9.21	33.803	3.83	1.55	23.	0.03	22.1	185.5	300	7.52	34.047	2.39	26.618	142.9	0.784
227	8.79	33.909	3.46	1.70	28.	0.03	24.6	171.3	400	6.52	34.150	1.12	26.837	122.2	0.922
271	7.97	34.012	2.90	2.00	38.	0.03	29.1	151.8	500	5.68	34.210	0.67	26.991	107.5	1.043
320	7.25	34.065	2.03	2.37	50.	0.03	34.2	138.0							
397	6.55	34.149	1.14	2.73	65.	0.03	38.8	122.7							
476	5.81	34.185	0.78	2.98	79.	0.03	42.1	110.9							
559	5.54	34.298	0.39	3.14	89.	0.03	43.8	99.3							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

107090

LATITUDE 28 32.0N		LONGITUDE 119 59.0W		MO/DAY/YR 08/08/78		MESSENGER TIME 1558 GMT		TIME	BOTTOM 3950M	WIND 280	SPEED 12KT	WEATHER 2	DOMINANT WAVES 290 2 6		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	19.88	33.260	5.39	0.28	2.	0.01	0.0	440.6	0	19.88	33.260	5.39	23.490	440.6	0.000
11	19.91	33.262	5.40	0.28	2.	0.00	0.1	441.2	10	19.91	33.262	5.40	23.484	441.1	0.044
30	18.75	33.205	5.55	0.28	3.	0.00	0.0	417.1	20	19.45	33.238	5.46	23.585	431.6	0.088
58	17.45	33.161	5.72	0.28	3.	0.00	0.1	390.1	30	18.75	33.205	5.55	23.736	417.1	0.130
68	16.40	33.121	5.86	0.28	2.	0.00	0.0	369.5	50	17.92	33.179	5.66	23.920	399.6	0.212
82	15.82	33.113	5.87	0.26	3.	0.00	0.0	357.6	75	16.12	33.118	5.87	24.296	363.7	0.308
96	15.16	33.230	5.89	0.30	3.	0.00	0.0	335.2	100	14.82	33.226	5.89	24.666	328.5	0.395
110	13.82	33.220	5.84	0.33	3.	0.10	0.1	308.9	125	12.09	33.145	5.65	25.154	282.0	0.472
134	11.19	33.133	5.48					267.1	150	10.47	33.303	5.05	25.569	242.5	0.539
153	10.39	33.342	4.96	0.96	12.	0.03	11.8	238.3	200	9.22	33.763	3.93	26.136	188.6	0.648
181	9.65	33.643	4.25	1.34	20.	0.05	17.6	204.1	250	8.33	33.982	3.12	26.447	159.1	0.737
209	9.04	33.807	3.80	1.65	25.	0.04	22.6	182.6	300	7.59	34.042	2.48	26.603	144.4	0.815
237	8.55	33.948	3.30	1.90	31.	0.00	26.4	164.9	400	6.58	34.148	1.17	26.826	123.1	0.954
284	7.80	34.028	2.69	2.17	40.	0.01	30.6	148.2	500	5.76	34.235	0.59	27.001	106.6	1.075
336	7.18	34.066	2.01	2.49	51.	0.02	34.5	137.0	600	5.21	34.314	0.31	27.130	94.4	1.182
416	6.45	34.169	0.99	2.82	68.	0.01	39.5	119.9							
498	5.77	34.233	0.60	3.05	83.	0.02	42.3	106.9							
581	5.29	34.299	0.36	3.17	95.	0.07	43.6	96.4							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

110035

LATITUDE 29 46.0N		LONGITUDE 116 00.0W		MO/DAY/YR 08/10/78		MESSENGER TIME 1216 GMT		TIME	BOTTOM 1373M	WIND 310	SPEED 8KT	WEATHER 1	DOMINANT WAVES		
Z	T	S	02	P04	S103	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
0	19.56	33.414	5.61	0.40	1.	0.00	0.1	421.5	0	19.56	33.414	5.61	23.690	421.5	0.000
10	19.13	33.400	5.79	0.39	2.	0.00	0.1	412.1	10	19.13	33.400	5.79	23.789	412.1	0.042
29	14.29	33.248	6.08	0.46	3.	0.07	0.4	316.1	20	16.71	33.282	5.94	24.286	364.7	0.081
39	13.05	33.318	5.56	0.77	6.	0.25	4.3	286.9	30	14.13	33.255	6.03	24.833	312.5	0.115
49	12.37	33.333	5.26	0.89	8.	0.30	7.3	273.2	50	12.27	33.333	5.22	25.265	271.4	0.173
63	11.10	33.346	4.82	1.15	12.	0.10	12.8	249.8	75	10.58	33.393	4.70	25.620	237.7	0.237
78	10.53	33.416	4.65	1.45	14.	0.02	14.8	235.1	100	10.83	33.813	3.34	25.903	210.8	0.294
97	10.92	33.790	3.33	1.71	19.	0.06	19.4	214.0	125	10.09	33.945	3.29	26.135	188.8	0.344
122	10.08	33.918	3.47	1.75	22.	0.04	20.9	190.7	150	10.21	34.120	2.20	26.250	177.8	0.391
141	10.23	34.084	2.26	2.18	29.	0.03	25.8	180.8	200	10.20	34.282	1.37	26.378	165.7	0.478
171	10.12	34.172	2.06	2.27	32.	0.00	26.5	172.5	250	9.84	34.361	1.17	26.502	153.9	0.561
200	10.20	34.282	1.37	2.34	34.	0.04	28.8	165.7	300	9.22	34.392	0.92	26.628	142.0	0.638
229	9.83	34.293	1.61	2.45	35.	0.09	29.1	158.9	400	7.33	34.267	0.80	26.818	124.0	0.777
269	9.84	34.423	0.73	2.66	40.	0.02	30.6	149.5	500	6.51	34.317	0.46	26.969	109.6	0.900
328	8.50	34.331	1.25	2.79	48.	0.02	33.6	135.7							
402	7.30	34.266	0.78	2.92	59.	0.02	37.4	123.7							
477	6.67	34.306	0.53	3.04	71.	0.07	39.5	112.5							
556	6.16	34.340	0.30	3.20	80.	0.02	42.1	103.6							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

110040

LATITUDE 29 36.5N		LONGITUDE 116 19.5W		MO/DAY/YR 08/10/78		MESSENGER TIME 1606 GMT		TIME	BOTTOM 2150M	WIND 310	SPEED 8KT	WEATHER 1	DOMINANT WAVES 300 1 6			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
1	20.54	33.479	5.35	0.29	3.	0.00	0.1	441.3	0	20.54	33.479	5.35	23.483	441.3	0.000	
11	20.50	33.476	5.43	0.30	3.	0.00	0.1	440.5	10	20.50	33.477	5.42	23.490	440.6	0.044	
31	18.44	33.391	6.05	0.29	2.	0.00	0.0	396.3	20	19.78	33.444	5.73	23.654	424.9	0.087	
41	17.13	33.348	6.03	0.29	3.	0.00	0.1	369.2	30	18.58	33.396	6.02	23.923	399.3	0.129	
56	15.09	33.372	6.07	0.36	3.	0.00	0.1	323.3	50	15.95	33.361	6.05	24.521	342.2	0.203	
71	12.47	33.340	5.36	0.57	7.	0.17	4.6	274.5	75	12.32	33.425	5.07	25.326	265.6	0.280	
96	11.55	33.698	3.59	1.15	16.	0.08	16.4	231.6	100	11.41	33.746	3.41	25.745	225.8	0.341	
117	10.86	33.901	2.90	1.52	23.	0.05	20.1	204.8	125	10.60	33.935	2.88	26.038	197.9	0.395	
137	10.27	33.973	2.84	1.81	25.	0.00	23.2	189.7	150	10.12	34.046	2.67	26.208	181.8	0.443	
157	10.06	34.084	2.55	1.98	29.	0.02	25.1	176.1	200	9.34	34.182	1.99	26.444	159.4	0.530	
187	9.55	34.168	2.07	2.16	35.	0.00	27.8	163.7	250	9.02	34.267	1.44	26.561	146.3	0.609	
222	9.07	34.202	1.86	2.21	40.	0.10	28.6	153.8	300	8.18	34.263	1.14	26.689	136.2	0.683	
252	9.02	34.271	1.41	2.45	44.	0.01	30.4	147.9	400	7.06	34.261	0.78	26.850	120.9	0.817	
302	8.14	34.261	1.14	2.64	51.	0.05	33.5	135.7	500	6.39	34.329	0.37	26.994	107.3	0.938	
357	7.37	34.227	1.05	2.74	58.	0.00	36.4	127.5	600	5.78	34.367	0.25	27.102	97.0	1.048	
442	6.84	34.306	0.50	2.95	71.	0.00	38.7	114.6								
527	6.19	34.336	0.34	3.06	83.	0.01	41.3	104.2								
612	5.72	34.372	0.24	3.08	94.	0.00	42.9	95.9								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

110050

LATITUDE 29 16.7N		LONGITUDE 116 59.3W		MO/DAY/YR 08/11/78		MESSENGER TIME 0017 GMT		TIME	BOTTOM 3450M	WIND 290	SPEED 10KT	WEATHER 1	DOMINANT WAVES 290 2 6			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	21.38	33.477	5.32	0.40	2.	0.00	0.1	463.0	0	21.38	33.477	5.32	23.255	463.0	0.000	
10	20.83	33.467	5.43	0.38	1.	0.00	0.1	449.5	10	20.83	33.467	5.43	23.396	449.5	0.046	
30	17.40	33.252	5.90	0.44	2.	0.00	0.0	382.3	20	19.21	33.360	5.67	23.736	417.1	0.089	
40	16.25	33.185	6.00	0.39	2.	0.00	0.1	361.6	30	17.40	33.252	5.90	24.101	382.3	0.129	
55	14.22	33.233	5.98	0.47	3.	0.03	0.0	315.8	50	14.89	33.206	5.99	24.634	331.5	0.201	
70	12.60	33.290	5.42	0.72	6.	0.37	4.8	280.6	75	12.13	33.308	5.27	25.272	270.8	0.276	
95	10.81	33.436	4.62	1.15	13.	0.04	13.4	238.3	100	10.73	33.516	4.43	25.689	231.1	0.340	
115	10.50	33.708	3.76	1.49	17.	0.04	18.6	213.0	125	10.68	33.857	3.09	25.963	205.1	0.395	
135	10.86	33.992	2.46	2.02	25.	0.02	23.2	198.1	150	10.61	34.119	2.04	26.179	184.6	0.444	
155	10.48	34.146	1.98	2.25	29.	0.02	26.3	180.4	200	9.83	34.246	1.81	26.412	162.4	0.533	
184	9.87	34.187	2.08	2.28	32.	0.04	27.4	167.4	250	9.23	34.284	1.43	26.542	150.1	0.613	
219	9.80	34.304	1.47	2.52	36.	0.02	29.6	157.6	300	8.58	34.315	1.00	26.669	138.1	0.688	
249	9.24	34.284	1.44	2.59	38.	0.01	30.7	150.3	400	7.37	34.343	0.43	26.870	119.0	0.822	
298	8.61	34.314	1.02	2.78	45.	0.01	33.0	138.6	500	6.78	34.402	0.24	27.000	106.7	0.942	
352	7.90	34.341	0.58	2.96	61.	0.01	35.7	126.4	600	6.09	34.411	0.21	27.098	97.4	1.052	
436	7.06	34.346	0.39	3.13	65.	0.10	39.4	114.5								
521	6.70	34.419	0.20	3.27	73.	0.02	40.5	104.4								
606	6.03	34.407	0.21	3.39	81.	0.07	42.5	97.0								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

110060

LATITUDE 28 56.5N		LONGITUDE 117 39.0W		MO/DAY/YR 08/11/78		MESSENGER TIME 0522 GMT		TIME	BOTTOM 3600M	WIND 340	SPEED 6KT	WEATHER 0	DOMINANT WAVES			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD	
0	20.67	33.266	5.43	0.34	2.	0.01	0.1	460.0	0	20.67	33.266	5.43	23.287	460.0	0.000	
10	19.76	33.249	5.57	0.34	2.	0.00	0.0	438.4	10	19.76	33.249	5.57	23.513	438.4	0.045	
30	16.98	33.154	5.88	0.33	2.	0.00	0.0	380.0	20	18.33	33.191	5.74	23.828	408.3	0.087	
41	16.24	33.172	5.90	0.34	2.	0.00	0.0	362.3	30	16.98	33.154	5.88	24.126	380.0	0.127	
56	15.23		6.01	0.35	1.	0.00	0.0		50	15.66	33.180	5.90	24.447	349.3	0.200	
71	13.73	33.191	5.91	0.41	2.	0.05	0.5	309.3	75	13.52	33.212	5.86	24.926	303.7	0.232	
96	12.47	33.325	5.48	0.74	5.	0.58	5.6	275.6	100	12.08	33.320	5.40	25.292	268.9	0.354	
116	10.56	33.325	4.99	1.03	11.	0.07	11.6	242.3	125	10.08	33.389	4.67	25.703	229.8	0.417	
136	9.72	33.495	4.27	1.58	18.	0.01	19.0	216.2	150	9.53	33.661	3.86	26.007	200.9	0.472	
156	9.48	33.730	3.70	1.77	22.	0.02	21.7	195.0	200	8.80	34.013	2.74	26.399	163.7	0.564	
186	8.95	33.952	3.02	2.02	29.	0.02	25.2	170.5	250	8.15	34.121	2.01	26.582	146.3	0.644	
221	8.59	34.072	2.37	2.48	36.	0.00	29.2	156.2	300	8.03	34.225	1.27	26.681	136.9	0.717	
251	8.14	34.122	2.00	2.46	42.	0.00	31.6	146.0	400	7.16	34.292	0.59	26.861	119.9	0.851	
301	8.03	34.226	1.26	2.80	50.	0.02	33.8	136.7	500	6.24	34.334	0.30	27.017	105.0	0.970	
356	7.66	34.282	0.79	3.05	56.	0.02	35.7	127.4	600	5.60	34.338	0.43	27.102	97.0	1.079	
441	6.68	34.297	0.47	3.23	68.	0.03	39.1	113.3								
526	6.08	34.347	0.27	3.38	78.	0.17	41.3	102.1								
611	5.53	34.332	0.45	3.40	84.	0.01	41.0	96.7								

LATITUDE 28 36.5N		LONGITUDE 118 18.4W		MO/DAY/YR 08/11/78		MESSENGER TIME 1209 GMT		TIME	BOTTOM 3738M	WIND 300	SPEED 3KT	WEATHER 2	DOMINANT WAVES 280 1 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	20.61	33.281	5.29	0.49	2.	0.00	0.2	457.4	0	20.61	33.281	5.29	23.314	457.4	0.000
10	20.32	33.267	5.48	0.48	2.	0.00	0.1	451.1	10	20.32	33.267	5.48	23.380	451.1	0.045
30	18.34	33.194	5.68	0.46	2.	0.00	0.1	408.2	20	19.35	33.228	5.60	23.601	430.0	0.090
40	17.92	33.175	5.73	0.45	2.	0.00	0.1	399.8	30	18.34	33.194	5.68	23.829	408.2	0.132
56	16.89	33.159	5.89	0.41	1.	0.00	0.0	377.6	50	17.29	33.160	5.84	24.057	386.5	0.211
71	16.16	33.207	5.87	0.37	2.	0.00	0.1	358.1	75	16.03	33.230	5.87	24.402	353.6	0.304
96	14.99	33.304	5.88	0.39	2.	0.00	0.1	326.3	100	14.57	33.291	5.82	24.768	318.7	0.389
116	12.80	33.248	5.52	0.65	5.	0.11	3.9	287.4	125	11.98	33.251	5.36	25.256	272.3	0.463
136	11.17	33.304	5.09	1.14	10.	0.01	9.9	254.1	150	10.51	33.519	4.44	25.730	227.3	0.527
156	10.32	33.619	4.16	1.49	17.	0.01	16.8	216.7	200	9.40	33.909	3.71	26.221	180.6	0.630
186	9.81	33.852	3.84	1.62	21.	0.05	19.7	191.2	250	8.45	34.052	2.81	26.483	155.7	0.717
222	8.79	33.971	3.43	1.88	29.	0.01	24.7	166.7	300	8.60	34.242	1.49	26.608	143.9	0.794
252	8.44	34.058	2.76	2.18	36.	0.06	28.2	155.1	400	7.12	34.248	0.81	26.832	122.6	0.933
302	8.61	34.248	1.44	2.49	43.	0.01	30.8	143.5	500	6.15	34.276	0.49	26.983	108.2	1.055
357	7.67	34.247	1.02	2.85	54.	0.01	35.1	130.1	600	5.62	34.345	0.30	27.104	96.8	1.165
442	6.68	34.254	0.67	3.05	67.	0.01	39.6	116.5							
526	5.96	34.290	0.42	3.19	81.	0.09	41.8	104.9							
611	5.59	34.354	0.29	3.28	91.	0.03	43.4	95.7							

LATITUDE 28 16.5N		LONGITUDE 118 57.5W		MO/DAY/YR 08/11/78		MESSENGER TIME 1720 GMT		TIME	BOTTOM 3926M	WIND 310	SPEED 3KT	WEATHER 2	DOMINANT WAVES 310 1 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	20.84	33.333	5.29	0.38	2.	0.00	0.0	459.5	0	20.84	33.333	5.29	23.292	459.5	0.000
11	20.57	33.340	5.38	0.37	2.	0.00	0.0	452.1	10	20.62	33.342	5.37	23.359	453.1	0.046
31	18.81	33.211	5.60	0.37	2.	0.00	0.0	418.1	20	19.81	33.284	5.49	23.527	437.1	0.090
41	18.37	33.194	5.65	0.32	2.	0.00	0.0	408.9	30	18.90	33.218	5.59	23.707	419.9	0.133
56	17.90	33.183	5.73	0.34	2.	0.00	0.0	398.8	50	18.12	33.191	5.69	23.879	403.4	0.216
71	16.60	33.123	5.87	0.33	2.	0.00	0.0	373.8	75	16.36	33.125	5.88	24.247	368.4	0.313
96	15.07	33.141	5.95	0.35	3.	0.00	0.0	339.8	100	14.68	33.180	5.86	24.659	329.1	0.400
116	13.10	33.349	5.39	0.53	5.	0.03	1.4	285.6	125	12.35	33.375	5.17	25.283	269.7	0.476
136	11.63	33.411	4.90	0.87	9.	0.01	8.9	254.2	150	11.23	33.568	4.47	25.641	235.7	0.540
156	11.12	33.643	4.27	1.19	13.	0.02	13.8	228.3	200	9.72	33.967	3.35	26.213	181.3	0.646
186	10.19	33.921	3.35	1.81	23.	0.00	21.3	192.2	250	8.47	34.026	3.10	26.460	157.9	0.733
221	9.08	33.991	3.35	1.93	29.	0.06	23.9	169.6	300	7.92	34.099	2.26	26.600	144.6	0.811
251	8.45	34.027	3.09	2.14	35.	0.00	26.8	157.5	400	6.99	34.227	0.88	26.833	122.5	0.950
300	7.92	34.099	2.26	2.48	44.	0.05	31.0	144.6	500	6.47	34.331	0.36	26.985	108.1	1.072
355	7.26	34.156	1.38	2.87	54.	0.00	35.6	131.3	600	5.79	34.360	0.28	27.095	97.7	1.183
440	6.82	34.286	0.58	3.20	66.	0.01	38.5	115.9							
525	6.31	34.341	0.32	3.42	75.	0.01	41.0	105.3							
610	5.72	34.360	0.28	3.46	84.	0.00	42.3	96.8							

LATITUDE 27 56.5N		LONGITUDE 119 35.0W		MO/DAY/YR 08/11/78		MESSENGER TIME 2253 GMT		TIME	BOTTOM 3800M	WIND 230	SPEED 5KT	WEATHER 1	DOMINANT WAVES 320 2 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	21.11	33.303	5.42	0.39	2.	0.01	0.0	468.6	0	21.11	33.303	5.42	23.197	468.6	0.000
11	20.24	33.284	5.44	0.38	2.	0.00	0.0	447.9	10	20.31	33.285	5.44	23.397	449.4	0.046
31	19.38	33.289	5.58	0.38	2.	0.00	0.0	426.2	20	19.86	33.284	5.48	23.513	438.4	0.090
41	18.45	33.224	5.74	0.38	2.	0.00	0.1	408.6	30	19.42	33.289	5.57	23.630	427.2	0.134
56	17.73	33.152	5.81	0.38	2.	0.00	0.0	397.1	50	17.98	33.172	5.79	23.900	401.5	0.217
72	16.77	33.232	5.93	0.36	2.	0.00	0.1	369.6	75	16.63	33.257	5.93	24.286	364.7	0.313
97	15.38	33.391	5.90	0.35	2.	0.00	0.1	328.0	100	15.10	33.390	5.88	24.730	322.3	0.400
117	13.45	33.372	5.66	0.49	4.	0.13	0.9	290.6	125	12.75	33.372	5.50	25.203	277.4	0.475
137	11.88	33.415	5.15	0.79	7.	0.03	7.2	258.3	150	11.33	33.583	4.52	25.634	236.3	0.540
157	11.12	33.680	4.19	1.25	13.	0.00	14.8	225.5	200	9.93	33.897	3.58	26.124	189.8	0.649
187	10.27	33.846	3.70	1.63	20.	0.00	19.7	199.1	250	8.71	34.004	3.36	26.406	163.0	0.739
222	9.38	33.960	3.46	1.85	25.	0.00	23.4	176.5	300	8.01	34.057	2.77	26.553	149.0	0.820
253	8.64	34.007	3.35	1.94	30.	0.01	25.4	161.8	400	6.79	34.122	1.44	26.777	127.8	0.963
303	7.98	34.059	2.72	2.25	40.	0.01	29.8	148.4	500	6.46	34.316	0.45	26.974	109.1	1.088
358	7.42	34.119	1.84	2.62	50.	0.00	33.8	136.2	600	5.77	34.364	0.26	27.101	97.0	1.199
443	6.29	34.146	1.11	2.99	66.	0.00	39.4	119.7							
527	6.55	34.389	0.20	3.34	72.	0.00	40.2	104.7							
612	5.55	34.341	0.27	3.40	86.	0.01	43.8	96.2							

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LATITUDE 29 11.5N		LONGITUDE 115 38.0W		MO/DAY/YR 08/13/78		MESSENGER 1355 GMT		TIME	BOTTOM 1300M	WIND 330	SPEED 17KT	WEATHER 2	DOMINANT WAVES 330 2 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.47	33.526	5.78	0.45	3.	0.02	0.1	411.2	0	19.47	33.526	5.78	23.798	411.2	0.000
11	19.46	33.527	5.85	0.44	3.	0.02	0.1	410.9	10	19.46	33.527	5.85	23.801	410.9	0.041
35	14.97	33.566	5.57	0.69	5.	0.10	0.6	306.7	20	18.05	33.533	5.74	24.157	377.0	0.081
45	13.56	33.539	4.91	0.97	8.	0.35	5.9	280.5	30	16.10	33.547	5.63	24.629	332.0	0.116
59	11.96	33.578	4.07	1.28	12.	0.20	13.4	247.7	50	12.92	33.549	4.57	25.307	267.5	0.176
74	11.17	33.599	3.78	1.47	16.	0.06	16.7	232.4	75	11.13	33.607	3.76	25.690	231.1	0.239
98	10.47	33.818	3.28	1.73	21.	0.08	20.5	204.4	100	10.46	33.832	3.27	25.982	203.3	0.294
118	10.38	33.929	3.08	1.87	23.	0.00	22.6	194.7	125	10.35	33.989	2.86	26.123	189.9	0.343
137	10.27	34.085	2.46	2.09	28.		24.8	181.4	150	10.04	34.132	2.27	26.288	174.2	0.390
166	9.74	34.158	2.16	2.26	32.		27.6	167.5	200	9.42	34.196	1.91	26.441	159.7	0.475
196	9.48	34.193	1.93	2.29	35.		27.3	160.8	250	9.07	34.291	1.31	26.573	147.2	0.554
235	9.05	34.240	1.62	2.51	40.		30.1	150.7	300	9.03	34.414	0.54	26.676	137.4	0.628
264	9.11	34.341	1.01	2.75	43.		32.1	144.1	400	8.06	34.417	0.33	26.828	123.0	0.764
312	9.00	34.435	0.44	2.95	48.		33.0	135.5	500	6.92	34.382	0.25	26.965	110.0	0.888
376	8.34	34.424	0.37	3.03	55.		34.7	126.5	600	6.08	34.381	0.25	27.075	99.5	1.001
473	7.22	34.394	0.25	3.11	67.		37.4	113.1							
561	6.33	34.368	0.27	3.25	78.		41.0	103.6							
634	5.94	34.404	0.21	3.27	83.		41.8	96.1							

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LATITUDE 29 02.0N		LONGITUDE 115 57.0W		MO/DAY/YR 08/13/78		MESSENGER 1015 GMT		TIME	BOTTOM 1800M	WIND	SPEED 13KT	WEATHER 2	DOMINANT WAVES 330 2 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	20.92	33.464	5.31	0.49	2.	0.01	0.1	452.1	0	20.92	33.464	5.31	23.370	452.1	0.000
9	20.91	33.463	5.33	0.48	1.	0.01	0.0	451.9	10	20.91	33.463	5.33	23.372	451.9	0.045
27	20.42	33.432	5.44	0.49	1.	0.01	0.0	441.7	20	20.91	33.463	5.33	23.372	451.9	0.090
36	18.37	33.390	5.93	0.49	1.	0.00	0.0	394.7	30	19.84	33.418	5.60	23.619	428.3	0.135
49	14.88	33.333	6.00	0.55	3.	0.00	0.0	321.9	50	14.73	33.336	5.98	24.769	318.6	0.209
62	13.54	33.385	5.61	0.67	4.	0.05	1.2	291.4	75	12.62	33.463	4.92	25.298	268.3	0.283
84	12.16	33.526	4.41	1.08	10.	0.15	9.6	255.2	100	11.56	33.661	3.75	25.653	234.6	0.347
102	11.50	33.677	3.69	1.45	14.	0.03	15.1	232.3	125	10.88	33.820	3.20	25.900	211.1	0.403
119	10.99	33.767	3.39	1.73	20.	0.10	19.0	216.9	150	10.49	33.988	2.73	26.099	192.1	0.454
136	10.71	33.916	2.87	1.85	24.	0.11	21.5	201.2	200	9.13	34.049	2.86	26.373	166.1	0.545
161	10.27	34.018	2.62	2.04	28.	0.08	24.4	186.3	250	8.70	34.210	1.71	26.569	147.6	0.626
191	9.28	34.012	3.06	2.03	31.	0.06	25.4	171.1	300	8.61	34.294	1.10	26.648	140.1	0.700
216	8.96	34.123	2.38	2.19	38.	0.08	27.7	158.0	400	7.82	34.375	0.44	26.832	122.6	0.838
258	8.66	34.224	1.59	2.45	44.	0.21	30.1	146.0	500	6.70	34.353	0.33	26.972	109.3	0.961
304	8.61	34.300	1.06	2.61	47.	0.13	32.2	139.6							
377	8.11	34.382	0.46	2.85	57.	0.10	34.3	126.3							
452	7.13	34.349	0.40	3.06	67.	0.01	39.1	115.2							
532	6.49	34.364	0.27	3.18	76.	0.00	41.4	105.9							

