



INSTITUTE FOR GEOPHYSICS
THE UNIVERSITY OF TEXAS AT AUSTIN

8701 Mopac Boulevard • Austin, Texas 78759-8345 • (512) 471-6156 • Telex: 910-874-1380 UTIG AUS

August 7, 1987

Don Heinrichs, Cognizant Program Officer
National Science Foundation
Division of Ocean Sciences
1800 G Street, N.W.
Washington, D.C. 20550

RE: Cruise Report on the Nankai Program (OCE 86-13774)

Dear Don:

Paul Stoffa, Greg Moore and I have just returned from the two-ship program conducted in the Nankai Trough off Japan. I am pleased to report that we collected enough high quality seismic data to meet our research objectives. We collected 6 split spread profiles in the new 'NKT' ODP site area and 8 ESP's in the old site 583 area. We were limited to collecting SSP's in the NKT area because the Kurochio current was running 3.0 to 4.0 knots. We later ran MCS strike lines along the split spreads, to give us the structural control needed for interpretation. In the site 583 area the current was generally about 1.5 to 2.5 knots, so we were able to run ESP's.

The Japanese supplied the R/V *Tansei Maru*, two water guns and the Syledis shorebased navigation. They had significant problems with their data logger systems which resulted in much down time for repairs. In addition the crew of the *Tansei* were very conservative, so we lost 2 days of two-ship work while they stayed in port waiting to see which way a typhoon was heading. We lost another day of two-ship work when they had to take an ill crewman into a nearby port. (The *Fred Moore* also had a sick crewman which resulted in another lost day of two-ship time.) Asahiko Taira and Greg Moore were on the *Tansei Maru*, along with one of our electronics technicians.

We supplied the *Fred Moore*, the 96 trace, 16.66m group streamer, Miniranger, two-ship radio controlled shot instant and return field time break. We had no significant problems with the *Fred Moore*, except for the 3.5 kHz system which was not working until the middle of the cruise. With the amount of dead time available during the cruise we did spend considerable time repairing and replacing streamer sections which should benefit future cruises.

Enclosed is a preliminary cruise report sent to the State Department, cruise summary, and UNOL's report.

Sincerely yours,

Thomas H. Shipley
Senior Research Scientist

THS:km
Encs.

Copy: Bill Mitchell
Charles Windisch
Patty Ganey ✓
Paul Stoffa

CRUISE REPORT

SHIP UTILIZATION DATA

SHIP NAME	Fred H. Moore		OPERATING INST.	Univ. Texas		PARTICIPATING PERSONNEL	TITLE		AFFILIATION
CRUISE (LEG) NO.			DATES			CODE			
AREA OF OPERATIONS:			PORT CALLS:	PLACE	DATES	1. SEE ATTACHED LIST			
SE Japan			Tokyo		9-13 July	2.			
			Kochi		23 July	3.			
			Osaka		27-29 July	4.			
DAYS AT SEA	DAYS IN PORT		5.						

WAS RESEARCH CONDUCTED IN FOREIGN WATERS? _____ COUNTRY: _____

PRIMARY PROJECTS (those which govern the principal operations, area and movements of the ship)

Project Title & Principal Investigator	Sponsor Agency	Grant/Contract Nos.	Total Awards	Start-End Dates	Duration Mos.	Participating Personnel*
Japan-United States Cooperative Study of the Relationship Between Sediment Physical Properties and Subduction - Thomas Shipley	NSF	OCE-8613774	\$562,214	4/15/87-4/14/89	24	

ANCILLARY PROJECTS (which are accomplished on a not-to-interfere basis and contribute to the overall effectiveness of the cruise)

Project Title & Principal Investigator	Sponsor Agency	Grant/Contract Nos.	Total Awards	Start-End Dates	Duration Mos.	Participating Personnel*
NONE						(As

* As coded in back of page.

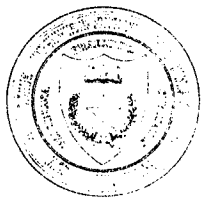
SIGNATURE <i>F. Shipley</i> CHIEF SCIENTIST	DATE <i>07 Aug 87</i>	
	Institution Official	
SIGNATURE _____		DATE _____
DAYS CHARGED		AGENCY OR ACTIVITY CHARGED
DAYS CHARGED		GRANT OR CONTRACT NO.

