

Initial Report on SOPAC II, R/V S.P. Lee Cruise L4-84-SP,

Fiji to Vanuatu, CCOP/SOPAC Cruise Report No. 109

Michael Torresan, November 1984

Introduction

The L4-84-SP leg of SOPAC II took place from May 4-8, 1984, and was a working transit concentrating primarily on single channel and bathymetric geophysical data acquisition from Suva, Fiji to Port Vila, Vanuatu. The 4 day working transit was a small part of the CCOP/SOPAC - Anzus Tripartite geoscientific resource appraisal program designed to assist the island nations of the southwest Pacific evaluate potential offshore hydrocarbon and mineral resources.

The purpose of this working transit was to collect marine geophysical data, specifically high resolution single-channel seismic reflection data, uniboom, 3.5 and 12 kHz bathymetry, and gravity and magnetics. Also, while transiting across the North Fiji Plateau work was to have been initiated on repairing multichannel streamer and fine tuning the GUS multichannel data acquisition system in preparation for SOPAC IT, legs 2-4.

Specific areas of interest were: 1) surveying a tract from Suva, Fiji, across the Baravi Basin of southwest Fiji; 2) time permitting, collection of bathymetric data north of the Baravi Basin and west of central western Viti Levu, for the Royal Fiji Navy; 3) collection of bathymetric data across the North Fiji Plateau to Efate island, Vanuatu; and 4) a high resolution survey of Port Vila harbor in order to define seafloor morphology and some subsurface structure. The intent of the Port Vila survey was to identify a large slump block hypothesized to have slipped, thereby forming the harbor.

Participants

Participants on L4-84-SP comprised a working crew of scientists, navigators, and marine and electrical technicians. The participants were: Michael Torresan of the U.S. Geological Survey (USGS), chief scientist; Shawn Dadisman, Robert O'Connor, and Greg Smith of the

USGS, geologic watchstanders; Barbara Blubaugh, Carol Hirozawa, and Robin Frisch or the USGS, navigators; Glenn Thrasher or the NZGS, watchstander; Kevin O'Toole and Jeff Stampfer or the USGS, marine technicians; Roy Fields or the USGS, electrical technician; Dean Clark or The Leading Edge Magazine, watchstander; Gerald Anderson, Secretary to the Ambassador, U.S. State Department, Fiji; and the crew or the USGS R/V S.P. Lee under the command of Captain Alan McClenaghan.

Equipment Systems

Navigation for the geophysical surveys employed satellite positioning supplemented by doppler sonar and dead-reckoning. Satellites in polar orbits give relatively reliable fixes on an average or every four hours in low latitude waters.

The geophysical systems utilized during the cruise were high-resolution seismic reflection, consisting of 3.5 and 12 kHz bathymetry, uniboom, and single-channel airgun. Shipboard gravity and magnetics systems were also employed.

Results

Owing to time and logistical constraints, the bathymetric survey for the Royal Fiji Navy and a proposed 8 hour multichannel streamer repair party were cancelled. Also, the track surveyed over the Baravhi Basin was shortened in order to allow sufficient time for the Port Vila survey.

In all, 14 lines of seismic-reflection data were collected in approximately 86.5 hours. Cumulative track line distance totaled 1265 km (fig. 1).

Seismic reflection data collected on the cruise included 668.5 km of single channel airgun profiles. The data were collected using a two airgun array totaling 80 cu in for the Baravi Basin survey. The Port Vila survey employed a single 148 cu in airgun. The single channel airgun data quality ranged from poor to good. The first 24 hours of the survey required constant adjustment of various recorder settings, using single and double streamers, and changing streamer weightings before data quality improved from poor to good.

Approximately 135 km of uniboom data were collected primarily in the Port Vila survey. Data quality was generally poor, owing to a combination of factors including sub bottom composition, sea state, water depth, and problems inherent to the uniboom system itself. A majority of the Port Vila survey (97 km) was recorded on digital magnetic tape with the hope of post-cruise improvement of the data.

3.5 kHz profiles were collected along 703 km of trackline during the cruise. Sub bottom reflectors were detected up to a few tens of meters in some areas. Generally, data quality ranged from poor to good, depending on sea state and the nature of the seafloor. Few areas appeared to be covered with sufficient soft sediment to allow deeper penetration.

The 12 kHz bathymetric data was collected along 1316 km of trackline. These data were digitized and recorded on magnetic tape during the cruise.

Finally, analogue magnetic and gravity data were collected over 1290 and 916 km of trackline respectively. Of the total, 696 km of magnetic and gravity data were collected on digital magnetic tape.

Baravi Basin Survey

The poor quality of the single-channel airgun data collected over the Baravi Basin make analysis difficult and tentative at this point. Owing to the high frequency of the data

deep structure is indeterminable. Two basins, separated by an irregular topography, exist in the Baravi Basin area. The larger of the two is roughly kidney-shaped, reaches depths of over 3000 m, and has sediment cover that ranges from 0.2-0.5 sec thick (fig. 2). Basin sediment thickens to the northeast. The wedge terminates against a high that forms the inner slope of the basin, and sediment appears island derived. The second basin is located north of the larger Basin. The basin is rather sinuous and relatively narrow. The basin reaches depths of over 3000 m, and sediment cover appears generally less than 0.3 sec (fig. 3).

Port Vila Survey

The main purpose of the Port Vila survey was to define a slide that has been hypothesized to be responsible for the formation of the harbor. Based on 5 lines (lines 9-14) no indication of a major slide was observed. Therefore, it seems unlikely that a slide was responsible for the formation of the harbor in Port Vila (figs. 4-8).