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LATITUDE 28 41.5N		LONGITUDE 116 36.5W		MO/DAY/YR 08/13/78		MESSENGER 0320 GMT		TIME	BOTTOM 3550M	WIND 330	SPEED 11KT	WEATHER 2	DOMINANT WAVES 330 7		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	21.05	33.462	5.39	0.42	1.	0.01	0.0	455.5	0	21.05	33.462	5.39	23.333	455.5	0.000
11	20.98	33.461	5.46	0.42	1.	0.01	0.0	453.8	10	20.99	33.462	5.45	23.350	454.0	0.045
30	15.66	33.420	6.13	0.47	2.	0.00	0.1	331.8	20	18.74	33.432	5.81	23.912	400.3	0.088
39	13.97	33.326	6.01	0.52	3.	0.00	0.1	304.1	30	15.66	33.420	6.13	24.631	331.8	0.125
54	12.57	33.325	5.45	0.67	5.	0.09	4.6	277.4	50	12.84	33.325	5.57	25.149	282.4	0.187
68	11.56	33.397	4.77	0.93	10.	0.19	10.5	254.0	75	11.14	33.449	4.56	25.564	243.0	0.253
92	10.37	33.583	4.20	1.17	16.	0.00	16.1	220.1	100	10.13	33.642	4.02	25.891	211.9	0.310
111	9.88	33.713	3.80	1.32	20.	0.02	17.6	202.6	125	9.58	33.780	3.65	26.091	192.9	0.361
130	9.49	33.800	3.61	1.50	22.	0.01	19.6	190.0	150	9.30	33.884	3.29	26.217	180.9	0.409
149	9.29	33.875	3.32	1.71	26.	0.00	23.9	181.4	200	9.11	34.088	2.54	26.408	162.9	0.496
177	9.58	34.090	2.50		30.	0.03	27.5	170.0	250	8.28	34.130	2.14	26.570	147.5	0.576
210	8.83	34.088	2.56	2.22	35.	0.00	28.4	158.6	300	8.24	34.258	1.17	26.676	137.4	0.649
239	8.30	34.099	2.32	2.17	39.	0.00	30.0	150.0	400	7.55	34.362	0.42	26.860	119.9	0.784
286	8.23	34.217	1.44	2.39	47.	0.01	32.9	140.2	500	6.54	34.381	0.23	27.015	105.3	0.904
337	8.27	34.360	0.59	2.63	51.	0.00	35.1	130.2							
417	7.30	34.362	0.37	2.78	63.	0.02	37.8	116.6							
498	6.56	34.381	0.23	2.90	74.	0.00	40.6	105.5							
578	5.98	34.366	0.27	2.95	80.	0.00	40.8	99.4							

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	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	28	22.0N	117	16.0W	08/12/78		2127 GMT		3642M	340	7KT	2	320	2	7
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD
0	21.18	33.372	5.29	0.43	4.	0.01	0.1	465.4	0	21.18	33.372	5.29	23.230	465.4	0.000
10	20.92	33.358	5.35	0.42	4.	0.00	0.1	459.7	10	20.92	33.358	5.35	23.289	459.7	0.046
30	16.39	33.156	6.00	0.41	3.	0.00	0.0	366.8	20	18.75	33.227	5.68	23.752	415.6	0.090
40	15.55	33.179	6.02	0.43	3.	0.00	0.0	347.1	30	16.39	33.156	6.00	24.264	366.8	0.129
56	14.58	33.333	5.81	0.41	4.	0.00	0.0	315.8	50	14.99	33.285	5.91	24.674	327.7	0.199
71	12.52	33.241	5.50	0.65	6.	0.06	4.2	282.7	75	12.14	33.243	5.39	25.221	275.6	0.275
96	10.84	33.341	4.78	1.07	13.	0.02	12.3	245.8	100	10.71	33.375	4.66	25.584	241.1	0.340
116	10.34	33.515	4.23	1.30	17.	0.73	14.8	224.6	125	10.16	33.575	4.07	25.835	217.3	0.398
136	9.94	33.649	3.92	1.55	20.	0.04	19.2	208.3	150	9.62	33.783	3.74	26.086	193.4	0.450
156	9.49	33.837	3.67	1.77	23.	0.02	21.4	187.3	200	8.84	33.993	3.08	26.377	165.7	0.541
186	8.99	33.948	3.26	1.94	28.	0.06	24.3	171.4	250	8.22	34.110	2.25	26.563	148.2	0.622
221	8.62	34.051	2.78	2.16	34.	0.00	27.6	158.3	300	7.69	34.192	1.40	26.706	134.5	0.695
251	8.21	34.111	2.23	2.33	42.	0.00	30.1	147.8	400	6.74	34.293	0.53	26.919	114.3	0.825
301	7.68	34.193	1.58	2.66	51.	0.00	34.0	134.3	500	5.96	34.349	0.30	27.066	100.4	0.938
356	7.20	34.256	0.82	2.89	60.	0.06	36.7	123.1	600	5.44	34.386	0.27	27.158	91.7	1.041
440	6.34	34.319	0.36	3.10	72.	0.02	40.3	107.3							
523	5.84	34.358	0.28	3.19	83.	0.00	42.3	98.4							
607	5.41	34.388	0.27	3.29	91.	0.00	43.5	91.1							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

113070

LATITUDE 28 02.0N		LONGITUDE 117 55.0W		MO/DAY/YR 08/12/78		MESSENGER TIME 1544 GMT		BOTTOM 3450M		WIND 030		SPEED 5KT		WEATHER 2		DOMINANT WAVES 030 2 6	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD		
1	21.51	33.538	5.26	0.32	1.	0.01	0.0	462.0	0	21.51	33.538	5.26	23.266	462.0	0.000		
11	21.29	33.519	5.32	0.32	1.	0.00	0.0	457.6	10	21.31	33.521	5.31	23.307	458.1	0.046		
31	17.15	33.249	5.90	0.38	2.	0.00	0.0	376.8	20	19.50	33.379	5.58	23.677	422.7	0.090		
41	16.48	33.224	5.96	0.38	2.	0.00	0.0	363.8	30	17.37	33.259	5.87	24.113	381.2	0.130		
56	14.86	33.169	6.01	0.40	2.	0.00	0.0	333.4	50	15.53	33.192	6.00	24.484	345.8	0.203		
71	13.62	33.110	5.98	0.42	3.	0.00	0.0	313.1	75	13.35	33.122	5.89	24.891	307.0	0.285		
95	12.13	33.234	5.31	0.78	7.	0.05	7.4	276.1	100	11.79	33.258	5.21	25.297	268.4	0.358		
115	10.90	33.349	4.86	1.03	11.	0.02	11.8	246.2	125	10.54	33.452	4.50	25.674	232.5	0.421		
135	10.26	33.558	4.14	1.37	16.	0.02	17.3	220.2	150	9.85	33.676	3.82	25.966	204.8	0.476		
155	9.73	33.710	3.73	1.76	21.	0.00	21.6	200.4	200	8.99	33.952	3.10	26.320	171.2	0.572		
184	9.33	33.894	3.19	1.93	27.	0.18	24.4	180.6	250	8.21	34.020	2.83	26.495	154.6	0.656		
219	8.60	33.992	3.05	2.10	33.	0.01	27.4	162.3	300	7.45	34.049	2.34	26.628	141.9	0.732		
248	8.24	34.019	2.84	2.09	37.	0.00	27.9	155.1	400	6.54	34.180	0.93	26.856	120.3	0.868		
297	7.49	34.044	2.40	2.40	45.	0.04	32.3	142.8	500	6.20	34.312	0.38	27.005	106.2	0.988		
352	6.87	34.133	1.37	2.77	58.	0.01	36.9	127.9	600	5.71	34.372	0.25	27.115	95.8	1.096		
435	6.39	34.211	0.75	3.07	76.	0.00	40.7	116.0									
519	6.15	34.338	0.30	3.27	78.	0.02	42.4	103.6									
604	5.68	34.371	0.25	3.39	86.	0.07	43.9	95.5									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

113080

LATITUDE 27 42.0N		LONGITUDE 118 33.5W		MO/DAY/YR 08/12/78		MESSENGER TIME 0947 GMT		BOTTOM 3900M		WIND 060		SPEED 2KT		WEATHER 0		DOMINANT WAVES 060 7	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI0T	DT	DD		
0	20.81	33.297	5.35	0.41	2.	0.01	0.0	461.3	0	20.81	33.297	5.35	23.273	461.3	0.000		
10	20.30	33.276	5.49	0.41	2.	0.01	0.0	449.9	10	20.30	33.276	5.49	23.392	449.9	0.046		
30	19.49	33.268	5.49	0.36	2.	0.00	0.0	430.4	20	20.00	33.277	5.49	23.470	442.5	0.090		
40	18.33	33.231	5.69	0.37	2.	0.00	0.0	405.3	30	19.49	33.268	5.49	23.597	430.4	0.134		
55	17.26	33.200	5.90	0.36	2.	0.00	0.0	382.9	50	17.61	33.213	5.84	24.021	389.9	0.216		
70	15.54	33.138	5.96	0.36	2.	0.00	0.0	349.8	75	15.20	33.162	5.92	24.533	341.1	0.308		
95	14.10	33.314	5.75	0.36	3.	0.00	0.0	307.5	100	13.72	33.348	5.65	24.990	297.6	0.389		
115	12.55	33.456	5.20	0.57	7.	0.04	3.7	267.4	125	11.78	33.542	4.72	25.519	247.3	0.457		
135	11.15	33.624	4.27	1.15	14.	0.15	13.3	230.2	150	10.75	33.704	4.02	25.833	217.5	0.516		
155	10.67	33.728	3.97	1.25	17.	0.08	15.8	214.4	200	9.81	34.049	2.78	26.262	176.7	0.617		
185	9.94	33.956	3.15	1.76	24.	0.07	22.7	185.6	250	9.11	34.205	1.90	26.499	154.2	0.702		
220	9.67	34.141	2.35	2.19	30.	0.04	27.2	167.6	300	8.68	34.257	1.43	26.608	143.8	0.779		
250	9.11	34.205	1.90	2.42	36.	0.05	29.2	154.2	400	7.80	34.352	0.60	26.815	124.2	0.919		
300	8.68	34.257	1.43	2.45	43.	0.21	30.0	143.8	500	6.55	34.314	0.42	26.961	110.3	1.043		
355	8.25	34.337	0.75	2.89	52.	0.10	33.9	131.6	600	5.71	34.351	0.27	27.098	97.4	1.155		
440	7.35	34.344	0.47	3.14	63.	0.10	37.0	118.6									
525	6.24	34.306	0.41	3.28	76.	0.01	41.6	107.1									
610	5.67	34.361	0.25	3.54	85.	0.00	44.3	96.1									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

113090

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
27 22.0N		119 12.0W		08/12/78		0417 GMT			3950M	300	2KT	0	300 1 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	22.59	33.549	5.15	0.22	2.	0.00	0.0	489.9	0	22.59	33.549	5.15	22.974	489.9	0.000
10	21.54	33.474	5.36	0.34	2.	0.00	0.0	467.4	10	21.54	33.474	5.36	23.209	467.4	0.048
30	19.28	33.388	5.62	0.33	2.	0.00	0.0	416.6	20	20.42	33.436	5.50	23.482	441.4	0.093
41	18.08	33.274	5.77	0.34	2.	0.00	0.0	396.3	30	19.28	33.388	5.62	23.742	416.6	0.136
56	16.87	33.295	5.95	0.25	2.	0.00	0.0	367.2	50	17.36	33.277	5.89	24.129	379.7	0.216
71	15.01	33.306	5.89	0.32	3.	0.00	0.0	326.5	75	14.65	33.319	5.82	24.773	316.3	0.304
96	13.11	33.383	5.36	0.58	5.	0.03	3.0	283.3	100	12.79	33.380	5.29	25.202	277.5	0.379
116	11.66	33.406	4.96	0.88	9.	0.04	9.1	255.1	125	11.26	33.501	4.63	25.584	241.1	0.444
136	10.94	33.636	4.20	1.26	14.	0.04	14.5	225.7	150	10.76	33.758	3.76	25.873	213.7	0.502
156	10.72	33.804	3.58	1.63	19.	0.03	18.8	209.6	200	10.21	34.113	2.34	26.244	178.4	0.602
186	10.38	34.020	2.74	1.99	25.	0.03	22.4	188.0	250	9.54	34.245	1.73	26.460	157.9	0.688
221	9.95	34.216	1.88	2.39	32.	0.02	27.9	166.5	300	8.76	34.276	1.30	26.610	143.7	0.766
251	9.53	34.245	1.73	2.45	38.	0.01	29.4	157.7	400	7.71	34.343	0.53	26.822	123.5	0.906
301	8.75	34.277	1.29	2.63	44.	0.02	32.0	143.4	500	6.66	34.352	0.33	26.977	108.9	1.030
356	8.24	34.332	0.76	2.85	52.	0.04	34.3	131.9	600	5.84	34.381	0.24	27.106	96.7	1.140
441	7.21	34.344	0.42	2.99	63.	0.03	37.5	116.7							
526	6.44	34.357	0.31	3.10	73.	0.17U	40.4	105.8							
612	5.75	34.386	0.23	3.15	85.	0.00	42.1	95.2							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

117030

LATITUDE 28 48.0N		LONGITUDE 114 56.5W		MO/DAY/YR 08/18/78		MESSENGER 0751 GMT		TIME	BOTTOM 100M	WIND 290	SPEED 11KT	WEATHER 1	DOMINANT WAVES 290 5 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	17.95	33.494	5.98	0.29	2.	0.03	0.0	377.3	0	17.95	33.494	5.98	24.154	377.3	0.000
11	17.96	33.492	6.00	0.32	1.	0.01	0.1	377.7	10	17.96	33.493	6.00	24.150	377.6	0.038
21	15.85	33.336	6.20	0.34	0.	0.00	0.0	342.0	20	16.11	33.352	6.18	24.477	346.5	0.074
31	13.57	33.245	6.01	0.46	4.	0.10	1.2	302.2	30	13.78	33.250	6.04	24.902	306.0	0.107
51	11.74	33.339	4.97	0.78	11.	0.08	8.9	261.4	50	11.77	33.330	5.03	25.357	262.7	0.164
66	11.22	33.506	4.38	0.93	15.	0.05	12.9	240.1	75	11.14	33.660	3.49	25.728	227.4	0.225
92	10.99	33.921	1.94	1.63	34.	0.34	21.8	205.5	100	10.94	34.028	1.71	26.050	196.8	0.279

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

117035

LATITUDE 28 38.0N		LONGITUDE 115 16.0W		MO/DAY/YR 08/18/78		MESSENGER 1056 GMT		TIME	BOTTOM 170M	WIND 360	SPEED 15KT	WEATHER 1	DOMINANT WAVES 330 4 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.34	33.373	5.60	0.38	2.	0.03	0.2	419.1	0	19.34	33.373	5.60	23.715	419.1	0.000
9	19.25	33.371	5.63	0.38	1.	0.00	0.2	417.1	10	19.04	33.367	5.65	23.785	412.4	0.042
26	15.22	33.322	6.05	0.39	3.	0.01	0.3	329.7	20	16.76	33.329	5.90	24.310	362.4	0.080
35	14.34	33.264	6.11	0.45	3.	0.02	0.4	316.0	30	14.76	33.296	6.08	24.731	322.3	0.115
49	13.31	33.316	5.74	0.55	6.	0.24	3.2	292.0	50	13.23	33.323	5.68	25.071	289.9	0.176
62	12.33	33.423	4.84	0.80	12.	0.20	8.8	265.8	75	11.92	33.563	4.10	25.510	248.2	0.244
77	11.89	33.583	4.00	1.01	17.	0.07	13.8	246.1	100	11.63	33.733	3.17	25.696	230.5	0.304
96	11.73	33.713	3.33	1.28	21.	0.08	17.3	233.7	125	11.19	33.910	2.21	25.913	209.9	0.360
119	11.19	33.843	2.43	1.55	27.	0.32	21.2	214.7	150	11.15	34.140	1.60	26.100	192.1	0.411
143	11.20	34.092	1.70	1.83	36.	0.14	23.9	196.5							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

117040

LATITUDE 28 26.9N		LONGITUDE 115 37.3W		MO/DAY/YR 08/18/78		MESSENGER 1650 GMT		TIME	BOTTOM 1021M	WIND 330	SPEED 13KT	WEATHER 1	DOMINANT WAVES 300 3 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	19.66	33.422	5.60	0.47	1.		0.1	423.4	0	19.66	33.422	5.60	23.670	423.4	0.000
11	19.59	33.422	5.62	0.49	1.		0.1	421.7	10	19.60	33.422	5.62	23.686	421.9	0.042
30	18.57	33.389	5.86	0.50	1.		0.1	399.5	20	19.24	33.414	5.72	23.770	413.9	0.084
40	17.61	33.347	5.99	0.47	2.		0.1	380.2	30	18.57	33.389	5.86	23.921	399.5	0.125
54	15.37	33.282	6.09	0.46	3.		0.1	335.8	50	16.03	33.294	6.06	24.452	348.8	0.200
69	13.80	33.307	5.80	0.55	4.		1.2	302.1	75	13.07	33.324	5.53	25.104	286.8	0.280
93	11.30	33.489	4.42	1.05	14.		12.3	242.7	100	11.17	33.662	3.84	25.725	227.7	0.345
112	10.94	33.882	2.95	1.53	24.		19.0	207.6	125	10.92	33.993	2.54	26.027	199.0	0.399
131	10.91	34.016	2.44	1.85	30.		20.4	197.2	150	10.81	34.112	2.10	26.139	188.4	0.448
151	10.80	34.116	2.08	2.06	33.		23.4	187.9	200	10.58	34.302	1.32	26.327	170.5	0.539
179	10.64	34.233	1.57	2.26	37.		25.5	176.6	250	9.98	34.361	0.94	26.476	156.3	0.624
213	10.54	34.340	1.21	2.38	40.		26.7	167.0	300	9.61	34.402	0.72	26.571	147.4	0.702
242	10.03	34.350	1.00	2.49	45.		27.7	157.9	400	8.21	34.407	0.41	26.797	125.9	0.846
290	9.75	34.403	0.74	2.64	51.		28.8	149.5	500	7.22	34.404	0.26	26.939	112.4	0.972
344	8.89	34.397	0.64	2.71	59.		30.4	136.6	600	6.16	34.393	0.21	27.074	99.6	1.087
429	7.92	34.412	0.30	2.93	72.		33.0	121.4							
515	7.08	34.401	0.25	2.93	85.		34.0	110.7							
602	6.14	34.393	0.21	3.02	99.		38.8	99.4							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

117050

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	28 07.2N		116 17.2W		08/18/78		2311 GMT			4200M	300	15KT	1	320 6 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI6T	DT	DD	
1	21.15	33.381	5.28	0.30	3.		0.2	464.0	0	21.15	33.381	5.28	23.245	464.0	0.000	
11	21.01	33.379	5.40	0.31	2.		0.1	460.5	10	21.02	33.380	5.39	23.278	460.9	0.046	
36	17.64	33.287	5.86	0.29	2.		0.0	385.2	20	19.92	33.337	5.58	23.537	436.1	0.091	
46	16.89	33.282	5.91	0.29	2.		0.0	368.6	30	18.55	33.301	5.76	23.859	405.4	0.133	
62	15.43	33.281	6.08	0.32	2.		0.1	337.1	50	16.56	33.282	5.97	24.321	361.3	0.210	
77	13.72	33.292	5.85	0.40	4.		1.1	301.7	75	13.95	33.287	5.90	24.897	306.5	0.294	
102	11.74	33.509	4.65	0.73	12.		9.9	248.9	100	11.85	33.486	4.77	25.462	252.7	0.365	
122	11.09	33.768	3.64	1.12	20.		16.5	218.5	125	11.00	33.785	3.59	25.851	215.7	0.424	
142	10.52	33.852	3.41	1.36	25.		19.1	202.7	150	10.35	33.915	3.18	26.065	195.4	0.476	
172	10.03	34.083	2.51	1.70	35.		24.2	177.7	200	9.82	34.175	2.08	26.358	167.5	0.568	
202	9.81	34.178	2.06	1.86	38.		25.9	167.1	250	9.34	34.276	1.51	26.518	152.4	0.651	
242	9.39	34.255	1.64	2.04	44.		27.9	154.8	300	8.81	34.328	0.97	26.643	140.5	0.727	
271	9.18	34.323	1.20	2.16	50.		29.2	146.5	400	7.56	34.310	0.66	26.818	124.0	0.865	
321	8.51	34.332	0.87	2.25	58.		31.1	135.8	500	6.50	34.307	0.43	26.962	110.3	0.989	
386	7.73	34.314	0.70	2.46	68.		33.4	126.0	600	5.83	34.360	0.31	27.090	98.1	1.101	
486	6.62	34.302	0.46	2.72	85.		37.4	112.1								
576	5.97	34.347	0.30	2.88	97.		39.9	100.7								
651	5.57	34.386	0.32	2.99	105.		40.6	93.1								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

117060

	LATITUDE 27 48.0N		LONGITUDE 116 53.0W		MO/DAY/YR 08/19/78		MESSENGER 0440 GMT		TIME	BOTTOM 3650M	WIND 320	SPEED 13KT	WEATHER 1	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI6T	DT	DD	
1	21.65	33.444	5.26	0.34	2.		0.2	472.5	0	21.65	33.444	5.26	23.156	472.5	0.000	
11	21.65	33.443	5.29	0.32	3.		0.1	472.5	10	21.65	33.444	5.29	23.156	472.5	0.047	
35	16.75	33.165	5.93	0.34	3.		0.1	374.0	20	20.02	33.319	5.52	23.497	439.9	0.093	
45	15.69	33.149	6.00	0.35	3.		0.1	352.2	30	17.92	33.206	5.79	23.941	397.6	0.135	
59	13.75	33.169	5.92	0.37	4.		0.0	311.3	50	14.97	33.159	5.97	24.582	336.4	0.209	
74	12.77	33.277	5.46	0.68	6.		4.8	284.7	75	12.68	33.290	5.41	25.154	282.0	0.286	
98	10.90	33.586	4.47	1.04	14.		12.5	228.7	100	10.88	33.605	4.46	25.733	226.9	0.350	
118	10.66	33.691	4.19	1.21	15.		14.0	216.9	125	10.74	33.788	3.66	25.899	211.2	0.406	
137	10.90	33.959	2.70	1.85	26.		20.3	201.2	150	10.82	34.060	2.48	26.096	192.4	0.457	
166	10.60	34.127	2.20	2.08	29.		23.2	183.8	200	10.21	34.201	2.04	26.313	171.8	0.550	
195	10.21	34.178	2.18	2.21	31.		25.3	173.6	250	9.63	34.315	1.33	26.500	154.1	0.634	
233	10.20	34.356	1.23	2.52	37.		27.8	160.3	300	8.77	34.324	1.06	26.646	140.2	0.710	
262	9.20	34.279	1.45	2.54	42.		28.7	150.1	400	7.43	34.277	0.81	26.810	124.7	0.849	
310	8.72	34.341	0.92	2.64	50.		29.4	138.2	500	6.55	34.333	0.35	26.976	108.9	0.972	
373	7.73	34.273	0.93	2.76	58.		32.7	129.0	600	5.85	34.380	0.24	27.103	96.9	1.083	
471	6.81	34.318	0.43	3.04	72.		36.9	113.4								
559	6.08	34.362	0.26	3.20	83.		39.5	100.9								
633	5.72	34.392	0.23	3.26	90.		40.6	94.4								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

117070

	LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
	27	27.5N	117	32.5W	08/19/78		1040		GMT	3900M	340	13KT	1	3 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SI6T	DT	DD	
1	20.77	33.290	5.31	0.30	3.	0.01	0.0	460.8	0	20.77	33.290	5.31	23.278	460.8	0.000	
11	20.76	33.290	5.35	0.30	2.	0.00	0.0	460.6	10	20.76	33.291	5.35	23.281	460.6	0.046	
30	18.57	33.199	5.74	0.29	2.	0.00	0.0	413.3	20	19.90	33.249	5.52	23.476	441.9	0.091	
39	17.54	33.170	5.85	0.29	2.	0.00	0.0	391.4	30	18.57	33.199	5.74	23.776	413.3	0.134	
54	16.78	33.173	5.87	0.30	2.	0.00	0.0	374.1	50	16.93	33.170	5.86	24.149	377.7	0.213	
68	15.96	33.187	5.90	0.30	2.	0.00	0.0	355.2	75	15.34	33.193	5.86	24.528	341.6	0.304	
92	13.62	33.238	5.78	0.41	3.	0.25	0.8	303.7	100	12.81	33.289	5.46	25.127	284.6	0.383	
110	11.87	33.353	5.04	0.73	8.	0.06	9.0	262.7	125	10.80	33.388	4.72	25.578	241.7	0.449	
129	10.57	33.396	4.66	1.09	14.	0.00	14.3	237.2	150	9.78	33.543	4.25	25.873	213.6	0.507	
148	9.79	33.516	4.34	1.12	18.	0.00	15.6	215.7	200	9.15	33.982	3.16	26.318	171.3	0.605	
176	9.69	33.854	3.17	1.45	25.	0.01	22.0	189.1	250	8.53	34.115	2.41	26.521	152.1	0.688	
209	8.92	34.005	3.16	1.57	30.	0.03	23.8	166.1	300	8.64	34.297	1.12	26.645	140.3	0.763	
237	8.50	34.057	2.81	1.72	36.	0.00	25.3	156.0	400	7.55	34.322	0.59	26.828	123.0	0.901	
284	8.71	34.267	1.34	2.11	44.	0.07	29.7	143.6	500	6.52	34.331	0.35	26.978	108.8	1.024	
336	8.34	34.324	0.86	2.40	52.	0.02	32.1	133.9	600	5.82	34.368	0.22	27.098	97.4	1.134	
416	7.34	34.317	0.55	2.62	64.	0.01	35.4	120.4								
497	6.55	34.330	0.36	2.79	76.	0.01	38.1	109.2								
579	5.94	34.356	0.24	2.95	85.	0.00	40.5	99.7								

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

117080

LATITUDE 27 08.0N		LONGITUDE 118 10.5W		MO/DAY/YR 08/19/78		MESSENGER TIME 1610 GMT		TIME		BOTTOM 4309M		WIND 340		SPEED 14KT		WEATHER 1		DOMINANT WAVES 310 6 7		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SI03	DT	DD				
1	22.55	33.635	5.09	0.35	3.	0.00	0.0	482.6		0	22.55	33.635	5.09	23.050	482.6	0.000				
11	22.53	33.635	5.15	0.35	3.	0.00	0.1	482.1		10	22.53	33.636	5.14	23.056	482.1	0.048				
36	20.27	33.656	5.49	0.43	3.	0.00	0.0	421.6		20	22.53	33.635	5.21	23.056	482.1	0.097				
45	18.96	33.583	5.70	0.28	3.	0.00	0.0	394.7		30	21.29	33.648	5.33	23.409	448.3	0.143				
60	18.24	33.555	5.76	0.31	3.	0.00	0.0	379.6		50	18.59	33.558	5.72	24.044	387.7	0.227				
75	18.01	33.712	5.68	0.32	2.	0.00	0.0	362.8		75	18.01	33.712	5.68	24.305	362.8	0.321				
99	15.48	33.567	5.67	0.34	3.	0.00	0.0	317.3		100	15.40	33.567	5.66	24.801	315.6	0.407				
119	14.08	33.618	5.32	0.42	5.	0.14	1.1	284.9		125	13.72	33.662	5.12	25.232	274.6	0.481				
138	13.01	33.752	4.69	0.55	8.	0.05	4.7	254.3		150	12.39	33.761	4.46	25.574	242.1	0.547				
168	11.56	33.762	4.21	1.02	14.	0.02	13.1	227.1		200	10.39	33.929	3.76	26.070	194.9	0.658				
197	10.91	33.921	3.77	1.23	19.	0.01	17.3	197.5		250	9.37	34.135	2.62	26.402	163.4	0.750				
236	9.37	34.039	3.28	1.48	28.	0.02	22.1	170.5		300	8.73	34.205	1.77	26.559	148.5	0.831				
265	9.37	34.217	1.94	1.89	37.	0.01	27.0	157.3		400	7.60	34.285	0.74	26.793	126.3	0.974				
314	8.42	34.194	1.70	2.12	46.	0.01	30.3	144.7		500	6.69	34.346	0.35	26.967	109.8	1.099				
377	7.83	34.271	0.91	2.39	57.	0.03	32.8	130.6		600	6.03	34.395	0.29	27.093	97.9	1.211				
477	6.87	34.322	0.42	2.68	72.	0.03	37.0	113.9												
568	6.23	34.399	0.26	2.86	83.	0.10	39.5	100.0												
645	5.79	34.391	0.34	2.95	89.	0.00	40.6	95.3												

