INFORMAL REPORT AND INDEX OF

NAVIGATION, DEPTH AND MAGNETIC DATA

(Issued February 1982)

PLUTO EXPEDITION

LEG 1

San Diego, Calif. (11 August 1981)
to
Balboa, Panama (12 September 1981)

R/V Melville

Co-Chief Scientists - P. Lonsdale (SIO)
G. Moore (SIO)

Resident Marine Tech - R. Wilson

Post-Cruise Processing and Report Preparation
by S.I.O. Geological Data Center

Data Collection Funded by NSF
Grant Number OCE80-24472
Data Processing Funded by SIA, NSF and ONR

GDC Cruise I.D.# - 191

INFORMAL 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 is .3 in/degree longitude.

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 S. M. Smith, Curator, Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92093. Phone (714) 452-2752.

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) or meters (assumed sound velocity of 1500m/sec) at approximately 1 mile spacing, plotted at 4in/degree with standard U. S. Navy Oceanographic Office BC series boundaries (see index chart).

3. Plots of magnetic anomaly profiles along track - map scale = 1.2inch/degree, anomaly scale between 15N and 15 S latitude = 500 gamma/inch, anomaly scale north of 15N and south of 15S = 1000 gamma/inch, from values retrieved at approximately 1 mile spacing and regional field removed using the 1975 IGRF.

