

VESSEL	R.V. EDWARD FORBES		
CRUISE PERIOD	24 April - 9 May 1978		
PERSONNEL	R. Kirby	SSO Senior Scientist	24.4 - 9.5.78
	M.A.S. Moore	SO	24.4 - 9.5.78
	M.R. Lees	SO	24.4 - 1.5.78
	G. Le Good	SO	24.4 - 1.5.78
	Mrs. C. Kirk	ASO	1.5 - 9.5.78
	Miss J. Blower	ASO	1.5 - 9.5.78
	Day visitors		
	T.J. Smith	HSO	
	G. Austin	Oxford University	
	K. Dempster	Southampton University	
ITINERARY	23.4.78	Travel to Barry and set up equipment.	
	24 to 27.4.78	Sail Barry 0800 hrs for silt meter profiling along IOS standard cross-sections. Entered Barry 2000 hrs.	
	28.4.78	Trisponder and densimeter set up. Sailed 1000 hrs for Bridgwater Bay. Gravity coring accompanied by density profiles for Oxford University at 3 stations.	
	29.4.78	Anchored in Bridgwater Bay and laid Barium Sulphate at site of sedimentation rate experiment. Also gravity cores obtained.	
	30.4.78	Sailed for Newport Deep for Vacuum sampler trials.	
	1.5.78	Siltmeter profiles along cross-section of the estuary.	
	2.5.78	In Barry for crew leave and change scientific personnel.	
	3 to 6.5.78	Siltmeter profiling along cross-sections of the estuary.	
	7.5.78	Siltmeter profiles along cross-section of the estuary followed by echo sounder line from Gore Buoy into Burnham and back along Parrett approach channel.	
	8.5.78	Gravity coring in co-operation with Southampton University.	
	9.5.78	Siltmeter profiling. Entered Barry 2115 hrs.	
	10.5.78	Return to Taunton.	
OBJECTIVES	<ol style="list-style-type: none"> 1. Study of fine sediment distribution in the area between Hinkley Point and English and Welsh Lightfloat based on vertical profiles of suspended sediment. 2. Test of new design Partech siltmeter. 3. Laying Barium Sulphate at site of sedimentation experiment in Bridgwater Bay. 4. Gravity coring of settled mud at site of sedimentation experiment and in co-operation with Oxford and Southampton Universities. 		

PROCEDURE AND
METHODS

Suspended sediment data was obtained by repeated traverses along standard cross-section lines making vertical profiles at standard stations along the line.

Barium Sulphate was laid both as a slurry poured down a flexible tube held 1 m above the bed at the experiment site and also spread as a powder at slack water from the water surface.

Gravity cores were obtained using both 60 mm and 100 mm barrels from Edward Forbes. For the Oxford University work the radioactive transmission density gauge was attached to the gravity core shoe. For the Southampton University sampling an orientation camera was fitted after the corer was swung to record compass deviations caused by the chassis. Vacuum sampler bottles were arranged on a modified siltmeter profiling frame and triggered at required depths as indicated by a depth sensor output.

EQUIPMENT
PERFORMANCE

1. No problems were encountered with the IOS siltmeter profiling array until 5.5.78 when the array was inadvertently hauled up into the sheave on the head of the derrick parting the lifting cable. The equipment was recovered by hauling on the electric cables.

2. The experimental Partech siltmeter failed on many occasions owing to sea water ingress. The trial was finally abandoned.

3. The Barium Sulphate lay was successful. Attempts to obtain gravity cores and simultaneous density profiles proved completely impossible. The corer had to be traversed so slowly that it persistently fell over.

4. Gravity cores for analysis by Oxford University, Southampton University and IOS were obtained without problems.

5. Vacuum sampler trials were successful.

6. The Decca Trisponder performed faultlessly.

7. The Edward Forbes could not anchor in the Bridgwater Bay settled mud area.

RESULTS

Good weather conditions attended the survey throughout and a large amount of siltmeter data was collected between the Holmes Islands and 3°30' W. This confirmed earlier work which showed that dense suspensions were encountered only along the English Coast.

Track Charts and Stations.

PREPARED BY :

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APPROVED BY :

K R Dyer

(K R DYER)

DATE :

25.2.80

25 February 1980