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

118039

LATITUDE 28 18.5N		LONGITUDE 115 23.7W		MO/DAY/YR 08/18/78		MESSENGER TIME 1349 GMT		TIME		BOTTOM 268M		WIND 320		SPEED 10KT		WEATHER 1		DOMINANT WAVES 320 3 4		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SI03	DT	DD				
0	20.99	33.523	5.83	0.28	0.	0.00	0.1	449.6		0	20.99	33.523	5.83	23.396	449.6	0.000				
10	21.00	33.530	5.85	0.27	0.	0.00	0.0	449.3		10	21.00	33.530	5.85	23.398	449.3	0.045				
30	16.54	33.413	5.89	0.35	3.	0.03	0.2	351.3		20	21.00	33.530	5.85	23.398	449.3	0.090				
45	13.82	33.353	5.59	0.48	5.	0.19	2.0	299.1		30	16.54	33.413	5.89	24.426	351.3	0.130				
55	12.39	33.293	5.37	0.57	8.	0.20	2.5	276.5		50	13.04	33.319	5.48	25.104	286.8	0.194				
70	11.49	33.366	4.99	0.64	12.	0.08	8.3	255.1		75	11.49	33.484	4.47	25.528	246.5	0.261				
85	11.50	33.694	3.44	1.12	21.	0.06	15.6	231.1		100	11.31	33.778	3.23	25.789	221.6	0.320				
105	11.25	33.788	3.16	1.33	24.	0.13	17.1	219.8		125	11.36	34.008	2.07	25.958	205.6	0.374				
130	11.39	34.063	1.80	1.70	33.	0.18	21.9	202.0		150	11.10	34.161	1.54	26.125	189.7	0.424				
150	11.10	34.161	1.54	1.88	37.	0.07	24.1	189.7		200	10.20	34.265	1.44	26.364	167.0	0.515				
185	10.25	34.205	1.65	1.92	39.	0.04	26.5	172.2		250	9.91	34.375	0.84	26.500	154.1	0.598				
214	10.16	34.310	1.21	2.11	45.	0.06	27.8	163.0												
254	9.87	34.378	0.81	2.27	51.	0.15	28.8	153.3												

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

119033

LATITUDE 28 19.0N		LONGITUDE 114 53.0W		MO/DAY/YR 08/18/78		MESSENGER TIME 0312 GMT		TIME		BOTTOM 108M		WIND 320		SPEED 23KT		WEATHER 0		DOMINANT WAVES 320 5 4		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SI03	DT	DD				
0	19.37	33.461	5.74	0.51	2.	0.00	0.1	413.5		0	19.37	33.461	5.74	23.774	413.5	0.000				
9	19.37	33.461	5.79	0.54	2.	0.00	0.0	413.5		10	19.37	33.461	5.79	23.774	413.5	0.041				
23	18.27	33.421	5.90	0.56	2.	0.00	0.0	390.1		20	18.52	33.429	5.87	23.963	395.5	0.082				
32	14.51	33.299	6.23	0.65	4.	0.01	0.0	316.8		30	15.29	33.306	6.17	24.624	332.4	0.118				
40	14.26	33.410	6.13	0.69	5.	0.01	0.0	303.7		50	13.10	33.409	5.43	25.162	281.2	0.180				
54	12.61	33.405	5.08	0.97	10.	0.62	6.5	272.3		75	11.74	33.625	3.74	25.592	240.4	0.245				
68	12.11	33.548	4.11	1.35	15.	0.06	13.2	252.6		100	10.90	33.880	2.74	25.943	207.0	0.302				
91	11.02	33.796	3.06	1.79	23.	0.03	19.5	215.3												

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

120025

LATITUDE 28 22.5N		LONGITUDE 114 15.0W		MO/DAY/YR 08/17/78		MESSENGER TIME 1756 GMT		TIME		BOTTOM 62M		WIND 280		SPEED 12KT		WEATHER 1		DOMINANT WAVES 280 5 5		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SI03	DT	DD				
1	22.65	33.843	5.35	0.16	0.	0.00	0.2	470.3		0	22.65	33.843	5.35	23.179	470.3	0.000				
11	22.60	33.837	5.39	0.13	0.	0.00	0.0	469.4		10	22.60	33.838	5.39	23.188	469.5	0.047				
21	16.01	33.383	6.01	0.29	3.	0.05	0.0	342.0		20	16.71	33.405	5.97	24.381	355.7	0.088				
31	14.32	33.480	5.27	0.56	7.	0.57	3.1	299.8		30	14.37	33.466	5.38	24.946	301.8	0.121				
51	12.39	33.602	3.62	1.25	16.	0.18	13.8	253.8		50	12.44	33.600	3.71	25.439	254.9	0.177				

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

120030

LATITUDE 28 13.0N		LONGITUDE 114 34.0W		MO/DAY/YR 08/17/78		MESSENGER TIME 2053 GMT		TIME		BOTTOM 92M		WIND 300		SPEED 18KT		WEATHER 1		DOMINANT WAVES 300 4 6		
Z	T	S	O2	P04	SI03	N02	N03	DT		Z	T	S	O2	SI03	DT	DD				
2	21.05	33.630	5.68	0.24	0.	0.08	0.0	443.4		0	21.05	33.630	5.68	23.461	443.4	0.000				
12	20.85	33.620	5.71	0.23	0.	0.05	0.0	439.0		10	20.89	33.622	5.70	23.498	439.9	0.044				
26	16.60	33.423	6.00	0.32	3.	0.04	0.0	351.9		20	18.70	33.484	5.88	23.961	395.7	0.086				
35	13.91	33.501	5.24	0.62	8.	1.01	3.5	290.1		30	15.29	33.446	5.71	24.733	322.1	0.122				
45	13.09	33.545	4.45	0.99	12.	0.65	9.3	271.0		50	12.72	33.562	4.21	25.355	262.9	0.181				
59	12.10	33.605	3.82	1.32	16.	0.12	14.4	248.3		75	11.10	33.781	2.71	25.829	217.8	0.241				
74	11.12	33.766	2.77	1.88	24.	0.14	20.2	219.2												
89	10.87	33.884	2.09	2.41	31.	0.05	23.2	206.2												

RV ALEJANDRO DE HUMBOLDT										CALCOFI CRUISE 7808						120035	
LATITUDE 28 03.0N		LONGITUDE 114 54.0W		MO/DAY/YR 08/18/78		MESSENGER TIME 0004 GMT		BOTTOM 80M		WIND 330		SPEED 7KT		WEATHER 1		DOMINANT WAVES 300 2 5	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	21.27	33.603	5.94	0.31	0.	0.00	0.0	451.0	0	21.27	33.603	5.94	23.381	451.0	0.000		
11	20.76	33.596	6.02	0.33	0.	0.00	0.1	438.4	10	20.80	33.598	6.01	23.502	439.4	0.045		
21	20.43	33.577	5.83	0.36	0.	0.00	0.0	431.4	20	20.46	33.580	5.85	23.581	431.9	0.088		
32	20.09	33.537	5.65	0.40	2.	0.00	0.0	425.8	30	20.15	33.545	5.68	23.635	426.8	0.131		
51	13.88	33.485	5.16	0.74	9.	0.33	4.4	290.7	50	14.57	33.490	5.25	24.922	304.1	0.205		
75	11.99	33.696	2.63	1.62	26.	0.09	18.2	239.6	75	11.99	33.696	2.63	25.600	239.6	0.273		

RV ALEJANDRO DE HUMBOLDT					CALCOFI CRUISE 7808										120045		
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES				
27 43.0N		115 33.0W		08/20/78		1957 GMT			2400M	330	13KT	1	300 3 8				
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	21.79	33.501	5.54	0.46	1.	0.00	0.1	472.0	0	21.79	33.501	5.54	23.161	472.0	0.000		
9	21.56	33.501	5.62	0.45	0.	0.00	0.0	466.0	10	21.50	33.504	5.64	23.243	464.2	0.047		
26	20.58	33.578	5.88	0.41	0.	0.01	0.0	435.1	20	20.93	33.552	2.79	23.434	446.0	0.092		
35	17.42	33.205	5.92	0.46	1.	0.00	0.0	386.2	30	19.27	33.411	5.90	23.762	414.7	0.136		
48	15.80	33.243	5.99	0.48	2.	0.00	0.0	347.7	50	15.51	33.251	5.98	24.534	341.1	0.211		
61	13.96	33.316	5.75	0.56	4.	0.11	1.0	304.6	75	12.27	33.456	4.73	25.361	262.3	0.287		
82	11.64	33.526	4.29	1.01	13.	0.09	11.6	245.9	100	11.02	33.610	4.62	25.711	229.1	0.349		
99	11.06	33.604	4.63	1.16	13.	0.02	12.2	230.1	125	10.41	33.785	3.99	25.955	205.9	0.404		
116	10.52	33.714	4.31	1.23	16.	0.19	14.4	212.9	150	10.31	34.004	2.95	26.142	188.1	0.454		
133	10.37	33.852	3.66	1.41	20.	0.06	17.7	200.2	200	9.93	34.217	2.02	26.372	166.2	0.544		
159	10.28	34.075	2.63	1.79	27.	0.02	23.1	182.3	250	9.63	34.321	1.36	26.504	153.7	0.627		
188	9.99	34.183	2.20	2.00	31.	0.06	25.4	169.6	300	9.09	34.358	0.94	26.622	142.5	0.704		
214	9.86	34.250	1.82	2.16	34.	0.08	26.7	162.9	400	8.10	34.397	0.42	26.807	125.0	0.844		
256	9.58	34.330	1.29	2.32	40.	0.03	28.5	152.2	500	7.20	34.397	0.27	26.938	112.6	0.970		
303	9.05	34.359	0.92	2.49	46.	0.03	31.0	141.9									
377	8.25	34.380	0.53	2.68	54.	0.01	32.9	128.4									
453	7.73	34.421	0.25	2.80	63.	0.13	34.7	118.0									
531	6.76	34.363	0.28	2.85	74.	0.03	37.9	109.4									

RV ALEJANDRO DE HUMBOLDT						CALCOFI CRUISE 7808										120050		
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES		
27 33.0N		115 52.5W		08/20/78		1621 GMT		4000M		360		15KT		1		360 6 8		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD			
1	22.06	33.498	5.26	0.56	2.	0.00	0.1	479.4	0	22.06	33.498	5.26	23.084	479.4	0.000			
11	22.06	33.497	5.30	0.54	2.	0.00	0.1	479.5	10	22.06	33.498	5.30	23.083	479.5	0.048			
36	17.50	33.290	5.90	0.54	2.	0.00	0.0	381.8	20	21.80	33.484	5.34	23.145	473.5	0.096			
45	16.11	33.253	5.98	0.57	2.	0.00	0.0	353.6	30	19.26	33.348	5.68	23.715	419.2	0.140			
60	14.32	33.308	5.98	0.64	2.	0.09	0.3	312.4	50	15.43	33.265	5.98	24.563	338.3	0.216			
75	13.36	33.328	5.62	0.70	5.	0.18	1.3	292.1	75	13.36	33.328	5.62	25.048	292.1	0.296			
99	11.04	33.393	4.79	1.24	12.	0.06	11.6	245.3	100	11.00	33.403	4.75	25.553	244.0	0.363			
119	10.62	33.595	4.22	1.43	16.	0.05	15.2	223.4	125	10.47	33.649	4.20	25.838	216.9	0.421			
138	10.20	33.768	4.09	1.31	18.	0.21	16.5	203.7	150	10.19	33.920	3.46	26.098	192.3	0.473			
167	10.18	34.097	2.52	1.95	28.	0.04	23.9	179.0	200	9.80	34.199	2.11	26.380	165.5	0.564			
196	9.82	34.180	2.21	2.14	33.	0.25	25.5	167.1	250	9.56	34.346	1.16	26.536	150.6	0.646			
235	9.69	34.336	1.25	2.40	40.	0.40	28.0	153.5	300	9.05	34.396	0.68	26.658	139.1	0.721			
264	9.41	34.347	1.11	2.58	42.	0.21	29.5	148.3	400	8.14	34.432	0.28	26.828	123.0	0.859			
311	8.94	34.412	0.55	2.74	49.	0.18	31.2	136.3	500	7.28	34.430	0.17	26.952	111.2	0.983			
374	8.39	34.430	0.34	2.97	57.	0.02	33.0	126.8	600	6.32	34.411	0.18	27.069	100.2	1.097			
470	7.50	34.431	0.18	2.98	68.	0.03	35.7	114.1										
557	6.80	34.429	0.16	3.07	77.	0.01	38.3	105.0										
631	5.90	34.391	0.21	3.21	88.	0.01	41.2	96.6										

RV ALEJANDRO DE HUMBOLDT										CALCOFI CRUISE 7808										120060
LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES								
27 13.0N		116 30.5W		08/20/78		0940 GMT		3650M	280	15KT	1	300 4 8								
T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD						
0	22.60	33.515	5.25	0.49	2.	0.00	0.0	492.6	0	22.60	33.515	5.25	22.945	492.6	0.00					
10	22.62	33.515	5.35	0.53	2.	0.00	0.0	493.2	10	22.62	33.515	5.35	22.939	493.2	0.04					
30	20.02	33.482	5.94	0.50	1.	0.00	0.0	428.0	20	22.47	33.512	5.38	22.978	489.5	0.09					
40	17.33	33.507	6.25	0.54	3.	0.00	0.0	362.1	30	20.02	33.482	5.94	23.622	428.0	0.14					
50	13.82	33.462	5.56	0.76	6.	0.14	2.4	291.2	50	14.87	33.479	5.87	24.850	311.0	0.21					
75	11.85	33.442	4.77	1.07	10.	0.32	9.1	255.8	75	11.72	33.529	4.44	25.521	247.1	0.28					
100	11.18	33.765	3.46	1.52	18.	0.02	17.9	220.3	100	10.92	33.786	3.49	25.866	214.3	0.34					
125	10.23	33.826	3.65	1.59	21.	0.02	18.7	199.9	125	10.19	33.886	3.46	26.070	194.9	0.39					
150	10.16	33.933	3.12	1.80	24.	0.04	21.5	190.8	150	10.27	34.091	2.39	26.216	181.0	0.44					
200	10.30	34.143	2.15	2.12	29.	0.02	25.1	177.6	200	9.65	34.295	1.42	26.481	155.9	0.53					
250	9.81	34.257	1.63	2.39	34.	0.02	28.0	161.2	250	9.14	34.347	1.04	26.605	144.1	0.61					
300	9.45	34.328	1.20	2.61	40.	0.00	29.8	150.3	300	8.96	34.430	0.49	26.699	135.2	0.68					
400	9.13	34.347	1.03	2.64	42.	0.02	30.1	144.0	400	7.82	34.425	0.29	26.870	119.0	0.81					
500	8.95	34.433	0.47	2.84	49.	0.07	31.3	134.8	500	6.62	34.390	0.24	27.012	105.5	0.93					
600	8.23	34.412	0.40	2.92	56.	0.03	33.0	125.8	600	5.70	34.382	0.31	27.124	94.9	1.04					
	7.42	34.434	0.21	3.00	67.	0.04	35.6	112.8												
	6.27	34.372	0.26	3.10	81.	0.01	39.8	102.5												
	5.66	34.387	0.32	3.14	87.	0.00	41.3	94.1												

RV ALEJANDRO DE HUMBOLDT

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120070

LATITUDE 26 53.0N		LONGITUDE 117 10.0W		MO/DAY/YR 08/20/78		MESSENGER 0403 GMT		TIME	BOTTOM 3950M	WIND 350	SPEED 11KT	WEATHER 1	DOMINANT WAVES 340 5 8		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	21.20	33.307	5.30	0.43	2.	0.01	0.1	470.7	0	21.20	33.307	5.30	23.175	470.7	0.000
11	21.20	33.306	5.33	0.43	2.	0.00	0.0	470.7	10	21.20	33.307	5.33	23.175	470.7	0.047
30	19.41	33.337	5.58	0.41	2.	0.00	0.1	423.5	20	21.20	33.306	5.36	23.175	470.7	0.094
40	18.08	33.177	5.73	0.41	2.	0.00	0.1	403.4	30	19.41	33.337	5.58	23.669	423.5	0.139
55	17.22	33.232	5.89	0.39	2.	0.01	0.1	379.7	50	17.44	33.195	5.85	24.048	387.3	0.220
69	16.34	33.307	5.90	0.37	2.	0.01	0.1	354.7	75	15.70	33.308	5.85	24.536	340.9	0.312
93	13.70	33.322	5.70	0.44	3.	0.10	0.2	299.1	100	13.13	33.355	5.46	25.116	285.7	0.391
112	12.32	33.429	5.02	0.62	7.	0.06	6.6	265.2	125	11.65	33.524	4.69	25.530	246.2	0.458
131	11.41	33.575	4.56	0.85	10.	0.05	11.1	238.3	150	10.98	33.794	4.13	25.861	214.7	0.516
150	10.98	33.794	4.13	1.15	15.	0.02	15.1	214.7	200	9.75	34.048	2.79	26.271	175.8	0.616
177	10.11	33.929	3.44	1.41	22.	0.02	20.1	190.3	250	9.08	34.184	1.98	26.488	155.2	0.701
210	9.64	34.090	2.55	1.67	30.	0.04	24.7	170.9	300	8.68	34.299	1.06	26.641	140.8	0.777
237	9.18	34.134	2.28	1.87	35.	0.04	26.4	160.5	400	7.37	34.299	0.62	26.836	122.2	0.915
283	8.87	34.292	1.23	2.19	43.	0.06	29.9	144.1	500	6.56	34.352	0.31	26.989	107.7	1.037
333	8.27	34.306	0.89	2.43	50.	0.02	32.2	134.2							
411	7.24	34.299	0.58	2.61	62.	0.02	35.5	120.4							
490	6.64	34.347	0.33		73.	0.03	37.7	109.0							
572	5.99	34.370	0.23		85.	0.01	40.2	99.3							

RV ALEJANDRO DE HUMBOLDT

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120090

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
26 32.5N		117 49.0W		08/19/78		2156 GMT			3950M	320	11KT	1	320 5 8		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	22.77	33.629	5.11	0.33	3.	0.01	0.2	489.0	0	22.77	33.629	5.11	22.983	489.0	0.000
11	22.59	33.616	5.14	0.26	3.	0.00	0.1	485.1	10	22.61	33.618	5.14	23.020	485.5	0.049
35	20.24	33.455	5.55	0.24	3.	0.00	0.0	435.4	20	21.82	33.529	5.27	23.174	470.7	0.097
45	19.51	33.557	5.70	0.21	2.	0.00	0.0	409.9	30	20.81	33.470	5.45	23.404	448.8	0.143
59	18.47	33.595	5.79	0.17	3.	0.00	0.0	382.1	50	19.11	33.577	5.75	23.928	398.8	0.228
74	17.93	33.645	5.73	0.15	3.	0.00	0.0	365.9	75	17.84	33.639	5.73	24.291	364.2	0.324
98	15.43	33.477	5.76	0.18	4.	0.00	0.0	322.8	100	15.25	33.470	5.75	24.759	319.6	0.410
117	13.94	33.465	5.51	0.24	5.	0.07	0.0	293.3	125	13.51	33.522	5.28	25.168	280.7	0.485
136	12.98	33.618	4.92	0.44	7.	0.07	5.2	263.5	150	12.16	33.709	4.51	25.577	241.8	0.552
165	11.37	33.801	4.06	0.86	15.	0.03	13.7	220.9	200	10.43	34.026	2.96	26.138	188.4	0.661
193	10.62	33.985	3.13	1.37	24.	0.02	20.7	194.6	250	9.49	34.230	1.94	26.457	158.2	0.750
230	9.74	34.168	2.35	1.73	34.	0.02	25.5	166.7	300	9.05	34.326	1.15	26.603	144.3	0.829
259	9.40	34.251	1.76	1.99	40.	0.02	27.7	155.2	400	7.86	34.350	0.54	26.806	125.1	0.970
306	9.00	34.333	1.08	2.19	47.	0.10	29.5	143.0	500	6.96	34.378	0.28	26.956	110.9	1.095
367	8.23	34.347	0.68	2.44	57.	0.05	32.2	130.6	600	6.15	34.393	0.20	27.076	99.5	1.208
462	7.25	34.359	0.37	2.62	70.	0.01	35.9	116.1							
550	6.59	34.397	0.21	2.78	79.	0.01	38.8	104.7							
626	5.91	34.390	0.20	2.95	90.	0.03	40.6	96.8							

RV ALEJANDRO DE HUMBOLDT

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123042

LATITUDE 27 14.0N		LONGITUDE 114 59.0W		MO/DAY/YR 08/21/78		MESSENGER 0847 GMT		TIME	BOTTOM 1522M	WIND 300	SPEED 12KT	WEATHER 1	DOMINANT WAVES		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	21.68	33.468	5.27	0.24	2.	0.00	0.0	471.5	0	21.68	33.468	5.27	23.166	471.5	0.000
8	21.63	33.469	5.34	0.27	2.	0.00	0.0	470.1	10	21.28	33.441	5.40	23.254	463.1	0.047
25	18.22	33.303	5.84	0.29	2.	0.00	0.0	397.5	20	19.33	33.333	5.70	23.685	422.0	0.091
33	17.43	33.359	5.87	0.26	2.	0.00	0.0	375.2	30	17.70	33.338	5.86	24.096	382.8	0.131
46	16.15	33.304	5.89	0.25	2.	0.00	0.0	350.8	50	15.55	33.288	5.89	24.554	339.1	0.204
59	14.19	33.272	5.90	0.29	3.	0.00	0.0	312.4	75	12.68	33.308	5.43	25.168	280.7	0.282
80	12.36	33.329	5.26	0.51	7.	0.03	5.8	273.3	100	11.45	33.469	4.97	25.523	246.9	0.348
97	11.60	33.442	5.02	0.85	10.	0.02	8.9	251.4	125	11.21	33.778	3.73	25.808	219.9	0.407
114	11.00	33.619	4.55	0.90	13.	0.00	12.2	228.0	150	11.09	33.989	2.94	25.993	202.3	0.461
131	11.36	33.860	3.28	1.24	18.	0.06	17.0	216.4	200	9.76	34.090	2.89	26.303	172.8	0.556
156	10.91	34.005	2.83	1.57	22.	0.02	21.1	198.0	250	9.43	34.297	1.47	26.519	152.3	0.640
186	9.75	33.969	3.51	1.55	24.	0.04	20.9	181.6	300	8.94	34.357	0.89	26.645	140.3	0.716
212	9.77	34.188	2.23	1.90	32.	0.13	25.5	165.7	400	8.21	34.431	0.32	26.817	124.0	0.854
255	9.37	34.301	1.43	2.21	39.	0.02	28.5	151.1	500	7.11	34.401	0.25	26.953	111.1	0.979
303	8.91	34.359	0.86	2.44	45.	0.04	30.7	139.7							
380	8.42	34.433	0.34	2.55	53.	0.00	32.9	127.0							
460	7.52	34.410	0.27	2.91	64.	0.04	35.3	116.0							
544	6.69	34.392	0.24	3.02	74.	0.00	38.2	106.3							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

123050

LATITUDE 26 58.0N		LONGITUDE 115 31.0W		MO/DAY/YR 08/21/78		MESSENGER TIME 1406 GMT		BOTTOM 3738M	WIND 340	SPEED 12KT	WEATHER 1	DOMINANT WAVES 320 2 6			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	22.24	33.455	5.18	0.46	2.		0.0	487.3	0	22.24	33.455	5.18	23.001	487.3	0.000
11	22.25	33.454	5.20	0.42	2.		0.0	487.6	10	22.25	33.455	5.20	22.998	487.6	0.049
31	19.09	33.318	5.75	0.39	2.		0.0	417.1	20	22.25	33.454	5.22	22.998	487.6	0.098
41	17.69	33.277	5.96	0.32	2.		0.0	387.1	30	19.41	33.328	5.70	23.661	424.3	0.143
56	16.35	33.248	6.08	0.25	2.		0.0	359.2	50	16.86	33.249	6.03	24.225	370.4	0.223
71	14.51	33.401	5.80	0.29	3.		0.0	309.4	75	14.12	33.415	5.68	24.959	300.6	0.307
95	12.55	33.445	5.03	0.54	7.		5.7	268.2	100	12.21	33.464	4.90	25.378	260.7	0.378
115	11.36	33.546	4.56	0.76	11.		10.9	239.5	125	10.98	33.643	4.38	25.744	225.9	0.439
135	10.67	33.732	4.25	0.95	15.		13.5	214.1	150	10.17	33.770	4.16	25.984	203.1	0.494
154	10.06	33.778	4.12	1.33	18.		17.1	200.7	200	9.28	34.055	3.02	26.355	167.9	0.588
183	9.74	34.004	3.22	1.66	26.		21.9	178.8	250	8.52	34.169	2.02	26.564	148.1	0.669
218	8.80	34.085	2.83	1.90	34.		25.4	158.4	300	8.65	34.332	0.93	26.672	137.8	0.743
247	8.51	34.157	2.10	2.21	40.		28.5	148.8	400	7.49	34.388	0.32	26.890	117.1	0.877
295	8.69	34.325	0.99	2.59	47.		31.3	139.0	500	6.75	34.416	0.21	27.015	105.3	0.995
347	8.05	34.364	0.56	2.84	55.		32.9	126.8	600	6.01	34.410	0.29	27.107	96.5	1.104
428	7.23	34.397	0.26	3.03	65.		36.4	113.0							
508	6.70	34.417	0.20	3.12	73.		38.1	104.6							
587	6.11	34.411	0.28	3.18	78.		39.1	97.6							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

123060

LATITUDE 26 38.5N		LONGITUDE 116 09.0W		MO/DAY/YR 08/21/78		MESSENGER TIME 1915 GMT		BOTTOM 3850M	WIND 340	SPEED 16KT	WEATHER 1	DOMINANT WAVES 320 3 6			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
1	23.21	33.674	5.10	0.30	1.	0.00	0.0	497.8	0	23.21	33.674	5.10	22.891	497.8	0.000
11	23.08	33.669	5.14	0.31	1.	0.00	0.0	494.6	10	23.09	33.670	5.14	22.922	494.9	0.050
31	21.31	33.603	5.63	0.32	2.	0.00	0.0	452.1	20	22.28	33.636	5.29	23.125	475.4	0.098
41	15.07	33.581	6.12	0.45	4.	0.00	0.0	307.7	30	21.40	33.606	5.59	23.348	454.2	0.145
56	11.97	33.697	3.86	0.95	12.	0.16	13.3	239.2	50	12.61	33.669	4.88	25.460	252.9	0.216
71	11.33	33.796	3.20	1.21	18.	0.03	17.5	220.6	75	11.16	33.817	3.21	25.847	216.1	0.275
96	10.40	33.913	3.29	1.35	21.	0.01	19.9	196.2	100	10.29	33.925	3.26	26.084	193.6	0.326
116	10.03	33.992	3.12	1.49	24.	0.02	21.3	184.4	125	10.07	34.081	2.62	26.243	178.5	0.374
135	10.14	34.178	2.04	1.80	30.	0.02	25.5	172.4	150	10.00	34.234	1.77	26.375	166.0	0.417
155	9.93	34.242A	1.74	1.95	33.	0.02	26.6	164.3	200	9.63	34.337	1.23	26.517	152.4	0.499
185	9.57	34.278	1.55	2.11	37.	0.00	28.3	155.9	250	9.04	34.374	0.79	26.642	140.6	0.574
219	9.66	34.401	0.85	2.31	41.	0.00	29.6	148.2	300	8.58	34.383	0.61	26.722	133.0	0.645
248	9.07	34.375	0.79	2.37	45.	0.00	30.3	141.0	400	7.83	34.439	0.22	26.880	118.1	0.777
297	8.60	34.380	0.63	2.47	48.	0.03	31.6	133.6	500	6.84	34.440	0.17	27.022	104.6	0.896
351	8.24	34.434	0.34	2.60	54.	0.01	32.9	124.3	600	6.01	34.437	0.21	27.128	94.5	1.003
434	7.51	34.441	0.18	2.72	62.	0.03	35.2	113.5							
517	6.67	34.440	0.17	2.84	72.	0.01	38.1	102.5							
602	6.00	34.437	0.21	2.93	82.	0.00	40.4	94.4							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

127034

LATITUDE 26 55.0N		LONGITUDE 114 06.5W		MO/DAY/YR 08/22/78		MESSENGER TIME 1858 GMT		BOTTOM 83M	WIND 250	SPEED 11KT	WEATHER 0	DOMINANT WAVES 250 2 5			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
0	19.16	33.473	5.75	0.41	4.	0.01	0.0	407.5	0	19.16	33.473	5.75	23.837	407.5	0.000
10	18.65	33.487	5.79	0.41	4.	0.01	0.0	394.3	10	18.65	33.487	5.79	23.976	394.3	0.040
20	15.07	33.307	6.02	0.41	4.	0.01	0.0	327.7	20	15.07	33.307	6.02	24.674	327.7	0.076
30	14.51	33.275	6.08	0.41	4.	0.00	0.0	318.6	30	14.51	33.275	6.08	24.770	318.6	0.109
49	12.95	33.524	4.58	0.75	9.	0.27	3.1	269.9	50	12.94	33.539	4.50	25.294	268.7	0.168
73	12.78	33.725	3.07	1.12	17.	0.37	14.1	251.9	75	12.76	33.741	2.99	25.486	250.4	0.233

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

127040

LATITUDE 26 43.5N		LONGITUDE 114 29.0W		MO/DAY/YR 08/22/78		MESSENGER TIME 1403 GMT		BOTTOM 3000M	WIND 340	SPEED 10KT	WEATHER 1	DOMINANT WAVES 320 3 6			
Z	T	S	02	P04	SI03	N02	N03	DT	Z	T	S	02	SIGT	DT	DD
2	21.48	33.458	5.66	0.28	1.	0.01	0.1	467.0	0	21.48	33.458	5.66	23.213	467.0	0.000
12	21.40	33.481	5.74	0.30	1.	0.00	0.0	463.2	10	21.42	33.477	5.73	23.245	464.0	0.047
32	14.72	33.383	5.71	0.44	4.	0.03	0.1	314.9	20	19.31	33.432	5.73	23.766	414.3	0.091
42	13.23	33.333	5.47	0.51	6.	0.22	2.2	289.2	30	15.47	33.390	5.71	24.650	330.0	0.128
57	12.46	33.565	4.71	0.71	9.	0.09	7.9	257.8	50	12.69	33.439	5.11	25.267	271.3	0.188
72	12.06	33.754	3.76	1.05	14.	0.07	14.2	236.6	75	11.98	33.783	3.64	25.668	233.1	0.252
96	11.60	33.972	2.90	1.38	19.	0.01	19.2	212.3	100	11.60	34.022	2.75	25.925	208.7	0.307
116	11.60	34.206	2.03	1.72	26.	0.01	23.7	195.1	125	11.99	34.404	1.37	26.149	187.4	0.358
136	12.41	34.608	0.69	2.21	35.	0.06	27.2	180.2	150	12.28	34.608	0.58	26.250	177.8	0.404
156	12.22	34.608	0.53	2.32	35.	0.10	27.0	176.7	200	10.73	34.487	0.81	26.444	159.4	0.490
186	10.84	34.457	0.89	2.33	35.	0.03	28.1	163.5	250	10.27	34.507	0.59	26.541	150.2	0.570
220	10.58	34.511	0.62	2.41	38.	0.07	28.3	155.1	300	9.75	34.510	0.37	26.632	141.6	0.646
250	10.27	34.507	0.59	2.48	39.	0.10	28.9	150.2	400	8.36	34.435	0.39	26.796	126.0	0.787
300	9.75	34.510	0.37	2.57	43.	0.03	29.6	141.6	500	7.26	34.419	0.28	26.947	111.7	0.913
354	8.99	34.458	0.43	2.62	49.	0.02	30.7	133.6	600	6.41	34.412	0.22	27.057	101.2	1.028
438	7.89	34.426	0.33	2.80	59.	0.02	34.4	119.9							
522	7.06	34.418	0.26	2.86	69.	0.05	36.5	109.2							
606	6.36	34.411	0.22	2.98	78.	0.03	38.7	100.7							

A) AN ERROR OF -0.01 (0.393 PPT) IN THE CONDUCTIVITY RATIO HAS BEEN ASSUMED FOR THIS VALUE.

