CRUISE REPORT

SHIP UTILIZATION DATA

UNOL
Rev. 4/83

SHIP NAME ROBERT D. CONRAD	OPERATING INST. L-DGO of Col. Univ.	PARTICIPATING PERSONNEL
CRUISE (LEG) NO. 3005	DATES 6 April 1989-10 April	
AREA OF OPERATIONS: New York Bight - Hudson River	PORT CALLS:	
DAYS AT SEA 5 / DAYS IN PORT 10-12 hrs-Albany		

PORT CALLS: PLACE	DATES
Piermont, NY	6 April
Albany, NY	9 April
Piermont, NY	10 April

CODE	NAME	TITLE	AFFILIATION
1.	John B. Diebold	Chief Scientist	L-DGO
2.	Peter Buhl	Co-Chief Scientist	L-DGO
3.	Joe Stennett	Science Officer	L-DGO
4.	Michael Rawson	Marine Science Co-ord.	L-DGO

Use Reverse If Additional Space Required. (See below)

WAS RESEARCH CONDUCTED IN FOREIGN WATERS? NO COUNTRY: USA

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

PROJECT TITLE AND PRINCIPAL INVESTIGATOR	SPONSORING ACTIVITY	GRANT OR CONTRACT NUMBER	PARTICIPATING PERSONNEL (AS CODED ABOVE)
Hudson River Seismic Experiment John B. Diebold DISCIPLINE	NSF	EAR-88-17132	5. J. Alsop Science L-DGO 6. J. Graney Science L-DGO 7. I. Barany Student U/Illinois

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

PROJECT TITLE AND PRINCIPAL INVESTIGATOR	SPONSORING ACTIVITY	GRANT OR CONTRACT NUMBER	PARTICIPATING PERSONNEL (AS CODED ABOVE)

SIGNATURE JBDiebold DATE 4/12/89

CHIEF SCIENTIST John B. Diebold

TOTAL SCIENTISTS 6 TOTAL TECHNICIANS 9

TOTAL GRAD STUDENTS 1 TOTAL STUDENTS/OBSERVERS 5

ATTACH PAGE SIZE CRUISE TRACK

COST ALLOCATION DATA

DAYS CHARGED	AGENCY OR ACTIVITY CHARGED	GRANT OR CONTRACT NO.
9	NSF	OCE 8616405

SIGNATURE [illegible] DATE 5/12/89

D. Hayes)
Oceanography

June 29, 1989

4/6 - ~~99~~ 96
7 = ~~100~~ 97
8 = ~~101~~ 98
9 = ~~102~~ 99
10 = 100
11 = 101

TO:

Barbee, W.D. - UNOLS
Hannigan, L. - LDGO
Gerard, S. - LDGO
Hayes, D. - LDGO
Cox, L. - LDGO
Lotti, R. - LDGO
Raleigh, B. - LDGO
Simpson, D. - LDGO
Takahashi, T. - LDGO
Science Officer - CONRAD
Captain - CONRAD

RESEARCH CRUISE REPORT

R/V ROBERT D. CONRAD 30-~~08~~ 05

Attached is a copy of the cruise report for the above CONRAD cruise.

Michael Rawson
Marine Science Coordinator

Enc.

RC-3005 CRUISE REPORT

HUDSON RIVER SEISMIC EXPERIMENT

John Diebold

R/V CONRAD departed from Piermont on the morning tide at about 11:a.m., local time, (15:00 GMT) 6 April 1989 (Julian day 096). The 3.5 kHz echo sounder was turned on, and recorded data throughout the leg. Extra personnel included a CNN news team comprising a reporter, cameraman and sound technician. Upon reaching the channel, CONRAD proceeded northward while single channel seismic (SCS) gear was readied. At 16:30 GMT, we reversed course north of the Tappan Zee bridge, heading south. The pitlog was zeroed at 16:36, and SCS recording started soon thereafter.

Despite problems incrementing the shotpoint counter of the DSS-240 system, the data were satisfactorily recorded. The CNN crew were offloaded near Yonkers, and SCS acquisition continued without incident until stopping in the vicinity of Ambrose where the SCS gear was recovered. Approximately 48 n.m. of SCS data were acquired on this segment.

Day 097

Deployment of the 96 x 25 m channel MCS array began at about 3:00 GMT, and lasted until 20:00. During this time, all lead weights were removed, floats and birds installed, and oil injected in order to lighten the streamer as much as possible. Approximately 125 gallons of streamer oil were used, nearly exhausting the supply on board. The towing dynamometer and its spare turned out to be non-functional, despite hours of repair effort by Steve LaBrecque.

Norwegian buoys were attached to the outer 8 air guns on 25' tethers, so as to constrain towing depth in the river channel.

MCS acquisition began at 20:34, with two air guns (#'s 5 & 6). Pitlog reading approx. 132 n.m. All 10 guns on at 23:05. Air pressure was maintained at a full 2000 psi, at a 25 sec rep rate.