Continue personnel and project listings on reverse if additional space needed)

ATTACH PAGE SIZE CRUISE TRACK

PARTICIPATING PERSONNEL

<u>CODE</u>	<u>NAMES</u>	<u>TITLES/INSTITUTIONAL AFFILIATION</u>	<u>DATES OF PARTICIPATION</u>
1.	Tom Shipley	Senior Research Scientist, Univ. Texas	
2.	Paul Stoffa	" " " "	" "
3.	Mark Cloos	Research Scientist, Univ. Texas	
*4.	Kiyoshi Suyheho	" " , Chiba Univ.	
5.	Naoko Matsuda	Graduate Student, Chiba Univ.	
6.	Mary MacKay	Graduate Student, Univ. Tulsa	
7.	Don Dean	Data Processor, Univ. Texas	
8.	Kathleen Wall	Undergraduate Student. Univ. Texas	
9.	Marco Botelho	Post-Doctorate, Univ. Texas	
10.	Hiroyuki Onodera	Syledis Technician, Chiba Univ.	
11.	Oscar Febres-Cordero	Geophysical Technician, Univ. Texas	
12.	Ryan Standley	Geophysical Technician, Univ. Texas	
13.	Mark Wiederspahn	Computer Analyst, Univ. Texas	
14.	Marc Hirsh	Electronics Engineer, Univ. Texas	
15.	Robynn Lee Tomlins	Undergraduate Student, Univ. Texas	



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30 July 1987

PRELIMINARY CRUISE REPORT

SHIP NAME: R. V. Fred H. Moore
OPERATING INSTITUTION: University of Texas
DATES: 13 July-27 July 1987
PROJECT TITLE: Japan-United States Cooperative Study of the
Relationship between Sediment Physical Properties and
Subduction Processes in the Nankai Trough
CHIEF SCIENTISTS: Thomas H. Shipley and Paul L. Stoffa
CLEARANCE COUNTRY: Japan
FOREIGN PARTICIPANTS: Dr. Kiyoshi Suyehiro, Naoka Matsuda and Hiroyuki
Onodera
PORT CALLS: Tokyo 9-13 July; Kochi 23 July; Osaka 27-29 July 1987

DESCRIPTION OF SCIENTIFIC PROGRAM:

R.V. Fred Moore and R.V. Tansei Maru seismic reflection program to obtain expanding spread and split spread data to be used in interpretation of sediment physical properties in the vicinity of the Nankai Trough, SE Japan. These data will provide detailed velocity, density and porosity information needed to examine the relationship between sediment subduction, deformation and structural styles at convergent margins.

DATA OBSERVATIONS AND SAMPLES COLLECTED:

R.V. Fred Moore routinely collected Loran C, Global Positioning System fixes, Transit Satellite fixes, Syledis fixes, and Miniranger distances between ships. The seismic reflection data consists of 6 split spread profiles, 8 expanding spread profiles and 9 lines of normal single ship reflection data.

No samples were collected.

Navigation and seismic data are archived at the Data Center, University of Texas, Institute for Geophysics, 8701 Mopac Boulevard, Austin, Texas 78759-8345.

INFORMATION ADDRESS:

Patricia Ganey, Data Manager, Data Center, Institute for Geophysics, University of Texas, 8701 Mopac Boulevard, Austin, Texas 78759-8345.

SCHEDULE OF DELIVERY FOR ALL DATA RESULTS AND REPORTS:

Geophysical data

processed navigation	July 1988
microfilm of monitor records	July 1988
processed sections	July 1988

Reports

preliminary cruise report	August 1987
progress report	July 1988
final cruise/project report	December 1989