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

127050

LATITUDE 26 23.0N		LONGITUDE 115 08.0W		MO/DAY/YR 08/22/78		MESSENGER 0747 GMT		TIME	BOTTOM 3600M	WIND 330	SPEED 15KT	WEATHER 1	DOMINANT WAVES 160 5 6		
Z	T	S	OZ	P04	SI03	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD
1	22.19	33.427	5.49	0.42	3.	0.02	0.0	488.0	0	22.19	33.427	5.49	22.994	488.0	0.000
11	22.15	33.427	5.55	0.45	1.	0.00	0.0	486.9	10	22.15	33.427	5.54	23.004	487.0	0.049
31	17.24	33.306	5.98	0.49	2.	0.00	0.0	374.7	20	20.20	33.352	5.74	23.477	441.9	0.095
41	15.65	33.298	6.04	0.49	3.	0.00	0.0	340.5	30	17.53	33.307	5.96	24.111	381.4	0.137
56	13.81	33.349	5.80	0.51	4.	0.00	0.0	299.2	50	14.47	33.325	5.93	24.816	314.2	0.206
71	12.58	33.398	5.36	0.61	6.	0.73	1.4	272.3	75	12.35	33.440	5.18	25.333	265.0	0.279
96	11.55	33.705	4.11	0.90	13.	0.43	11.1	231.1	100	11.46	33.750	3.92	25.740	226.2	0.341
116	11.23	33.922	3.16	1.41	20.	0.03	18.4	209.6	125	11.22	34.027	2.73	26.000	201.6	0.395
136	11.20	34.145	2.28	1.66	25.	0.03	22.0	192.6	150	10.87	34.223	1.95	26.215	181.1	0.444
156	10.71	34.247	1.85	1.88	29.	0.03	24.9	176.8	200	10.38	34.417	0.98	26.451	158.7	0.531
185	10.53	34.366	1.27	1.99	33.	0.02	26.7	164.9	250	10.16	34.552	0.30	26.595	145.1	0.609
220	10.21	34.477	0.64	2.23	38.	0.03	28.7	151.5	300	9.30	34.486	0.35	26.689	136.2	0.682
249	10.17	34.552	0.30	2.33	42.		28.2	145.3	400	7.97	34.436	0.24	26.857	120.2	0.817
299	9.31	34.487	0.35	2.40	47.	0.03	30.1	136.4	500	7.04	34.444	0.17	26.996	107.1	0.938
353	8.58	34.458	0.28	2.48	53.	0.04	31.7	127.5	600	6.32	34.452	0.13	27.100	97.2	1.048
436	7.55	34.428	0.22	2.53	63.	0.03	35.1	115.0							
520	6.91	34.450	0.16	2.56	70.	0.02	37.0	104.8							
605	6.28	34.452	0.13	2.67	78.	0.03	39.8	96.7							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

127060

LATITUDE 26 00.6N		LONGITUDE 115 49.0W		MO/DAY/YR 08/22/78		MESSENGER 0132 GMT		TIME	BOTTOM 3800M	WIND 330	SPEED 15KT	WEATHER 1	DOMINANT WAVES 330 5 5		
Z	T	S	OZ	P04	SI03	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD
0	22.94	33.536	5.44	0.41	1.	0.00	0.1	500.3	0	22.94	33.536	5.44	22.865	500.3	0.000
10	20.86	33.406	5.54	0.47	1.	0.00	0.1	454.7	10	20.86	33.406	5.54	23.342	454.7	0.048
30	17.48	33.156	5.87	0.44	3.	0.00	0.1	391.1	20	18.99	33.260	5.71	23.716	419.0	0.092
40	16.45	33.148	5.96	0.41	3.	0.00	0.1	368.7	30	17.48	33.156	5.87	24.009	391.1	0.132
55	14.87	33.209	5.95	0.43	3.	0.01	0.1	330.7	50	15.38	33.183	5.95	24.510	343.4	0.206
70	13.55	33.290	5.65	0.51	4.	0.32	1.2	298.5	75	13.19	33.340	5.48	25.091	288.0	0.285
95	11.82	33.495	4.79	0.91	11.	0.02	9.5	251.4	100	11.35	33.469	4.74	25.543	245.0	0.352
115	10.23	33.455	4.47	1.09	16.	0.01	15.5	227.3	125	10.32	33.681	3.82	25.888	212.2	0.410
135	10.42	33.889	3.17	1.36	22.	0.01	20.5	198.4	150	10.24	34.000	2.92	26.152	187.1	0.461
155	10.16	34.016	2.89	1.47	25.	0.03	22.0	184.7	200	9.97	34.229	1.82	26.376	165.9	0.551
185	10.10	34.143	2.25	1.72	29.	0.01	25.2	174.3	250	9.52	34.369	0.90	26.560	148.4	0.632
220	9.76	34.327	1.30	2.05	37.	0.02	28.3	155.3	300	9.24	34.454	0.35	26.672	137.7	0.706
250	9.52	34.369	0.90	2.19	41.	0.03	29.7	148.4	400	7.74	34.376	0.37	26.844	121.4	0.842
300	9.24	34.454	0.35	2.35	45.	0.01	30.5	137.7	500	6.71	34.378	0.25	26.990	107.6	0.964
354	8.42	34.418	0.36	2.38	52.	0.00	32.4	128.1	600	6.07	34.430	0.14	27.115	95.7	1.073
439	7.23	34.353	0.38	2.56	64.	0.00	36.2	116.3							
523	6.56	34.394	0.20	2.71	75.	0.02	38.5	104.5							
607	6.03	34.433	0.14	2.78	84.	0.02	40.5	95.0							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

130030

LATITUDE 26 29.0N		LONGITUDE 113 29.0W		MO/DAY/YR 08/23/78		MESSENGER 0307 GMT		TIME	BOTTOM 75M	WIND 280	SPEED 18KT	WEATHER 0	DOMINANT WAVES 280 4 4		
Z	T	S	OZ	P04	SI03	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD
0	21.37	33.608	5.99	0.53	2.	0.00	0.1	453.3	0	21.37	33.608	5.99	23.357	453.3	0.000
10	21.25	33.611	6.01	0.54	2.	0.00	0.0	450.0	10	21.25	33.611	6.01	23.392	450.0	0.045
20	17.86	33.552	6.14	0.60	4.	0.00	0.0	371.0	20	17.86	33.552	6.14	24.220	371.0	0.086
29	14.68	33.480	6.06	0.65	5.	0.00	0.0	307.0	30	14.60	33.519	5.95	24.938	302.6	0.120
49	13.08	33.722	3.42	1.16	13.	0.63	11.6	257.8	50	13.07	33.725	3.39	25.412	257.5	0.176
73	12.83	33.773	2.74	1.33	18.	0.67	13.9	249.4	75	12.82	33.778	2.70	25.503	248.8	0.240

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

130040

LATITUDE 26 09.0N		LONGITUDE 114 07.0W		MO/DAY/YR 08/23/78		MESSENGER 0938 GMT		TIME	BOTTOM 2359M	WIND 310	SPEED 17KT	WEATHER 0	DOMINANT WAVES		
Z	T	S	OZ	P04	SI03	N02	N03	DT	Z	T	S	OZ	SIGT	DT	DD
1	20.74	33.475	5.78	0.51	1.	0.00	0.2	446.7	0	20.74	33.475	5.78	23.426	446.7	0.000
11	20.02	33.444	6.03	0.50	1.	0.00	0.0	430.8	10	20.13	33.450	6.01	23.568	433.2	0.044
31	15.73	33.277	5.96	0.57	3.	0.00	0.1	343.7	20	18.18	33.350	6.00	23.988	393.1	0.085
41	14.48	33.266	6.00	0.55	4.	0.00	0.1	318.6	30	15.96	33.282	5.96	24.457	348.4	0.123
56	13.20	33.284	5.72	0.61	5.	0.09	1.1	292.2	50	13.64	33.280	5.85	24.955	301.0	0.188
70	12.51	33.606	4.21	0.97	11.	0.11	10.0	255.7	75	12.36	33.691	3.77	25.526	246.7	0.257
95	12.05	33.939	2.35	1.50	21.	0.00	19.2	222.8	100	12.04	33.989	2.01	25.816	219.0	0.315
115	12.02	34.098	1.38	1.91	28.	0.00	22.8	210.6	125	11.89	34.126	1.66	25.951	206.2	0.369
135	11.68	34.140	2.05	1.78	24.	0.00	22.3	201.4	150	11.16	34.173	2.02	26.123	189.9	0.419
155	11.00	34.189	2.01	1.78	28.	0.11	23.0	185.9	200	10.93	34.437	0.95	26.369	166.5	0.511
185	11.02	34.385	1.19	2.05	33.	0.25	26.2	171.8	250	10.03	34.453	0.68	26.540	150.3	0.592
219	10.70	34.466	0.77	2.19	35.	0.00	28.3	160.4	300	9.71	34.503	0.35	26.632	141.5	0.668
249	10.04	34.452	0.69	2.21	39.	0.08	29.0	150.5	400	8.41	34.448	0.27	26.799	125.7	0.808
299	9.72	34.502	0.35	2.30	44.	0.00	29.4	141.7	500	7.08	34.414	0.21	26.967	109.8	0.934
354	9.16	34.494	0.26	2.29	47.	0.00	30.1	133.5	600	6.18	34.422	0.17	27.095	97.7	1.046
438	7.77	34.413	0.27	2.43	57.	0.00	35.3	119.2							
523	6.87	34.419	0.19	2.47	69.	0.01	37.1	106.6							
608	6.12	34.422	0.17	2.53	77.	0.00	39.3	97.0							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

130050

LATITUDE 25 48.2N		LONGITUDE 114 46.3W		MO/DAY/YR 08/23/78		MESSENGER TIME 1506 GMT		BOTTOM 3650M		WIND 330		SPEED 12KT		WEATHER 0		DOMINANT WAVES 330 3 5	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	20.94	33.383	5.97	0.52	1.	0.01	0.1	458.4	0	20.94	33.383	5.97	23.303	458.4	0.000		
11	20.75	33.386	6.03	0.56	1.	0.00	0.1	453.4	10	20.77	33.386	6.03	23.351	453.9	0.046		
31	17.54	33.267	5.92	0.60	3.	0.00	0.1	384.4	20	19.50	33.332	5.97	23.644	425.9	0.090		
41	16.20	33.229	6.02	0.57	3.	0.00	0.1	357.3	30	17.74	33.273	5.92	24.036	388.5	0.130		
56	14.88	33.250	6.03	0.54	4.	0.00	0.1	327.9	50	15.35	33.230	6.03	24.554	339.2	0.203		
71	13.69	33.390	5.77	0.53	4.	0.01	0.2	293.9	75	13.41	33.411	5.64	25.103	286.9	0.282		
95	12.31	33.557	4.68	0.82	9.	0.13	8.0	255.6	100	12.16	33.643	4.33	25.525	246.7	0.349		
115	11.85	33.891	3.31	1.29	16.	0.02	16.9	222.7	125	11.60	33.962	2.88	25.879	213.1	0.408		
135	11.41	34.022	2.51	1.54	22.	0.02	21.2	205.3	150	11.42	34.207	1.79	26.103	191.8	0.459		
155	11.42	34.265	1.57	1.80	28.	0.06	24.6	187.6	200	10.85	34.452	0.86	26.396	164.0	0.550		
185	10.89	34.376	1.18	1.97	32.	0.04	27.1	170.3	250	10.36	34.495	0.61	26.515	152.7	0.632		
219	10.81	34.524	0.54	2.18	37.	0.02	28.7	158.0	300	9.66	34.516	0.32	26.652	139.7	0.708		
249	10.38	34.494	0.61	2.19	39.	0.02	28.2	153.0	400	8.56	34.497	0.18	26.815	124.2	0.846		
298	9.68	34.517	0.33	2.32	45.	0.04	29.7	140.0	500	7.27	34.444	0.18	26.964	110.1	0.971		
353	9.08	34.507	0.24	2.43	49.	0.02	31.3	131.4	600	6.23	34.428	0.17	27.092	97.9	1.084		
437	8.12	34.485	0.15	2.49	57.	0.02	33.9	118.8									
522	6.99	34.432	0.19	2.56	67.	0.04	37.7	107.2									
607	6.18	34.429	0.17	2.74	79.	0.00	40.9	97.2									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

130060

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
25 29.0N		115 24.0W		08/23/78		2022 2113 GMT		3832M		340		15KT		0		340 5 4	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	23.08	33.551	5.08	0.42	3.	0.00	0.2	503.1	0	23.08	33.551	5.08	22.836	503.1	0.000		
9	23.04	33.548	5.14	0.38	3.	0.00	0.2	502.2	10	22.96	33.548	5.16	22.869	499.9	0.050		
27	21.20	33.561	5.45	0.39	3.	0.00	0.1	452.3	20	22.00	33.551	5.34	23.141	474.0	0.099		
35	20.69	33.572	5.47	0.38	3.	0.00	0.1	438.4	30	21.00	33.565	5.46	23.423	447.0	0.145		
48	19.63	33.616	5.66	0.37	3.	0.00	0.1	408.6	50	19.47	33.615	5.68	23.866	404.8	0.230		
60	18.62	33.606	5.74	0.37	3.	0.00	0.1	384.9	75	17.11	33.534	5.76	24.386	355.2	0.326		
80	16.45	33.484	5.77	0.61	3.	0.00	0.5	344.2	100	13.03	33.229	5.66	25.037	293.2	0.408		
96	13.38	33.224	5.74	0.57	5.	0.30	0.4	300.1	125	11.75	33.356	5.11	25.381	260.4	0.477		
111	12.46	33.288	5.40	0.66	6.	0.07	3.9	278.1	150	10.69	33.627	4.22	25.783	222.2	0.539		
126	11.70	33.361	5.09	0.79	9.	0.03	7.4	259.1	200	9.68	34.040	2.96	26.276	175.3	0.640		
148	10.73	33.597	4.29	1.04	14.	0.02	14.2	225.1	250	9.22	34.242	1.82	26.510	153.1	0.724		
173	10.35	33.928	3.50	1.28	20.	0.04	18.7	194.3	300	8.81	34.345	0.92	26.656	139.3	0.800		
194	9.79	34.012	3.08	1.51	25.	0.02	22.2	179.1	400	7.68	34.375	0.62	26.852	120.7	0.936		
229	9.35	34.168	2.35	1.75	33.	0.02	26.3	160.6	500	6.73	34.387	0.25	26.994	107.2	1.057		
267	9.13	34.290	1.42	2.11	41.	0.03	29.3	148.2									
327	8.50	34.366	0.70	2.39	49.	0.10	32.0	133.1									
391	7.78	34.373	0.71	2.57	58.	0.20	33.9	122.3									
449A	7.20	34.384	0.27	2.77	66.	0.00	36.8	113.6									
461	7.12	34.385	0.30	2.72	67.	0.04	36.7	112.4									
494A	6.78	34.387	0.24	2.83	71.	0.02	38.3	107.8									
541A	6.50	34.383	0.30	2.90	73.	0.08	38.4	104.6									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

133025

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
26 04.5N		112 48.0W		08/25/78		0119 GMT		82M		270		16KT		1		280 3 6	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	24.84	33.744	5.59	0.38	0.	0.00	0.0	538.6	0	24.84	33.744	5.59	22.464	538.6	0.000		
9	24.41	33.705	5.85	0.38	0.	0.00	0.0	529.1	10	23.69	33.649	5.92	22.735	512.8	0.053		
19	16.88	33.419	6.35	0.50	4.	0.00	0.0	358.4	20	16.58	33.426	6.33	24.426	351.3	0.096		
28	15.38	33.486	5.96	0.56	5.	0.00	0.0	321.1	30	15.08	33.489	5.86	24.810	314.7	0.129		
47	13.30	33.543	4.79	0.77	9.	0.47	4.5	275.1	50	13.29	33.616	4.53	25.283	269.7	0.188		
71	13.25	33.933B	2.55	1.25	19.	0.01	18.2	245.6	75	13.24	33.956	2.18	25.556	243.7	0.252		

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

133030

LATITUDE 25 54.5N		LONGITUDE 113 07.5W		MO/DAY/YR 08/24/78		MESSENGER TIME 2229 GMT		BOTTOM 194M		WIND 290		SPEED 14KT		WEATHER 1		DOMINANT WAVES 320 3 6	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	23.22	33.513	5.63	0.42	0.	0.00	0.2	509.7	0	23.22	33.513	5.63	22.767	509.7	0.000		
10	22.34	33.604	5.72	0.47	2.	0.00	0.1	479.2	10	22.34	33.604	5.72	23.086	479.2	0.049		
29	15.21	33.409	5.94	0.53	5.	0.01	0.1	323.1	20	18.60	33.447	5.84	23.957	396.1	0.093		
39	14.23	33.468	5.56	0.62	6.	0.08	1.7	298.8	30	15.07	33.414	5.92	24.757	319.8	0.129		
54	13.08	33.647	4.39	0.90	14.	0.17	9.5	263.3	50	13.34	33.597	4.73	25.260	272.0	0.189		
69	12.54	33.779	3.40	1.23	12.	0.06	16.3	243.5	75	12.51	33.907	2.95	25.663	233.6	0.252		
83	12.47	34.061	2.40	1.56	24.	0.03	22.4	221.5	100	12.31	34.164	1.89	25.901	211.0	0.308		
103	12.28	34.169	1.84	1.80	27.	0.01	25.1	210.1	125	12.24	34.289	1.37	26.012	200.4	0.360		
128	12.23	34.303	1.32	2.03	29.	0.01	27.8	199.3	150	12.50	34.468	0.94	26.099	192.2	0.410		
154	12.58	34.503	0.88	2.25	31.	0.02	29.6	191.1									

A) CAST II.

B) AN ERROR OF -0.2 (7.693 PPT) IN THE CONDUCTIVITY RATIO HAS BEEN ASSUMED FOR THIS VALUE.

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

133040

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER		TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES		
25 34.5N		113 45.5W		08/24/78		1439 GMT			2800M	340	17KT	0	320 4 4		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	23.20	33.526	5.19	0.60	3.	0.00	0.0	508.2	0	23.20	33.526	5.19	22.782	508.2	0.000
9	23.19	33.527	5.27	0.59	3.	0.00	0.0	507.8	10	23.19	33.527	5.27	22.786	507.8	0.051
32	19.10	33.323	5.74	0.59	3.	0.00	0.0	417.0	20	22.20	33.463	5.38	23.017	485.8	0.101
41	17.81	33.283	5.89	0.57	3.	0.00	0.0	389.4	30	19.69	33.342	5.67	23.601	430.0	0.146
54	15.05	33.257	6.08	0.52	3.	0.00	0.0	330.9	50	15.88	33.249	6.05	24.450	349.0	0.225
68	13.67	33.438	5.64	0.56	4.	0.00	0.0	290.0	75	13.07	33.479	5.28	25.222	275.5	0.303
90	12.15	33.571	4.42	0.99	10.	0.10	12.0	251.7	100	12.00	33.723	3.90	25.618	237.9	0.368
107	11.90	33.817	3.54	1.47	16.	0.35	17.8	229.1	125	11.92	34.110	2.53	25.934	207.9	0.424
125	11.92	34.110	2.53	1.84	21.	0.04	24.2	207.9	150	10.86	34.155	2.23	26.164	186.0	0.474
151	10.81	34.154	2.23	2.02	26.	0.04	27.7	185.3	200	10.61	34.393	1.17	26.392	164.3	0.564
177	10.75	34.299	1.63	2.27	31.	0.03	30.4	173.6	250	10.10	34.466	0.67	26.538	150.5	0.645
212	10.52	34.429	0.97	2.50	36.	0.04	32.5	160.1	300	9.32	34.441	0.55	26.650	139.9	0.720
238	10.33	34.478	0.66	2.62	38.	0.03	33.4	153.4	400	8.59	34.496	0.20	26.809	124.8	0.859
282	9.45	34.422	0.68	2.70	42.	0.03	35.2	143.4	500	7.41	34.478	0.16	26.971	109.4	0.984
338	9.16	34.495	0.24	2.81	48.	0.04	36.1	133.5	600	6.51	34.455	0.14	27.077	99.3	1.097
427	8.29	34.496	0.18	2.95	56.	0.06	38.6	120.4							
510	7.30	34.475	0.16	3.03	66.	0.18	42.0	108.1							
581	6.67	34.454	0.14	3.10	73.	0.01	45.1	101.4							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

133050

LATITUDE 25 14.5N		LONGITUDE 114 24.0W		MO/DAY/YR 08/24/78		MESSENGFR 0902 GMT		TIME	BOTTOM 3546M	WIND 330	SPEED 18KT	WEATHER 0	DOMINANT WAVES 3 6		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
1	24.66	33.695	4.88	0.36	2.	0.00	0.0	537.0	0	24.66	33.695	4.88	22.481	537.0	0.000
10	24.62	33.689	4.94	0.39	2.	0.00	0.0	536.3	10	24.62	33.689	4.94	22.489	536.3	0.054
34	16.22	33.291	6.18	0.44	3.	0.00	0.0	353.2	20	21.38	33.432	5.50	23.220	466.4	0.104
44	15.00	33.345	6.04	0.45	3.	0.00	0.1	323.5	30	17.77	33.299	6.00	24.048	387.4	0.147
58	12.72	33.480	4.94	0.73	6.	0.59	4.3	268.8	50	13.97	33.395	5.61	24.976	299.0	0.216
72	12.04	33.608	4.14	1.00	10.	0.06	12.7	247.0	75	11.89	33.624	4.15	25.564	243.0	0.284
96	10.89	33.722	4.25	1.10	13.	0.02	14.7	218.5	100	10.70	33.745	4.21	25.872	213.7	0.341
115	10.22	33.855	3.85	1.30	18.	0.01	18.9	197.6	125	10.28	33.966	3.27	26.118	190.4	0.392
134	10.40	34.064	2.72	1.63	25.	0.06	23.6	185.1	150	10.25	34.159	2.27	26.272	175.7	0.439
162	10.11	34.212A	2.04	1.96	31.	0.02	27.7	169.4	200	10.06	34.405	0.97	26.497	154.3	0.523
191	10.18	34.395	1.09	2.27	36.	0.03	29.8	157.0	250	9.32	34.426	0.62	26.638	141.0	0.599
229	9.55	34.407	0.80	2.51	41.	0.01	32.3	146.0	300	8.71	34.422	0.44	26.732	132.1	0.670
258	9.24	34.433	0.56	2.60	44.	0.02	32.3	139.3	400	7.93	34.484	0.14	26.900	116.1	0.801
306	8.64	34.420	0.43	2.74	50.	0.02	34.3	131.2	500	6.88	34.463	0.13	27.033	103.6	0.918
368	8.27	34.487	0.15	2.89	56.	0.02	35.4	120.8	600	6.07	34.465	0.14	27.144	93.0	1.024
464	7.20	34.461	0.13	3.04	68.	0.06	39.0	107.8							
541	6.55	34.466	0.13	3.14	76.	0.00	41.7	99.0							
623	5.88	34.464	0.14	3.25	83.	0.00	44.8	90.9							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

133060

LATITUDE 24 54.5N		LONGITUDE 115 02.0W		MO/DAY/YR 08/24/78		MESSENGER 0240 GMT		TIME	BOTTOM 3950M	WIND 330	SPEED 9KT	WEATHER 0	DOMINANT WAVES 330 3 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD
0	23.90	33.559	5.04	0.46	2.	0.00	0.1	525.2	0	23.90	33.559	5.04	22.604	525.2	0.000
9	23.84	33.550	5.10	0.49	2.	0.00	0.1	524.2	10	23.71	33.548	5.12	22.651	520.8	0.052
31	19.80	33.432	5.59	0.46	2.	0.00	0.1	426.2	20	22.14	33.504	5.30	23.067	481.0	0.102
40	18.28	33.313	5.84	0.46	2.	0.00	0.1	398.2	30	20.04	33.439	5.56	23.584	431.6	0.148
53	16.35	33.256	6.13	0.51	3.	0.00	0.1	358.6	50	16.76	33.261	6.08	24.258	367.3	0.228
66	14.87	33.261	6.08	0.54	3.	0.01	0.1	326.9	75	13.98	33.277	5.86	24.883	307.8	0.313
87	12.98	33.344	5.36	0.70	6.	0.40	2.9	283.7	100	12.19	33.517	4.56	25.423	256.4	0.384
104	11.99	33.576	4.32	0.97	11.	0.07	11.3	248.4	125	11.12	33.814	3.74	25.852	215.6	0.444
120	11.23	33.766	3.90	1.16	15.	0.02	15.2	221.1	150	10.47	33.949	3.34	26.071	194.8	0.496
145	10.71	33.942	3.28	1.40	20.	0.02	19.4	199.3	200	9.28	34.090	2.72	26.382	165.3	0.588
169	9.60	33.962	3.59	1.54	25.	0.01	21.0	179.8	250	9.37	34.354	1.08	26.573	147.2	0.668
201	9.27	34.093	2.68	1.80	33.	0.00	25.3	164.9	300	8.76	34.366	0.74	26.680	137.0	0.742
225	9.52	34.285	1.56	2.08	38.	0.01	28.0	154.6	400	7.76	34.395	0.32	26.856	120.4	0.877
265	9.18	34.360	0.97	2.30	43.	0.00	30.0	143.8	500	6.80	34.422	0.18	27.012	105.5	0.997
316	8.56	34.368	0.68	2.45	49.	0.01	31.6	133.8							
399	7.77	34.395	0.32	2.61	60.	0.00	34.7	120.5							
477	6.99	34.413	0.21	2.74	69.	0.00	37.2	108.6							
547	6.49	34.446	0.12	2.86	77.	0.01	38.9	99.8							

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

137023

LATITUDE 25 34.0N			LONGITUDE 112 19.0W			MO/DAY/YR 08/25/78		MESSENGER 0751 GMT		TIME	BOTTOM 75M	WIND 280	SPEED 13KT	WEATHER 1	DOMINANT WAVES 280 2 5		
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	24.95	33.740	5.38	0.38	1.	0.00	0.1	542.1	0	24.95	33.740	5.38	22.428	542.1	0.000		
9	24.38	33.718	5.46	0.42	1.	0.02	0.1	527.3	10	23.75	33.662	5.53	22.725	513.7	0.053		
19	17.97	33.362	6.10	0.49	2.	0.00	0.1	387.4	20	17.89	33.370	6.10	24.073	385.0	0.098		
29	17.17	33.441	6.06	0.54	2.	0.01	0.2	363.3	30	17.09	33.455	6.03	24.331	360.4	0.135		
49	15.67	33.738	5.12	0.69	4.	0.27	0.6	308.8	50	15.61	33.750	5.06	24.895	306.7	0.202		
75	14.70	33.933	3.20	1.07	5.	0.06	10.6	274.3	75	14.70	33.933	3.20	25.235	274.3	0.275		

A) AN ERROR OF 0.01 (-0.393 PPT) IN THE CONDUCTIVITY RATIO HAS BEEN ASSUMED FOR THIS VALUE.