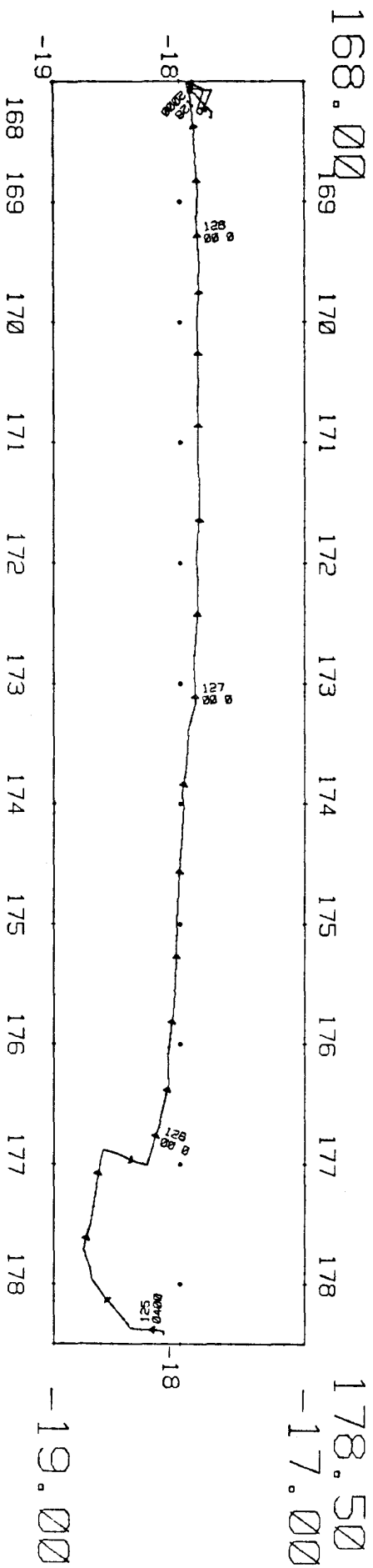
The survey did show that the harbor contains one major channel with a number of smaller tributary channels branching off the major channel. The major channel runs roughly north-south, and the channel widens and deepens to the south. A second relatively large channel branches off the major channel and runs roughly northwest. All channels display both erosional and depositional features such as some scour and fill structures. Some of the channels may not be primarily erosional, instead they may be formed by deposition of small levee-like deposits on the sides of the channel, with the central channel being an area of slow or non-deposition. A more detailed survey is required in order to better define the major channel and its distributaries, and to fully resolve the slide origin hypothesis for the harbor.

Recommendation

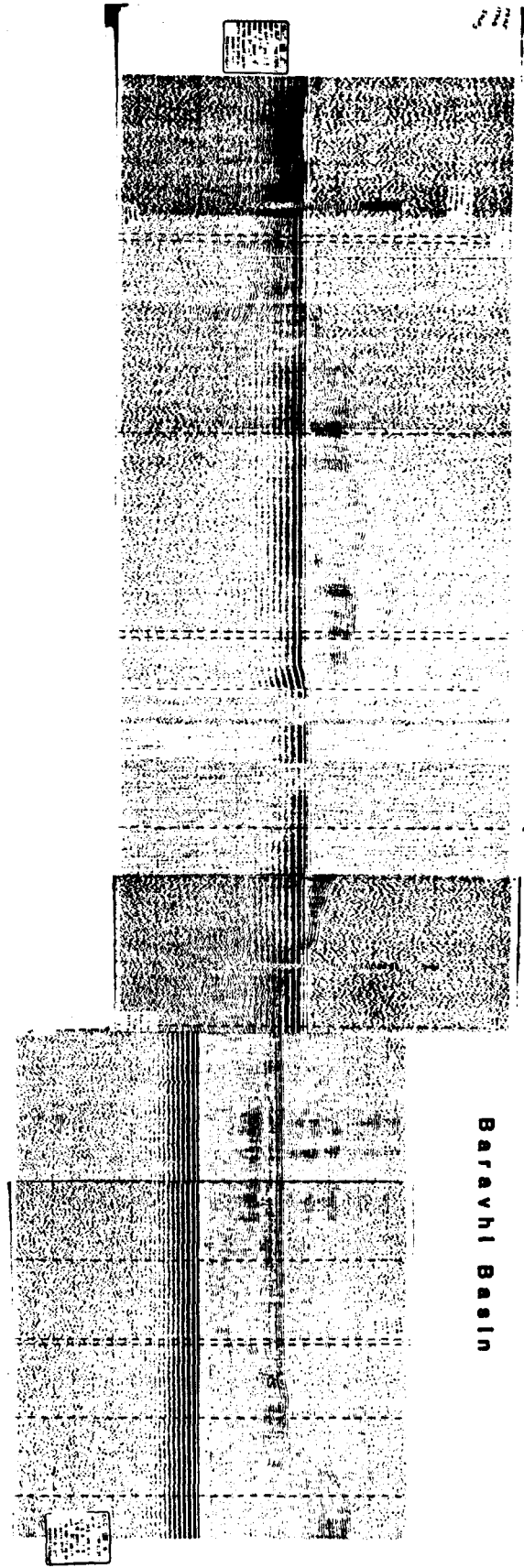
The Baravhi Basin and Port Vila areas require longer and more detailed surveys utilizing both high resolution and deeper penetrating seismic-reflection systems. Also, a well tuned uniboom system would greatly facilitate seismic-stratigraphic analysis in both areas. Furthermore, a detailed survey of the Port Vila harbor would better define sediment and potential pollution dispersal patterns. Finally, a more detailed survey outside and within Port Vila harbor would better define areas of erosion and deposition that could pose hazards to navigation, man-made structures, or even natural reefs.

Figure Captions

- Figure 1. Trackline map or L4-84-SP.
- Figure 2. Single-channel profile over Baravi Basin.
- Figure 3. Single-channel profile over Baravhi Basin and a basin lying north of the Baravi Basin.
- Figure 4. Single-channel profile from Port Vila. Line trends parallel to the slope of the harbor.
- Figure 5. Single-channel profile across Port Vila harbor showing main channel.
- Figure 6. Single-channel profile across Port Vila harbor showing two major channels.
- Figure 7. Single-channel profile paralleling the slope of the harbour. Note the fairly regular sloping topography with some small channels.
- Figure 8. Single-channel profile showing channels cut into sloping topography of Port Vila harbor.



