

Cruise Report

**R/V ENDEAVOR Cruise 269
to Georges Bank**



10 - 13 July 1995

Cruise Report for Endeavor-269

A.J. Williams 3rd, WHOI - July 13, 1995

Purpose of Cruise:

Deploy BASS tripod at ST1 on Georges Bank, recover SW guard buoy, repair IMET discus buoy, do A and B CTD sections.

Personnel:

Albert Williams	WHOI	Chief Scientist	BASS Tripod/CTD
Judy White	WHOI	Cruise Coordinator	Logistics/CTD
Naomi Fraenkel	WHOI/Barnard	Undergraduate Student	BASS Tripod/CTD
Will Ostrom	WHOI	Mooring Technician	Guard Buoy
Brian Way	WHOI	Electronics Technician	IMET Discus
Brian Racine	WHOI	Graduate Student	CTD
Leslie Hebb	WHOI	Graduate Student	CTD
William Williams	WHOI	Graduate Student	CTD
Sandra Werner	WHOI	Graduate Student	CTD
Suilou Huang	URI	Graduate Student	CTD
Jonathan Cole	Volunteer	H.S. Student	Mooring/CTD
Steve Schock	FAU	Scientist	Chirp Sonar
Lachlan Munro	Prec. Sign	Electronics Technician	Chirp Sonar
Jan Szelag	URI	Marine Technician	CTD

Schedule:

Leave Narragansett July 10 at 1045 with BASS tripod aboard for Georges Bank. Arrive at southern end of A line for CTD work July 11 at 0445. Take CTD stations A13 to A6. Break off CTD work at ST1 mooring array at 1200. Repair IMET discus buoy. Launch BASS tripod at 1330. Recover SW guard buoy. Continue CTD stations on A line at 1600. Do A5 to A1 then switch to B line and do B1 to B13 with two additional stations between B4 and B5 and two additional stations between B5 and B6. CTD work was completed (B13) at 0730 July 12. Following the CTD work, the ship was turned over to Chirp Sonar work. We steamed south to 4000 meters depth and then turned west while running the chirp sonar from the hull transducer. Scheduled return to Woods Hole at 1200 July 13.

BASS Tripod: AJW3

A study of stratification in the bottom boundary layer in the spring on Georges Bank was started with deployment of a BASS tripod at ST1 (40N 51, 67W 33) February 3, 1995. BASS contains 5 vector acoustic current meters located from 25 cm to 5 meters above the bottom which are sampled at 2 Hz for 7.5 minutes every half hour. BASS also has 8 thermistors, 5 optical back-scatterometers, a pressure sensor, an Ocean Sensors self-contained CTD, and a Benthos camera. Data capacity to May 1 was provided with a 340 MByte hard disk on the tripod. However, a turn-around cruise in April succeeded only in recovering one of the two buoyed lift lines. The line wrapped around the mooring chain of the SW guard buoy before we could get to it and when we pulled, the line chafed and parted. A second attempt was made June 7 with a dive by SeaProbe

submarine. The submarine released the second lift line which also wrapped around the SW guard buoy's mooring chain, chafed, and parted. Former hurricane Allison prevented a second submarine dive. This first tripod was eventually recovered and returned to WHOI July 11, 1995.

A second BASS tripod was prepared for replacement for the first tripod and this was loaded aboard Endeavor in Woods Hole July 7 and taken to Narragansett for zeroing July 8-10. Glob2BASS has 5 acm sensors at the same heights as the first tripod. It also has thermistors and a pressure sensor but no OBS sensors, camera or CTD. It will be picked up August 19.

The sensor heights on BASS are measured from the deck with the footpads in place. It can be assumed that the footpads will sink into the bottom 2 to 5 cm. This will decrease heights by that amount.

ACM	Thermistor/Pressure	Height above deck (cm)	
Pod 1		28	
	T1	32	
	T2	58	
Pod 2		63	
	Spacer cage		Spacer cage is 25 cm
	T3	118	
Pod 3		123	
	4 spacer cages		
	T4	182	
	T5	253	
Pod 4		258	
	3 spacer cages to support spider		Spider is 5 cm thick
	T6	348	
	Pressure sensor	355	
	3 spacer cages above support spider		
	T7	443	
Pod 5		448	
	T8	602	

CTD and Station Log: AJW3

A total of 30 CTD stations were taken. Salinity bottles were taken at virtually every station at 5 meters above the bottom and at 3 meters below the surface. Fluorometry, transmission and oxygen were obtained as well.