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

137030

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
25 20.0N		112 46.0W		08/25/78		1150 GMT		338M		290		18KT		1			
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
1	22.99	33.522	5.32	0.44	4.		0.5	502.7	0	22.99	33.522	5.32	22.840	502.7	0.000		
10	21.65	33.489	5.56	0.45	4.		0.5	469.2	10	21.65	33.489	5.56	23.190	469.2	0.049		
30	16.71	33.389	6.07	0.47	5.		0.5	356.8	20	19.26	33.410	5.93	23.762	414.6	0.093		
44	14.09	33.495	5.36	0.61	7.		3.7	294.1	30	16.71	33.389	6.07	24.368	356.8	0.132		
58	13.26	33.587	4.63	0.86	10.		11.4	271.1	50	13.60	33.535	5.05	25.159	281.5	0.196		
73	12.85	33.749	3.75	1.18	14.		19.4	251.5	75	12.82	33.778	3.62	25.503	248.8	0.262		
87	12.65	33.939	2.88	1.59	18.		25.5	233.8	100	12.38	34.049	2.43	25.798	220.8	0.322		
106	12.27	34.090	2.28	1.87	22.		31.1	215.7	125	12.22	34.249	1.73	25.983	203.2	0.375		
130	12.21	34.262	1.58	2.14	26.		34.8	200.5	150	12.48	34.488	0.90	26.119	190.2	0.425		
159	12.55	34.563	0.64	2.54	32.		38.4	186.1	200	11.49	34.527	0.44	26.337	169.6	0.517		
194	11.57	34.522	0.48	2.70	36.		38.9	171.3	250	11.10	34.574	0.20	26.444	159.4	0.602		
228	11.26	34.560	0.26	2.80	41.		36.2	163.1	300	10.76	34.587	0.12	26.515	152.7	0.683		
263	11.02	34.578	0.18	2.91	41.		36.7	157.6									
302	10.75	34.586	0.12	2.93	43.		34.9	152.4									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

137040

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
25 00.0N		113 23.5W		08/25/78		1756 GMT		3200M				KT					
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
705A	5.73																
708	5.710																
711	5.67																
714	5.641																
717	5.61																
720	5.586																
723	5.56																
726	5.54																
729	5.519																
732	5.50																
735	5.48																
738	5.466																
741	5.45																
744	5.434																

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

137040

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
25 00.0N		113 23.5W		08/25/78		1904 GMT		3200M		330		16KT		0		300 5 5	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	25.54	33.700	4.83	0.28	2.		0.0	562.1	0	25.54	33.700	4.83	22.218	562.1	0.000		
10	25.52	33.699	4.86	0.28	2.		0.1	561.6	10	25.52	33.699	4.86	22.224	561.6	0.056		
35	16.95	33.478	6.38	0.32	3.		0.0	346.8	20	22.74	33.581	5.41	22.954	491.8	0.109		
44	15.01	33.475	6.26	0.35	3.		0.0	314.2	30	18.58	33.498	6.12	24.001	391.8	0.153		
59	13.29	33.534	5.15	0.61	3.		3.4	275.6	50	14.20	33.489	5.89	24.999	296.8	0.222		
74	12.52	33.681	3.92	0.89	11.		11.4	250.4	75	12.49	33.690	3.87	25.499	249.2	0.291		
98	12.02	33.867	3.11	1.21	17.		15.2	227.6	100	11.96	33.881	3.07	25.748	225.5	0.351		
118	11.43	34.010	2.71	1.50	21.		20.4	206.6	125	11.26	34.074	2.48	26.029	198.8	0.405		
137	10.99	34.175	2.10	1.76	26.		22.8	186.8	150	10.74	34.227	1.91	26.240	178.8	0.452		
166	10.47	34.261	1.76	2.00	31.		26.3	171.7	200	9.99	34.346	1.24	26.463	157.6	0.538		
195	10.05	34.339	1.28	2.16	35.		28.3	159.0	250	9.62	34.417	0.79	26.581	146.4	0.617		
234	9.70	34.386	1.01	2.32	38.		29.4	150.0	300	9.35	34.493	0.29	26.685	136.5	0.690		
263	9.57	34.443	0.60	2.48	42.		29.3	143.7	400	8.29	34.487	0.16	26.848	121.1	0.826		
311	9.27	34.503	0.24	2.68	46.		31.0	134.6	500	7.03	34.446	0.16	26.999	106.7	0.947		
374	8.68	34.513	0.15	2.79	51.		31.8	124.9	600	6.30	34.468	0.14	27.115	95.7	1.057		
462	7.37	34.432	0.19	2.88	61.		36.1	112.3									
552	6.67	34.473	0.12	3.01	70.		38.6	100.0									
639	6.00	34.464	0.15	3.10	79.		41.4	92.4									

RV ALEJANDRO DE HUMBOLDT

CALCOFI CRUISE 7808

137050

LATITUDE		LONGITUDE		MO/DAY/YR		MESSENGER TIME		BOTTOM		WIND		SPEED		WEATHER		DOMINANT WAVES	
24 40.0N		114 02.0W		08/26/78		0022 GMT		3850M		320		15KT		0		320 6 6	
Z	T	S	O2	P04	SI03	N02	N03	DT	Z	T	S	O2	SIGT	DT	DD		
0	24.00	33.561	5.08	0.37	2.	0.00	0.1	527.9	0	24.00	33.561	5.08	22.576	527.9	0.000		
10	24.00	33.560	5.15	0.39	2.	0.00	0.1	528.0	10	24.00	33.560	5.15	22.575	528.0	0.053		
34	19.83	33.495	5.59	0.41	2.	0.00	0.0	422.3	20	22.54	33.539	5.30	22.979	489.4	0.104		
43	18.60	33.416	5.78	0.38	2.	0.00	0.0	398.2	30	20.68	33.506	5.50	23.464	443.0	0.150		
58	17.43	33.399	5.87	0.38	2.	0.00	0.0	372.3	50	18.08	33.409	5.82	24.056	386.6	0.234		
72	14.92	33.299	5.87	0.42	2.	0.00	0.0	325.2	75	14.49	33.299	5.80	24.792	316.4	0.322		
96	12.39	33.444	5.07	0.65	7.	0.00	5.8	265.4	100	12.23	33.510	4.90	25.411	257.5	0.394		
114	11.76	33.720	4.36	1.01	12.	0.03	11.8	233.7	125	11.03	33.759	4.23	25.826	218.1	0.454		
133	10.54	33.780	4.12	1.19	17.	0.02	15.4	208.4	150	10.56	34.014	3.11	26.106	191.5	0.506		
161	10.58	34.132	2.41	1.66	26.	0.03	22.9	183.1	200	10.22	34.312	1.55	26.398	163.7	0.597		
189	10.20	34.246	1.89	1.93	32.	0.00	26.5	168.4	250	9.86	34.469	0.58	26.582	146.3	0.677		
225	10.24	34.441	0.85	2.25	39.	0.01	28.5	154.6	300	9.13	34.460	0.39	26.696	135.5	0.750		
253	9.80	34.469	0.56	2.47	41.	0.06	29.8	145.4	400	7.98	34.474	0.18	26.884	117.6	0.883		
299	9.14	34.460	0.39	2.59	47.	0.00	30.7	135.7	500	7.04	34.467	0.13	27.015	105.3	1.002		
358	8.39	34.463	0.26		55.	0.81	28.5	124.3	600	6.15	34.455	0.18	27.124	94.9	1.110		
452	7.52	34.481	0.11		65.	0.04	35.9	110.7									
538	6.67	34.455	0.15		75.	0.00	38.8	101.4									
613	6.05	34.456	0.19		81.	0.00	41.8	93.6									

				Z	T	S	O2	P04	S103	N02	N03	DT
60.050	08/25/78	1304GMT	37 57.5N 122 53.1W	10	10.84	33.600	4.90	1.77	19.	0.51	13.9	226.7
	BOTTOM	47M	WIND 190 8KT WEATHER 4									
	DOMINANT WAVES	000 0 0										
60.052	08/25/78	1433GMT	37 52.5N 123 03.5W	10	12.45	33.588	7.64	0.38	1.	0.01	0.0	255.9
	BOTTOM	88M	WIND 180 10KT WEATHER 2									
	DOMINANT WAVES	230 2 8										
60.065	08/26/78	0056GMT	37 28.0N 123 58.5W	10	15.12	33.074	6.21	0.44	2.	0.14	0.9	345.8
	BOTTOM	3541M	WIND 220 6KT WEATHER 4									
	DOMINANT WAVES	260 4 6										
63.050	08/25/78	0840GMT	37 23.3N 122 27.8W	10	12.87	33.489	7.24	0.81	4.	0.12	1.4	271.0
	BOTTOM	28M	WIND 190 2KT WEATHER									
	DOMINANT WAVES											
63.065	08/24/78	1924GMT	36 53.0N 123 33.0W	10	14.50	33.108	6.50	0.49	2.		0.3	330.6
	BOTTOM	3541M	WIND 160 8KT WEATHER 1									
	DOMINANT WAVES	260 4 4										
66.049	08/23/78	1551GMT	36 53.0N 122 01.7W	10	12.53	33.333		0.95	7.		5.5	276.1
	BOTTOM	50M	WIND 090 4KT WEATHER 1									
	DOMINANT WAVES	290 1 3										
67.065	08/24/78	0419GMT	36 20.3N 123 06.5W	10	15.87	33.193	6.17	0.44	1.	0.03	0.1	352.8
	BOTTOM	3069M	WIND 280 5KT WEATHER									
	DOMINANT WAVES											
70.051	08/21/78	2220GMT	36 11.3N 121 43.9W	10	13.34	33.231	6.80	0.59	4.	0.16	2.7	298.8
	BOTTOM	101M	WIND 240 5KT WEATHER 1									
	DOMINANT WAVES	310 3 3										
70.065	08/21/78	1017GMT	35 43.0N 122 45.0W	10	15.70	33.100	6.05	0.26	1.	0.03	0.1	356.3
	BOTTOM	2130M	WIND 040 10KT WEATHER									
	DOMINANT WAVES											
73.050	08/19/78	1024GMT	35 37.0N 121 17.0W	10	12.72	33.560	5.87	0.79	7.	0.21	5.7	262.9
	BOTTOM	95M	WIND 100 2KT WEATHER									
	DOMINANT WAVES											
73.065	08/19/78	2135GMT	35 08.0N 122 19.0W	10	16.00	32.836	5.88	0.34	2.		0.2	381.7
	BOTTOM	3919M	WIND 300 15KT WEATHER 2									
	DOMINANT WAVES	310 8 6										
77.065	08/18/78	1505GMT	34 34.0N 121 55.5W	10	15.10	32.929	6.04	0.21	2.	0.00	0.1	356.0
	BOTTOM	3636M	WIND 320 16KT WEATHER 2									
	DOMINANT WAVES	320 6 5										
80.051	08/16/78	0914GMT	34 26.0N 120 32.5W	10	13.58	33.509	5.57	0.90	6.	0.21	5.1	283.0
	BOTTOM	149M	WIND 320 16KT WEATHER									
	DOMINANT WAVES											
83.040	08/15/78	1210GMT	34 13.0N 119 24.0W	10	13.14	33.465	6.07	0.99	7.	0.29	5.5	277.8
	BOTTOM	32M	WIND 340 6KT WEATHER									
	DOMINANT WAVES											
87.032	08/11/78	1608GMT	33 53.5N 118 26.5W	10	15.58	33.448	6.79	0.44	2.		0.0	328.1
	BOTTOM	21M	WIND 320 4KT WEATHER 2									
	DOMINANT WAVES	290 2 4										
87.032	08/11/78	1729GMT	33 54.5N 118 28.0W	10	18.21	33.465	6.35	0.20	2.		0.0	385.5
	BOTTOM	39M	WIND 270 4KT WEATHER 2									
	DOMINANT WAVES	49 2										
87.033	08/11/78	1833GMT	33 53.9N 118 29.0W	10	15.69	33.408	6.48	0.40	2.		0.0	333.3
	BOTTOM	56M	WIND 260 5KT WEATHER 2									
	DOMINANT WAVES	280 2 4										
87.034	08/11/78	1952GMT	33 52.0N 118 33.2W	10	15.05	33.402	6.46	0.41	2.		0.0	320.3
	BOTTOM	73M	WIND 240 6KT WEATHER 1									
	DOMINANT WAVES	260 2 4										
87.035	08/11/78	2129GMT	33 50.0N 118 37.5W	10	20.34	33.509	5.80					434.1
	BOTTOM	547M	WIND 250 8KT WEATHER 1									
	DOMINANT WAVES	260 2 5										
87.055	08/12/78	1645GMT	33 10.0N 120 00.0W	10	18.34	33.567	5.64	0.40	2.		0.0	381.1
	BOTTOM	1202M	WIND 290 5KT WEATHER 2									
	DOMINANT WAVES	280 5 7										
90.027	08/10/78	1513GMT	33 29.3N 117 45.5W	10	18.23 A	33.447	6.44	0.37	3.		0.0	387.3
	BOTTOM	41M	WIND 150 2KT WEATHER 2									
	DOMINANT WAVES	49 0 0										
90.028	08/10/78	1327GMT	33 28.5N 117 47.0W	10	14.92	33.437	6.74	0.47	3.		0.0	315.1
	BOTTOM	334M	WIND 140 2KT WEATHER 2									
	DOMINANT WAVES	49 0 0										
90.029	08/10/78	1121GMT	33 27.0N 117 49.5W	10	16.05	33.446	6.83	0.40	3.		0.0	338.2
	BOTTOM	611M	WIND 140 5KT WEATHER									
	DOMINANT WAVES											
90.030	08/10/78	0832GMT	33 25.0N 117 53.5W	10	16.88 B	33.445	6.47	0.41	2.		0.0	356.5
	BOTTOM	611M	WIND 150 6KT WEATHER									
	DOMINANT WAVES											

A) MEAN OF 18.14 AND 18.32 DEGREES CELSIUS.
B) MEAN OF 16.80 AND 16.96 DEGREES CELSIUS.

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10 METER DATA

90.031 08/10/78 0525GMT 33 23.0N 117 57.7W
 BOTTOM 454M WIND 060 SKT WEATHER
 DOMINANT WAVES
 7
 93.026 08/01/78 0323GMT 32 57.2N 117 17.8W
 BOTTOM 45M WIND 200 SKT WEATHER 1
 DOMINANT WAVES 290 3 5
 9
 93.026 08/01/78 0540GMT 32 56.8N 117 18.3W
 BOTTOM 73M WIND 230 SKT WEATHER 1
 DOMINANT WAVES 290
 93.028 08/01/78 0822GMT 32 54.7N 117 21.8W
 BOTTOM 519M WIND 170 7KT WEATHER 1
 DOMINANT WAVES
 93.035 08/01/78 1928GMT 32 40.5N 117 51.5W
 BOTTOM 602M WIND 170 3KT WEATHER 2
 DOMINANT WAVES 200 3 4
 93.045 08/02/78 0508GMT 32 20.0N 118 32.0W
 BOTTOM 1479M WIND 340 SKT WEATHER 1
 DOMINANT WAVES
 93.055 08/02/78 1532GMT 32 00.8N 119 13.2W
 BOTTOM 1531M WIND 250 SKT WEATHER 2
 DOMINANT WAVES 290 4 6

Z	T	S	02	P04	S103	N02	N03	DT
10	18.35	33.465	6.18	0.47	2.		0.0	388.8
10	14.53 A	33.451	7.28	0.45	3.	0.05	0.3	306.1
10	12.62	33.411	5.74	0.71	6.	0.34	5.6	272.0
10	13.21	33.396	6.27	0.58	3.	0.19	2.8	284.2
10	19.32	33.475	5.51	0.25	1.	0.01	0.2	411.3
10	18.42	33.486	5.75	0.28	0.	0.00	0.0	388.9
10	16.68	33.534	5.73	0.43	2.	0.02	0.7	345.6

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10 METER DATA

97.029 08/02/78 0625GMT 32 17.5N 117 04.7W
 BOTTOM 48M WIND 330 SKT WEATHER 1
 DOMINANT WAVES
 97.032 08/02/78 0946GMT 32 11.9N 117 15.2W
 BOTTOM 1450M WIND 300 1KT WEATHER 2
 DOMINANT WAVES
 97.045 08/02/78 2035GMT 31 46.2N 118 07.5W
 BOTTOM 1500M WIND 250 7KT WEATHER 1
 DOMINANT WAVES 300 3 9
 97.055 08/03/78 0331GMT 31 25.4N 118 49.9W
 BOTTOM 585M WIND 340 12KT WEATHER 2
 DOMINANT WAVES 340
 100.029 08/06/78 1305GMT 31 42.2N 116 43.4W
 BOTTOM 167M WIND 180 SKT WEATHER 4
 DOMINANT WAVES 000 0 0
 100.045 08/05/78 2353GMT 31 10.5N 117 46.5W
 BOTTOM 1700M WIND 290 10KT WEATHER 2
 DOMINANT WAVES 300 3 9
 103.029 08/06/78 1921GMT 31 07.0N 116 20.9W
 BOTTOM 24M WIND 230 SKT WEATHER 1
 DOMINANT WAVES 230 2 7
 103.045 08/07/78 0741GMT 30 36.0N 117 24.0W
 BOTTOM 2200M WIND 320 12KT WEATHER 1
 DOMINANT WAVES
 107.031 08/10/78 0503GMT 30 27.8N 116 07.4W
 BOTTOM 39M WIND 310 3KT WEATHER 0
 DOMINANT WAVES 310 1 5
 107.045 08/09/78 1840GMT 30 01.7N 117 00.9W
 BOTTOM 1800M WIND 310 3KT WEATHER 1
 DOMINANT WAVES 310 1
 4
 110.032 08/10/78 0935GMT 29 51.2N 115 49.7W
 BOTTOM 50M WIND 360 4KT WEATHER 1
 DOMINANT WAVES
 110.045 08/10/78 1935GMT 29 26.5N 116 39.5W
 BOTTOM 1000M WIND 330 7KT WEATHER 1
 DOMINANT WAVES 310 1 8
 113.029 08/13/78 1809GMT 29 24.4N 115 13.4W
 BOTTOM 27M WIND 150 2KT WEATHER 4
 DOMINANT WAVES 280 1 5
 113.030 08/13/78 1700GMT 29 22.1N 115 18.0W
 BOTTOM 60M WIND 110 7KT WEATHER 4
 DOMINANT WAVES 260 1 5

Z	T	S	02	P04	S103	N02	N03	DT
10	14.29	33.470	6.88	0.45	2.	0.11	1.3	299.9
10	14.43	33.405	6.39	0.45	3.	0.11	1.0	307.5
10	17.93	33.5308	5.73	0.33	1.	0.00	0.0	374.2
10	17.16	33.163	5.71	0.57	1.	0.00	0.6	383.3
10	13.72	33.479	6.15	0.66	4.	0.08	2.7	288.0
10	18.26	33.593	5.78	0.45	2.	0.01	0.0	377.3
10	12.58	33.476	5.97	0.65	9.	0.05	3.9	266.5
10	18.41	33.402	5.71	0.37	0.	0.01	0.0	394.8
10	15.21	33.386	6.35	0.46	3.	0.04	0.1	324.8
10	17.53	33.236	5.81	0.34	1.	0.02	0.0	386.4
10	17.43	33.548	6.98	0.32	3.	0.02	0.1	361.4
10	20.48	33.450	5.37	0.32	3.	0.01	0.1	441.9
10	15.09	33.547	5.26	0.73	6.	0.64	2.3	310.6
0	17.54							
10	15.88	33.514	6.28	0.57	3.	0.04	0.2	329.6

A) MEAN OF 14.46 AND 14.60 DEGREES CELSIUS.

B) AN ERROR OF -0.01 IN THE CONDUCTIVITY RATIO, 0.391 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

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10 METER DATA

				Z	T	S	OZ	P04	S103	N02	N03	DT
113.045	08/13/78	0646GMT	28 51.9N 116 18.1W	10	20.41	33.391	5.37	0.51	2.	0.01	0.1	444.4
	BOTTOM	1950M	WIND 320 14KT WEATHER 2									
			DOMINANT WAVES 320									
117.025	08/17/78	1056GMT	28 57.9N 114 36.9W	10	19.24	33.615	5.75	0.32	2.	0.03	0.3	399.1
	BOTTOM	60M	WIND 210 5KT WEATHER 1									
			DOMINANT WAVES 180 1 4									
117.026	08/17/78	1151GMT	28 56.8N 114 41.5W	10	20.93	33.693	5.53	0.30	1.	0.03	0.2	435.7
	BOTTOM	70M	WIND 260 5KT WEATHER 1									
			DOMINANT WAVES 180 1 4									
117.045	08/18/78	1955GMT	28 17.5N 115 56.1W	10	20.66	33.424	5.38	0.49	1.		0.0	448.3
	BOTTOM	3500M	WIND 330 12KT WEATHER 1									
			DOMINANT WAVES 300 3 5									
120.024	08/17/78	1640GMT	28 25.0N 114 10.7W	10	22.56	33.825	5.47	0.22	1.	0.03	0.2	469.2
	BOTTOM	34M	WIND 230 6KT WEATHER 1									
			DOMINANT WAVES 230 3 5									
120.040	08/20/78	2315GMT	27 55.3N 115 16.2W	10	19.03	33.520	5.46	0.52	3.	0.09	0.7	401.0
	BOTTOM	38M	WIND 310 18KT WEATHER 1									
			DOMINANT WAVES 310 3 8									
123.036	08/21/78	0459GMT	27 28.4N 114 35.1W	10	15.03	33.508	5.91	0.69	5.	0.02	0.3	312.2
	BOTTOM	50M	WIND 340 6KT WEATHER 1									
			DOMINANT WAVES 320 1 6									
123.037	08/21/78	0559GMT	27 24.0N 114 40.0W	10	15.76	33.397	6.54	0.40	3.	0.00	0.1	335.6
	BOTTOM	70M	WIND 330 7KT WEATHER 1									
			DOMINANT WAVES 330 1 6									
123.045	08/21/78	1109GMT	27 08.0N 115 11.5W	10	21.57	33.444	5.38	0.36	2.	0.00	0.1	470.4
	BOTTOM	4200M	WIND 340 15KT WEATHER 0									
			DOMINANT WAVES									
127.033	08/22/78	2008GMT	26 57.5N 114 02.2W	10	19.81	33.575	5.68	0.54	4.	0.00	0.2	416.0
	BOTTOM	28M	WIND 290 8KT WEATHER 0									
			DOMINANT WAVES 290 2 6									
127.045	08/22/78	1052GMT	26 33.0N 114 48.3W	10	19.17	33.370	6.33	0.40	2.	0.01	0.1	415.3
	BOTTOM	3350M	WIND 260 8KT WEATHER 1									
			DOMINANT WAVES 3 6									
130.028	08/23/78	0124GMT	26 32.9N 113 21.1W	10	22.07	33.579	6.70	0.92	2.	0.00	0.2	473.8
	BOTTOM	52M	WIND 270 20KT WEATHER 1									
			DOMINANT WAVES 270 3 5									
130.035	08/23/78	0607GMT	26 18.8N 113 48.1W	10	20.78	33.476	5.79	0.93	2.	0.00	0.2	447.6
	BOTTOM	500M	WIND 300 16KT WEATHER 0									
			DOMINANT WAVES 300 2 5									
133.023	08/25/78	0248GMT	26 08.5N 112 40.2W	10	24.16		5.74	0.39	1.	0.00	0.1	
	BOTTOM	67M	WIND 280 16KT WEATHER 1									
			DOMINANT WAVES 280 3 6									
133.035	08/24/78	1846GMT	25 42.4N 113 25.4W	10	21.21	33.485	6.17	0.70	2.	0.09	0.6	458.0
	BOTTOM	676M	WIND 320 10KT WEATHER 0									
			DOMINANT WAVES 320 3 6									
137.022	08/25/78	0649GMT	25 35.9N 112 14.9W	10	21.84	33.766	5.76	0.57	2.	0.00	0.0	454.2
	BOTTOM	56M	WIND 260 8KT WEATHER 1									
			DOMINANT WAVES 260 2 5									
137.035	08/25/78	1501GMT	25 10.0N 113 04.5W	10	23.55	33.557	5.25	0.52	1.	0.00	0.0	515.6
	BOTTOM	1150M	WIND 300 15KT WEATHER 0									
			DOMINANT WAVES 320 5 6									

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CHLOROPHYLL-A AND PHAEOPHYTIN

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	DEPTH	CHL A	PHAE0
STATION 60055	0	0.28	0.11
08/25/78	10	0.35	0.17
1645 GMT	24	0.82	0.44
	33	1.58	1.00
37 47.0N	43	0.43	0.38
123 15.0W	56	0.13	0.13
	71	0.06	0.09
	94	0.02	0.07

STATION 60080	1	0.22	0.05
08/26/78	11	0.23	0.04
1028 GMT	29	0.22	0.05
	38	0.29	0.16
36 56.6N	48	0.18	0.10
125 04.0W	62	0.09	0.10
	76	0.06	0.10
	94	0.03	0.08
	117	0.01	0.08
	136	0.01	0.17
	164	0.01	0.11
	191	0.01	0.10

STATION 63055	0	0.44	0.28
08/25/78	10	0.53	0.12
0408 GMT	29	0.76	0.28
	43	0.59	0.31
37 13.0N	53	0.36	0.24
122 50.0W	66	0.27	0.21
	80	0.09	0.09
	98	0.04	0.10
	121	0.02	0.15
	140	0.01	0.06
	173	0.01	0.08
	201	0.01	0.08

STATION 63090	1	0.10	0.04
08/26/78	11	0.11	0.02
2330 GMT	29	0.11	0.04
	38	0.18	0.04
36 02.5N	48	0.38	0.21
125 20.2W	62	0.39	0.15
	75	0.29	0.11
	94	0.11	0.10
	117	0.05	0.09
	135	0.03	0.04
	163	0.01	0.02
	191	0.01	0.03

STATION 67060	1	0.27	0.08
08/27/78	10	0.28	0.08
0115 GMT	28	0.32	0.16
	38	0.66	0.28
36 28.0N	48	0.53	0.30
122 50.2W	62	0.38	0.24
	77	0.16	0.11
	95	0.05	0.07
	119	0.01	0.04
	137	0.02	0.29
	164	0.01	0.05
	193	0.00	0.04

STATION 70053	1	2.47	0.67
08/21/78	10	2.18	0.79
1959 GMT	29	0.56	0.60
	39	0.35	0.44
36 06.5N	48	0.13	0.35
121 54.1W	62	0.07	0.23
	76	0.04	0.12
	94	0.02	0.11
	117	0.01	0.07
	135	0.01	0.05
	163	0.01	0.10
	190	0.01	0.13

STATION 70080	0	0.27	0.03
08/21/78	9	0.29	0.05
0158 GMT	28	0.34	0.07
	38	0.32	0.08
35 13.5N	47	0.19	0.04
123 45.4W	61	0.32	0.14
	74	0.46	0.23
	93	0.26	0.15
	117	0.08	0.07
	133	0.01	0.05
	163	0.01	0.03
	191	0.01	0.03