Line 6



Baravhi Basin

Line 10

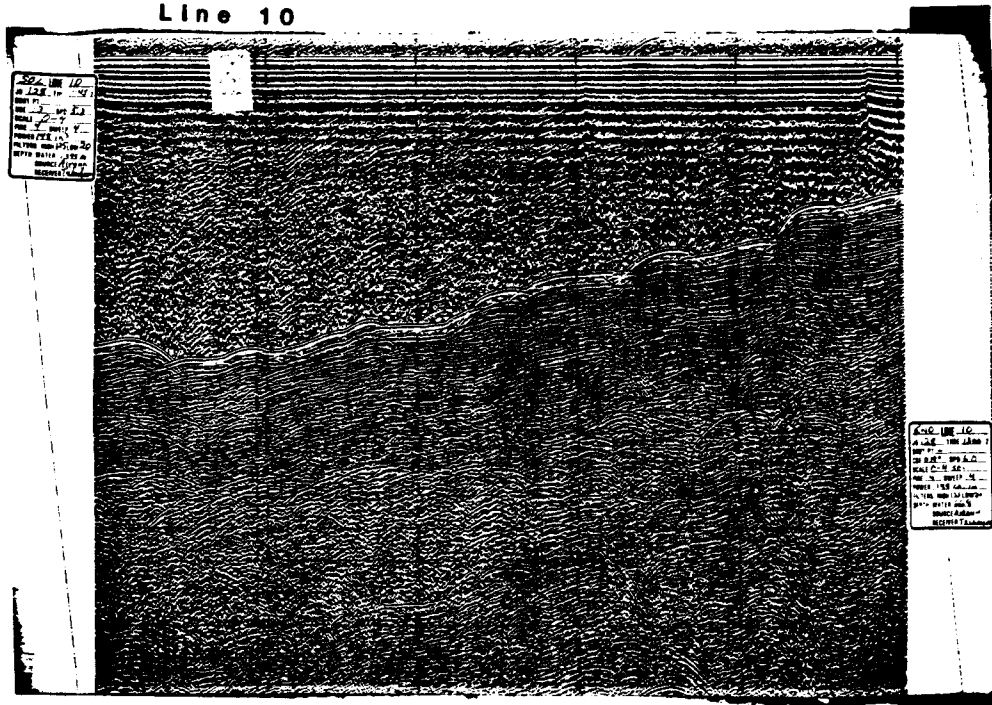


Fig. 4

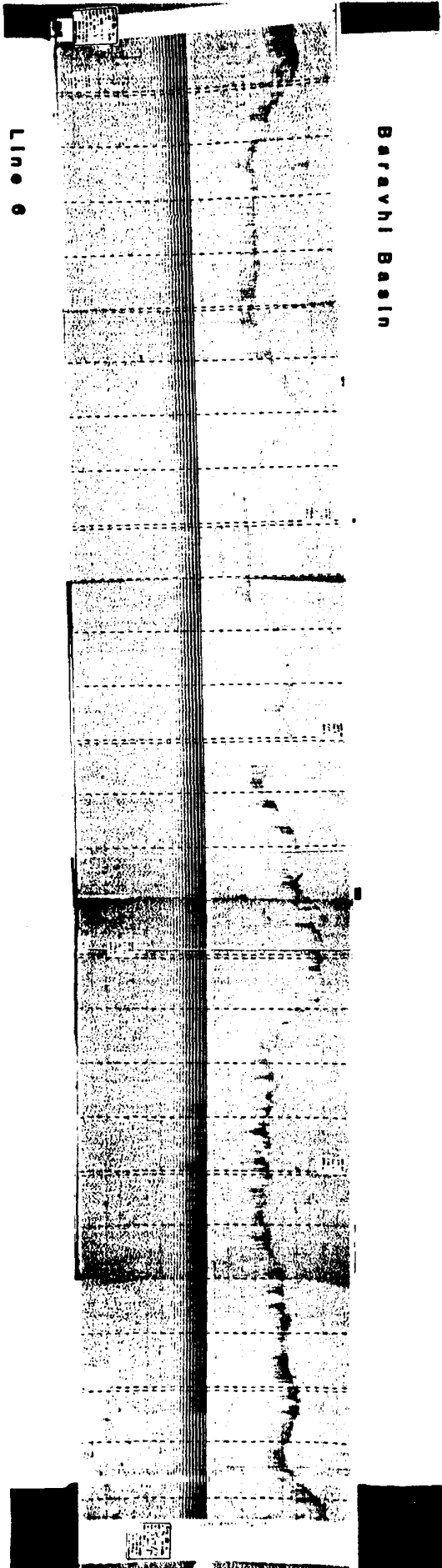


FIG. 3

Line 11

main channel

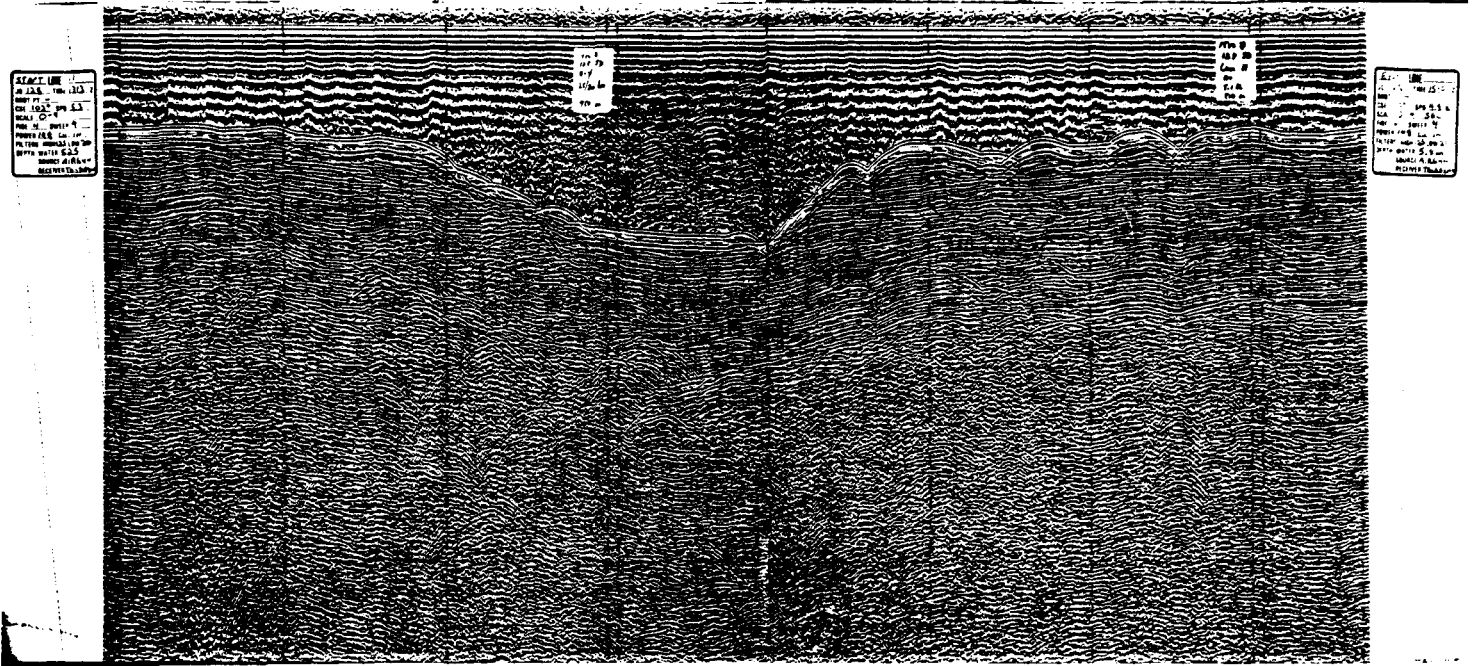


Fig. 5

Line 12

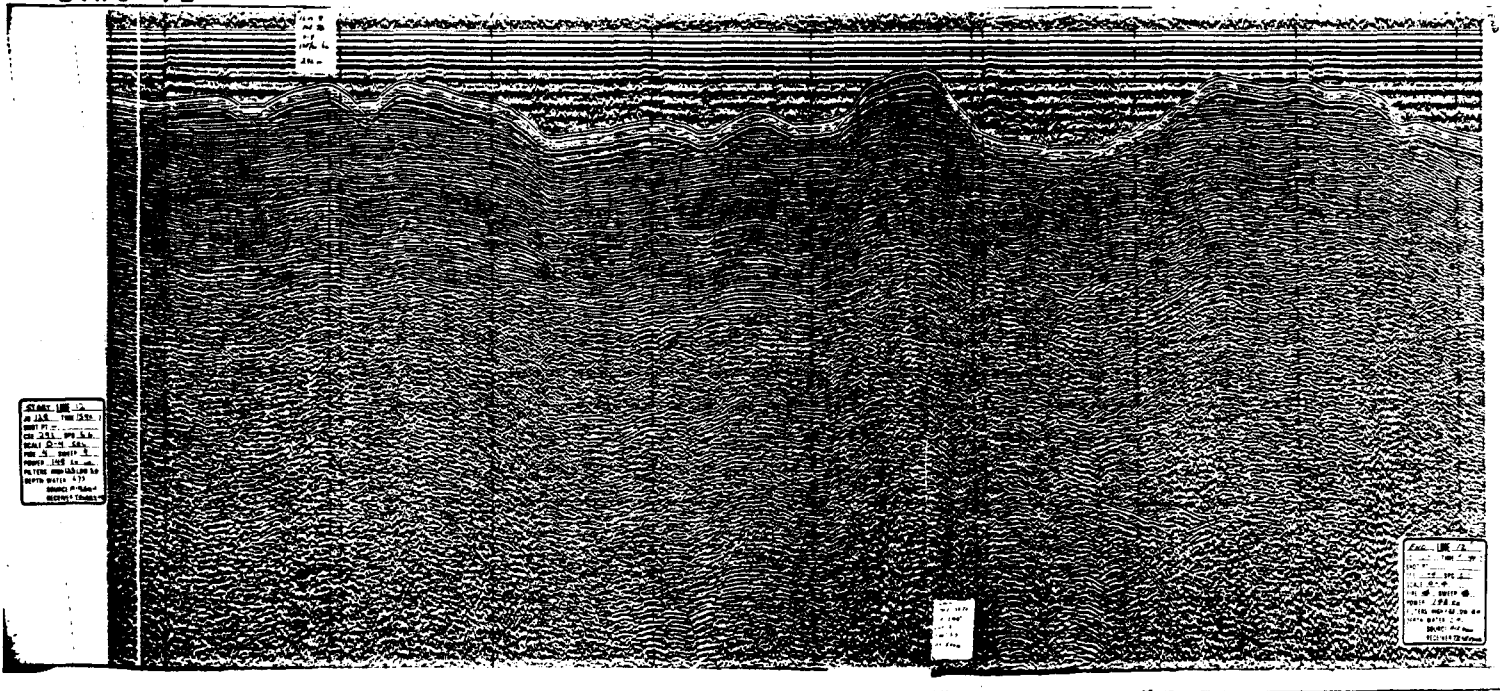


Fig. 6

Line 13

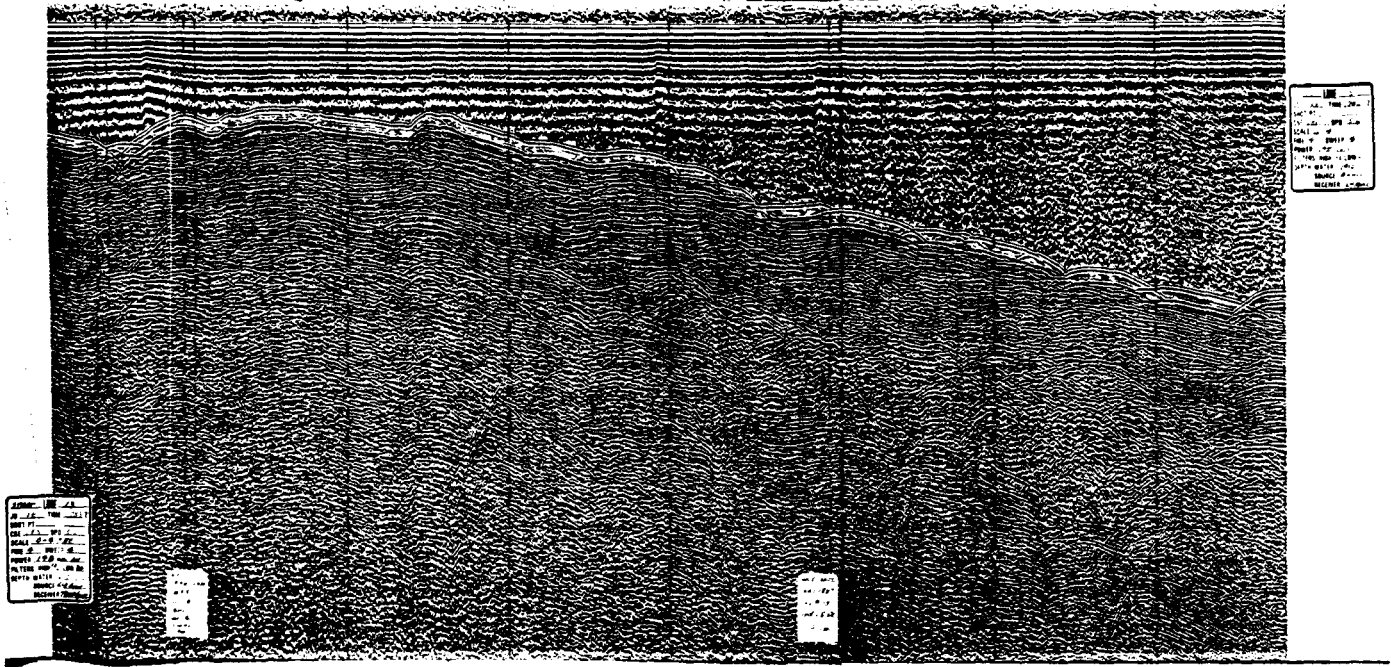


Fig. 7

Line 14

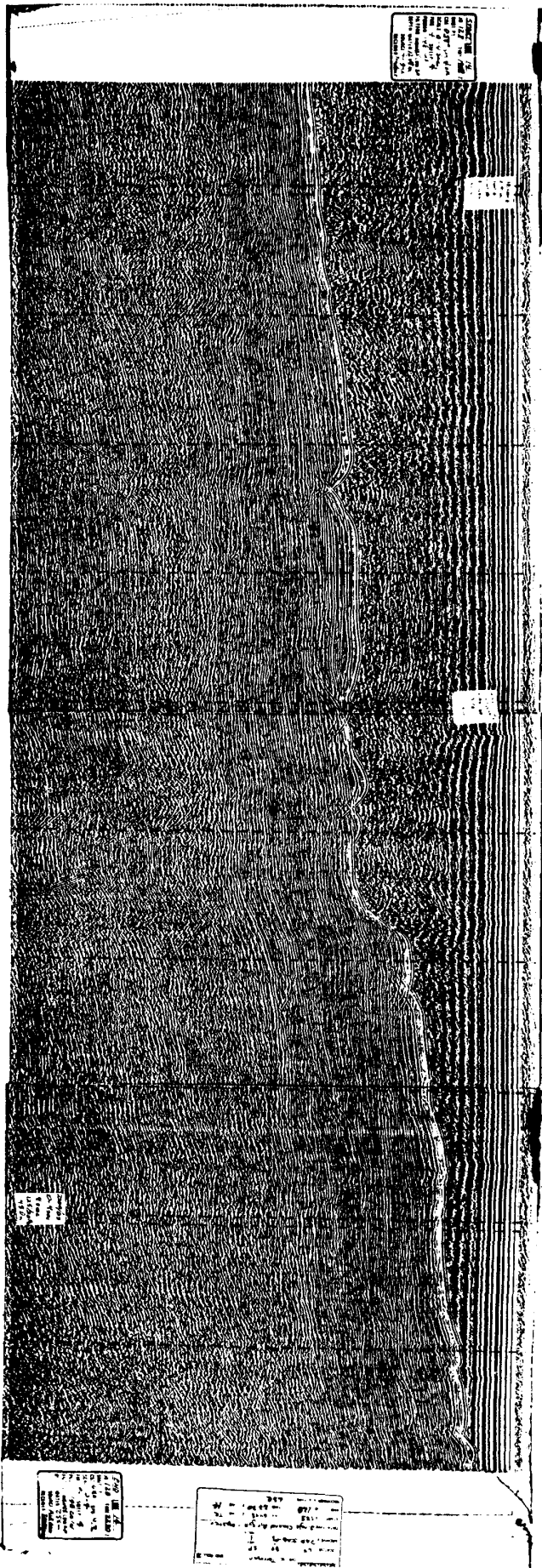


FIG. 8

SHIP: S. P. LEE

CRUISE LOCATOR: 14-84-sp
ID -YR-AREACHIEF
SCIENTIST: MIKE TORRESAN

UL AY	TIME (GMT)	CRUISE/DATA INFO		DATA	PERSONNEL, PORTS, EQUIPMENT		WATER	LATITUDE		LONGITUDE	
		RECORD MEDIUM	SEQNCE NUMBER	STATUS/ INSTITUTE	DESCRIPTION LINE#	DR: STA./SHOT	PT. #	DEPTH UNCOR.	DEG	MIN	DEG

EQUIPMENT LIST

(CONTINUED)

0 0 0.0	UNIBOOM	UNIBOOM
0 0 0.0	SHIPBOARD GRAVITY	GRAVITY
0 0 0.0	SHIPBOARD MAGGY	MAGNETICS
