GEOSECS EXPEDITION

LEG F

R/V MELVILLE

INFORMAL REPORT AND INDEX OF

NAVIGATION, DEPTH AND MAGNETIC DATA

Pago Pago, Samoa (3 January 1974)

to

Wellington, New Zealand (28 January 1974)

Chief Scientist - P. Biscaye

Resident Marine Tech - R. Wilson

Post-Cruise Processing by - S. Smith, U. Albright,

G. Psaropulos, R. Lingley, J.L. Abbott

Prepared by

Underway Data Processing Group

S.I.O. Geological Data Center

Scripps Institution of Oceanography

La Jolla, California

November 6, 1975

Preliminary Report and Index of Navigation, Depth,[+] Magnetic and Subbottom Profiler Data[*]

Contents:

Index Chart - gives track of cruise leg and boundaries of depth compilation plots (see below).

Track Charts - annotated with dates (day/month) and hour ticks. The scale (.3"/deg. long) is the same as the index charts of previous SIO cruises published as Report IMR TR-25.

Profiles - Depth and magnetic anomaly vs. distance. Dates (day/month) and positions of major course changes (greater than 30 degrees) are annotated. Sections of track having subbottom profiler (airgun) records have a solid black line along the bottom of the profile.

For information on the availability and reproduction costs of data in the following forms, contact T. E. Chase, Curator, Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92093 Phone: (714) 452-2182

1. Navigation listing of times and positions of course and speed changes, fixes and drift velocity.

2. Depth compilation plots - in fathoms (assumed sound velocity of 800 fm./sec.) at approximately 1 mile spacing, plotted at 4" degree with standard U.S. Navy Oceanographic Office BC series boundaries (see index chart).

3. Plots of magnetic anomaly profiles along track-map scale = 1.2"/ degree; anomaly scale between 15°N and 15°S latitude = 500 gamma/inch; anomaly scale north of 15°N and south of 15°S = 1000 gamma/inch) from values retrieved at approximately 1 mile spacing and regional field removed using the 1965 IGRF.

4. Card Decks of navigation, depth and magnetics (for specific formats, contact S. M. Smith, Geological Data Center). Phone: (714) 452-2752

5. S.I.O. Sample Index - list of beginning and end times and positions of all underway records as well as all other samples (geology, biology, physical oceanography, etc.) collected on the cruise leg.

6. Microfilm or Xerox copies of:

   a. Echosounder records - 12 and 3.5 kHz frequency

   b. Subbottom profiler records (airgun)

   c. Magnetometer records

   d. Underway Data Log

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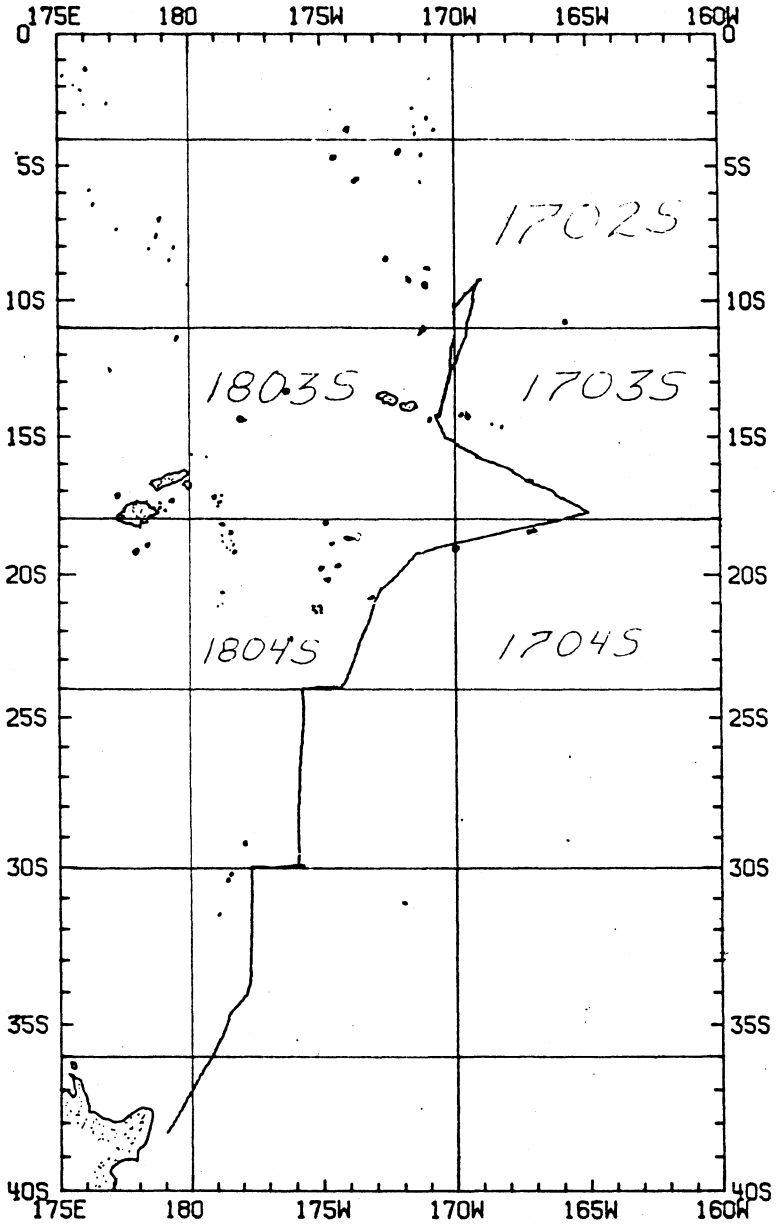
* No subbottom profiler data was taken on this leg. Cruise report delay due to shipboard computer/receiver problems requiring reprocessing of satellite fixes.