	DEPTH	CHL A	PHAE0
STATION 60060	1	0.19	0.06
08/25/78	11	0.30	0.11
2054 GMT	30	0.53	0.24
	39	0.63	0.35
37 37.0N	49	0.43	0.28
123 37.0W	62	0.11	0.12
	76	0.05	0.09
	95	0.02	0.25
	118	0.01	0.06
	134	0.01	0.05
	164	0.01	0.06
	191	0.01	0.09

STATION 60090	0	0.05	0.16
08/26/78	10	0.07	0.06
1618 GMT	29	0.10	0.06
	37	0.14	0.04
36 37.0N	46	0.20	0.06
125 47.0W	62	0.30	0.07
	75	0.22	0.09
	94	0.24	0.13
	117	0.12	0.12
	135	0.06	0.05
	163	0.01	0.06
	191	0.01	0.12

STATION 63060	1	0.74	0.11
08/24/78	10	0.99	0.27
2255 GMT	29	2.47	0.36
	38	0.47	0.27
37 03.1N	47	0.33	0.63
123 11.8W	61	0.05	0.12
	75	0.04	0.08
	93	0.02	0.07
	116	0.01	0.08
	135	0.01	0.07
	163	0.00	0.08
	191	0.00	0.09

STATION 67050	1	2.57	1.05
08/23/78	10	4.55	1.27
1746 GMT	29	4.55	1.38
	42	3.76	2.35
36 48.0N	56	0.12	0.19
122 05.0W	70	0.09	0.14
	84	0.06	0.14
	102	0.06	0.16
	125	0.02	0.14
	153	0.01	0.13
	185	0.02	0.10
	217	0.02	0.07

STATION 67070	1	0.33	0.08
08/24/78	11	0.36	0.12
0803 GMT	29	0.66	0.24
	37	1.18	0.33
36 08.4N	47	0.66	0.39
123 27.8W	61	0.27	0.28
	75	0.12	0.12
	93	0.04	0.09
	116	0.01	0.10
	134	0.00	0.08
	161	0.01	0.17
	189	0.01	0.06

STATION 70060	0	0.13	0.06
08/21/78	10	0.13	0.05
1424 GMT	27	0.45	0.18
	38	0.49	0.20
35 53.3N	47	0.38	0.21
122 22.6W	62	0.18	0.15
	75	0.09	0.11
	94	0.04	0.04
	117	0.01	0.04
	136	0.01	0.02
	165	0.00	0.05
	192	0.00	0.04

STATION 70090	0	0.05	0.06
08/20/78	9	0.05	0.04
1913 GMT	28	0.06	0.03
	51	0.10	0.05
34 53.1N	62	0.11	0.05
124 29.7W	70	0.14	0.07
	83	0.16	0.07
	98	0.17	0.11
	121	0.15	0.12
	140	0.08	0.21
	164	0.01	0.04
	191	0.00	0.02

	DEPTH	CHL A	PHAE0
STATION 60070	0	0.22	0.07
08/26/78	9	0.30	0.02
0443 GMT	28	0.45	0.11
	38	0.64	0.15
37 17.0N	47	0.56	0.44
124 21.0W	61	0.34	0.20
	75	0.22	0.10
	94	0.05	0.08
	117	0.02	0.08
	136	0.02	0.11
	162	0.01	0.07
	191	0.00	0.08

STATION 63052	1	0.45	0.20
08/25/78	11	0.89	0.23
0708 GMT	20	2.00	0.24
	30	2.67	0.59
37 19.0N	48	1.15	0.86
122 36.0W	73	0.49	0.94

STATION 63070	1	0.10	0.06
08/24/78	12	0.16	0.05
1554 GMT	29	0.29	0.21
	39	0.27	0.13
36 42.5N	48	0.27	0.16
123 55.0W	61	0.19	0.10
	76	0.12	0.10
	94	0.07	0.07
	117	0.01	0.05
	135	0.02	0.10
	162	0.01	0.05
	189	0.00	0.07

STATION 67055	1	0.50	0.18
08/23/78	10	1.05	0.48
2120 GMT	29	0.69	0.33
	39	0.69	0.33
36 39.5N	48	0.27	0.12
122 27.0W	63	0.19	0.18
	77	0.21	0.28
	95	0.05	0.17
	119	0.02	0.14
	137	0.01	0.14
	165	0.02	0.14
	192	0.01	0.13

STATION 67090	1	0.09	0.02
08/27/78	9	0.09	0.02
0546 GMT	29	0.09	0.03
	38	0.11	0.03
35 28.0N	48	0.15	0.05
124 55.0W	62	0.20	0.06
	77	0.52	0.26
	96	0.26	0.16
	119	0.09	0.06
	138	0.05	0.05
	166	0.00	0.04
	193	0.01	0.02

STATION 70070	0	0.32	0.08
08/21/78	10	0.33	0.09
0746 GMT	27	0.32	0.09
	38	0.46	0.17
35 33.0N	46	0.41	0.19
123 05.9W	61	0.47	0.22
	74	0.57	-0.05
	93	0.11	0.11
	117	0.01	0.07
	135	0.01	0.08
	163	0.00	0.05
	191	0.01	0.06

STATION 73053	1	1.48	0.35
08/19/78	10	1.61	0.31
1307 GMT	29	1.77	0.46
	39	0.36	0.26
35 32.0N	48	0.19	0.29
121 28.3W	62	0.11	0.18
	76	0.09	0.25
	95	0.05	0.14
	118	0.02	0.14
	136	0.03	0.18
	164	0.01	0.18
	191	0.01	0.16

DEPTH				CHL A	PHAEO	DEPTH				CHL A	PHAEO	DEPTH				CHL A	PHAEO		
STATION 73060		1	0.10	0.05	STATION 73070		1	0.08	0.03	STATION 73080		1	0.18	0.05	STATION 73090		1	0.06	0.03
08/19/78		10	0.11	0.03	08/20/78		11	0.07	0.03	08/20/78		11	0.18	0.05	08/20/78		11	0.07	0.02
1757 GMT		29	0.13	0.05	0125 GMT		29	0.09	0.02	0740 GMT		30	0.18	0.06	1300 GMT		44	0.07	0.02
		38	0.15	0.05			38	0.12	0.03			38	0.32	0.16			71	0.12	0.06
35 17.6N		47	0.47	0.18	34 57.0N		48	0.15	0.04	34 38.1N		49	0.52	0.24	34 20.0N		90	0.28	0.20
121 57.8W		62	0.40	0.20	122 40.8W		63	0.36	0.16	123 22.1W		63	0.51	0.26	124 01.4W		105	0.24	0.19
		76	0.38	0.21			76	0.34	0.20			76	0.32	0.28			119	0.10	0.11
		94	0.06	0.03			93	0.14	0.08			95	0.16	0.15			137	0.06	0.07
		117	0.07	0.09			117	0.05	0.04			119	0.07	0.10			155	0.03	0.05
		136	0.03	0.08			136	0.02	0.04			138	0.02	0.12			183	0.01	0.03
		164	0.01	0.08			164	0.01	0.01			165	0.02	0.09			206	0.00	0.04
		191	0.01	0.08			192	0.00	0.03			192	0.01	0.08			230	0.01	0.04
STATION 77051		0	0.82	0.37	STATION 77055		1	2.18	0.38	STATION 77060		0	0.60	0.21	STATION 77070		2	0.39	0.17
08/19/78		10	0.89	0.30	08/19/78		11	2.08	1.37	08/18/78		10	0.63	0.19	08/18/78		11	0.39	0.15
0506 GMT		29	0.82	0.57	0052 GMT		29	1.02	0.45	1144 GMT		28	1.54	0.66	1144 GMT		30	0.41	0.34
		43	0.35	0.27			43	0.27	0.30			38	0.56	0.30			39	0.39	0.37
35 02.0N		51	0.07	0.21	34 54.5N		53	0.15	0.22	34 24.2N		47	0.32	0.26	34 24.2N		53	0.19	0.17
120 56.8W		65	0.07	0.20	121 13.0W		68	0.10	0.19	122 16.0W		61	0.17	0.24	122 16.0W		66	0.14	0.18
		80	0.06	0.20			80	0.05	0.16			75	0.05	0.12			90	0.08	0.26
		98	0.04	0.19			94	0.03	0.20			94	0.01	0.12			108	0.07	0.34
		122	0.05	0.18			118	0.02	0.19			117	0.01	0.10			126	0.03	0.17
		141	0.04	0.26			137	0.02	0.14			136	0.01	0.10			146	0.02	0.14
		172	0.03	0.15			166	0.05	0.28			164	0.01	0.12			173	0.01	0.13
		200	0.01	0.13			194	0.01	0.14			191	0.00	0.09			207	0.01	0.13
STATION 80052		1	2.18	1.27	STATION 80055		0	1.58	0.97	STATION 80060		1	0.72	0.12	STATION 80070		1	0.79	0.05
08/16/78		11	2.08	1.37	08/16/78		37	1.22	1.08	08/17/78		9	0.69	0.19	08/17/78		10	0.50	0.13
1054 GMT		30	0.56	0.85	1421 GMT		46	0.57	0.76	1841 GMT		28	0.44	0.22	0137 GMT		29	1.02	0.57
		44	0.13	0.29			60	0.66	1.05			38	0.21	0.16			38	0.49	0.39
34 24.8N		53	0.12	0.36	34 19.0N		74	0.12	0.41	34 09.0N		48	0.12	0.10	33 48.5N		47	0.22	0.20
120 35.8W		67	0.08	0.25	120 48.0W		92	0.11	0.26	121 09.0W		61	0.09	0.10	121 51.0W		61	0.06	0.15
		81	0.07	0.25			116	0.05	0.14			76	0.05	0.06			75	0.03	0.08
		100	0.06	0.19			133	0.01	0.12			94	0.06	0.09			92	0.02	0.07
		123	0.05	0.29			161	0.01	0.08			117	0.02	0.07			117	0.01	0.14
		142	0.05	0.27			188	0.01	0.08			135	0.00	0.07			135	0.01	0.10
		174	0.02	0.19			215	0.01	0.19			162	0.01	0.05			162	0.01	0.08
		202	0.02	0.15								189	0.00	0.05			195	0.00	0.09
STATION 80080		0	0.35	0.12	STATION 80080		0	0.35	0.12	STATION 80090		1	0.08	0.03	STATION 82047		2	0.46	0.28
08/17/78		9	0.38	0.13	08/17/78		9	0.38	0.13	08/17/78		11	0.08	0.04	08/15/78		10	0.63	0.35
0736 GMT		27	0.53	0.29	0736 GMT		27	0.53	0.29	1329 GMT		30	0.09	0.02	1646 GMT		29	0.53	0.73
		37	0.28	0.26			37	0.28	0.26			39	0.13	0.05			44	0.16	0.46
33 28.7N		47	0.21	0.27	33 28.7N		47	0.21	0.27	33 09.0N		54	0.26	0.15	34 16.5N		52	0.17	0.47
122 32.0W		60	0.05	0.16	122 32.0W		60	0.05	0.16	123 13.0W		67	0.24	0.20	119 59.0W		67	0.10	0.35
		75	0.02	0.12			75	0.02	0.12			91	0.19	0.13			81	0.06	0.25
		93	0.01	0.08			93	0.01	0.08			110	0.06	0.08			94	0.05	0.17
		117	0.00	0.12			117	0.00	0.12			128	0.03	0.05			118	0.01	0.10
		135	0.01	0.10			135	0.01	0.10			147	0.01	0.04			136	0.01	0.08
		164	0.00	0.13			164	0.00	0.13			174	0.00	0.03			164	0.01	0.12
		191	0.00	0.11			191	0.00	0.11			207	0.00	0.03			192	0.01	0.16
STATION 83051		0	0.58	0.20	STATION 83055		1	1.74	-0.33	STATION 83060		0	0.40	0.13	STATION 83042		1	0.50	0.30
08/15/78		10	0.66	0.25	08/14/78		11	1.25	0.44	08/15/78		10	0.51	0.30	08/15/78		10	0.51	0.30
0303 GMT		30	1.08	0.41	2300 GMT		31	1.25	0.78	08/14/78		29	0.32	0.32	1003 GMT		29	0.32	0.32
		44	0.59	0.29			41	0.89	0.88			38	0.12	0.20			38	0.12	0.20
33 52.0N		53	0.24	0.20	33 44.0N		52	0.13	0.25	34 10.0N		53	0.06	0.13	34 10.0N		53	0.06	0.13
120 08.5W		68	0.06	0.10	120 24.5W		66	0.07	0.18	119 29.5W		67	0.04	0.16	119 29.5W		67	0.04	0.16
		82	0.03	0.10			82	0.04	0.11			81	0.03	0.11			81	0.03	0.11
		101	0.10	-0.01			102	0.01	0.12			100	0.03	0.12			100	0.03	0.12
		124	0.03	0.14			126	0.02	0.17			118	0.02	0.14			118	0.02	0.14
		143	0.01	0.07			146	0.01	0.08			141	0.01	0.13			141	0.01	0.13
		170	0.01	0.09			176	0.01	0.06			164	0.02	0.14			164	0.02	0.14
		192	0.01	0.07			205	0.00	0.06										

	DEPTH	CHL A	PHAEO
STATION 83070	1	0.18	0.27
08/14/78	11	0.24	0.14
1104 GMT	29	0.44	0.36
	38	0.41	0.41
33 14.5N	47	0.26	0.36
121 26.0W	60	0.07	0.13
	73	0.04	0.13
	92	0.01	0.07
	115	0.00	0.09
	133	0.00	0.11
	161	0.00	0.08
	189	0.00	0.09

STATION 87036	1	0.33	0.17
08/12/78	11	0.58	0.29
0005 GMT	29	0.52	0.39
	39	0.30	0.37
33 49.0N	48	0.24	0.17
118 40.0W	62	0.10	0.11
	76	0.05	0.06
	95	0.01	0.09
	118	0.00	0.07
	137	0.01	0.07
	164	0.00	0.07
	192	0.00	0.07

STATION 87050	0	0.85	0.38
08/12/78	10	0.79	0.46
1346 GMT	18	0.56	0.30
	28	0.50	0.36
33 20.0N	48	0.11	0.12
119 39.5W	60	0.09	0.15

STATION 87080	1	0.04	0.11
08/13/78	10	0.11	0.04
0939 GMT	29	0.16	0.05
	38	0.17	0.05
32 19.5N	47	0.21	0.07
121 43.0W	61	0.29	0.11
	75	0.33	0.18
	93	0.22	0.18
	116	0.07	0.07
	134	0.04	0.05
	162	0.01	0.02
	189	0.00	0.02

STATION 90037	0	0.13	0.04
08/09/78	10	0.11	0.06
2221 GMT	28	0.50	0.27
	37	0.58	0.33
33 11.0N	46	0.46	0.27
118 22.5W	60	0.26	0.17
	74	0.09	0.10
	93	0.02	0.06
	117	0.01	0.04
	134	0.01	0.04
	162	0.01	0.03
	190	0.00	0.05

STATION 90060	1	1.68	0.51
08/09/78	10	1.81	0.64
0414 GMT	29	1.58	0.87
	38	0.85	0.84
32 22.5N	48	0.49	0.55
119 58.0W	62	0.15	0.37
	76	0.07	0.15
	94	0.02	0.14
	117	0.01	0.09
	136	0.01	0.08
	163	0.01	0.12
	191	0.00	0.05

STATION 90090	1	0.10	0.01
08/08/78	10	0.10	0.01
0834 GMT	29	0.09	0.02
	38	0.15	0.04
31 24.0N	46	0.12	0.04
122 01.0W	61	0.24	0.17
	75	0.39	0.24
	93	0.22	0.10
	115	0.11	0.08
	135	0.06	0.05
	162	0.01	0.03
	190	0.01	0.02

	DEPTH	CHL A	PHAEO
STATION 83080	1	0.16	0.10
08/14/78	10	0.18	0.06
0442 GMT	29	0.63	0.41
	39	0.39	0.32
32 53.3N	48	0.68	0.01
122 07.8W	63	0.19	0.67
	77	0.12	0.35
	95	0.02	0.12
	119	0.00	0.10
	137	0.00	0.14
	167	0.00	0.09
	196	0.00	0.07

STATION 87040	1	0.30	0.17
08/12/78	11	0.35	0.21
0425 GMT	30	0.72	0.43
	38	0.46	0.40
33 40.0N	47	0.22	0.23
118 58.0W	61	0.09	0.15
	76	0.06	0.16
	95	0.02	0.13
	117	0.01	0.08
	135	0.01	0.06
	164	0.00	0.09
	191	0.00	0.06

STATION 87060	1	0.09	0.05
08/12/78	10	0.09	0.05
2102 GMT	29	0.34	0.12
	38	0.40	0.19
33 00.0N	48	0.32	0.21
120 21.5W	62	0.27	0.20
	76	0.08	0.13
	94	0.02	0.06
	117	0.01	0.03
	136	0.00	0.04
	163	0.00	0.04
	191	0.00	0.03

STATION 87090	1	0.08	0.09
08/13/78	11	0.09	0.06
1543 GMT	29	0.15	0.05
	38	0.19	0.06
31 59.0N	47	0.26	0.07
122 24.0W	61	0.30	0.09
	75	0.35	0.17
	94	0.19	0.13
	117	0.11	0.09
	135	0.06	0.07
	163	0.01	0.03
	191	0.00	0.05

STATION 90043	0	0.22	0.08
08/09/78	10	0.19	0.06
1737 GMT	28	0.35	0.09
	37	0.18	0.05
33 03.0N	47	0.08	0.04
118 48.0W	62	0.04	0.06
	76	0.09	0.10
	94	0.03	0.13
	117	0.00	0.06
	135	0.00	0.05
	164	0.00	0.05
	191	0.00	0.05

STATION 90070	1	0.06	0.06
08/08/78	10	0.05	0.04
2138 GMT	29	0.09	0.06
	38	0.09	0.03
32 04.5N	46	0.10	0.07
120 38.5W	61	0.14	0.06
	75	0.32	0.20
	93	0.19	0.20
	116	0.06	0.10
	135	0.01	0.05
	162	0.01	0.03
	190	0.00	0.03

STATION 90100	1	0.06	0.02
08/08/78	10	0.03	0.04
0247 GMT	29	0.08	0.01
	52	0.09	0.02
31 05.0N	61	0.10	0.03
122 39.0W	70	0.13	0.04
	84	0.17	0.06
	98	0.22	0.13
	121	0.18	0.14
	140	0.09	0.10
	163	0.01	0.03
	191	0.01	0.01

	DEPTH	CHL A	PHAEO
STATION 83090	1	0.06	0.02
08/13/78	11	0.07	0.02
2133 GMT	29	0.09	0.02
	38	0.11	0.02
32 34.5N	47	0.14	0.04
122 50.0W	61	0.17	0.05
	75	0.17	0.10
	94	0.28	0.15
	117	0.14	0.09
	135	0.07	0.09
	163	0.03	0.04
	191	0.01	0.02

STATION 87045	1	0.60	0.29
08/12/78	10	2.28	1.11
0934 GMT	38	1.02	0.85
	61	0.16	0.26
33 30.0N	80	0.06	0.15
119 19.0W	94	0.01	0.12
	107	0.02	0.13
	126	0.01	0.04
	144	0.01	0.05
	167	0.01	0.04
	190	0.01	0.05
	213	0.01	0.06

STATION 87070	1	0.07	0.04
08/13/78	11	0.09	0.03
0342 GMT	30	0.09	0.03
	39	0.09	0.04
32 39.6N	48	0.13	0.06
121 02.0W	62	0.18	0.09
	76	0.23	0.13
	94	0.11	0.11
	117	0.05	0.04
	136	0.02	0.06
	163	0.01	0.04
	191	0.00	0.03

STATION 90033	0	0.16	0.10
08/10/78	10	0.21	0.13
0239 GMT	38	0.66	0.47
	62	0.23	0.23
33 18.5N	81	0.05	0.10
118 07.0W	95	0.04	0.04
	109	0.04	0.08
	127	0.01	0.08
	147	0.01	0.05
	169	0.01	0.07
	192	0.01	0.05
	215	0.00	0.05

STATION 90053	0	1.01	0.11
08/09/78	10	0.99	0.35
1037 GMT	29	0.22	0.32
	38	0.15	0.12
32 39.0N	47	0.09	0.11
119 28.5W	61	0.03	0.05
	75	0.01	0.06
	94	0.01	0.05
	117	0.01	0.05
	135	0.01	0.05
	163	0.01	0.05
	190	0.01	0.05

STATION 90080	1	0.09	0.04
08/08/78	10	0.07	0.03
1527 GMT	29	0.06	0.08
	38	0.12	0.06
31 44.4N	48	0.16	0.07
121 20.8W	62	0.32	0.16
	75	0.32	0.18
	94	0.28	0.17
	117	0.13	0.11
	136	0.04	0.05
	164	0.01	0.05
	192	0.00	0.04

STATION 90110	1	0.05	0.03
08/07/78	10	0.05	0.03
2108 GMT	29	0.07	0.03
	38	0.09	0.03
30 45.1N	47	0.09	0.04
123 19.9W	61	0.12	0.06
	75	0.16	0.07
	94	0.27	0.24
	117	0.09	0.13
	135	0.06	0.07
	163	0.01	0.04
	191	0.00	0.03

RV DAVID STARR JORDAN

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	DEPTH	CHL A	PHAEO
STATION 90120	1	0.04	0.08
08/07/78	10	0.05	0.04
1455 GMT	29	0.07	0.03
	38	0.09	0.02
30 25.0N	48	0.09	0.03
124 00.0W	61	0.09	0.05
	75	0.12	0.09
	94	0.21	0.15
	117	0.11	0.09
	135	0.05	0.07
	164	0.02	0.03
	190	0.00	0.02

STATION 90150	1	0.05	0.03
08/06/78	10	0.06	0.02
2042 GMT	28	0.07	0.02
	51	0.10	0.03
29 25.1N	61	0.09	0.04
125 59.2W	70	0.13	0.05
	84	0.16	0.07
	98	0.19	0.17
	121	0.14	0.13
	139	0.10	0.11
	161	0.05	0.06
	190	0.01	0.01

STATION 93029	1	0.23	0.14
08/01/78	10	0.24	0.16
1203 GMT	29	0.40	0.28
	38	0.32	0.30
32 52.7N	48	0.24	0.21
117 26.6W	62	0.16	0.15
	76	0.08	0.17
	94	0.08	0.21
	117	0.04	0.14
	136	0.03	0.10
	164	0.03	0.08
	192	0.02	0.07

STATION 93050	1	0.20	0.07
08/02/78	11	0.28	0.09
1016 GMT	29	0.76	0.40
	39	0.49	0.45
32 10.0N	48	0.27	0.30
128 52.5W	62	0.12	0.09
	76	0.03	0.05
	95	0.02	0.05
	118	0.02	0.06
	137	0.02	0.05
	165	0.02	0.05
	193	0.01	0.04

STATION 93080	1	0.10	0.04
08/03/78	10	0.09	0.02
1344 GMT	28	0.17	0.07
	37	0.28	0.13
31 04.0N	46	0.44	0.15
120 54.5W	60	0.30	0.17
	73	0.26	0.24
	91	0.13	0.11
	113	0.07	0.05
	131	0.04	0.05
	158	0.01	0.03
	185	0.01	0.01

STATION 93110	1	0.08	-0.01
08/04/78	10	0.06	0.01
0740 GMT	29	0.09	0.01
	52	0.10	0.01
30 09.5N	61	0.15	0.03
122 55.0W	70	0.20	0.03
	85	0.24	0.05
	99	0.27	0.08
	121	0.22	0.12
	141	0.14	0.10
	163	0.08	0.07
	191	0.02	0.03

STATION 93140	0	0.09	0.00
08/05/78	9	0.09	0.00
0404 GMT	28	0.11	0.02
	38	0.12	0.02
29 08.2N	48	0.20	0.04
124 53.4W	61	0.27	0.03
	75	0.27	0.07
	94	0.30	0.10
	117	0.27	0.16
	136	0.13	0.09
	165	0.07	0.06
	192	0.02	0.02

	DEPTH	CHL A	PHAEO
STATION 90130	1	0.10	0.01
08/07/78	10	0.09	0.00
0856 GMT	29	0.10	0.02
	38	0.11	0.02
30 05.1N	48	0.13	0.03
124 39.8W	62	0.20	0.05
	76	0.22	0.10
	94	0.23	0.14
	117	0.14	0.13
	136	0.09	0.07
	164	0.04	0.03
	192	0.01	0.01

STATION 90160	1	0.05	0.03
08/06/78	10	0.06	0.03
1433 GMT	29	0.06	0.02
	38	0.07	0.02
29 05.0N	48	0.09	0.03
126 39.6W	62	0.11	0.05
	76	0.16	0.07
	94	0.23	0.19
	117	0.15	0.17
	136	0.09	0.09
	164	0.03	0.04
	192	0.01	0.03

STATION 93030	0	0.24	0.14
08/01/78	10	0.23	0.10
1535 GMT	28	0.63	0.34
	38	0.34	0.30
32 50.5N	47	0.30	0.22
117 31.0W	61	0.14	0.13
	75	0.09	0.18

STATION 93060	1	1.28	0.29
08/02/78	10	0.92	0.27
2019 GMT	29	0.92	0.35
	38	0.63	0.35
31 50.0N	49	0.36	0.29
119 34.0W	62	0.14	0.11
	76	0.06	0.05
	94	0.03	0.04
	117	0.04	0.08
	136	0.01	0.04
	163	0.01	0.03
	191	0.01	0.04

STATION 93090	1	0.09	0.02
08/03/78	10	0.08	0.03
1917 GMT	28	0.09	0.02
	38	0.09	0.02
30 50.0N	47	0.09	0.03
121 34.5W	62	0.11	0.04
	76	0.18	0.07
	94	0.19	0.14
	117	0.10	0.05
	135	0.05	0.02
	163	0.03	0.04
	190	0.01	0.03

STATION 93120	1	0.08	0.04
08/04/78	10	0.08	0.04
1505 GMT	29	0.08	0.03
	53	0.15	0.04
29 49.0N	62	0.18	0.05
123 35.0W	72	0.24	0.08
	85	0.24	0.16
	99	0.24	0.25
	122	0.14	0.09
	140	0.06	0.07
	163	0.02	0.04
	189	0.01	0.03

STATION 93150	1	0.10	0.00
08/05/78	10	0.10	0.01
0928 GMT	29	0.12	0.00
	39	0.15	0.02
28 50.4N	48	0.15	0.03
125 33.6W	62	0.16	0.03
	76	0.21	0.06
	95	0.28	0.11
	118	0.21	0.13
	137	0.10	0.10
	165	0.06	0.05
	193	0.01	0.02

	DEPTH	CHL A	PHAEO
STATION 90140	0	0.05	0.05
08/07/78	9	0.09	0.05
0325 GMT	26	0.07	0.03
	38	0.09	0.01
29 45.0N	47	0.11	0.02
125 19.6W	61	0.11	0.04
	75	0.11	0.05
	94	0.22	0.14
	117	0.13	0.15
	135	0.12	0.12
	163	0.04	0.05
	190	0.01	0.03

STATION 90180	0	0.10	0.04
08/06/78	9	0.08	0.02
0530 GMT	26	0.09	0.03
	37	0.10	0.03
28 25.1N	46	0.10	0.04
127 57.3W	61	0.16	0.03
	74	0.19	0.05
	92	0.24	0.14
	115	0.21	0.16
	135	0.13	0.10
	161	0.07	0.06
	189	0.04	0.04

STATION 93040	1	0.40	0.17
08/02/78	10	0.38	0.17
0020 GMT	29	0.38	0.16
	38	0.36	0.31
32 30.0N	47	0.56	0.40
118 11.5W	61	0.27	0.23
	75	0.09	0.10
	93	0.07	0.07
	116	0.03	0.07
	134	0.02	0.06
	161	0.01	0.05
	188	0.02	0.04

STATION 93070	1	0.16	0.06
08/03/78	10	0.22	0.03
0615 GMT	29	0.66	0.09
	39	0.85	0.25
31 30.0N	48	0.46	0.19
120 14.0W	62	0.14	0.06
	76	0.07	0.05
	95	0.02	0.02
	118	0.01	0.03
	137	0.01	0.02
	164	0.01	0.02
	192	0.01	0.01