0 0 0.0	SNGL CHAN AIRGUN	AIR GUN

TRACKLINES

125 5 0.0	LINE	1	START	L#	1	STN/SP#	-18 18.53	178 22.68
125 546.0	LINE	1	END	L#	1	STN/SP#	-18 23.56	178 22.01
125 548.0	LINE	2	START	L#	2	STN/SP#	-18 23.82	178 21.90
125 941.0	LINE	2	END	L#	2	STN/SP#	-18 41.75	177 58.06
125 945.0	LINE	3	START	L#	3	STN/SP#	-18 41.99	177 57.47
125 1115.0	LINE	3	END	L#	3	STN/SP#	-18 45.45	177 44.26
125 1124.0	LINE	4	START	L#	4	STN/SP#	-18 45.63	177 42.93
125 1730.0	LINE	4	END	L#	4	STN/SP#	-18 36.58	176 53.15
125 1736.0	LINE	5	START	L#	5	STN/SP#	-18 36.10	176 52.86
125 2138.0	LINE	5	END	L#	5	STN/SP#	-18 16.12	177 0 34
125 2146.0	LINE	6	START	L#	6	STN/SP#	-18 15.53	177 0 05
126 436.0	LINE	6	END	L#	6	STN/SP#	-18 5.40	176 20.19
126 5 0.0	LINE	7	START	L#	7	STN/SP#	-18 5.29	176 18.54
127 1340.0	LINE	7	END	L#	7	STN/SP#	-17 51.10	170 32.92