+ Depths not recorded 17-28 January because of fathometer malfunction.

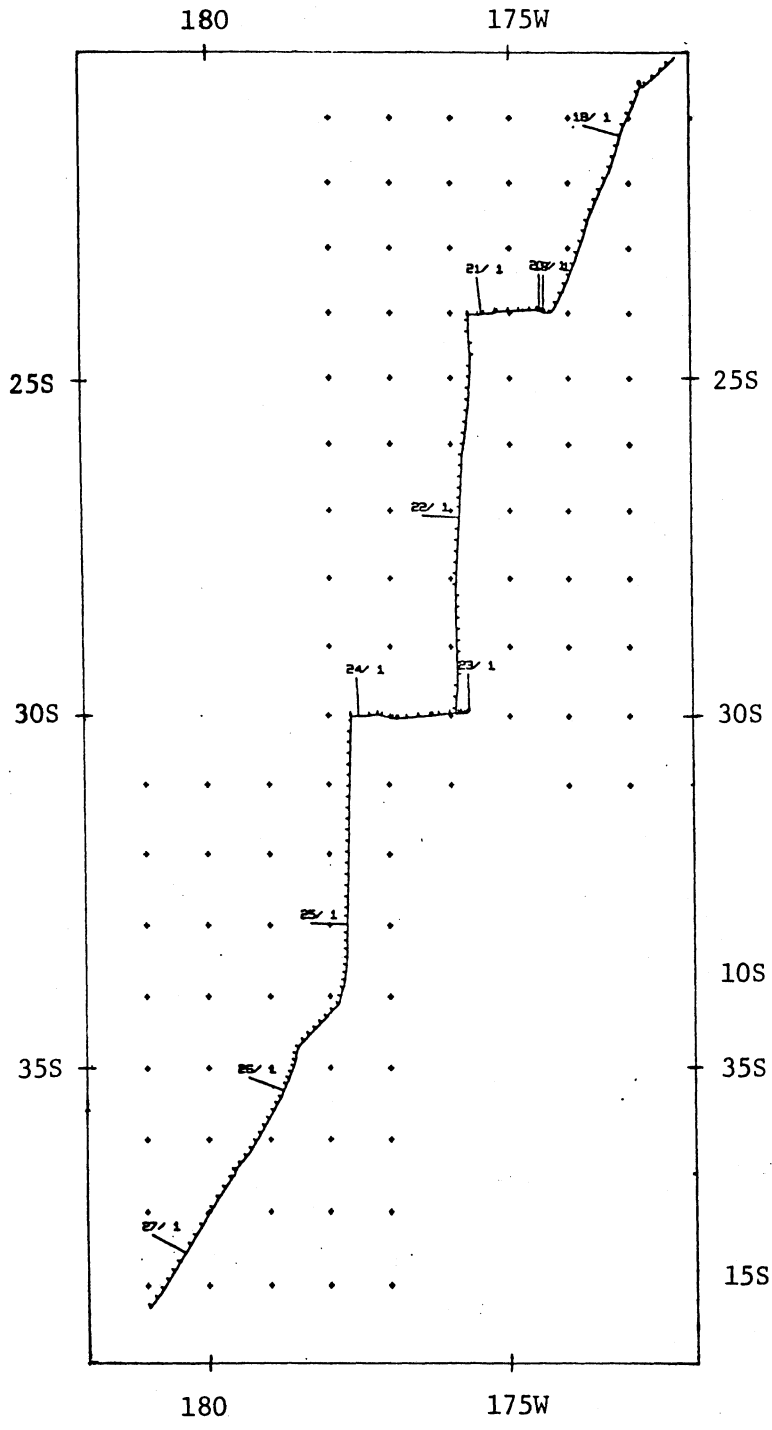


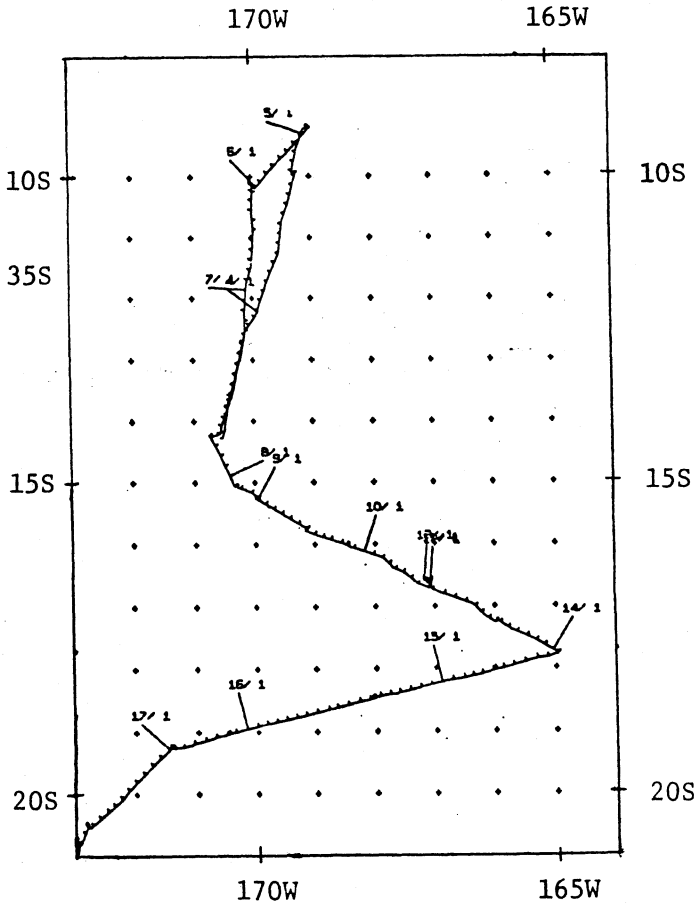
GEOSECS EXPEDITION
LEG F
R/V MELVILLE

Chief Scientist - P. Biscaye
Pago Pago - Wellington, N.Z. (3 January 1974 - 28 January 1974)

TOTAL MILEAGE

1) Cruise - 3026 miles
2) Bathymetry - 1465 miles
3) Magnetics - 2623 miles
4) Seismic Reflection - none collected