STATION 93100	1	0.07	0.06
08/04/78	10	0.05	0.06
0208 GMT	28	0.08	0.04
	53	0.14	0.07
30 30.0N	62	0.17	0.07
122 14.0W	71	0.17	0.09
	85	0.24	0.10
	99	0.19	0.19
	122	0.10	0.12
	141	0.06	0.11
	164	0.05	0.07
	192	0.01	0.02

STATION 93130	0	0.09	0.02
08/04/78	10	0.10	0.01
2212 GMT	28	0.11	0.01
	37	0.12	0.02
29 29.0N	46	0.12	0.04
124 14.0W	60	0.20	0.04
	74	0.27	0.06
	93	0.27	0.20
	115	0.14	0.07
	134	0.06	0.06
	161	0.02	0.04
	190	0.00	0.03

STATION 93160	1	0.09	0.02
08/05/78	11	0.09	0.02
1428 GMT	30	0.08	0.03
	38	0.10	0.04
28 32.6N	48	0.12	0.04
126 14.8W	61	0.12	0.05
	77	0.19	0.08
	95	0.44	-0.04
	118	0.17	0.15
	137	0.08	0.12
	166	0.04	0.07
	193	0.01	0.02

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	DEPTH	CHL A	PHAEO
STATION 93180	1	0.09	0.03
08/05/78	10	0.09	0.03
2316 GMT	29	0.10	0.03
	38	0.11	0.02
27 50.4N	47	0.13	0.05
127 31.0W	62	0.19	0.03
	76	0.22	0.07

RV ALEJANDRO DE HUMBOLDT

CHLOROPHYLL-A AND PHAEOPHYTIN

CALCOFI CRUISE 7808

	DEPTH	CHL A	PHAEO
STATION 93028	0	0.15	0.11
08/02/78	10	0.40	0.21
0233 GMT	30	0.17	0.24
	40	0.28	0.81
32 30.0N	51	0.24	0.62
117 23.0W	66	0.14	0.45
	81	0.11	0.60
	101	0.05	0.23
	126	0.08	0.32
	146	0.09	0.18
	175	0.06	0.14
	205	0.04	0.39

	DEPTH	CHL A	PHAEO
STATION 97030	0	0.38	0.23
08/02/78	10	0.71	0.43
0738 GMT	19	2.27	1.64
	29	0.19	0.59
32 16.0N	50	0.21	1.51
117 07.0W			

	DEPTH	CHL A	PHAEO
STATION 97035	0	0.13	0.05
08/02/78	10	0.15	0.08
1247 GMT	30	0.23	0.15
	41	0.33	0.27
32 05.5N	51	0.25	0.44
117 27.5W	66	0.14	0.17
	81	0.10	0.18
	101	0.04	0.10
	126	0.01	0.06
	146	0.01	0.06
	176	0.01	0.06
	207	0.02	0.04

	DEPTH	CHL A	PHAEO
STATION 97040	1	0.16	0.07
08/02/78	11	0.17	0.07
1716 GMT	32	0.56	0.44
	42	0.39	0.46
31 56.0N	57	0.21	0.29
117 48.0W	72	0.15	0.18
	97	0.02	0.05
	117	0.01	0.04
	137	0.00	0.03
	157	0.00	0.02
	187	0.00	0.02
	221	0.00	0.03

	DEPTH	CHL A	PHAEO
STATION 97050	0	0.34	0.14
08/03/78	10	0.26	0.19
0021 GMT	30	0.55	0.46
	40	0.30	0.46
31 36.0N	55	0.12	0.18
118 30.5W	70	0.09	0.26
	95	0.01	0.07
	115	0.01	0.05
	135	0.01	0.06
	155	0.01	0.09
	184	0.01	0.07
	219	0.01	0.09

	DEPTH	CHL A	PHAEO
STATION 97060	1	0.11	0.04
08/03/78	11	0.11	0.05
0808 GMT	30	0.16	0.09
	39	0.33	0.26
31 15.5N	53	0.41	0.40
119 10.0W	67	0.34	0.26
	90	0.09	0.10
	108	0.02	0.04
	126	0.03	0.07
	144	0.01	0.05
	170	0.01	0.07
	201	0.01	0.02

	DEPTH	CHL A	PHAEO
STATION 97070	0	0.17	0.07
08/03/78	10	0.20	0.10
1454 GMT	30	0.23	0.21
	41	0.30	0.66
30 55.0N	56	0.31	0.36
119 50.5W	71	0.14	0.18
	96	0.03	0.06
	116	0.03	0.07
	136	0.01	0.03
	156	0.00	0.04
	186	0.00	0.02
	221	0.00	0.02

	DEPTH	CHL A	PHAEO
STATION 97080	0	0.07	0.06
08/03/78	10	0.07	0.03
2100 GMT	30	0.06	0.07
	40	0.07	0.09
30 35.0N	56	0.12	0.04
120 31.0W	71	0.14	0.09
	96	0.22	0.36
	116	0.10	0.24
	136	0.02	0.05
	156	0.01	0.03
	186	0.00	0.04
	221	0.00	0.03

	DEPTH	CHL A	PHAEO
STATION 97090	0	0.09	0.02
08/04/78	10	0.09	0.03
0251 GMT	30	0.11	0.05
	40	0.13	0.07
30 15.5N	55	0.20	0.12
121 10.5W	69	0.23	0.15
	94	0.22	0.30
	113	0.15	0.36
	133	0.11	0.24
	153	0.05	0.10
	182	0.01	0.03
	216	0.01	0.03

	DEPTH	CHL A	PHAEO
STATION 97100	0	0.07	0.04
08/04/78	10	0.07	0.04
0838 GMT	31	0.08	0.04
	61	0.14	0.07
29 55.0N	71	0.18	0.11
121 50.0W	86	0.21	0.18
	101	0.22	0.29
	117	0.20	0.32
	142	0.12	0.18
	162	0.07	0.12
	191	0.01	0.04
	221	0.01	0.01

	DEPTH	CHL A	PHAEO
STATION 100030	0	5.17	1.89
08/06/78	10	3.43	1.16
1058 GMT	30	0.50	0.32
	45	0.23	0.31
31 40.5N	55	0.15	0.31
116 46.5W	71	0.12	0.27
	86	0.09	0.32
	101	0.05	0.58
	125	0.05	0.55
	145	0.03	0.23
	175	0.02	0.16
	205	0.02	0.18

	DEPTH	CHL A	PHAEO
STATION 100035	0	0.57	0.00
08/06/78	10	0.17	0.04
0710 GMT	30	0.29	0.19
	41	0.27	0.32
31 30.5N	56	0.32	0.34
117 07.0W	71	0.12	0.15
	96	0.03	0.08
	117	0.02	0.04
	137	0.01	0.04
	157	0.01	0.04
	187	0.01	0.06
	222	0.01	0.04

	DEPTH	CHL A	PHAEO
STATION 100040	1	0.19	0.07
08/06/78	11	0.21	0.09
0330 GMT	31	0.47	0.16
	41	0.44	0.44
31 21.0N	56	0.36	0.53
117 27.0W	71	0.15	0.19
	96	0.02	0.04
	116	0.01	0.04
	135	0.01	0.04
	155	0.00	0.03
	185	0.00	0.02
	219	0.01	0.04

	DEPTH	CHL A	PHAEO
STATION 100050	0	0.12	0.05
08/05/78	10	0.16	0.08
2037 GMT	30	0.32	0.28
	39	0.30	0.30
31 00.5N	54	0.26	0.19
118 07.0W	69	0.08	0.12
	93	0.03	0.10
	112	0.02	0.05
	132	0.01	0.07
	151	0.00	0.06
	180	0.00	0.06
	213	0.00	0.06

	DEPTH	CHL A	PHAEO
STATION 100060	0	0.07	0.06
08/05/78	10	0.06	0.07
1344 GMT	30	0.11	0.02
	41	0.12	0.04
30 40.5N	56	0.23	0.15
118 47.5W	71	0.31	0.40
	96	0.08	0.10
	116	0.05	0.11
	136	0.02	0.06
	157	0.01	0.04
	187	0.00	0.02
	221	0.00	0.02

	DEPTH	CHL A	PHAEO
STATION 100070	0	0.08	0.04
08/05/78	10	0.08	0.04
0715 GMT	30	0.11	0.02
	40	0.13	0.02
30 20.5N	55	0.18	0.10
119 27.5W	70	0.32	0.32
	95	0.19	0.20
	115	0.07	0.14
	135	0.03	0.07
	155	0.03	0.07
	185	0.00	0.02
	220	0.00	0.02

	DEPTH	CHL A	PHAEO
STATION 100080	1	0.15	0.03
08/05/78	11	0.14	0.05
0204 GMT	30	0.27	0.14
	39	0.46	0.25
30 00.9N	54	0.31	0.30
120 07.2W	68	0.12	0.16
	92	0.05	0.09
	111	0.04	0.10
	130	0.02	0.06
	148	0.01	0.04
	177	0.00	0.02
	210	0.00	0.02

	DEPTH	CHL A	PHAEO
STATION 100090	1	0.08	0.07
08/04/78	11	0.08	0.05
1943 GMT	31	0.08	0.09
	61	0.16	0.08
29 40.2N	71	0.21	0.13
120 47.3W	86	0.23	0.17
	101	0.19	0.20
	116	0.09	0.12
	141	0.04	0.08
	161	0.03	0.15
	191	0.01	0.03
	221	0.00	0.02

	DEPTH	CHL A	PHAEO
STATION 100100	0	0.06	0.02
08/04/78	10	0.06	0.02
1407 GMT	30	0.07	0.03
	60	0.08	0.07
29 20.0N	70	0.13	0.06
121 26.5W	85	0.16	0.11
	100	0.18	0.27
	115	0.20	0.26
	140	0.09	0.15
	160	0.05	0.11
	190	0.01	0.03
	220	0.00	0.01

STATION 103040	0	0.24	0.10
08/07/78	10	0.30	0.13
0433 GMT	30	0.62	0.18
	41	0.42	0.17
30 46.0N	56	0.27	0.28
117 04.5W	71	0.14	0.16
	96	0.03	0.07
	116	0.01	0.06
	136	0.00	0.04
	156	0.01	0.05
	186	0.01	0.04
	221	0.01	0.04

STATION 103070	1	0.07	0.03
08/07/78	11	0.07	0.03
2251 GMT	30	0.08	0.02
	39	0.08	0.04
29 45.3N	54	0.12	0.05
119 05.3W	68	0.15	0.10
	92	0.27	0.24
	111	0.16	0.29
	129	0.10	0.19
	148	0.04	0.13
	176	0.01	0.03
	209	0.00	0.02

STATION 107032	1	0.33	0.11
08/10/78	11	0.28	0.20
0331 GMT	31	0.42	0.06
	46	0.43	0.20
30 24.7N	56	0.78	1.10
116 11.1W	71	0.23	0.52
	86	0.11	0.35
	100	0.10	0.56
	125	0.07	0.40
	145	0.04	0.21
	175	0.04	0.15
	204	0.02	0.15

STATION 107050	1	0.29	0.07
08/09/78	11	0.26	0.06
1524 GMT	31	0.45	0.16
	41	0.39	0.27
29 50.5N	56	0.21	0.23
117 22.0W	72	0.05	0.08
	97	0.02	0.12
	116	0.01	0.03
	136	0.01	0.02
	156	0.00	0.02
	186	0.00	0.02
	220	0.00	0.02

STATION 107080	0	0.06	0.02
08/08/78	10	0.07	0.04
2119 GMT	28	0.06	0.07
	38	0.07	0.09
28 51.5N	52	0.16	0.06
119 20.0W	65	0.21	0.17
	88	0.22	0.26
	106	0.14	0.26
	124	0.09	0.16
	142	0.05	0.08
	169	0.01	0.03
	200	0.00	0.02

STATION 110040	1	0.10	0.00
08/10/78	11	0.09	0.03
1806 GMT	31	0.18	0.07
	41	0.22	0.13
29 36.5N	56	0.23	0.20
116 19.5W	71	0.28	0.17
	96	0.10	0.15
	117	0.04	0.08
	137	0.01	0.09
	157	0.00	0.06
	187	0.00	0.04
	222	0.00	0.04

	DEPTH	CHL A	PHAEO
STATION 103030	0	0.45	0.13
08/06/78	10	0.81	0.15
2126 GMT	20	2.78	0.95
	30	0.37	0.97
31 06.0N	50	0.13	0.47
116 24.5W			

STATION 103050	0	0.35	0.05
08/07/78	10	0.37	0.04
1105 GMT	31	0.52	0.17
	41	0.66	0.38
30 26.0N	56	0.25	0.14
117 44.5W	72	0.10	0.08
	97	0.05	0.07
	117	0.01	0.04
	137	0.01	0.05
	157	0.00	0.04
	187	0.00	0.05
	221	0.00	0.05

STATION 103080	1	0.07	0.03
08/08/78	11	0.05	0.02
0413 GMT	30	0.09	0.02
	40	0.13	0.09
29 26.5N	55	0.25	0.21
119 43.0W	70	0.27	0.25
	94	0.06	0.09
	114	0.07	0.10
	133	0.06	0.14
	153	0.03	0.09
	182	0.01	0.02
	217	0.00	0.02

STATION 107035	0	0.16	0.06
08/10/78	10	0.12	0.03
0119 GMT	29	0.29	0.11
	38	0.41	0.15
30 21.5N	53	0.32	0.23
116 22.5W	67	0.24	0.21
	91	0.16	0.32
	110	0.06	0.18
	129	0.04	0.11
	148	0.03	0.14
	176	0.05	0.27
	210	0.02	0.07

STATION 107060	0	0.13	0.03
08/09/78	10	0.14	0.04
0930 GMT	30	0.13	0.05
	40	0.16	0.08
29 32.0N	55	0.29	0.28
118 01.5W	71	0.34	0.49
	96	0.11	0.14
	116	0.05	0.11
	136	0.03	0.08
	156	0.01	0.03
	186	0.00	0.03
	221	0.00	0.03

STATION 107090	1	0.08	0.03
08/08/78	11	0.08	0.03
1558 GMT	30	0.07	0.02
	58	0.12	0.04
28 32.0N	68	0.15	0.07
119 59.0W	82	0.19	0.13
	96	0.18	0.22
	110	0.21	0.20
	134	0.09	0.16
	153	0.05	0.11
	181	0.01	0.03
	209	0.00	0.02

STATION 110050	0	0.11	-0.01
08/11/78	10	0.12	0.03
0017 GMT	30	0.11	0.01
	40	0.13	0.04
29 16.7N	55	0.35	0.23
116 59.3W	70	0.34	0.25
	95	0.13	0.15
	115	0.07	0.08
	135	0.03	0.10
	155	0.01	0.05
	184	0.01	0.05
	219	0.01	0.04

	DEPTH	CHL A	PHAEO
STATION 103035	0	0.23	0.10
08/07/78	10	0.25	0.14
0040 GMT	29	0.60	0.45
	40	0.68	0.57
30 56.0N	55	0.30	0.24
116 45.0W	70	0.13	0.07
	96	0.02	0.09
	116	0.01	0.04
	136	0.01	0.05
	156	0.00	0.03
	186	0.01	0.05
	221	0.01	0.05

STATION 103060	1	0.07	0.01
08/07/78	10	0.08	0.00
1653 GMT	29	0.10	0.03
	39	0.14	0.07
30 06.0N	53	0.20	0.15
118 25.0W	67	0.25	0.35
	90	0.13	0.16
	109	0.04	0.07
	128	0.04	0.10
	147	0.02	0.06
	176	0.00	0.03
	209	0.00	0.02

STATION 103090	1	0.04	0.03
08/08/78	11	0.07	0.04
1017 GMT	31	0.07	0.04
	41	0.11	0.02
29 06.0N	56	0.14	0.06
120 23.5W	71	0.20	0.13
	96	0.23	0.31
	116	0.16	0.23
	136	0.09	0.19
	156	0.04	0.13
	186	0.01	0.04
	221	0.00	0.02

STATION 107040	1	0.14	0.05
08/09/78	11	0.23	0.07
2141 GMT	31	0.51	0.13
	41	0.45	0.24
30 11.0N	51	0.28	0.36
116 42.0W	66	0.10	0.09
	82	0.09	0.10
	102	0.05	0.10
	127	0.01	0.03
	147	0.00	0.03
	177	0.00	0.03
	207	0.00	0.03

STATION 107070	1	0.07	0.03
08/09/78	11	0.07	0.03
0403 GMT	31	0.09	0.03
	41	0.11	0.06
29 11.0N	55	0.17	0.07
118 41.0W	70	0.24	0.16
	95	0.32	0.52
	115	0.14	0.31
	134	0.08	0.20
	154	0.03	0.11
	184	0.01	0.02
	218	0.00	0.01

STATION 110035	0	0.17	0.05
08/10/78	10	0.19	0.08
1216 GMT	29	0.31	0.10
	39	0.36	0.13
29 46.0N	49	0.37	0.10
116 00.0W	63	0.17	0.11
	78	0.13	0.21
	97	0.07	0.23
	122	0.02	0.09
	141	0.02	0.12
	171	0.03	0.13
	200	0.03	0.13

STATION 110060	0	0.21	0.09
08/11/78	10	0.12	0.02
0522 GMT	30	0.13	0.04
	41	0.15	0.08
28 56.5N	56	0.20	0.20
117 39.0W	71	0.36	0.30
	96	0.13	0.12
	116	0.07	0.09
	136	0.02	0.05
	156	0.01	0.04
	186	0.00	0.03
	221	0.01	0.03

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	DEPTH	CHL A	PHAEO		DEPTH	CHL A	PHAEO		DEPTH	CHL A	PHAEO
STATION 110070	0	0.11	0.02	STATION 110080	1	0.09	0.00	STATION 110090	1	0.06	0.02
08/11/78	10	0.08	0.04	08/11/78	11	0.08	0.03	08/11/78	11	0.05	0.02
1209 GMT	30	0.08	0.04	1720 GMT	31	0.07	0.03	2253 GMT	31	0.06	0.02
	40	0.09	0.01		41	0.08	0.01		41	0.07	0.03
28 36.5N	56	0.14	0.05	28 16.5N	56	0.12	0.04	27 56.5N	56	0.10	0.03
118 18.4W	71	0.17	0.14	118 57.5W	71	0.16	0.09	119 35.0W	72	0.16	0.10
	96	0.21	0.19		96	0.25	0.26		97	0.23	0.25
	116	0.12	0.16		116	0.22	0.39		117	0.14	0.25
	136	0.06	0.08		136	0.10	0.23		137	0.09	0.14
	156	0.02	0.05		156	0.05	0.10		157	0.03	0.06
	186	0.00	0.02		186	0.00	0.03		187	0.00	0.02
	222	0.00	0.02		221	0.00	0.02		222	0.00	0.02
STATION 113035	1	0.35	0.22	STATION 113040	0	0.12	0.02	STATION 113050	1	0.20	0.08
08/13/78	11	0.35	0.22	08/13/78	9	0.11	0.03	08/13/78	11	0.21	0.09
1355 GMT	35	1.37	0.59	1015 GMT	27	0.12	0.04	0320 GMT	30	0.30	0.22
	45	1.06	0.63		36	0.20	0.09		39	0.36	0.36
29 11.5N	59	0.23	0.40	29 02.0N	49	0.24	0.23	28 41.5N	54	0.37	0.37
115 38.0W	74	0.20	0.16	115 57.0W	62	0.36	0.47	116 36.5W	68	0.21	0.33
	98	0.05	0.11		84	0.19	0.18		92	0.07	0.15
	118	0.03	0.06		102	0.10	0.17		111	0.04	0.07
	137	0.01	0.05		119	0.07	0.13		130	0.01	0.05
	166	0.01	0.04		136	0.03	0.07		149	0.00	0.04
	196	0.01	0.04		161	0.01	0.05		177	0.00	0.03
	235	0.00	0.02		191	0.01	0.04		210	0.00	0.03
STATION 113060	0	0.10	0.01	STATION 113070	1	0.17	0.05	STATION 113080	0	0.12	0.02
08/12/78	10	0.10	0.01	08/12/78	11	0.17	0.06	08/12/78	10	0.09	0.00
2127 GMT	30	0.12	0.04	1544 GMT	31	0.23	0.08	0947 GMT	30	0.09	0.01
	40	0.16	0.08		41	0.28	0.13		40	0.12	0.04
28 22.0N	56	0.21	0.18	28 02.0N	56	0.32	0.32	27 42.0N	55	0.21	0.13
117 16.0W	71	0.25	0.21	117 55.0W	71	0.27	0.35	118 33.5W	70	0.26	0.19
	96	0.05	0.09		95	0.20	0.19		95	0.54	0.64
	116	0.03	0.06		115	0.13	0.24		115	0.12	0.30
	136	0.01	0.07		135	0.04	0.11		135	0.05	0.09
	156	0.00	0.03		155	0.01	0.08		155	0.02	0.05
	186	0.00	0.02		184	0.00	0.03		185	0.00	0.02
	221	0.00	0.02		219	0.00	0.08		220	0.00	0.02
STATION 113090	0	0.07	0.03	STATION 117030	1	1.01	0.70	STATION 117035	1	0.17	0.09
08/12/78	10	0.08	0.04	08/18/78	11	1.03	0.46	08/18/78	9	0.15	0.08
0417 GMT	30	0.09	0.03	0751 GMT	21	1.29	0.54	1056 GMT	26	0.22	0.11
	41	0.12	0.06		31	0.71	0.45		35	0.44	0.25
27 22.0N	56	0.20	0.12	28 48.0N	51	0.44	0.43	28 38.0N	49	0.89	0.48
119 12.0W	71	0.30	0.40	114 56.5W	66	0.19	0.29	115 16.0W	62	0.48	0.42
	96	0.21	0.41		92	0.03	0.32		77	0.20	0.33
	116	0.11	0.20						96	0.12	0.23
	136	0.04	0.10						119	0.05	0.15
	156	0.02	0.04						143	0.03	0.15
	186	0.00	0.02								
	221	0.00	0.02								
STATION 117040	1	0.18	0.08	STATION 117050	1	0.07	0.02	STATION 117060	1	0.11	0.03
08/18/78	11	0.18	0.08	08/18/78	11	0.07	0.02	08/19/78	11	0.12	0.03
1650 GMT	30	0.33	0.13	2311 GMT	36	0.08	0.04	0440 GMT	35	0.13	0.05
	40	0.22	0.01		46	0.09	0.04		45	0.20	0.15
28 26.9N	54	0.35	0.19	28 07.2N	62	0.15	0.10	27 48.0N	59	0.32	0.35
115 37.3W	69	0.47	0.32	116 17.2W	77	0.37	0.25	116 53.0W	74	0.18	0.18
	93	0.16	0.27		102	0.13	0.22		98	0.04	0.10
	112	0.04	0.12		122	0.03	0.07		118	0.04	0.07
	131	0.02	0.07		142	0.01	0.05		137	0.03	0.08
	151	0.02	0.07		172	0.00	0.03		166	0.01	0.06
	179	0.01	0.09		202	0.00	0.03		195	0.00	0.04
	213	0.00	0.05		242	0.00	0.03		233	0.01	0.05
STATION 117070	1	0.08	0.03	STATION 117080	1	0.06	0.02	STATION 118039	0	1.71	0.64
08/19/78	11	0.09	0.04	08/19/78	11	0.06	0.03	08/18/78	10	1.66	0.45
1040 GMT	30	0.10	0.02	1610 GMT	36	0.06	0.02	1349 GMT	30	1.12	0.49
	39	0.12	0.02		45	0.07	0.03		45	0.21	0.26
27 27.5N	54	0.16	0.07	27 08.0N	60	0.09	0.01	28 18.5N	55	0.18	0.31
117 32.5W	68	0.18	0.16	118 10.5W	75	0.12	0.06	115 23.7W	70	0.15	0.36
	92	0.21	0.19		99	0.15	0.22		85	0.08	0.25
	110	0.06	0.07		119	0.19	0.29		105	0.06	0.14
	129	0.04	0.09		138	0.07	0.18		130	0.03	0.11
	148	0.02	0.10		168	0.03	0.07		150	0.02	0.13
	176	0.00	0.03		197	0.01	0.02		185	0.01	0.10
	209	0.00	0.02		236	0.00	0.02		214	0.01	0.11
STATION 119033	0	0.55	0.34	STATION 120025	1	2.26	1.07	STATION 120030	2	1.43	1.38
08/18/78	9	0.60	0.38	08/17/78	11	2.54	0.67	08/17/78	12	1.48	1.64
0312 GMT	23	0.63	0.34	1756 GMT	21	0.39	0.50	2053 GMT	26	0.65	0.47
	32	0.84	0.51		31	0.12	0.20		35	0.22	0.19
28 19.0N	40	0.78	0.59	28 22.5N	51	0.09	0.21	28 13.0N	45	0.13	0.17
114 53.0W	54	0.43	0.66	114 15.0W				114 34.0W	59	0.07	0.14
	68	0.26	0.49						74	0.05	0.17
	91	0.04	0.16						89	0.02	0.16