127 1415.0	LINE	8	START	L#	8	STN/SP#	-17 51.09	170 29.47
127 2222.0	LINE	8	END	L#	8	STN/SP#	-17 50.78	169 28.34
127 2225.0	LINE	9	START	L#	9	STN/SP#	-17 50.81	169 27.97
128 1136.0	LINE	9	END	L#	9	STN/SP#	-17 56.16	168 1 42
128 1145.0	LINE	10	START	L#	10	STN/SP#	-17 55.79	168 0 88
128 1230.0	LINE	10	END	L#	10	STN/SP#	-17 51.80	168 2 21
128 1312.0	LINE	11	START	L#	11	STN/SP#	-17 48.43	168 4 26
128 1510.0	LINE	11	END	L#	11	STN/SP#	-17 51.41	168 15.15
128 1540.0	LINE	12	START	L#	12	STN/SP#	-17 49.41	168 16.14
129 1747.0	LINE	12	END	L#	12	STN/SP#	-17 44.53	168 4 78
128 1753.0	LINE	13	START	L#	13	STN/SP#	-17 44.81	168 4 50
128 1942.0	LINE	13	END	L#	13	STN/SP#	-17 55.17	168 3 12
128 1948.0	LINE	14	START	L#	14	STN/SP#	-17 55.37	168 3 35
128 2229.0	LINE	14	END	L#	14	STN/SP#	-17 44.79	168 15 26