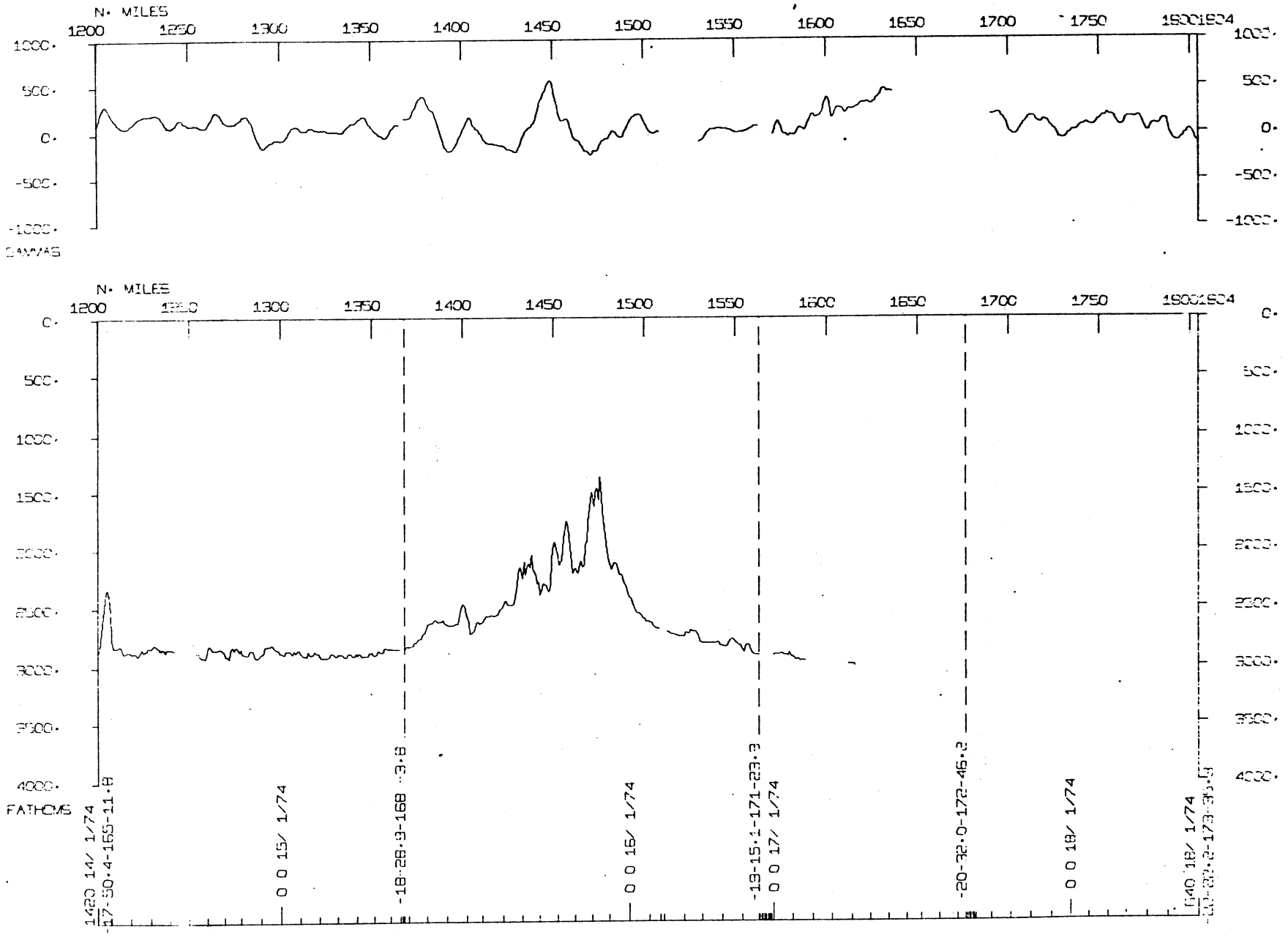