THS:km

Enclosure: Cruise summary

134°40.0' E
32°45.0' N

135 10.0'E

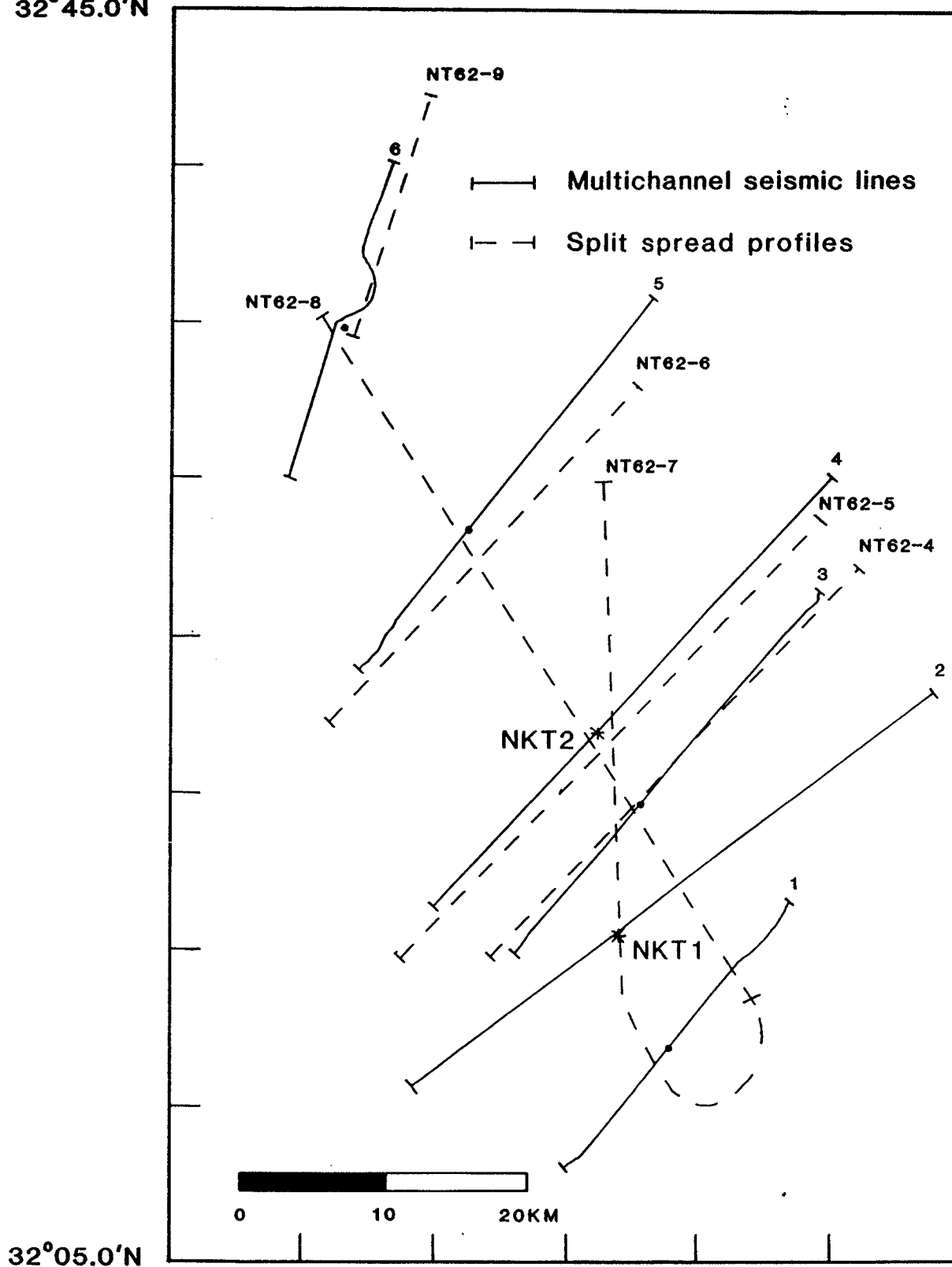


Figure 1. Sketch map of the northeastern Nankai Trough area. Proposed ODP sites are NKT-1 and NKT-2. Offset between split spread profiles (SSP) and the multichannel lines (MCS) is due to different navigation datums. After final navigation reduction, the two will be nearly coincident. SSP's used two 400 cubic inch water guns, 96 trace 16.66m group streamer. MCS used 1065 cubic inch air gun array, 69 trace 33.33m group streamer.