The tuned airgun array consisted of one each, 350, 385, 420, 466, 500, 540, 585, 640, 700, and 760 cu. in. BOLT 1500-C air guns.

Day 098

Passed the vicinity of Ambrose ca. 06:00, despite earlier gale warnings for New York Harbor. Displayed DSS-240 depth indicator screen on bridge monitor, to facilitate streamer depth control via speed changes. Entered NY Harbor under good visibility conditions, and rendezvouzed with our primary chase boat piloted by Bernie Gallagher and Anne Holmes. At approximately 09:39, a container ship inexplicably crossed the streamer and severed it at can #2, chopping off 8 sections and the tail buoy. The pilots on the two ships were in voice contact at the time, and CONRAD had two chase boats in the vicinity of the tailbuoy. A legal effort to recover funds for damaged and lost equipment (and time) is
ongoing. A gap of about 4 n.m. in MCS coverage appears here, as the system was revived and the damage assessed.

Considering traffic and location, we decided to restart the DSS-240 system and continue recording data, monitoring the streamer towing depths closely. It soon became apparent that the last 1/3rd, which had been towing deep before the collision, was getting even deeper, occasionally touching the bottom. At 11:00, streamer recovery began while moving northward in the

vicinity of midtown Manhattan.

At ca. 16:00 GMT, we headed downriver at full speed, picking up C.B. Raleigh, L. Johnson, J.D. Graney, and two Journal-News reporters on the way.

At 17:00 GMT, started deploying shortened, 64-channel streamer in the vicinity of Ellis Island, steaming north. All remaining floats were applied to the streamer, and the remaining gallon or two of oil injected. The compass sections were removed, due to their weight.

At 19:50, the streamer was fully deployed. The gun array was redeployed, and recording began at 20:28, just north of the George Washington Bridge. There is a further gap of about 7 n.m. in MCS coverage offshore mid-and-uptown Manhattan.

Raleigh, Johnson, and the two reporters debarked in the vicinity of Piermont.

CONRAD continued northward, acquiring 64 channel MCS data with 10 air guns, moving through the water at the relatively high speed required to keep the streamer at 20 feet towing depth.

Day 099

00:00 Entered the dredged channel at north Haverstraw, and transited without incident. Passed West Point ca. 03:00, where we were contacted by the USCG auxiliary at Highland Falls, on behalf of the USMA security office.

All went well until ca. 12:00 GMT, when a passing tanker crowded CONRAD to the inside of a curve and the tailbuoy snagged a channel marker. The buoy broke up, and pulled the plug out of the end of the streamer. Since we were within a mile or two of the point at which we'd have to pull in the streamer anyway, we ended MCS operations at that point. Pitlog 337 n.m. Total MCS

mileage based on pitlog 205 - 12 = 193 n.m.

14:50 -- streamer aboard, CONRAD continued to the Port of Albany, where she took on water and lay until .....

Day 100

04:00 Walter Sullivan of the New York Times came aboard. Departed Albany, deployed SCS.

13:00 Upon passing Bear Mountain, increased the SCS rep rate from 12 to 8 seconds, to gain spatial resolution.

14:00 Since we were ahead of time, we elected to continue South past Piermont, and shot SCS down to about 79th St., Manhattan. U-Turned at 16:00, collected SCS back up to the north until 17:50.

Docked at Piermont at about 19:00 GMT.

A total of ca. 193 n.m. MCS, and 174 n.m. of SCS data were acquired, along with 500 n.m. of 3.5 kHz echo sounder and total track.

The successful collection of 94% of the planned MCS mileage despite the unique and difficult circumstances of RC-3005 reflects great credit on the scientific and ship's crew. Every single member did his (or her) utmost to complete the necessary work at all times without complaint. Captain Peterlin, particularly, worked long and hard hours, adapting his skills to the tasks at hand in a flexible and effective fashion.

SCIENCE CREW LIST: HUDRISE CREW

1. Chief Scientist: John Diebold
2. Scientist: Peter Buhl
3. Watch Stander: Joyce Alsop
4. Watch Stander: Istvan Barany
5. Watch Stander: Jackie Graney
6. Science Officer: Joe Stennett
7. Sr. ET: Steve LaBrecque
8. ET: Frank Robinson
9. MCS Tech: Carlos Gutierrez
10. Air Guns: Tim Nolan
11. Compressors: John Sindt
12. Compressors: John DiBernardo
13. Core Bosum: Ropate Mairwiriwiri
14. Pilot: John Leanier
15. Data Reduction: Dale Chayes
16. Data Reduction: Rob Blass
17. Data Reduction: Stephanus Budhypromano
18. Marine Coordinator: Michael Rawson

To Join for Portion of Cruise:

A. CNN Team:

1. Cameraman
2. Asst. Cameraman
3. David Monsees, Reporter

B. Lamont Team:

1. C. Barry Raleigh, Director
2. Leonard Johnson, NSF

C. Journal News Team:

1. L. Maniace, Reporter
2. Diane Stevenson, Cameraperson

D. N. Y. Times:

1. Walter Sullivan, Science Reporter