4. Card decks of navigation, depth and magnetics (for specific formats, contact S. M. Smith, Geological Data Center).

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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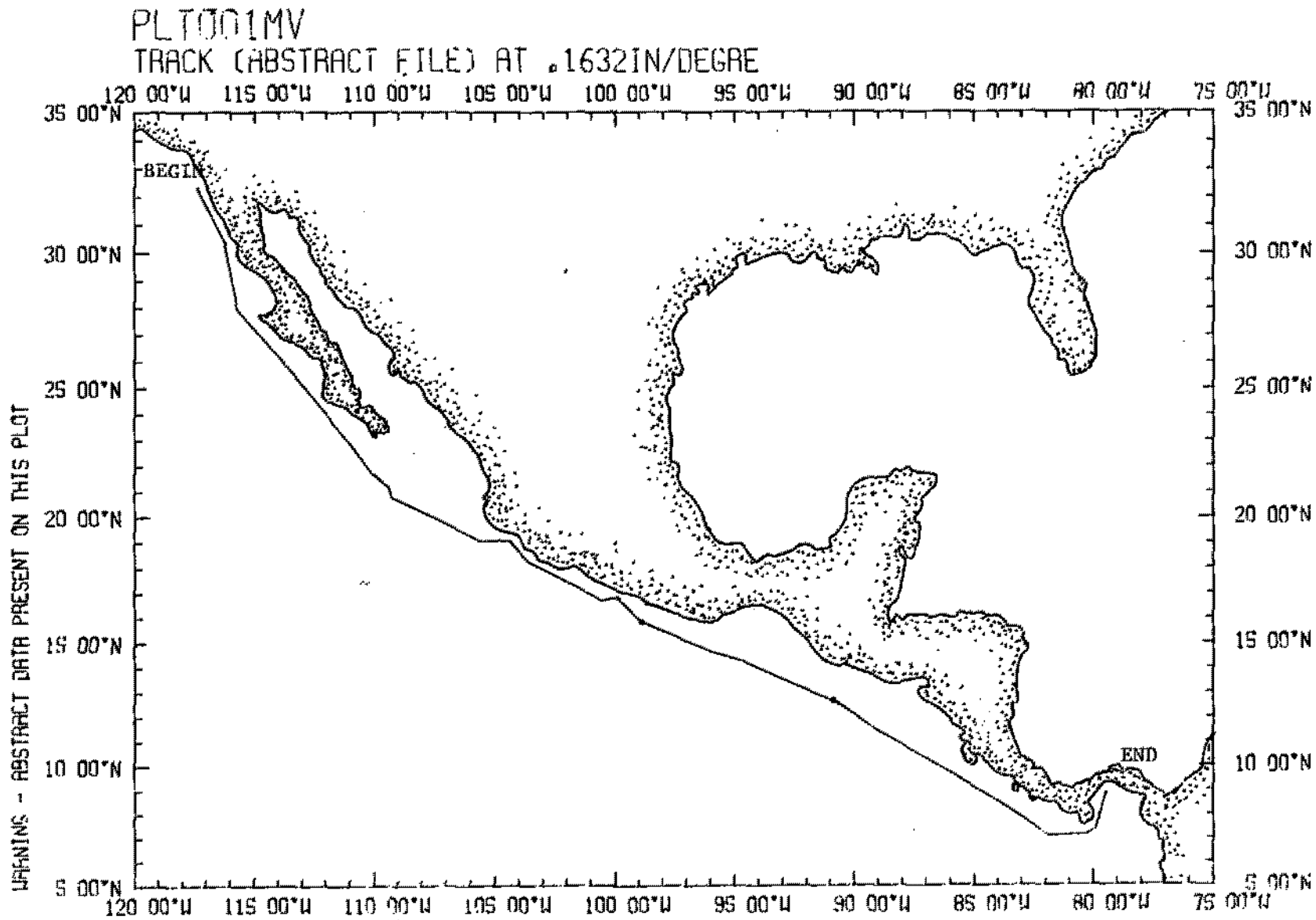
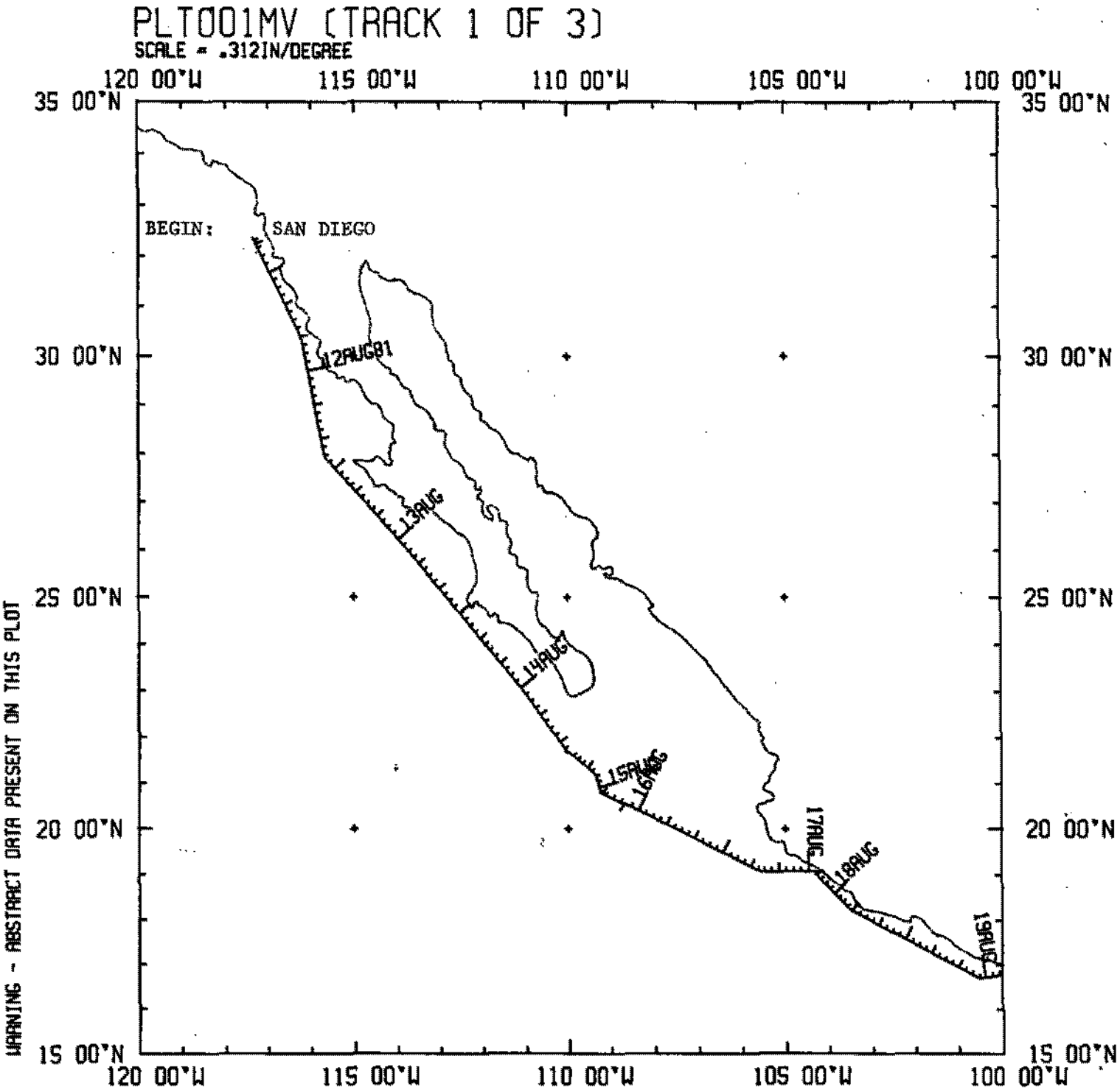
* No underway data collected on this leg. Navigation processed to provide track charts and positions for Sample Index.