SNGL CHAN AIRGUN ANL PAPER ROLLS

125 448.0	ROLL	M1	START	L#		STN/SP#	-18 17.51	178 22.77
125 728.0	ROLL	M1	OFF	L#	2	STN/SP#	-18 32.76	178 10 26
125 728.0	ROLL S	1	OFF	L#	2	STN/SP#	-18 32.76	178 10 26
125 819.0	ROLL	M1	ON	L#	2	STN/SP#	-18 35.14	178 7 46
125 819.0	ROLL S	1	ON	L#	2	STN/SP#	-18 35.14	178 7 46
125 1045.0	ROLL S	1	OFF	L#	2	STN/SP#	-18 44.10	177 48 60
125 1051.0	ROLL S	1	ON	L#	2	STN/SP#	-18 44.38	177 47 77

SHIP: S. P. LEE

CRUISE LOCATOR: 14-84-sp
ID -YR-AREACHIEF
SCIENTIST: MIKE TORRESAN

JL. TIME DAY (GMT)	CRUISE/DATA INFO		DATA	PERSONNEL, PORTS, EQUIPMENT		WATER	LATITUDE		LONGITUDE	
	RECORD MEDIUM	SEGNC NUMBER	STATUS/ INSTITUTE	DESCRIPTION LINE#	OR: STA./SHOT PT.#	DEPTH UNCOR.	DEG	MIN	DEG	MIN

SNGL CHAN AIRGUN ANL PAPER ROLLS (CONTINUED)

126 440.0	ROLL	M1	OFF	L#		STN/SP#	-18	5.36	176	19.87
126 440.0	ROLL S	1	OFF	L#		STN/SP#	-18	5.36	176	19.87
127 14 0.0	ROLL	M1	ON	L#	8	STN/SP#	-17	51.10	170	31.21
127 14 0.0	ROLL S	1	ON	L#	8	STN/SP#	-17	51.10	170	31.21
127 2326.0	ROLL	M1	OFF	L#	9	STN/SP#	-17	51.26	169	21.23
127 2326.0	ROLL S	1	OFF	L#	9	STN/SP#	-17	51.26	169	21.23
127 2336.0	ROLL	M1	ON	L#	9	STN/SP#	-17	51.31	169	20.11
127 2336.0	ROLL S	1	ON	L#	9	STN/SP#	-17	51.31	169	20.11
128 1245.0	ROLL S	1	END	L#	10	STN/SP#	-17	50.45	168	2.75
128 1411.0	ROLL S	2	START	L#	10	STN/SP#	-17	49.86	168	9.66
128 2230.0	ROLL	M1	END	L#	14	STN/SP#	-17	44.72	168	15.34
128 2230.0	ROLL S	2	END	L#	14	STN/SP#	-17	44.72	168	15.34

UNIBOOM

ANL PAPER ROLLS

128 350.0	ROLL	1	START	L#	9	STN/SP#	-17	51.79	168	51.41
128 4 9.0	ROLL	1	OFF	L#	9	STN/SP#	-17	51.92	168	49.13
128 620.0	ROLL	1	ON	L#	9	STN/SP#	-17	52.76	168	34.44
128 10 0.0	ROLL	1	OFF	L#	9	STN/SP#	-17	54.47	168	10.95
128 1249.0	ROLL	1	ON	L#		STN/SP#	-17	50.01	168	2.93
128 1352.0	ROLL	1	OFF	L#	11	STN/SP#	-17	49.36	168	7.85
128 1450.0	ROLL	1	ON	L#	11	STN/SP#	-17	50.90	168	13.36
128 2050.0	ROLL	1	END	L#	14	STN/SP#	-17	51.47	168	7.41
128 2110.0	ROLL	2	START	L#	14	STN/SP#	-17	50.32	168	8.89
128 2230.0	ROLL	2	END	L#	14	STN/SP#	-17	44.72	168	15.34

UNIBOOM

DIGIT MAG TAPES

128 7 8.0	REEL	1	START	L#	9	STN/SP#	-17	52.88	168	28.77
128 10 0.0	REEL	1	END	L#	9	STN/SP#	-17	54.47	168	10.95
128 1454.0	REEL	2	START	L#	11	STN/SP#	-17	51.00	168	13.72
128 18 8.0	REEL	2	END	L#	13	STN/SP#	-17	46.21	168	4.45
128 1810.0	REEL	3	START	L#	13	STN/SP#	-17	46.40	168	4.45
128 2120.0	REEL	3	END	L#	14	STN/SP#	-17	49.72	168	9.65

3. SKH BATHYMETRY ANL PAPER ROLLS

125 335.0	ROLL	1	START	L#	TR	STN/SP#	-18	8.76	178	23.52
126 440.0	ROLL	1	OFF	L#		STN/SP#	-18	5.36	176	19.87
126 5 0.0	ROLL	1	ON	L#	7	STN/SP#	-18	5.29	176	18.54
126 6 0.0	ROLL	1	OFF	L#	7	STN/SP#	-18	5.75	176	11.07
127 1411.0	ROLL	1	ON	L#	TR	STN/SP#	-17	51.08	170	29.97
128 21 0.0	ROLL	1	END	L#	14	STN/SP#	-17	50.90	168	8.15
128 2115.0	ROLL	2	START	L#	14	STN/SP#	-17	50.02	168	9.27