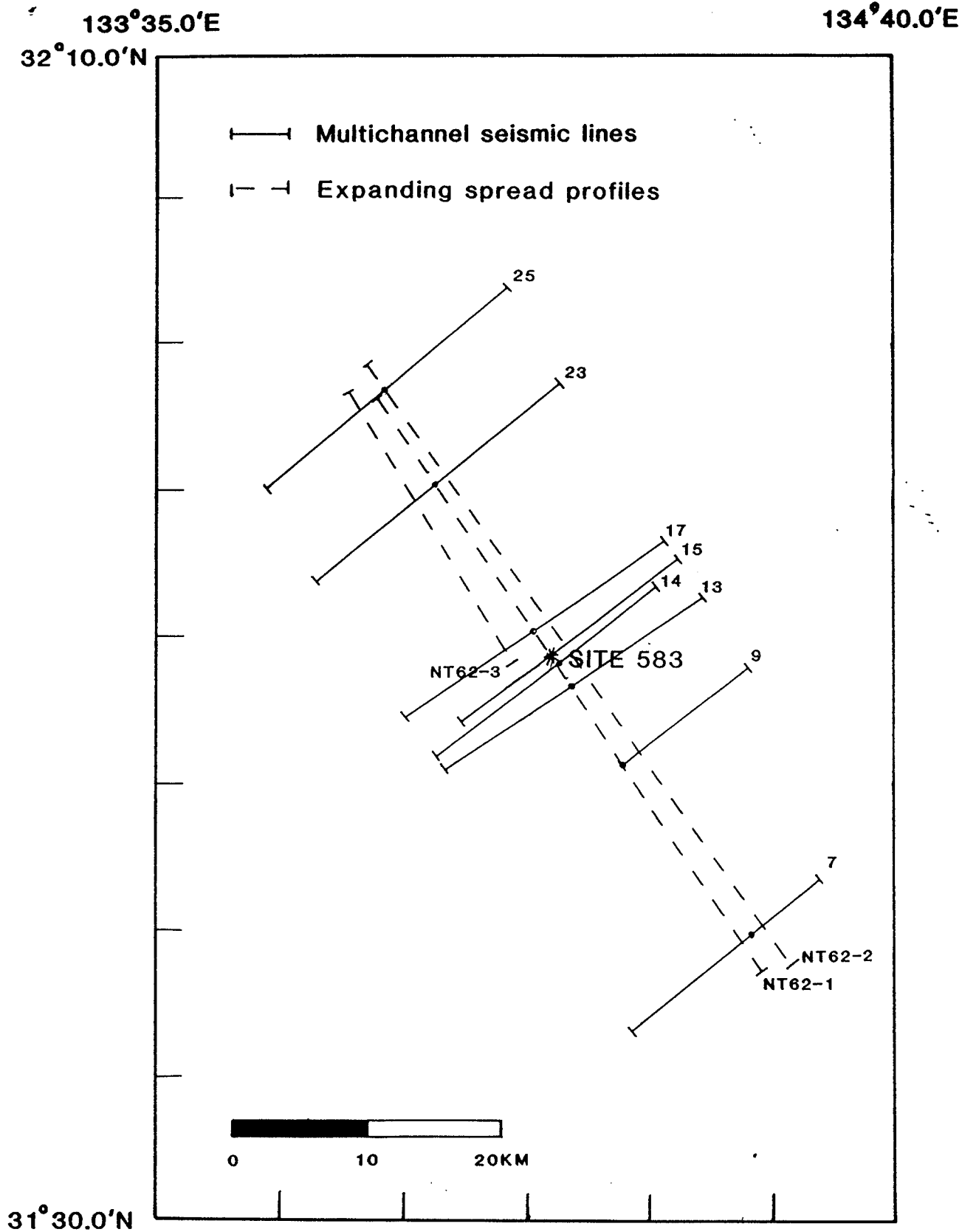


Figure 2. Sketch map of the southwestern Nankai Trough area. DSDP site 583 vicinity. Shown are 8 expanding spread profiles (ESP) and 3 multichannel dip lines. The ESP's were collected with a 96 trace, 16.66m streamer and with two 400 cubic inch water guns (except 25, which used one water gun). The MCS used a 1065 cubic inch air gun array, 96 trace, 16.66m group streamer.