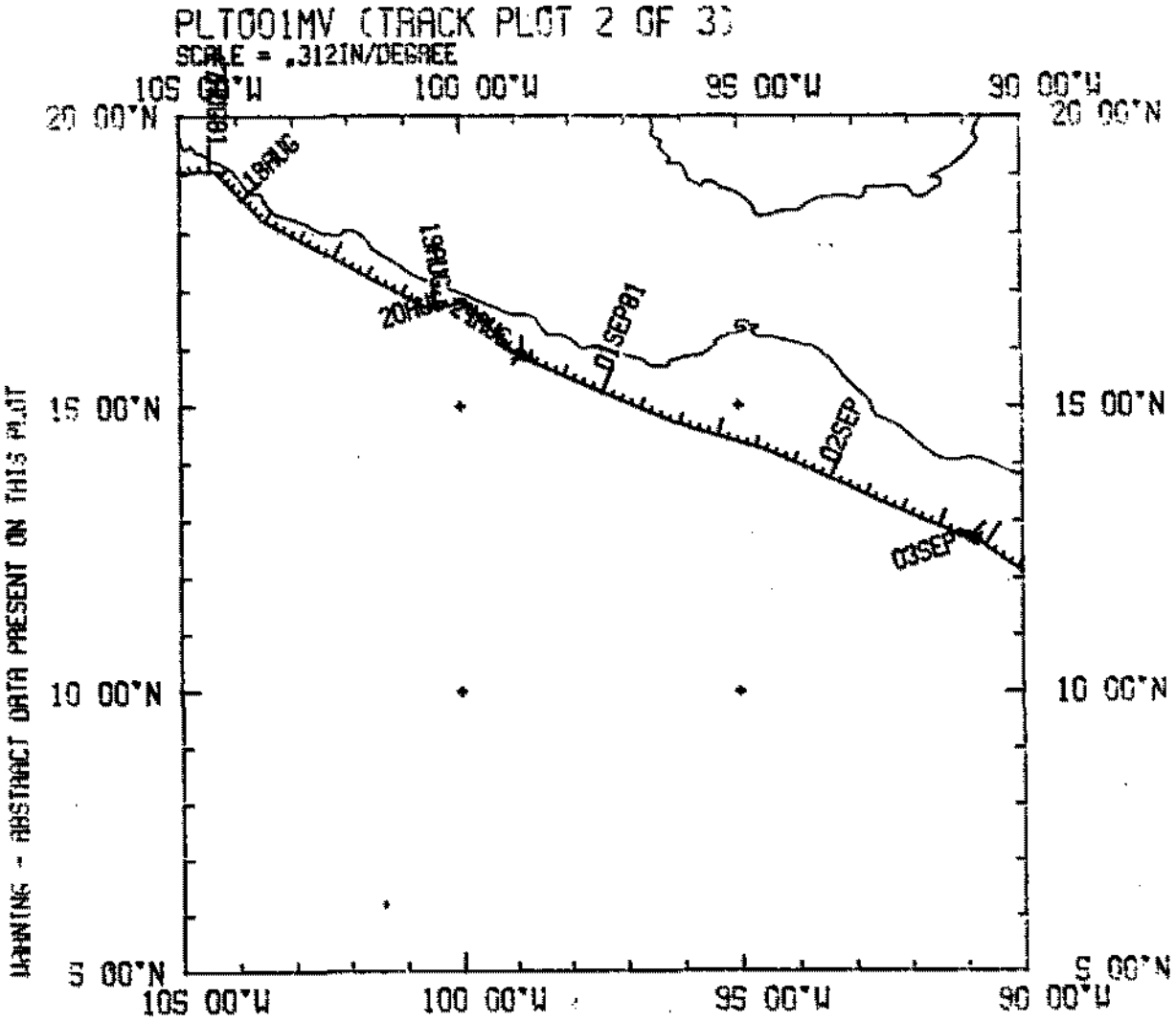


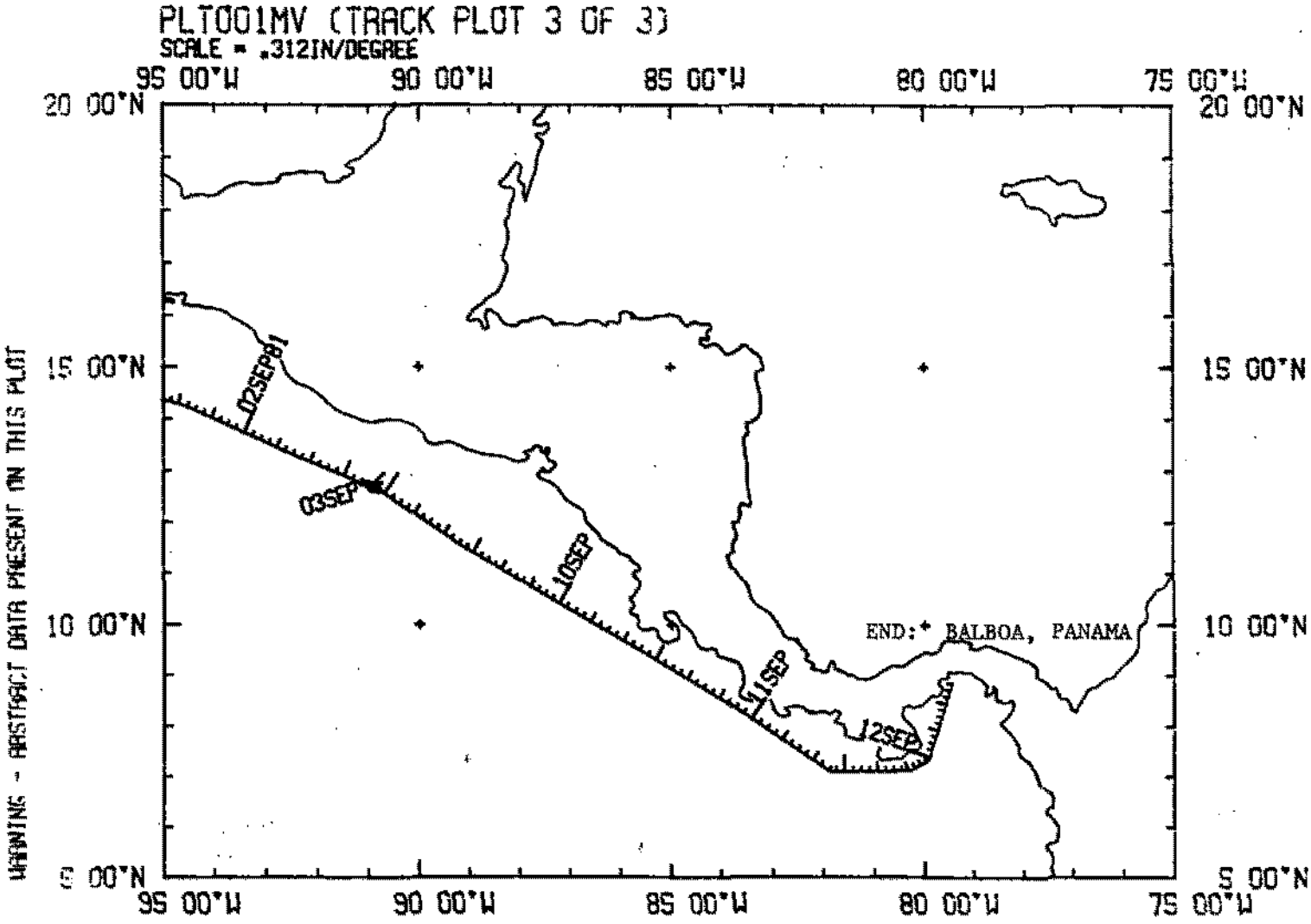
PLUTO EXPEDITION
LEG 1

Co-Chief Scientists: P. Lonsdale, G. Moore (SIO)
Ports: San Diego, Calif. - Balboa, Panama Canal Zone
Dates: 11 August - 12 September, 1981
Ship: R/V Melville

TOTAL MILEAGE OF UNDERWAY DATA COLLECTED
1) Cruise - 3451 miles
2) Bathymetry - none collected
3) Magnetics - none collected
4) Seismic Reflection - none collected
5) Gravity - none collected


PLT001MV (TRACK 1 OF 3)
SCALE = .312IN/DEGREE
120 00°W
115 00°W
110 00°W
105 00°W
100 00°W
35 00°N
30 00°N
25 00°N
20 00°N
15 00°N
BEGIN: SAN DIEGO
12AUG91
13AUG
14AUG
15AUG
16AUG
17AUG
18AUG
19AUG
WARNING - ABSTRACT DATA PRESENT ON THIS PLOT


PLT001MV CTRACK PLOT 2 OF 3
SCALE = .312IN/DEGREE
105 00°W
100 00°W
95 00°W
90 00°W
20 00°N
15 00°N
10 00°N
5 00°N
18AUG
19AUG
20AUG
21AUG
01SEP
02SEP
03SEP
WARNING - ABSTRACT DATA PRESENT ON THIS PLOT


PLT001MV (TRACK PLOT 3 OF 3)
SCALE = .312IN/DEGREE
95 00°W
90 00°W
85 00°W
80 00°W
75 00°W
20 00°N
15 00°N
10 00°N
5 00°N
02SEP91
03SEP
10SEP
17SEP
12SEP
END: BALBOA, PANAMA
WARNING - ABSTRACT DATA PRESENT IN THIS PLOT

S.I.O. Sample Index

(Issued February 1982)

PLUTO EXPEDITION

Leg 1

San Diego, Calif. (11 August 1981)
to
Balboa, Panama (12 September 1981)