SHIP: S. P. LEE

CRUISE LOCATOR: 14-B4-sp
ID -YR-AREACHIEF
SCIENTIST: MIKE TORRESAN

JUL DAY	TIME (GMT)	CRUISE/DATA INFO RECORD MEDIUM	DATA SEGNCNCE NUMBER	DATA STATUS/ INSTITUTE	PERSONNEL DESCRIPTION LINE#	PORTS, EQUIPMENT OR: STA./SHOT PT. #	WATER DEPTH UNCOR.	LATITUDE DEG MIN	LONGITUDE DEG MIN
3.5KH BATHYMETRY ANL PAPER ROLLS (CONTINUED)									
/29	2230.0	ROLL	2	END	L# 14	STN/SP#		-17 44.72	168 15.34
12KH BATHYMETRY ANL PAPER ROLLS									
/25	335.0	ROLL	1	START	L# TR	STN/SP#		-18 8.76	178 23.52
/28	2230.0	ROLL	1	END	L# 14	STN/SP#		-17 44.72	168 15.34
BATHYMETRY + NAV DIGIT MAG TAPES									
/25	314.0	REEL	1	START	L# PRT	STN/SP#			
/27	215.0	REEL	1	END	L# 7	STN/SP#		-17 52.80	172 44.48
/27	216.0	REEL	2	START	L# 7	STN/SP#		-17 52.79	172 44.30
/28	20 6.0	REEL	2	END	L# 14	STN/SP#		-17 54.15	168 4.70
/28	20 9.0	REEL	3	START	L# 14	STN/SP#		-17 54.08	168 4.76
/28	2320.0	REEL	3	END	L# PRT	STN/SP#		-17 45.42	168 18.07
BATHYMETRY + NAV PRINTR LISTINGS									
/25	318.0	LIST	1	START	L# PRT	STN/SP#		-18 7.81	178 25.38
/27	615.0	LIST	1	END	L# 7	STN/SP#		-17 58.14	171 55.14
/27	617.0	LIST	2	START	L# 7	STN/SP#		-17 58.12	171 54.75
/28	2320.0	LIST	2	END	L# PRT	STN/SP#		-17 45.42	168 18.07
SHIPBOARD MAGGY OPRTING PERIODS									
/25	525.0	SYSTEM		ON	L# 1	STN/SP#		-18 21.19	178 22.41
/25	738.0	SYSTEM		OFF	L# 2	STN/SP#		-18 33.23	178 9.69
/25	745.0	SYSTEM		ON	L# 2	STN/SP#		-18 33.53	178 9.31
/26	10 0.0	SYSTEM		OFF	L# 6	STN/SP#		-18 2.00	175 28.38
/26	1130.0	SYSTEM		ON	L# 7	STN/SP#		-18 1.85	175 22.22
/28	2230.0	SYSTEM		OFF	L# 14	STN/SP#		-17 44.72	168 15.34
SHIPBOARD MAGGY ANL PAPER ROLLS									
/25	525.0	ROLL	1	START	L# 4	STN/SP#		-18 21.19	178 22.41
/25	1530.0	ROLL	1	END	L# 4	STN/SP#		-18 39.42	177 9.30
/25	1538.0	ROLL	2	START	L# 4	STN/SP#		-18 39.27	177 8.24
/27	1734.0	ROLL	2	END	L# 8	STN/SP#		-17 51.46	170 4.41
/27	1737.0	ROLL	3	START	L# 8	STN/SP#		-17 51.47	170 4.02
/28	2230.0	ROLL	3	END	L#	STN/SP#		-17 44.72	168 15.34

SHIP: S. P. LEE

CRUISE LOCATOR: 14-84-sp
ID -YR-AREACHIEF
SCIENTIST: MIKE TORRESAN

JUL DAY	TIME (GMT)	CRUISE/DATA INFO		DATA	PERSONNEL, PORTS, EQUIPMENT			WATER	LATITUDE		LONGITUDE	
		RECORD MEDIUM	SEGNCN NUMBER	STATUS/ INSTITUTE	DESCRIPTION OR: LINE#	STA./SHOT	PT.#	DEPTH UNCOR.	DEG	MIN	DEG	MIN
SHIPBOARD GRAVITY OPRTING PERIODS												
125	2 0.0	SYSTEM		DN	L#		STN/SP#					
SHIPBOARD GRAVITY ANL PAPER ROLLS												
125	3 6.0	ROLL	1	START	L#	TRA	STN/SP#					
125	1048.0	ROLL	1	END	L#	3	STN/SP#		-18	44.24	177	48.18
125	1050.0	ROLL	2	START	L#	3	STN/SP#		-18	44.33	177	47.91
127	1235.0	ROLL	2	END	L#	7	STN/SP#		-17	51.27	170	45.23
127	1237.0	ROLL	3	START	L#	7	STN/SP#		-17	51.27	170	44.84
128	2338.0	ROLL	3	END	L#		STN/SP#					
GRA/MAG/BATH/NAV DIGIT MAG TAPES												
125	241.0	REEL	1	START	L#	TRA	STN/SP#					
126	251.0	REEL	1	END	L#	6	STN/SP#		-18	7.60	176	30.23
126	253.0	REEL	2	START	L#	6	STN/SP#		-18	7.57	176	30.04
126	3 4.0	REEL	2	END	L#	7	STN/SP#		-18	7.34	176	29.00
127	3 5.0	REEL	3	START	L#	7	STN/SP#		-17	52.21	172	35.74
128	319.0	REEL	3	END	L#	9	STN/SP#		-17	51.38	168	55.10
128	322.0	REEL	4	START	L#	9	STN/SP#		-17	51.41	168	54.75
128	2345.0	REEL	4	END	L#		STN/SP#					

SHIP: S. P. LEE

CRUISE LOCATOR: 14-84-sp
ID -YR-AREA

CHIEF
SCIENTIST: MIKE TORRESAN

D.L. DAY	TIME (GMT)	CRUISE/DATA INFO		DATA	PERSONNEL, PORTS, EQUIPMENT		WATER	LATITUDE		LONGITUDE	
		RECORD. MEDIUM	SEQNCE NUMBER	STATUS/ INSTITUTE	DESCRIPTION LINE#	OR: STA./SHOT PT.#	DEPTH UNCOR.	DEG	MIN	DEG	MIN

STA GRAV LAND TY NUM. OBSRVATIONS

25	249.0	READINGS	1	START	L#	STN/SP#	0000				
30	1 0.0	READINGS	2		L#	STN/SP#	0000				

CRUISE REPORT
 OF THE
 BRANCH OF MARINE GEOLOGY
 U. S. GEOLOGICAL SURVEY, MENLO PARK, CA
 FOR
 CRUISE -14-84-sp-

 GENERAL CRUISE INFORMATION

AREA: SOUTH PACIFIC / FIJI TO VANUATU

SHIP: R/V S. P. LEE

CHIEF SCIENTIST(S): MIKE TORRESAN

TYPE OF DATA

COLLECTED: GEOPHYSICAL ,

<u>CRUISE DATES:</u>	<u>LOCAL DATE/TIME*</u>	<u>TIME (JD/GMT)</u>	<u>PORT</u>
START CRUISE:	4 MAY 1518 HRS	126/ 318	LV SUVA, FIJI
END CRUISE:	8 MAY 1220 HRS	128/2320	AR PORT VILA, VANUATU

* EXPRESSED IN LOCAL STANDARD TIME.