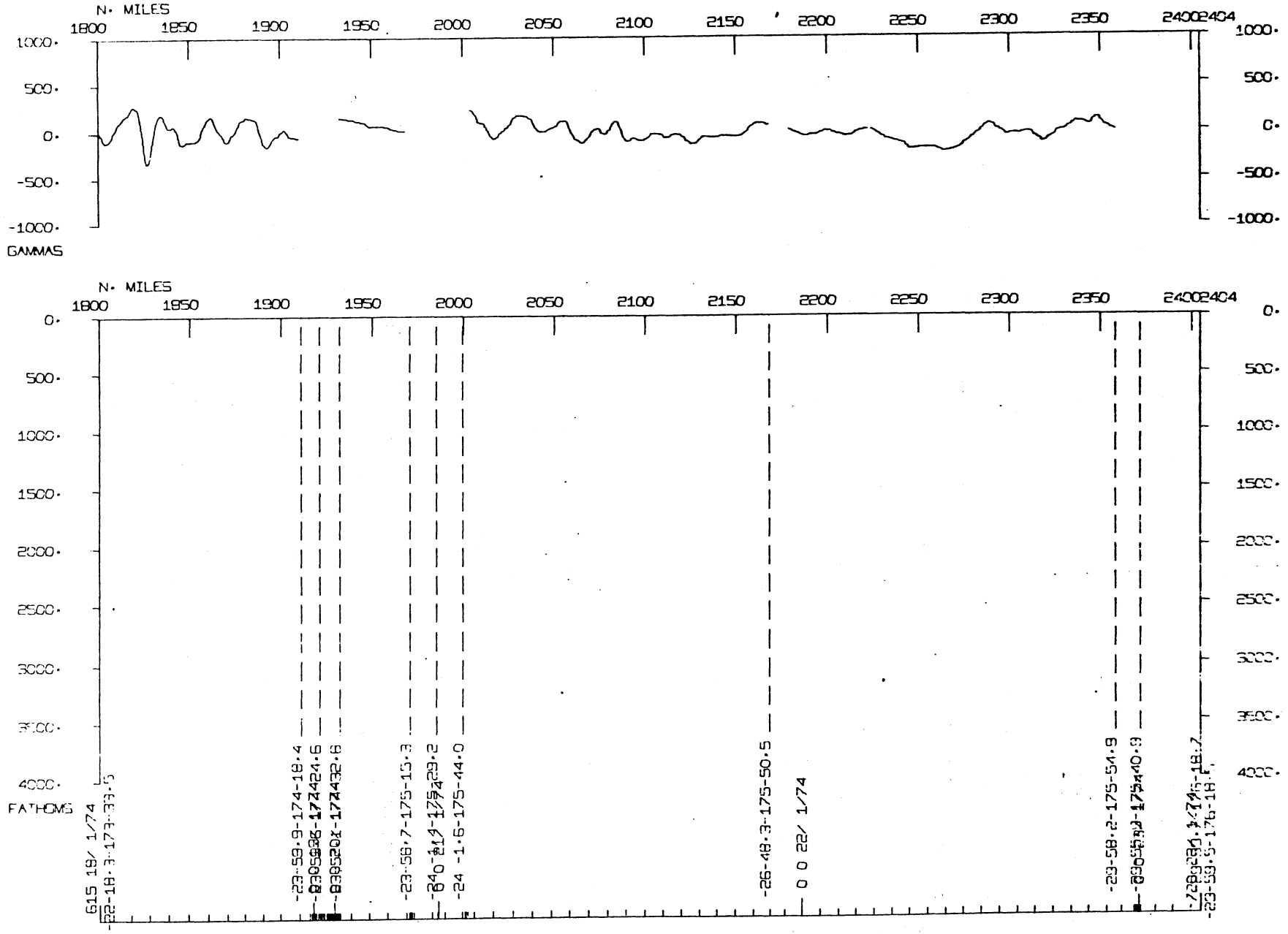
GEOSECS LEG F

TRACK PLOT (1 of 1)