R/V Melville

Co-Chief Scientists - P. Lonsdale & G. Moore (SIO)

Post-Cruise Processing and Report Preparation
by S.I.O. Geological Data Center

Index Encoding Funded by NSF
Grant Number OCE80-22996
Index Processing and Report Preparation
funded in part by SIA

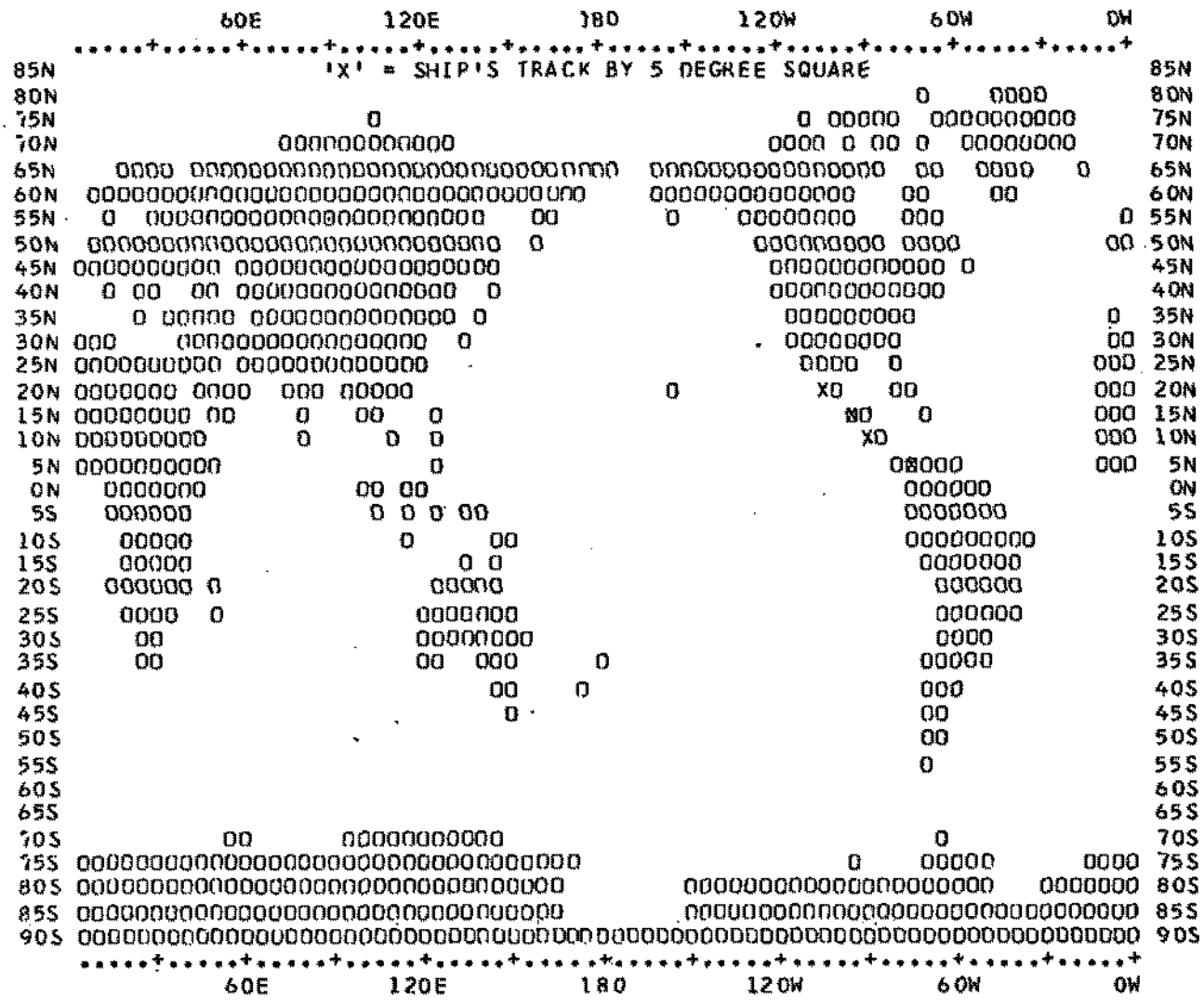
The Sample Index is a first level interdisciplinary listing of time, position, sample identification and disposition of all samples, records and measurements collected on this cruise leg. The index data are encoded at sea by the resident technician and processed on shore by the S.I.O. Geological Data Center shortly after the completion of the cruise leg.

Positions are interpolated on the basis of sample time by comparison to a single, edited navigation file. Samples beginning at one time and position and ending at another are entered on two consecutive cards. Disposition and sample type are represented by three and four character codes to permit future computer searches on these parameters. (Listings defining these codes are available from the Geological Data Center.)