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	DEPTH	CHL A	PHAEO		DEPTH	CHL A	PHAEO		DEPTH	CHL A	PHAEO
STATION 120035	1	1.21	1.04	STATION 120045	0	0.70	0.48	STATION 120050	1	0.34	0.14
08/18/78	11	1.80	1.30	08/20/78	9	0.81	0.75	08/20/78	11	0.32	0.21
0004 GMT	21	2.19	0.95	1957 GMT	26	2.16	1.98	1621 GMT	36	0.18	0.06
	32	1.24	0.46		35	0.17	0.08		45	0.25	0.15
28 03.0N	51	0.09	0.19	27 43.0N	48	0.18	0.12	27 33.0N	60	0.36	0.25
114 54.0W	75	0.08	0.34	115 33.0W	61	0.19	0.36	115 52.5W	75	0.30	0.25
					82	0.13	0.31		99	0.14	0.25
					99	0.07	0.18		119	0.07	0.11
					116	0.04	0.10		138	0.02	0.06
					133	0.02	0.05		167	0.00	0.03
					159	0.00	0.03		196	0.00	0.03
					188	0.01	0.04		235	0.00	0.02
STATION 120060	0	0.34	0.21	STATION 120070	1	0.08	0.03	STATION 120080	1	0.07	0.02
08/20/78	10	0.30	0.30	08/20/78	11	0.08	0.03	08/19/78	11	0.07	0.02
0940 GMT	30	1.36	1.00	0403 GMT	30	0.08	0.03	2156 GMT	35	0.08	0.03
	40	0.61	0.09		40	0.09	0.02		45	0.09	0.03
27 13.0N	55	0.45	0.58	26 53.0N	55	0.11	0.04	26 32.5N	59	0.12	0.06
116 30.5W	70	0.20	0.22	117 10.0W	69	0.17	0.13	117 49.0W	74	0.16	0.11
	95	0.17	0.28		93	0.31	0.42		98	0.20	0.23
	115	0.02	0.05		112	0.16	0.26		117	0.26	0.33
	135	0.01	0.04		131	0.08	0.14		136	0.12	0.25
	155	0.01	0.05		150	0.03	0.06		165	0.03	0.08
	185	0.01	0.05		177	0.01	0.03		193	0.01	0.03
	221	0.01	0.04		210	0.00	0.03		230	0.01	0.02
STATION 123042	0	0.21	0.13	STATION 123050	1	0.19	0.10	STATION 123060	1	0.11	0.03
08/21/78	8	0.26	0.16	08/21/78	11	0.20	0.11	08/21/78	11	0.12	0.04
0847 GMT	25	0.33	0.22	1406 GMT	31	0.19	0.06	1915 GMT	31	0.24	0.11
	33	0.22	0.12		41	0.24	0.11		41	0.83	0.45
27 14.0N	46	0.21	0.17	26 58.0N	56	0.29	0.13	26 38.5N	56	0.41	0.47
114 59.0W	59	0.22	0.34	115 31.0W	71	0.33	0.19	116 09.0W	71	0.21	0.34
	80	0.20	0.37		95	0.18	0.24		96	0.05	0.09
	97	0.12	0.26		115	0.10	0.19		116	0.02	0.05
	114	0.07	0.12		135	0.04	0.08		135	0.01	0.05
	131	0.04	0.10		154	0.02	0.05		155	0.01	0.05
	156	0.01	0.05		183	0.00	0.02		185	0.01	0.05
	186	0.00	0.02		218	0.00	0.01		219	0.01	0.04
STATION 127034	0	0.50	0.11	STATION 127040	2	1.03	0.65	STATION 127050	1	0.53	0.53
08/22/78	10	0.45	0.24	08/22/78	12	0.79	0.89	08/22/78	11	0.68	0.61
1858 GMT	20	0.36	0.19	1403 GMT	32	0.56	0.31	0747 GMT	31	0.30	0.21
	30	0.35	0.27		42	0.35	0.52		41	0.23	0.17
26 55.0N	49	0.50	0.40	26 43.5N	57	0.13	0.28	26 23.0N	56	0.19	0.27
114 06.5W	73	0.26	0.67	114 29.0W	72	0.07	0.23	115 08.0W	71	0.21	0.42
					96	0.03	0.09		96	0.10	0.22
					116	0.01	0.05		116	0.04	0.08
					136	0.00	0.06		136	0.01	0.03
					156	0.00	0.08		156	0.00	0.03
					186	0.00	0.03		185	0.00	0.03
					220	0.00	0.04		220	0.00	0.02
STATION 127060	0	0.35	0.21	STATION 130030	0	1.21	0.36	STATION 130040	1	1.07	0.09
08/22/78	10	0.34	0.17	08/23/78	10	1.49	0.34	08/23/78	11	1.12	0.22
0132 GMT	30	0.14	0.06	0307 GMT	20	1.58	0.50	0938 GMT	31	0.36	0.06
	40	0.19	0.11		29	2.19	0.74		41	0.48	0.16
26 00.6N	55	0.25	0.23	26 29.0N	49	0.48	0.50	26 09.0N	56	0.52	0.33
115 49.0W	70	0.30	0.27	113 29.0W	73	0.42	1.88	114 07.0W	70	0.16	0.23
	95	0.12	0.19						95	0.06	0.18
	115	0.04	0.12						115	0.04	0.17
	135	0.02	0.05						135	0.02	0.10
	155	0.01	0.06						155	0.01	0.06
	185	0.01	0.06						185	0.00	0.03
	220	0.01	0.06						219	0.00	0.04
STATION 130050	1	1.90	0.53	STATION 130060	0	0.08	0.01	STATION 133025	0	0.67	0.12
08/23/78	11	1.38	0.85	08/23/78	9	0.08	0.02	08/25/78	9	0.72	0.20
1506 GMT	31	0.38	0.22	2022 GMT	27	0.09	0.03	0119 GMT	19	0.83	0.17
	41	0.27	0.18		35	0.06	0.02		28	0.92	0.43
25 48.2N	56	0.22	0.16	25 29.0N	48	0.07	0.02	26 04.5N	47	0.83	0.65
114 46.3W	71	0.16	0.21	115 24.0W	60	0.09	0.03	112 48.0W	71	0.35	0.68
	95	0.12	0.25		80	0.21	0.10				
	115	0.07	0.13		96	0.50	0.27				
	135	0.02	0.06		111	0.16	0.16				
	155	0.01	0.07		126	0.12	0.13				
	185	0.00	0.06		148	0.06	0.08				
	219	0.00	0.05		173	0.02	0.01				
STATION 133030	0	0.76	0.47	STATION 133040	0	0.29	0.21	STATION 133050	1	0.12	-0.01
08/24/78	10	0.63	0.28	08/24/78	9	0.33	0.17	08/24/78	10	0.09	0.03
2229 GMT	29	0.78	0.21	1439 GMT	32	0.11	0.03	0902 GMT	34	0.22	0.07
	39	0.58	0.34		41	0.14	0.03		44	0.26	0.15
25 54.5N	54	0.40	0.35	25 34.5N	54	0.20	0.06	25 14.5N	58	0.40	0.28
113 07.5W	69	0.24	0.36	113 45.5W	68	0.52	0.24	114 24.0W	72	0.18	0.20
	83	0.11	0.15		90	0.24	0.25		96	0.06	0.09
	103	0.04	0.13		107	0.12	0.15		115	0.02	0.05
	128	0.02	0.10		125	0.04	0.06		134	0.00	0.03
	154	0.02	0.12		151	0.01	0.03		162	0.01	0.02
					177	0.01	0.02		191	0.01	0.01
					212	0.00	0.02		229	0.01	0.01

RV ALEJANDRO DE HUMBOLDT

CHLOROPHYLL-A AND PHAEOPHYTIN

CALCOFI CRUISE 7808

	DEPTH	CHL A	PHAEO
STATION 133060	0	0.14	0.00
08/24/78	9	0.16	-0.00
0240 GMT	31	0.16	0.02
	40	0.25	-0.00
24 54.5N	53	0.58	0.10
115 02.0W	66	0.48	0.17
	87	0.54	0.30
	104	0.20	0.17
	120	0.09	0.10
	145	0.04	0.04
	169	0.02	0.01
	201	0.01	0.02

STATION 137040	0	0.09	0.02
08/25/78	10	0.09	0.02
1904 GMT	35	0.25	0.05
	44	0.35	0.12
25 00.0N	59	1.19	0.68
113 23.5W	74	0.30	0.32
	98	0.08	0.17
	118	0.04	0.07
	137	0.01	0.05
	166	0.00	0.04
	195	0.00	0.05
	234	0.01	0.03

	DEPTH	CHL A	PHAEO
STATION 137023	0	0.46	0.09
08/25/78	9	0.54	0.08
0751 GMT	19	0.33	0.09
	29	0.47	0.18
25 34.0N	49	0.80	0.45
112 19.0W	75	0.32	0.56

STATION 137050	0	0.18	0.08
08/26/78	10	0.18	0.07
0022 GMT	34	0.10	0.01
	43	0.11	0.03
24 40.0N	58	0.16	0.05
114 02.0W	72	0.30	0.18
	96	0.24	0.19
	114	0.08	0.11
	133	0.03	0.11
	161	0.00	0.04
	189	0.01	0.02
	225	0.00	0.03

	DEPTH	CHL A	PHAEO
STATION 137030	1	0.50	0.19
08/25/78	10	0.36	0.18
1150 GMT	30	0.23	0.10
	44	0.56	0.27
25 20.0N	58	0.35	0.25
112 46.0W	73	0.21	0.23
	87	0.11	0.16
	106	0.05	0.10
	130	0.02	0.07
	159	0.01	0.09
	194	0.02	0.11
	228	0.04	0.35

Secchi Disk Observations

CalCOFI Cruise 7808

Stat #	Mo	Dy	Local Time (+8:PST)	Depth (m)	Weather	Clouds Type/Amt
60.055	8	25	0952	15	4	7 8
60.060	8	25	1307	14	4	7 8
60.065	8	25	1650	12	4	7 8
60.090	8	26	0840	34	1	3 5
63.060	8	24	1510	12	1	6 5
63.065	8	24	1123	15	1	6 6
63.070	8	24	0815	22	1	6 4
63.090	8	26	1545	28	1	6 3
67.050	8	23	1000	11	1	8 1
67.055	8	23	1300	14	1	8 1
67.060	8	23	1650	14	1	8 1
70.051	8	21	1418	13	1	7 2
70.053	8	21	1217	9	4	7 8
70.080	8	20	1730	20	1	6 1
70.090	8	20	1130	24	5	6 7
73.060	8	19	1020	19	2	7 8
73.065	8	19	1335	19	2	7 8
73.070	8	19	1740	20	2	7 8
77.060	8	18	1130	12	2	7 8
77.090	8	17	1253	22	1	8 3
80.060	8	16	1105	14	2	7 8
82.047	8	15	0905	9	4	7 8
83.055	8	14	1525	7	1	8 1
83.060	8	14	1002	17	2	6 8
83.090	8	13	1350	23	1	8 3
87.032 ⁵	8	11	0815	16	2	7 8
87.032 ⁷	8	11	0933	14	2	7 8
87.033	8	11	1043	15	2	7 8
87.034	8	11	1205	11	1	7 7
87.035	8	11	1355	9	1	6 7
87.055	8	12	0910	19	2	7 8
87.060	8	12	1320	31	2	6 8
87.090	8	13	0805	25	2	6 8
90.037	8	9	1438	22	1	8 4
90.042	8	9	1012	22	1	6 7
90.070	8	8	1400	23	2	6 8
90.080	8	8	0820	22	2	6 8
90.110	8	7	1325	22	2	7 8
90.150	8	6	1300	30	2	6 9

Stat #	Mo	Dy	Local Time (+8:PST)	Depth (m)	Weather	Clouds Type/Amt
93.028	8	1	1740	14	1	6 6
93.030	8	1	0802	17	1	8 7
93.035	8	1	1155	20	2	6 8
93.040	8	1	1510	19	1	8 7
93.055	8	2	0810	15	2	6 8
93.060	8	2	1145	9	2	6 8
93.090	8	3	1135	25	2	6 8
93.130	8	4	1433	24	1	6 7
93.180	8	5	1537	21	2	6 8
97.040	8	2	0849	20	2	7 8
97.045	8	2	1231	12	1	7 6
97.050	8	2	1545	13	2	7 8
97.070	8	3	0713	19	2	7 8
97.080	8	3	1240	27	2	7 8
100.045	8	5	1547	12	2	7 8
100.050	8	5	1154	17	2	7 8
100.080	8	4	1720	19	2	6 8
100.090	8	4	1115	20	2	6 8
103.029	8	6	1120	13	1	8 2
103.030	8	6	1233	14	1	8 2
103.035	8	6	1615	15	1	6 3
103.060	8	7	0830	22	2	6 8
103.070	8	7	1440	29	1	7 5
107.035	8	9	1635	21	1	8 3
107.040	8	9	1318	19	1	8 3
107.045	8	9	1125	17	1	7 7
107.050	8	9	0740	14	1	7 7
107.080	8	8	1245	24	2	7 8
107.090	8	8	0800	25	2	7 8
110.040	8	10	0823	26	1	7 7
110.045	8	10	1130	23	1	7 7
110.050	8	10	1435	23	1	8 3
110.080	8	11	0855	32	2	6 8
110.090	8	11	1430	37	1	6 6
113.029	8	13	1000	7	4	7 8
113.030	8	13	0904	7	4	0 2
113.060	8	12	1250	22	2	6 8
113.090	8	11	1957	15	0	- 0
117.040	8	18	0830	15	1	0 1
117.045	8	18	1140	20	1	0 2
117.050	8	18	1450	30	1	0 2
117.080	8	19	0748	33	1	4 6
120.024	8	17	0836	5	1	6 6
120.025	8	17	0940	7	1	6 7
120.030	8	17	1234	8	1	6 2

Stat #	Mo	Dy	Local Time (+8:PST)	Depth (m)	Weather	Clouds Type/Amt
120.035	8	17	1555	13	1	8 1
120.040	8	20	1505	6	1	8 1
120.045	8	20	1130	12	1	8 2
120.050	8	20	0735	13	1	8 3
120.080	8	19	1332	26	1	8 5
123.050	8	21	0635	16	1	0 1
123.060	8	21	1055	18	1	5 2
127.033	8	22	1200	10	0	- 0
127.034	8	22	1035	11	0	- 0
127.060	8	21	1700	13	1	2 4
130.028	8	22	1710	6	1	4 1
130.050	8	23	0730	8	0	- 0
130.060	8	23	1200	27	0	- 0
133.025	8	24	1702	12	0	- 0
133.030	8	24	1401	13	1	9 1
133.035	8	24	1040	13	0	- 0
133.040	8	24	0700	14	0	- 0
137.040	8	25	1030	29	0	- 0
137.050	8	25	1555	17	0	- 0

TRITIUM DATA CALCOFI CRUISE 7801

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 97040		Station 97050		Station 97060	
10	8.52 $\pm$ 0.22	10	8.46 $\pm$ 0.20	10	8.70 $\pm$ 0.24
80	8.05 $\pm$ 0.19	80	8.19 $\pm$ 0.22	80	8.02 $\pm$ 0.22
125	7.21 $\pm$ 0.17	125	7.64 $\pm$ 0.21	125	7.84 $\pm$ 0.21
175	5.30 $\pm$ 0.13	175	6.35 $\pm$ 0.18	175	6.23 $\pm$ 0.17
225	4.98 $\pm$ 0.12	225	4.72 $\pm$ 0.14	225	5.21 $\pm$ 0.15
500	0.22 $\pm$ 0.03	500	0.34 $\pm$ 0.04	500	0.19 $\pm$ 0.03

CALCOFI CRUISE 7803

Station 97040		Station 97050		Station 97060	
10	8.47 $\pm$ 0.23	10	8.13 $\pm$ 0.23	80	8.29 $\pm$ 0.25
125	7.08 $\pm$ 0.20	80	8.33 $\pm$ 0.24	125	7.72 $\pm$ 0.22
175	5.35 $\pm$ 0.15	125	7.16 $\pm$ 0.21	175	6.79 $\pm$ 0.20
225	3.40 $\pm$ 0.11	175	5.74 $\pm$ 0.17	225	5.86 $\pm$ 0.17
500	0.20 $\pm$ 0.03	225	4.94 $\pm$ 0.15	500	0.14 $\pm$ 0.03
Station 97070		Station 97080		Station 97090	
10	8.71 $\pm$ 0.25	10	8.51 $\pm$ 0.26	10	8.28 $\pm$ 0.26
125	6.70 $\pm$ 0.20	80	3.60 $\pm$ 0.27	80	10.2 $\pm$ 0.3
225	5.28 $\pm$ 0.13	125	8.22 $\pm$ 0.26	125	7.84 $\pm$ 0.25
500	0.17 $\pm$ 0.03	175	7.24 $\pm$ 0.23	175	6.73 $\pm$ 0.25
		225	5.81 $\pm$ 0.19	225	5.93 $\pm$ 0.19
		500	0.09 $\pm$ 0.04	500	0.16 $\pm$ 0.04
Station 93040		Station 93030		Station 90031	
0	8.55 $\pm$ 0.23	0	9.00 $\pm$ 0.25	0	8.19 $\pm$ 0.22

CALCOFI CRUISE 7803

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 90037		Station 83043		Station 83051	
0	8.45 $\pm$ 0.23	10	8.7 $\pm$ 0.4	10	8.5 $\pm$ 0.3
		50	7.6 $\pm$ 0.4	50	7.60 $\pm$ 0.27
		80	8.3 $\pm$ 0.3	80	7.42 $\pm$ 0.26
		100	8.4 $\pm$ 0.4	100	7.65 $\pm$ 0.27
		120	7.73 $\pm$ 0.26	125	6.97 $\pm$ 0.25
				150	6.94 $\pm$ 0.25
Station 83060		Station 83070		Station 83080	
10	8.54 $\pm$ 0.28	10	8.4 $\pm$ 0.3	10	8.1 $\pm$ 0.4
100	7.28 $\pm$ 0.24	70	9.1 $\pm$ 0.4	70	8.0 $\pm$ 0.3
125	7.7 $\pm$ 0.4	100	8.20 $\pm$ 0.26	100	9.0 $\pm$ 0.4
175	6.21 $\pm$ 0.14	125	6.71 $\pm$ 0.16	125	8.8 $\pm$ 0.4
500	0.22 $\pm$ 0.03	175	6.11 $\pm$ 0.20	175	5.19 $\pm$ 0.16
		500	0.19 $\pm$ 0.02	500	0.22 $\pm$ 0.03
Station 83090		Station 77051		Station 77060	
10	8.2 $\pm$ 0.4	10	8.1 $\pm$ 0.3	10	9.7 $\pm$ 0.4
70	8.1 $\pm$ 0.4	60	7.4 $\pm$ 0.3	70	7.2 $\pm$ 0.4
100	7.7 $\pm$ 0.4	100	6.8 $\pm$ 0.3	125	6.6 $\pm$ 0.3
125	8.1 $\pm$ 0.4	125	5.65 $\pm$ 0.26	150	5.57 $\pm$ 0.15
175	7.49 $\pm$ 0.17	175	4.99 $\pm$ 0.15	200	4.69 $\pm$ 0.13
500	0.19 $\pm$ 0.03	200	3.74 $\pm$ 0.12	500	0.44 $\pm$ 0.06

CALCOFI CRUISE 7803

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 77080		Station 77090		Station 63052	
10	9.1 $\pm$ 0.3	10	8.9 $\pm$ 0.3	10	8.6 $\pm$ 0.5
70	8.1 $\pm$ 0.3	70	8.5 $\pm$ 0.3	50	8.2 $\pm$ 0.5
125	8.0 $\pm$ 0.4	100	7.5 $\pm$ 0.3	100	8.1 $\pm$ 0.3
150	6.80 $\pm$ 0.19	125	6.60 $\pm$ 0.21	125	7.4 $\pm$ 0.3
200	6.49 $\pm$ 0.19	200	4.71 $\pm$ 0.11	175	5.11 $\pm$ 0.14
		500	0.16 $\pm$ 0.04	200	4.15 $\pm$ 0.13
Station 63060		Station 63070			
10	8.3 $\pm$ 0.3	10	9.4 $\pm$ 0.3		
80	8.7 $\pm$ 0.5	80	7.5 $\pm$ 0.4		
125	7.5 $\pm$ 0.4	125	8.0 $\pm$ 0.4		
175	5.4 $\pm$ 0.15	175	5.58 $\pm$ 0.17		
200	5.04 $\pm$ 0.13	500	0.33 $\pm$ 0.03		
500	0.20 $\pm$ 0.06				

CALCOFI CRUISE 7804

Station 93040		Station 93050		Station 93060	
10	9.4 $\pm$ 0.4	10	9.7 $\pm$ 0.4	10	8.93 $\pm$ 0.28
80	7.6 $\pm$ 0.3	80	9.1 $\pm$ 0.4	80	7.96 $\pm$ 0.22
125	7.5 $\pm$ 0.3	175	4.97 $\pm$ 0.13	125	7.04 $\pm$ 0.20
175	4.75 $\pm$ 0.29	225	3.99 $\pm$ 0.13	175	6.42 $\pm$ 0.18
225	2.93 $\pm$ 0.08	500	0.12 $\pm$ 0.04	225	4.94 $\pm$ 0.14
				500	0.14 $\pm$ 0.03

CALCOFI CRUISE 7804

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 93070		Station 93080		Station 93090	
10	9.1 $\pm$ 0.3	10	9.0 $\pm$ 0.3	10	9.2 $\pm$ 0.4
80	8.5 $\pm$ 0.3	80	8.4 $\pm$ 0.3	80	9.0 $\pm$ 0.4
125	8.4 $\pm$ 0.3	125	8.12 $\pm$ 0.22	125	7.67 $\pm$ 0.26
175	7.5 $\pm$ 0.3	175	7.00 $\pm$ 0.20	175	6.4 $\pm$ 0.3
225	4.88 $\pm$ 0.15	225	6.20 $\pm$ 0.18	225	4.51 $\pm$ 0.15
500	0.22 $\pm$ 0.06	500	0.17 $\pm$ 0.06	500	0.24 $\pm$ 0.06
Station 93140		Station 93200		Station 83070	
10	9.2 $\pm$ 0.4	10	9.2 $\pm$ 0.4	10	9.00 $\pm$ 0.22
80	8.7 $\pm$ 0.4	80	9.8 $\pm$ 0.4	80	6.75 $\pm$ 0.18
125	9.06 $\pm$ 0.29	125	8.31 $\pm$ 0.17	125	7.82 $\pm$ 0.20
175	8.4 $\pm$ 0.4	175	7.87 $\pm$ 0.21	175	5.60 $\pm$ 0.16
225	6.39 $\pm$ 0.20	225	7.34 $\pm$ 0.20	225	5.19 $\pm$ 0.16
500	0.24 $\pm$ 0.03	500	0.27 $\pm$ 0.03	500	0.32 $\pm$ 0.08
Station 83060		Station 83051		Station 83042	
10	7.9 $\pm$ 0.3	10	8.04 $\pm$ 0.21	10	9.36 $\pm$ 0.22
80	7.19 $\pm$ 0.29	50	7.30 $\pm$ 0.19	50	8.41 $\pm$ 0.20
125	6.85 $\pm$ 0.18	70	7.45 $\pm$ 0.19	80	6.98 $\pm$ 0.18
175	5.00 $\pm$ 0.14	100	6.87 $\pm$ 0.16	100	7.47 $\pm$ 0.19
200	4.03 $\pm$ 0.13	135	6.04 $\pm$ 0.15	120	5.42 $\pm$ 0.18
500	0.21 $\pm$ 0.03			130	5.64 $\pm$ 0.16

CALCOFI CRUISE 7804

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 77070		Station 77060		Station 77050	
10	8.35 $\pm$ 0.19	10	8.3 $\pm$ 0.3	10	7.8 $\pm$ 0.3
70	8.11 $\pm$ 0.26	70	7.4 $\pm$ 0.3	60	7.5 $\pm$ 0.3
125	7.34 $\pm$ 0.23	125	6.51 $\pm$ 0.22	100	6.38 $\pm$ 0.22
150	6.86 $\pm$ 0.18	150	5.99 $\pm$ 0.19	125	6.15 $\pm$ 0.21
200	5.07 $\pm$ 0.14	200	4.69 $\pm$ 0.15	175	4.71 $\pm$ 0.16
500	0.26 $\pm$ 0.14	500	0.48 $\pm$ 0.06	200	4.25 $\pm$ 0.15
Station 63060		Station 63055			
10	8.0 $\pm$ 0.4	10	8.3 $\pm$ 0.3		
80	6.51 $\pm$ 0.18	50	7.1 $\pm$ 0.3		
125	5.65 $\pm$ 0.15	100	6.16 $\pm$ 0.21		
175	4.87 $\pm$ 0.16	125	5.67 $\pm$ 0.18		
200	4.17 $\pm$ 0.14	175	5.6 $\pm$ 0.4		
500	0.33 $\pm$ 0.04	200	4.20 $\pm$ 0.14		

CALCOFI CRUISE 7808

Station 93030		Station 93040		Station 93050	
0	7.5 $\pm$ 0.4	0	8.0 $\pm$ 0.4	10	8.7 $\pm$ 0.3
		10	7.5 $\pm$ 0.4	85	6.35 $\pm$ 0.29
		80	6.5 $\pm$ 0.4	130	5.3 $\pm$ 0.3
		125	4.9 $\pm$ 0.4	235	1.87 $\pm$ 0.09
		225	3.08 $\pm$ 0.10	340	0.42 $\pm$ 0.06
		325	0.90 $\pm$ 0.06	525	0.31 $\pm$ 0.06
		500	0.31 $\pm$ 0.06		

CALCOFI CRUISE 7808

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 93060		Station 93070		Station 93080	
10	7.3 $\pm$ 0.3	10	8.5 $\pm$ 0.4	10	8.0 $\pm$ 0.4
80	7.1 $\pm$ 0.3	80	7.3 $\pm$ 0.3	80	7.4 $\pm$ 0.4
125	5.4 $\pm$ 0.3	125	6.2 $\pm$ 0.4	125	6.9 $\pm$ 0.4
175	4.03 $\pm$ 0.14	175	5.2 $\pm$ 0.3	175	5.60 $\pm$ 0.19
225	2.24 $\pm$ 0.11	225	4.10 $\pm$ 0.13	225	4.40 $\pm$ 0.15
325	0.89 $\pm$ 0.08	325	1.13 $\pm$ 0.07	325	1.11 $\pm$ 0.08
500	0.08 $\pm$ 0.05	500	0.26 $\pm$ 0.06	500	0.46 $\pm$ 0.07
Station 93090		Station 93140		Station 93180	
10	8.9 $\pm$ 0.4	10	8.4 $\pm$ 0.4	10	8.62 $\pm$ 0.22
80	7.9 $\pm$ 0.4	80	8.7 $\pm$ 0.4	80	7.79 $\pm$ 0.20
125	7.8 $\pm$ 0.3	125	6.80 $\pm$ 0.20	125	7.8 $\pm$ 0.3
175	6.71 $\pm$ 0.24	225	5.98 $\pm$ 0.19	175	7.50 $\pm$ 0.19
225	6.40 $\pm$ 0.18	325	4.52 $\pm$ 0.14	225	7.01 $\pm$ 0.18
325	2.60 $\pm$ 0.09	500	0.29 $\pm$ 0.06	325	5.23 $\pm$ 0.18
500	1.14 $\pm$ 0.06			500	0.44 $\pm$ 0.07
Station 90037		Station 90030		Station 83090	
0	8.1 $\pm$ 0.4	0	8.1 $\pm$ 0.4	10	8.5 $\pm$ 0.4
				70	8.2 $\pm$ 0.4
				100	7.03 $\pm$ 0.21
				125	6.74 $\pm$ 0.20
				175	7.0 $\pm$ 0.4
				300	5.08 $\pm$ 0.15
				500	0.63 $\pm$ 0.05

CALCOFI CRUISE 7808

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 83080		Station 83070		Station 83060	
10	7.3 $\pm$ 0.4	10	8.3 $\pm$ 0.4	10	7.59 $\pm$ 0.18
70	6.4 $\pm$ 0.4	75	7.6 $\pm$ 0.3	70	7.46 $\pm$ 0.19
100	6.2 $\pm$ 0.4	105	5.91 $\pm$ 0.28	100	6.38 $\pm$ 0.18
125	6.2 $\pm$ 0.3	130	5.07 $\pm$ 0.29	125	6.01 $\pm$ 0.17
175	4.98 $\pm$ 0.22	185	4.13 $\pm$ 0.12	175	3.84 $\pm$ 0.12
300	2.63 $\pm$ 0.10	315	1.65 $\pm$ 0.06	300	1.07 $\pm$ 0.06
500	0.21 $\pm$ 0.05	525	0.07 $\pm$ 0.06	500	0.15 $\pm$ 0.07
Station 83051		Station 83042		Station 77090	
10	7.7 $\pm$ 0.3	10	6.8 $\pm$ 0.4	10	8.0 $\pm$ 0.3
50	7.5 $\pm$ 0.4	50	6.8 $\pm$ 0.4	70	8.2 $\pm$ 0.3
80	7.3 $\pm$ 0.4	80	5.84 $\pm$ 0.28	125	7.6 $\pm$ 0.4
100	6.3 $\pm$ 0.3	100	6.21 $\pm$ 0.21	150	6.5 $\pm$ 0.3
130	6.2 $\pm$ 0.3	130	6.0 $\pm$ 0.3	200	4.63 $\pm$ 0.15
				325	2.10 $\pm$ 0.09
				500	0.31 $\pm$ 0.06
Station 77080		Station 77070		Station 77060	
10	7.0 $\pm$ 0.4	10	7.18 $\pm$ 0.18	10	7.3 $\pm$ 0.4
70	7.7 $\pm$ 0.5	70	6.90 $\pm$ 0.20	70	6.7 $\pm$ 0.4
125	4.6 $\pm$ 0.3	125	5.05 $\pm$ 0.14	125	4.9 $\pm$ 0.3
150	4.1 $\pm$ 0.3	150	4.06 $\pm$ 0.13	150	4.49 $\pm$ 0.13
200	3.05 $\pm$ 0.13	200	3.25 $\pm$ 0.11	200	3.07 $\pm$ 0.11
325	1.42 $\pm$ 0.08	325	1.46 $\pm$ 0.08	325	0.79 $\pm$ 0.07
500	0.29 $\pm$ 0.06	500	0.33 $\pm$ 0.21	500	0.16 $\pm$ 0.07

CALCOFI CRUISE 7808

depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU	depth (meters)	TU $\pm$ σ TU
Station 77051		Station 63070		Station 63060	
10	6.5 $\pm$ 0.4	10	8.1 $\pm$ 0.3	10	7.4 $\pm$ 0.3
60	5.9 $\pm$ 0.3	80	7.1 $\pm$ 0.4	80	5.33 $\pm$ 0.25
100	4.77 $\pm$ 0.15	125	5.7 $\pm$ 0.4	125	4.84 $\pm$ 0.29
125	5.18 $\pm$ 0.16	200	5.44 $\pm$ 0.16	200	3.97 $\pm$ 0.13
175	4.9 $\pm$ 0.4	325	1.10 $\pm$ 0.07	325	2.57 $\pm$ 0.09
200	4.0 $\pm$ 0.14	500	0.21 $\pm$ 0.06	500	0.31 $\pm$ 0.05
Station 63055		Station 60070			
10	7.6 $\pm$ 0.4	10	8.0 $\pm$ 0.4		
50	6.4 $\pm$ 0.4	80	7.9 $\pm$ 0.4		
100	6.4 $\pm$ 0.5	125	6.9 $\pm$ 0.3		
125	6.3 $\pm$ 0.4	200	5.26 $\pm$ 0.16		
175	5.7 $\pm$ 0.4	325	2.73 $\pm$ 0.11		
200	4.33 $\pm$ 0.15	500	0.42 $\pm$ 0.07		

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