	<u>HOURS</u>	<u>DAYS & HOURS</u>
<u>TOTAL UNDERWAY TIME:</u>	92	3 DAYS 20 HRS

 PERSONNEL LIST

<u>NAME</u>	<u>AFFIL</u>	<u>DUTIES</u>	<u>ABOARD</u>	<u>ASHORE</u>
AL MCCLENAGHAN		SHIP CAPTAIN	125/ 2 0	128/2340
JOHN DOBRANSKI		CHIEF ENGINEER	125/ 2 0	128/2340
CHRIS POPPE		CHIEF MATE	125/ 2 0	128/2340
MIKE TORRESAN		CHIEF SCIENTIST	125/ 2 0	128/2340
GLENN THRASHER, NZGS		GEOLOGIST	125/ 2 0	128/2340
ROY FIELDS		ELECTRONICS T	125/ 2 0	128/2340
KEVIN O'TOOLE		MECHANICAL T	125/ 2 0	128/2340
JEFF STAMFER		MECHANICAL T	125/ 2 0	128/2340
SHAWN DADISMAN		WATCH STANDER	125/ 2 0	128/2340
GREG SMITH		WATCH STANDER	125/ 2 0	128/2340
ROB O'CONNOR		WATCH STANDER	125/ 2 0	128/2340
BARBARA BLUBAUGH		NAVIGATOR	125/ 2 0	128/2340
CAROL HIROZAWA		NAVIGATOR	125/ 2 0	128/2340
ROBIN FRISCH		NAVIGATOR	125/ 2 0	128/2340

DEAN CLARK SEG
GERRY ANDERSON

UNSP INVESTIGATR 125/ 2 0 128/2340
UNSP INVESTIGATR 125/ 2 0 128/2340

EQUIPMENT SYSTEMS USED

<u>NAVIGATIONAL</u>	<u>GEOPHYSICAL</u>	<u>GEOLOGICAL</u>	<u>HYDROGRAPHICAL</u>
NAV SATELLITE DOPPLER SONAR INTEGRATED NAV	3.5KH BATHYMETRY 12KH BATHYMETRY UNIBOOM SHIPBOARD GRAVITY SHIPBOARD MAGGY SNGL CHAN AIRGUN		

DATA COLLECTED

GEOPHYSICAL

<u>DATA TYPE OR SYSTEM</u>	<u>RECORDING MEDIUM</u>	<u>TRACKLINE KILOMETERS</u>	<u>TRACKLINE N MILES</u>	<u>RECORDING TIME(HRS)</u>	<u>ROLL, REEL LIST QTY</u>
SNGL CHAN AIRGUN	ANL PAPER ROLL	668.5	361.0	55.3	2
UNIBOOM	ANL PAPER ROLL DIGIT MAG TAPE	134.8 97.0	72.8 52.4	12.4 9.3	2 3
3.5KH BATHYMETRY	ANL PAPER ROLL	702.9	379.5	58.2	2
12KH BATHYMETRY	ANL PAPER ROLL	1316.2	710.7	90.9	1
BATHYMETRY + NAV	DIGIT MAG TAPE PRINTR LISTING	1327.4 1327.1	716.8 716.6	92.1 92.0	3 2
SHIPBOARD MAGGY	ANL PAPER ROLL	1290.1	696.6	88.9	3
SHIPBOARD GRAVITY	ANL PAPER ROLL	915.5	494.3	92.5	3
GRA/MAG/BATH/NAV	DIGIT MAG TAPE	695.6	375.6	69.0	4

NUMERICAL OR DATA OBSERVATIONS

<u>DATA TYPE OR SYSTEM</u>	<u>NUMBER OF READINGS/EVENTS</u>	<u>TAKEN OVER HOW MANY STATIONS</u>
STA GRAV LAND TY	2	2

SHIP: S. P. LEE

CRUISE LOCATOR: 14-84-sp
ID -YR-AREA

CHIEF
SCIENTIST: MIKE TORRESAN

JUL. TIME	CRUISE/DATA INFO	DATA	PERSONNEL, PORTS, EQUIPMENT	WATER	LATITUDE	LONGITUDE
DAY (GMT)	RECORD. SEQNCE	STATUS/	DESCRIPTION OR:	DEPTH	DEG MIN	DEG MIN
	MEDIUM NUMBER	INSTITUTE	LINE# STA./SHOT PT. #	UNCOR.		

CRUISE DATES AND PORT STOPS

125 318.0	CRUISE	START	LV SUVA, FIJI
128 2320.0	CRUISE	END	AR PORT VILA, VANUATU

PERSONNEL LIST

125 2 0.0	SHIP CAPTAIN	ON	AL MCCLENAGHAN
128 2340.0	SHIP CAPTAIN	OFF	AL MCCLENAGHAN
125 2 0.0	CHIEF ENGINEER	ON	JOHN DOBRANSKI
128 2340.0	CHIEF ENGINEER	OFF	JOHN DOBRANSKI
125 2 0.0	CHIEF MATE	ON	CHRIS POPPE
128 2340.0	CHIEF MATE	OFF	CHRIS POPPE
125 2 0.0	CHIEF SCIENTST	ON	MIKE TORRESAN
128 2340.0	CHIEF SCIENTST	OFF	MIKE TORRESAN
125 2 0.0	GEOLOGIST	ON	GLENN THRASHER, NZGS
128 2340.0	GEOLOGIST	OFF	GLENN THRASHER, NZGS
125 2 0.0	ELECTRONICS T	ON	ROY FIELDS
128 2340.0	ELECTRONICS T	OFF	ROY FIELDS
125 2 0.0	MECHANICAL T	ON	KEVIN O'TOOLE
125 2 0.0	MECHANICAL T	ON	JEFF STAMFER
128 2340.0	MECHANICAL T	OFF	KEVIN O'TOOLE
128 2340.0	MECHANICAL T	OFF	JEFF STAMFER
125 2 0.0	WATCH STANDER	ON	SHAWN DADISMAN
125 2 0.0	WATCH STANDER	ON	GREG SMITH
125 2 0.0	WATCH STANDER	ON	ROB O'CONNOR
128 2340.0	WATCH STANDER	OFF	SHAWN DADISMAN
128 2340.0	WATCH STANDER	OFF	GREG SMITH
128 2340.0	WATCH STANDER	OFF	ROB O'CONNOR
125 2 0.0	NAVIGATOR	ON	BARBARA BLUBAUGH
125 2 0.0	NAVIGATOR	ON	CAROL HIROZAWA
125 2 0.0	NAVIGATOR	ON	ROBIN FRISCH
128 2340.0	NAVIGATOR	OFF	BARBARA BLUBAUGH
128 2340.0	NAVIGATOR	OFF	CAROL HIROZAWA
128 2340.0	NAVIGATOR	OFF	ROBIN FRISCH
125 2 0.0	UNSP INVESTIGATR	ON	DEAN CLARK SEG
125 2 0.0	UNSP INVESTIGATR	ON	GERRY ANDERSON
128 2340.0	UNSP INVESTIGATR	OFF	GERRY ANDERSON
128 2340.0	UNSP INVESTIGATR	OFF	DEAN CLARK SEG

EQUIPMENT LIST

0 0 0.0	NAV SATELLITE	SAT-NAV
0 0 0.0	DOPPLER SONAR	DOPPLER SONAR
0 0 0.0	INTEGRATED NAV	INTEGRATED NAV
0 0 0.0	3.5KH BATHYMETRY	3.5 KHZ
0 0 0.0	12KH BATHYMETRY	12 KHZ