GDC Cruise I.D.# - 191

S.I.O. SAMPLE INDEX GENERATED 04MAR82

*** SAMPLE INDEX PLUTO LEG 01 (PLTO01MV) ***



11AUG81 - SAN DIEGO, CA.

TO

12SEP81 - BALBOA, PANAMA C.Z.

CHIEF SCIENTISTS - MOORE, G. GRD
LONSDALE, P. MPL

SHIP - R/V MELVILLE (SIO)

PRODUCED BY GEOLOGICAL DATA CENTER, SCRIPPS INSTITUTION
OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA 92093

NUMBER OF SAMPLES OF CLASS 'TYPE' GOING TO DESTINATION 'DISP'

DISP	TYPE							TOTAL
	CM	CO	DR	DT	LB	NV	PE	
FNC							1	1
GCR		8	1					9
GRD							3	3
JPN							1	1
MPL	6			5	1	19	10	41
MTG							2	2
SIX							3	3
TOTAL	6	8	1	5	1	19	20	60

SAMPLE 'TYPE' CODES USED ABOVE

CM = CURRENT MEASUREMENT
CO = CORE
DR = DREDGE
DT = DEEP TOWED INSTRUMENT PACKAGE (MPL PROJECT)
LB = LOG BOOKS
NV = NAVIGATION
PE = PERSONNEL IN SCIENTIFIC PARTY

SAMPLE 'DISP' CODES USED ABOVE

FNC = FRANCE
GCR = GEOLOGICAL CURATING FACILITY -- W. RIEDEL, (EXT. 4386)
GRD = GEOLOGICAL RESEARCH DIVISION (EXT. 3360)
JPN = JAPAN
MPL = MARINE PHYSICAL LAB. (EXT 2305)
MTG = MARINE TECHNOLOGY GROUP (EXT 4194)
SIX = SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675)

GMT TIME	D /M /Y DATE	LOC TIME	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
					SAMPLE INDEX PLUTO LEG 01				PLT001MV
*** PORTS ***									
0254	11/ 8/81			LGPT	B SAN DIEGO, CA.		32 43. N	117 11. W	F PLT001MV
1300	12/ 9/81			LGPT	E BALBOA, PANAMA C.Z.		08 57. N	79 34. W	F PLT001MV
0113	17/ 8/81			LGUS	B MANZANILLO, MEXICO		19 03. N	104 20. W	F PLT001MV
1910	17/08/81			LGUS	E MANZANILLO, MEXICO		19 03. N	104 20. W	F PLT001MV
0345	19/ 8/81			LGUS	B ACAPULCO, MEXICO		16 51. N	99 56. W	F PLT001MV
1535	23/08/81			LGUS	E ACAPULCO, MEXICO		16 51. N	99 56. W	F PLT001MV

PERSONNEL

	*** NAME ***	*** TITLE ***	*** AFFILIATION ***
1	MOORE, G.	CHIEF SCIENTIST	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
2	LONSDALE, P.	CHIEF SCIENTIST	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
3	CASTILLO, D.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
4	CHARTERS, J.	COMP. TECH.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
5	DENOUSTIER, C.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
6	GLEASON, D.	DEV. TECH	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
7	JAIN, J.	ENGINEER	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
8	KLEINROCK, M.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
9	LAWHEAD, R.	COMP. TECH.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
10	LINZER, M.	ENG. AIDE	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
11	METZLER, C.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
12	OKAZAKI, D.	VOLUNTEER	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675
13	CORDERO, J.	GUATEMALA OBS	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675
14	PAVLICEK, V.	ENGINEER	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
15	ROUMP, J.	STUDENT	FRANCE
16	SAKAI, A.	JAPAN OBS.	JAPAN
17	STEVENS, S.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
18	THORNBURGH, C.	STUDENT	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
19	WILSON, R.	RES. TECH.	SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA CAL. 92093
20	GALIVIZ, A.	MEXICO OBS.	SCRIPPS INSTITUTION NON-EMPLOYEE - CONTACT D. UTTER (EXT.3675

NOTES AN 'X' IN THE (B)EGIN/(E)ND COLUMN FOLLOWING THE SAMPLE CODE INDICATES NO SAMPLE OR DATA RECOVERED .
A 'C' INDICATES CONTINUATION OF DATA COLLECTION FROM BEFORE THE BEGINNING OR AFTER THE END OF THIS LEG. (MOORED BOTTOM INSTRUMENTS, FOR EXAMPLE).
THE NUMBER APPEARING IN THE COLUMNS BETWEEN THE SAMPLE IDENTIFIER AND THE DISPOSITION CODE, FOR MANY SAMPLE ENTRIES, IS THE WATER DEPTH IN CORRECTED METERS.