GEOSECS LEG 7

CHOSEOS LEG F
N. MILES
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1203
1000.
500.
0.
-500.
-1000.
GAMMAS
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
-12-50.0-170-11.0
545 7/ 1/74
-13-39.3-170-23.7
-14-12.3-170-34.5
-14-16.0-170-44.5
0 0 8/ 1/74
-15-3.8-170-20.4
-15-17.4-169-54.3
0 0 9/ 1/74
-15-44.6-169 -7.7
-16 -1.4-168-26.9
0 0 10/ 1/74
-16-43.1-167 -5.4
-17-16.0-165-59.8
-16-44.5-167 -3.0
-17-51.0-165-16.6
1445 14/ 1/74


N. MILES
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750
1800
1824
1000.
500.
0.
-500.
-1000.
GAMMAS
N. MILES
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
1420 14/ 1/74
-17-30.4-165-11.8
0 0 15/ 1/74
-18-28.9-168 -3.8
0 0 16/ 1/74
-19-15.1-171-23.3
0 0 17/ 1/74
-20-32.0-172-46.2
0 0 18/ 1/74


N. MILES
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300
2350
24002404
1000.
500.
0.
-500.
-1000.
GAMMAS
N. MILES
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300
2350
24002404
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
615 18/ 1/74
-23-59.9-174-18.4
-24 -1.6-175-44.0
-26-48.3-175-50.5
0 0 22/ 1/74
-23-58.2-175-54.9

GEOSECS LEG 1
N. MILES
GAMMAS
FATHOMS
-30 -1.7-176-45.0
-29-59.9-177 -8.3
-29-58.9-177-38.3
0 0 25/ 1/74
-34 -6.2-177-52.2
-36-26.2-179-35.7
-37 -1.1 179 59.4
0 0 27/ 1/74

N. MILES
3000
3023
1000.
500.
0.
-500.
-1000.
GAMMAS
N. MILES
3000
3023
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
3825 27/ 1/74
-37-58.3 179 17.5
6620 27/ 1/74
-38-17.5 179 0.4

SAMPLE INDEX GEOSECS LEG F

LISTED 17DEC75

0500 030174 LGPT B PAGO PAGO, AM. SAMOA 13 496S 172 296W F GECSOFMV
1900 280174 LGPT E WELLINGTON, N. Z. 41 525S 176 232E F GECSOFMV

PERSONNEL

0	0 0 0	PECS	BISCAYE, P.	LDO	0	ON	0	OE	GECSOFMV
0	0 0 0	PERT	WILSON, R.	GRD	0	ON	0	OE	GECSOFMV
0	0 0 0	PEMT	BRENNEN, R.	DCP	0	ON	0	OE	GECSOFMV
0	0 0 0	PEET	EVANS, W.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PEMT	RAGAN, P.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PEET	SANCHEZ, F.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PECT	SPIEGELBERG, JOHN	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PEMT	TOY, C.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PEMT	WALDORF, B.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PEMT	WHITEHOUSE, A.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	CULBERSON, C.	OSU	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	GILBERT, A.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PEXN	GOBAT, D.	SIX	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	HOROWITZ, R.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	KIPPHUT, G.	LDO	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	LINGLE, D.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	MOORE, W.	SIX	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	PRICE, W.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	SANBORN, K.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PEXN	SLATER, E.	CAN	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	SPIEGELBERG, JOAN	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	WILLIAMS, R.	GOG	0	ON	0	OE	GECSOFMV
0	0 0 0	PE	YATES, R.	GOG	0	ON	0	OE	GECSOFMV