Stations Log:

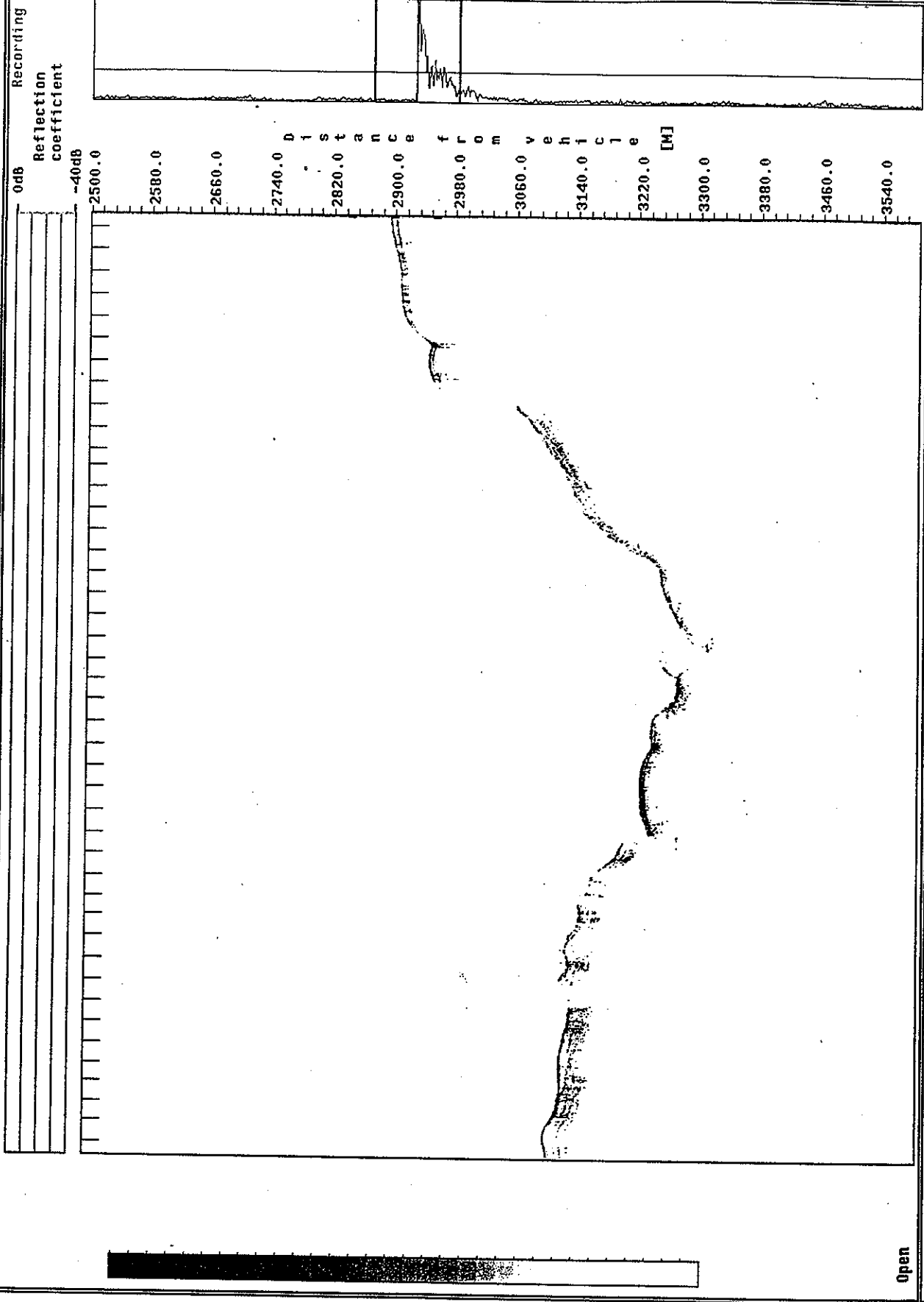
All stations are in July, 1995; all times are EDT (+4).