GMT TIME	D /M /Y DATE	LOC TIME	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
*** LOG BOOKS ***									
2349	15/ 8/81			LBDT B	DEEPTOW LOG BOOK	MPL	20 24.7N	108 24.9W S	PLT001MV
2131	8/ 9/81			LBDT E	DEEPTOW LOG BOOK	MPL	12 38.9N	90 52.4W S	PLT001MV
**** DEEP TOW SURVEY **** CURATOR ROBERT LAWHEAD EXT. 4892									
0337	15/ 8/81			DTWS B	DEEPTOW SURVEY	MPL	20 47.6N	109 16.6W S	PLT001MV
1500	15/ 8/81			DTWS E	DEEPTOW SURVEY	MPL	20 47.7N	109 15.9W S	PLT001MV
0715	24/ 8/81			DTWS B	DEEPTOW SURVEY	MPL	15 56.5N	98 49.1W S	PLT001MV
1914	26/ 8/81			DTWS E	DEEPTOW SURVEY	MPL	15 49.8N	98 53.0W S	PLT001MV
0400	27/ 8/81			DTWS B	DEEPTOW SURVEY	MPL	15 57.3N	98 52.5W S	PLT001MV
2250	27/ 8/81			DTWS E	DEEPTOW SURVEY	MPL	15 51.6N	98 54.6W S	PLT001MV
1628	28/ 8/81			DTWS B	DEEPTOW SURVEY	MPL	15 55.6N	98 51.5W S	PLT001MV
1330	30/ 8/81			DTWS E	DEEPTOW SURVEY	MPL	15 52.6N	98 52.5W S	PLT001MV
0108	3/ 9/81			DTWS B	DEEPTOW SURVEY	MPL	12 37.0N	90 50.2W S	PLT001MV
1038	6/ 9/81			DTWS E	DEEPTOW SURVEY	MPL	12 38.3N	90 52.1W S	PLT001MV
*** DREDGES *** CURATOR - W. RIEDEL EXT. 4386									
0315	31/ 8/81			DRRO B	DREDGE01 4370	GCR	15 53.4N	98 52.8W S	PLT001MV
1138	31/ 8/81			DRRO E	DREDGE01 4370	GCR	15 51.5N	98 52.9W S	PLT001MV
*** CORES ***									
2137	26/ 8/81			CDGV	PLT01G 3975	GCR	15 52.9N	98 49.1W S	PLT001MV
2007	30/ 8/81			CDPS	PLT02P 4430	GCR	15 53.5N	98 52.4W S	PLT001MV
2007	30/ 8/81			CDPG	PLT02PG 4430	GCR	15 53.5N	98 52.4W S	PLT001MV
0315	31/ 8/81			CDPS	PLT03P 4400	GCR	15 53.4N	98 52.8W S	PLT001MV
0315	31/ 8/81			CDPG	PLT03PG 4400	GCR	15 53.4N	98 52.8W S	PLT001MV
2242	7/ 9/81			CDGV	PLT04G 5462	GCR	12 43.0N	90 55.1W S	PLT001MV
0522	8/ 9/81			CDGV	PLT05G 6090	GCR	12 38.5N	90 53.1W S	PLT001MV
1607	8/ 9/81			CDGV	PLT06G 5905	GCR	12 38.3N	90 56.7W S	PLT001MV
CURRENT MEASUREMENT									
0124	24/ 8/81			CMAB B	CM1 1008 G	MPL	15 51.5N	98 53.7W S	PLT001MV
1313	31/ 8/81			CMAB E	CM1 1008 G	MPL	15 52.2N	98 54.6W S	PLT001MV
0306	24/ 8/81			CMAB B	CM2 1007 G	MPL	15 54.3N	98 51.2W S	PLT001MV
1418	31/ 8/81			CMAB E	CM2 1007 G	MPL	15 52.9N	98 53.4W S	PLT001MV