*** NOTE *** TIME ZONES AND MINUTES OF LATITUDE AND LONGITUDE ARE LISTED
IN TENTHS (E.G. 10.6 IS LISTED AS 106)

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
UNDERWAY DATA - CURATOR T.E. CHASE 2ND FLOOR AQUARIUM (EXT.2182)									
*** LOG BOOK ***									
0500	3	174		LBUW B	GEOPHYSICAL LOG	GDC	13 496S	172 296W	F GECSOFMV
0555	27	174		LBUW E	GEOPHYSICAL LOG	GDC	41 525S	176232EW	F GECSOFMV
*** NAVIGATION PLOTS ***									
700	3	174		NVBP B	BRIDGE PLOT-01	GDC	14 108S	170 302W	S GECSOFMV
612	4	174		NVBP E	BRIDGE PLOT-01	GDC	11 231S	169 356W	S GECSOFMV
612	4	174		NVBP B	BRIDGE PLOT-02	GDC	11 231S	169 356W	S GECSOFMV
1315	6	174		NVBP E	BRIDGE PLOT-02	GDC	10 57S	169 590W	S GECSOFMV
1315	6	174		NVBP B	BRIDGE PLOT-03	GDC	10 57S	169 590W	S GECSOFMV
1629	9	174		NVBP E	BRIDGE PLOT-03	GDC	15 573S	168 387W	S GECSOFMV
1629	9	174		NVBP B	BRIDGE PLOT-04	GDC	15 573S	168 387W	S GECSOFMV
1020	14	174		NVBP E	BRIDGE PLOT-04	GDC	17 472S	164 597W	S GECSOFMV
1020	14	174		NVBP B	BRIDGE PLOT-05	GDC	17 472S	164 597W	S GECSOFMV
334	20	174		NVBP E	BRIDGE PLOT-05	GDC	23 579S	174 315W	S GECSOFMV
334	20	174		NVBP B	BRIDGE PLOT-06	GDC	23 579S	174 315W	S GECSOFMV
2	24	174		NVBP E	BRIDGE PLOT-06	GDC	30 5S	177 316W	S GECSOFMV
2	24	174		NVBP B	BRIDGE PLOT-07	GDC	30 5S	177 316W	S GECSOFMV
1945	25	174		NVBP E	BRIDGE PLOT-07	GDC	34 571S	178 374W	S GECSOFMV
1645	25	174		NVBP B	BRIDGE PLOT-08	GDC	34 410S	178 325W	S GECSOFMV
750	27	174		NVBP E	BRIDGE PLOT-08	GDC	38 176S	179 3E	S GECSOFMV
MAGNETOMETER									
634	3	174		MGR B	MAGNETICS R-01	GDC	14 154S	170 317W	S GECSOFMV
41	14	174		MGR E	MAGNETICS R-01	GDC	17 466S	164 575W	S GECSOFMV
42	14	174		MGR B	MAGNETICS R-02	GDC	17 466S	164 575W	S GECSOFMV
611	27	174		MGR E	MAGNETICS R-02	GDC	38 171S	179 7E	S GECSOFMV

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
***FATHOGRAMS ***									
640	3	174			DPRT B GDR 12 KHZ R-01	GDC	14 144S	170 314W	S GECSOFMV
1935	3	174			DPRT E GDR 12 KHZ R-01	GDC	12 139S	169 543W	S GECSOFMV
45	4	174			DPRT B GDR 12 KHZ R-02	GDC	12 134S	169 547W	S GECSOFMV
153	5	174			DPRT E GDR 12 KHZ R-02	GDC	9 115S	168 594W	S GECSOFMV
950	5	174			DPRT B GDR 12 KHZ R-03	GDC	9 116S	168 596W	S GECSOFMV
1754	5	174			DPRT E GDR 12 KHZ R-03	GDC	10 119S	169 555W	S GECSOFMV
1328	6	174			DPRT B GDR 12 KHZ R-04	GDC	10 79S	169 590W	S GECSOFMV
210	7	174			DPRT E GDR 12 KHZ R-04	GDC	12 133S	170 82W	S GECSOFMV
212	7	174			DPRT B GDR 12 KHZ R-05	GDC	12 137S	170 82W	S GECSOFMV
1042	7	174			DPRT E GDR 12 KHZ R-05	GDC	13 390S	170 236W	S GECSOFMV
1416	7	174			DPRT B GDR 12 KHZ R-06	GDC	13 385S	170 238W	S GECSOFMV
110	8	174			DPRT E GDR 12 KHZ R-06	GDC	15 35S	170 209W	S GECSOFMV
824	8	174			DPRT B GDR 12 KHZ R-07	GDC	15 36S	170 200W	S GECSOFMV
1123	8	174			DPRT E GDR 12 KHZ R-07	GDC	15 173S	169 543W	S GECSOFMV
2351	8	174			DPRT B GDR 12 KHZ R-08	GDC	15 161S	169 593W	S GECSOFMV
600	9	174			DPRT E GDR 12 KHZ R-08	GDC	15 444S	169 78W	S GECSOFMV
1249	9	174			DPRT B GDR 12 KHZ R-09	GDC	15 468S	169 99W	S GECSOFMV
1738	9	174			DPRT E GDR 12 KHZ R-09	GDC	16 8S	168 280W	S GECSOFMV
2225	9	174			DPRT B GDR 12 KHZ R-10	GDC	16 20S	168 262W	S GECSOFMV
810	10	174			DPRT E GDR 12 KHZ R-10	GDC	16 431S	167 54W	S GECSOFMV
413	13	174			DPRT B GDR 12 KHZ R-11	GDC	16 348S	167 117W	S GECSOFMV
1240	13	174			DPRT E GDR 12 KHZ R-11	GDC	17 157S	166 3W	S GECSOFMV
1746	13	174			DPRT B GDR 12 KHZ R-12	GDC	17 149S	165 569W	S GECSOFMV
41	14	174			DPRT E GDR 12 KHZ R-12	GDC	17 466S	164 575W	S GECSOFMV
1258	14	174			DPRT B GDR 12 KHZ R-13	GDC	17 470S	164 593W	S GECSOFMV
625	15	174			DPRT E GDR 12 KHZ R-13	GDC	18 273S	168 13W	S GECSOFMV
1140	15	174			DPRT B GDR 12 KHZ R-14	GDC	18 289S	168 41W	S GECSOFMV
747	16	174			DPRT E GDR 12 KHZ R-14	GDC	19 150S	171 236W	S GECSOFMV
1	17	174			DPRT B GDR 12 KHZ R-15	GDC	19 166S	171 290W	S GECSOFMV
725	17	174			DPRT E GDR 12 KHZ R-15	GDC	20 129S	172 238W	S GECSOFMV