event	inst.	cast	stat.	day	hhmm	lat.(N)	lg.(W)	dpt(m)	comments(bottles)
001	CTD	01	A13	11	0428	40 27	67 14	465	B:1,2; T:3
002	CTD	02	A12	11	0640	40 31	67 17	142	B:4,5; T:6
003	CTD	03	A11	11	0739	40 34	67 19	117	B:7,8; T:9
004	CTD	04	A10	11	0826	40 38	67 22	97	B:10,11; T:12
005	CTD	05	A9	11	0906	40 41	67 25	96	B:13,14; T:15
006	CTD	06	A8	11	0946	40 45	67 27	89	B:16,17; T:18
007	CTD	07	A7	11	1026	40 48	67 30	83	B:19,20; T:21
008	CTD	08	A6	11	1104	40 51	67 33	77	B:22,23; T:24
009	Discus repair		A6	11	1120	40 51	67 33	77	Replace VAWR
010	BASS launch		A6	11	1330	40 51	67 33	77	OIS ACR 0001 & 1001
011	CTD	09	A5	11	1528	40 55	67 36	72	B:151,152; T:153
012	CTD	10	A4	11	1620	40 58	67 38	66	B:154,155; T:156
013	CTD	11	A3	11	1658	41 02	67 41	59	B:157,158; T:159
014	CTD	12	A2	11	1740	41 05	67 44	43	B:160,161; T:162
015	CTD	13	A1	11	1815	41 09	67 47	39	B:163,164; T:165
016	CTD	14	B1	11	2023	41 31	67 35	40	B:166,167; T:168; sandwave
017	CTD	15	B2	11	2136	41 24	67 32	43	B:169,170; T:171
018	CTD	16	B3	11	2241	41 17	67 28	45	B:172,173; T:174
019	CTD	17	B4	11	2325	41 12	67 26	45	B:175,176; T:177
020	CTD	18	B4a	11	2343	41 11	67 26	45	B:179,180; T:181
021	CTD	19	B4b	12	0005	41 10	67 25	52	No bottles
022	CTD	20	B5	12	0035	41 09	67 24	55	B:182,183; T:184
023	CTD	21	B5a	12	0106	41 07	67 23	59	B:185,186; T:187
024	CTD	22	B5b	12	0129	41 06	67 23	59	B:188,189; T:190
025	CTD	23	B6	12	0146	41 06	67 22	61	B:194,195; T:196
026	CTD	24	B7	12	0226	41 02	67 20	67	B:51,52; T:53
027	CTD	25	B8	12	0312	40 57	67 18	77	B:54,55; T:56
028	CTD	26	B9	12	0345	40 54	67 17	83	B:57,58; T:59; power glitch
029	CTD	27	B10	12	0451	40 50	67 15	92	B:60,61; T:62
030	CTD	28	B11	12	0529	40 47	67 13	97	B:63,64; T:65
031	CTD	29	B12	12	0626	40 41	67 10	104	B:66,67; T:68
032	CTD	30	B13	12	0717	40 35	67 08	165	B:69,70; T:71; recorded?
033	Chirp Sonar		Return to WH		Chirp sonar tests from hull transducer followed by towed sidescan sonar on return to port.				

Chirp Sonar: Steve Schock

0800 - 1000 7/13/95 Conducted crossings of the continental slope and continental rise to test the performance of an EG&G X-Star Sonar connected to hull mounted transducer. The water depth varied from 11 meters to 3500 meters. The SNR of the seafloor reflection at 3500 meters exceeded 40 dB. Acoustic penetration was 40 meters on the continental rise and slope.

Path: Main / Sonar / Signal meter



Open

Lat: 39°49.9830' N Long: 67°41.8230' W Time: 21:36:53 Date: 00/00/0000 Course: 285° Speed: 10.0 Return: 2282 Mark:# 0

Figure 1. Chirp sonar record from EN-269 off edge of New England Shelf near Oceanographer Canyon.