GMT TIME	D /M /Y DATE	LOC TIME	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.		LEG-SHIP CRUISE
0528	24/ 8/81			CMAB B	CM3 1021 G	MPL	15 49.7N	98 50.8W	S	PLT001MV
1525	31/ 8/81			CMAB E	CM3 1021 G	MPL	15 50.0N	98 50.4W	S	PLT001MV
1531	2/ 9/81			CMAB B	CM4 1008 G	MPL	12 39.8N	90 55.8W	S	PLT001MV
2137	8/ 9/81			CMAB E	CM4 1008 G	MPL	12 39.1N	90 52.1W	S	PLT001MV
1718	2/ 9/81			CMAB B	CM5 1007 G	MPL	12 42.6N	90 55.9W	S	PLT001MV
1844	2/ 9/81			CMAB E	CM5 1007 G	MPL	12 36.9N	90 55.2W	S	PLT001MV
1844	2/ 9/81			CMAB B	CM6 1021 G	MPL	12 36.9N	90 55.2W	S	PLT001MV
2104	8/ 9/81			CMAB E	CM6 1021 G	MPL	12 38.2N	90 55.5W	S	PLT001MV
*** NAVIGATIONAL INSTRUMENT ***										
0104	15/ 8/81			NVFV B	TRANSPONDER	MPL	20 50.1N	109 18.8W	S	PLT001MV
1520	15/ 8/81			NVFV E	70GREEN	MPL	20 47.8N	109 15.5W	S	PLT001MV
0235	15/ 8/81			NVFV B	DROP PLT001MV 71	MPL	20 49.3N	109 17.8W	S	PLT001MV
1300	12/ 9/81			NVFV C	RED TRANSPONDER	MPL	08 52.0N	79 27.6W	S	PLT001MV
0147	15/08/81			NVFV B	DROP PLT001MV 72	MPL	20 48.5N	109 19.1W	S	PLT001MV
1300	12/ 9/81			NVFV C	BLUE TRANSPONDER	MPL	08 52.0N	79 27.6W	S	PLT001MV
0044	24/ 8/81			NVFV B	TRANSPONDER	MPL	15 53.3N	98 50.4W	S	PLT001MV
1249	31/ 8/81			NVFV E	RED60	MPL	15 51.5N	98 53.5W	S	PLT001MV
0124	24/ 8/81			NVFV B	TRANSPONDER	MPL	15 51.5N	98 53.7W	S	PLT001MV
1313	31/ 8/81			NVFV E	BLUE51	MPL	15 52.2N	98 54.6W	S	PLT001MV
0206	24/ 8/81			NVFV B	TRANSPONDER	MPL	15 54.2N	98 54.9W	S	PLT001MV
1344	31/ 8/81			NVFV E	GREEN	MPL	15 53.1N	98 54.9W	S	PLT001MV
0306	24/ 8/81			NVFV B	TRANSPONDER	MPL	15 54.3N	98 51.2W	S	PLT001MV
1418	31/ 8/81			NVFV E	BLUE	MPL	15 52.9N	98 53.4W	S	PLT001MV
0350	24/ 8/81			NVFV B	TRANSPONDER	MPL	15 55.0N	98 48.5W	S	PLT001MV
1506	30/ 8/81			NVFV E	GREEN74	MPL	15 52.9N	98 49.0W	S	PLT001MV
0528	24/ 8/81			NVFV B	TRANSPONDER	MPL	15 49.7N	98 50.8W	S	PLT001MV
1525	31/ 8/81			NVFV E	BLUE53	MPL	15 50.0N	98 50.4W	S	PLT001MV
0632	24/ 8/81			NVFV B	TRANSPONDER	MPL	15 51.3N	98 48.3W	S	PLT001MV
1540	30/ 8/81			NVFV E	RED62	MPL	15 51.9N	98 48.8W	S	PLT001MV
1531	2/ 9/81			NVFV B	TRANSPONDER	MPL	12 39.8N	90 55.8W	S	PLT001MV
2137	8/ 9/81			NVFV E	RED60	MPL	12 39.1N	90 52.1W	S	PLT001MV
1617	2/ 9/81			NVFV B	TRANSPONDER	MPL	12 43.3N	90 54.6W	S	PLT001MV
2207	8/ 9/81			NVFV E	BLUE51	MPL	12 42.1N	90 52.6W	S	PLT001MV
1718	2/ 9/81			NVFV B	TRANSPONDER	MPL	12 42.6N	90 55.9W	S	PLT001MV
2230	8/ 9/81			NVFV E	GREEN30	MPL	12 41.8N	90 53.6W	S	PLT001MV

GMT TIME	D /M /Y DATE	LOC TIME	LOC TZ	CODE SAMP	SAMPLE IDENT.	CODE DISP	LAT.	LONG.	LEG-SHIP CRUISE
1844	2/ 9/81			NVFV B	TRANSPONDER	MPL	12 36.9N	90 55.2W S	PLT001MV
2104	8/ 9/81			NVFV E	BLUE53	MPL	12 38.2N	90 55.5W S	PLT001MV
1937	2/ 9/81			NVFV B	TRANSPONDER	MPL	12 36.3N	90 52.9W S	PLT001MV
2252	5/ 9/81			NVFV E	GREEN74	MPL	12 43.5N	90 58.3W S	PLT001MV
2025	2/ 9/81			NVFV B	TRANSPONDER	MPL	12 38.2N	90 51.3W S	PLT001MV
2307	8/ 9/81			NVFV E	RED62	MPL	12 39.5N	90 49.2W S	PLT001MV
2122	2/ 9/81			NVFV B	TRANSPONDER	MPL	12 37.1N	90 49.7W S	PLT001MV
2330	8/ 9/81			NVFV E	BLUE61	MPL	12 37.7N	90 47.3W S	PLT001MV
9900					END SAMPLE INDEX				PLT001MV