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
SALINITY, TEMPERATURE, DEPTH									
1935	3 174			GCTD	B GEOSECS STA 255	GOG	12 139S	169 543W	S GECSOFMV
35	4 174			GCTD	E GEOSECS STA 255	GOG	12 142S	169 549W	S GECSOFMV
153	5 174			GCTD	B GEOSECS STA 256	GOG	9 115S	168 594W	S GECSOFMV
950	5 174			GCTD	E GEOSECS STA 256	GOG	9 116S	168 596W	S GECSOFMV
1042	7 174			GCTD	B GEOSECS STA 258	GOG	13 390S	170 236W	S GECSOFMV
1414	7 174			GCTD	E GEOSECS STA 258	GOG	13 385S	170 237W	S GECSOFMV
110	8 174			GCTD	B GEOSECS STA 259	GOG	15 35S	170 209W	S GECSOFMV
824	8 174			GCTD	E GEOSECS STA 259	GOG	15 36S	170 200W	S GECSOFMV
600	9 174			GCTD	B GEOSECS STA 261	GOG	15 444S	169 78W	S GECSOFMV
1237	9 174			GCTD	E GEOSECS STA 261	GOG	15 466S	169 102W	S GECSOFMV
1738	9 174			GCTD	B GEOSECS STA 262	GOG	16 8S	168 280W	S GECSOFMV
2235	9 174			GCTD	E GEOSECS STA 262	GOG	16 27S	168 250W	S GECSOFMV
1242	13 174			GCTD	B GEOSECS STA 264	GOG	17 159S	165 600W	S GECSOFMV
1532	13 174			GCTD	E GEOSECS STA 264	GOG	17 159S	165 594W	S GECSOFMV
625	15 174			GCTD	B GEOSECS STA 266	GOG	18 273S	168 13W	S GECSOFMV
1135	15 174			GCTD	E GEOSECS STA 266	GOG	18 289S	168 39W	S GECSOFMV
1027	17 174			GCTD	B GEOSECS STA 268	GOG	20 320S	172 462W	S GECSOFMV
1901	17 174			GCTD	E GEOSECS STA 268	GOG	20 281S	172 475W	S GECSOFMV
1520	20 174			GCTD	B GEOSECS STA 270	GOG	23 589S	175 145W	S GECSOFMV
1955	20 174			GCTD	E GEOSECS STA 270	GOG	23 600S	175 148W	S GECSOFMV
2115	20 174			GCTD	B GEOSECS STA 271	GOG	24 14S	175 292W	S GECSOFMV
37	21 174			GCTD	E GEOSECS STA 271	GOG	24 18S	175 289W	S GECSOFMV
205	21 174			GCTD	B GEOSECS STA 272	GOG	24 16S	175 440W	S GECSOFMV
537	21 174			GCTD	E GEOSECS STA 272	GOG	24 34S	175 418W	S GECSOFMV
634	23 174			GCTD	B GEOSECS STA 274	GOG	29 597S	176 187W	S GECSOFMV
950	23 174			GCTD	E GEOSECS STA 274	GOG	29 599S	176 189W	S GECSOFMV
1303	23 174			GCTD	B GEOSECS STA 275	GOG	30 23S	176 521W	S GECSOFMV
1739	23 174			GCTD	E GEOSECS STA 275	GOG	30 30S	176 542W	S GECSOFMV
1928	23 174			GCTD	B GEOSECS STA 276	GOG	29 589S	177 132W	S GECSOFMV
2223	23 174			GCTD	E GEOSECS STA 276	GOG	29 593S	177 137W	S GECSOFMV

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
48	24 174			GCTD B	GEOSECS STA 277	GOG	30 8S	177 396W	S GECSOFMV
420	24 174			GCTD E	GEOSECS STA 277	GOG	29 589S	177 383W	S GECSOFMV
1135	26 174			GCTD B	GEOSECS STA 278	GOG	36 304S	179 362W	S GECSOFMV
1550	26 174			GCTD E	GEOSECS STA 278	GOG	36 316S	179 385W	S GECSOFMV
GEOCHEMICAL STATION-SMALL VOLUME									
1123	8 174			GCSV B	GEOSECS STA 260	GOG	15 173S	169 543W	S GECSOFMV
2330	8 174			GCSV E	GEOSECS STA 260	GOG	15 156S	170 1W	S GECSOFMV
41	14 174			GCSV B	GEOSECS STA 265	GOG	17 466S	164 575W	S GECSOFMV
1254	14 174			GCSV E	GEOSECS STA 265	GOG	17 469S	164 589W	S GECSOFMV
752	16 174			GCSV B	GEOSECS STA 267	GOG	19 151S	171 239W	S GECSOFMV
2352	16 174			GCSV E	GEOSECS STA 267	GOG	19 159S	171 282W	S GECSOFMV
1734	22 174			GCSV B	GEOSECS STA 273	GOG	29 582S	175 549W	S GECSOFMV
300	23 174			GCSV E	GEOSECS STA 273	GOG	29 559S	175 409W	S GECSOFMV
GEOCHEMICAL STATION-LARGE VOLUME									
1754	5 174			GCLV B	GEOSECS STA 257	GOG	10 119S	169 555W	S GECSOFMV
1313	6 174			GCLV E	GEOSECS STA 257	GOG	10 56S	169 590W	S GECSOFMV
810	10 174			GCLV B	GEOSECS STA 263	GOG	16 431S	167 54W	S GECSOFMV
400	13 174			GCLV E	GEOSECS STA 263	GOG	16 344S	167 128W	S GECSOFMV
1716	18 174			GCLV B	GEOSECS STA 269	GOG	23 599S	174 183W	S GECSOFMV
1120	20 174			GCLV E	GEOSECS STA 269	GOG	23 571S	174 331W	S GECSOFMV
BATHYTHERMOGRAPH									
0	3 174			BTX	NR. SAMPLES = 2	BTS	14 175S	170 355W	S GECSOFMV
0	4 174			BTX	NR. SAMPLES = 2	BTS	12 139S	169 543W	S GECSOFMV
0	5 174			BTX	NR. SAMPLES = 2	BTS	9 176S	169 72W	S GECSOFMV
0	6 174			BTX	NR. SAMPLES = 1	BTS	10 104S	169 546W	S GECSOFMV
0	7 174			BTX	NR. SAMPLES = 2	BTS	11 520S	170 66W	S GECSOFMV
0	8 174			BTX	NR. SAMPLES = 2	BTS	14 533S	170 257W	S GECSOFMV
0	10 174			BTX	NR. SAMPLES = 2	BTS	16 69S	168 110W	S GECSOFMV
0	13 174			BTX	NR. SAMPLES = 3	BTS	16 363S	167 114W	S GECSOFMV
0	14 174			BTX	NR. SAMPLES = 3	BTS	17 433S	165 32W	S GECSOFMV
0	15 174			BTX	NR. SAMPLES = 2	BTS	18 132S	166 545W	S GECSOFMV
0	16 174			BTX	NR. SAMPLES = 4	BTS	18 570S	170 118W	S GECSOFMV
0	17 174			BTX	NR. SAMPLES = 1	BTS	19 164S	171 289W	S GECSOFMV
0	18 174			BTX	NR. SAMPLES = 2	BTS	21 165S	173 86W	S GECSOFMV
0	20 174			BTX	NR. SAMPLES = 1	BTS	23 581S	174 301W	S GECSOFMV
0	21 174			BTX	NR. SAMPLES = 2	BTS	24 15S	175 292W	S GECSOFMV

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
0	22 174			BTX	NR. SAMPLES = 3	BTS 27	63S	175 515W	S GECSOFMV
0	23 174			BTX	NR. SAMPLES = 2	BTS 29	566S	175 417W	S GECSOFMV
0	24 174			BTX	NR. SAMPLES = 3	BTS 30	5S	177 312W	S GECSOFMV
0	25 174			BTX	NR. SAMPLES = 4	BTS 32	592S	177 431W	S GECSOFMV
0	26 174			BTX	NR. SAMPLES = 3	BTS 35	191S	178 480W	S GECSOFMV
0	27 174			BTX	NR. SAMPLES = 2	BTS 37	336S	179 356E	S GECSOFMV

99 END SAMPLE INDEX