

Cruise Report Cape Shore

(78/CS/06)- Leg 3

19 May-1 June 1978

by

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Introduction

The purpose of this leg was to vibrocore, gravity core and grab sample in the Cormorant 1:250,000 sheet (see Fig. 1). On arrival at Lerwick it was found that considerable work was required on many aspects of both IGS and ship's equipment, so that sailing was delayed by 24 hours. During the leg the weather was generally good, with only 9 hours lost to rough seas, although thick fog hampered work during the first week. During the leg a total of 128 sites were occupied, of which 43 were vibrocore sites. Stations were occupied in water depths exceeding 300m, the deepest vibrocore site being about 225m.

Personnel

D Evans	CSNU	Chief Scientist
W Lonie	CSNU	Operations
N A Ruckley	CSNU	
A Fyfe	CSNU	
C Graham	CSNU	
R Sutherland	CSNU	
A Davis	ACU	
P Sheeman	ACU	
S Kramvis	Cyprus Geological Survey	

Summary Log

Friday 19 May

0000 Mobilisation at Lerwick.

Saturday 20 May

0000 Mobilising at Lerwick, port aft anchors not

satisfactorily repaired.

1300 Leave Victoria Quay, take on bunkers before steaming for working area.

2350 On 1st station, night sampling gravity core (CS) and shipek grab (GS).

Sunday 21 May

0000 Night sampling.

0510 Steaming for vibrocore (VE) site. Barrel bent and cable severed on last (4th) site of day due to movement at anchor.

1915 Anchors lifted on last site, VE wire streamed due to loose turn on winch.

2050 Night sampling begins.

Monday 22 May

0000 Night sampling.

0630 Anchoring on 1st VE site.

2130 Anchors weighed on final VE site, night sampling begins.

Tuesday 23 May

0000 Night sampling.

0620 Anchoring at 1st VE site. Difficulty in pulling VE out of stiff sediment, bolts at top of barrel sheared but barrel held by baseplate and recovered.

1010 Anchoring on 2nd site.

2225 Night sampling begins.

Wednesday 24 May

0000 Night sampling.

0650 Anchored on 1st VE site, successful but rapidly increasing wind (up to 6-7) prevents further anchoring.

1015 Attempt CS site, but ship unable to hold head into sea, deck conditions too dangerous once abeam the sea. Water comes into lab. - sampling abandoned.

1040 Waiting on weather.

2045 Weather improved, night sampling work.

Thursday 25 May

0000 Night sampling.
0615 Anchoring on 1st VE site.
1955 Remounting of stern starboard anchor wire above top roller due to collapse of bearings on lower roller.
2130 Anchor repairs completed, night operations begin.

Friday 26 May

0000 Night sampling.
0630 Anchoring on VE site.
1055 Anchoring on second VE site after 25 min. delay due to ship's engines.
1550 On 3rd site after further 1.8hr delay with ship's engines.
2125 Night sampling begins.

Saturday 27 May

0000 Night sampling.
0615 Anchoring on VE site.
2045 Anchors aweigh on last (5th) VE site, begin night sampling.

Sunday 28 May

0000 Night sampling.
0615 Anchoring on VE site.
1205 Anchoring on 3rd site after 30 mins. delay phoning Offshore Marine, Great Yarmouth concerning breakdown of one hydraulic pump. Delay of 1.4hrs due to tangle of forward anchor on recovery.
2025 Night sampling after delay working on aft port anchor rollers.

Monday 29 May

0000 Night sampling.
0625 Anchoring on 1st VE site, delay due to electric cable breakage. Four further sites completed.

2205 Night sampling begins.

Tuesday 30 May

0000 Night sampling, and much steaming to get to northern part of Cormorant sheet.

0900 Anchoring on 1st VE site.

2100 Night sampling begins.

Wednesday 31 May

0000 Night sampling.

0625 Anchoring on 1st VE site.

1950 Anchors aweigh, steam for Lerwick.

Thursday 1 June

0000 On passage to Lerwick.

0650 Alongside at Lerwick.

Geological Assessment

A typical core from the southern part of the sheet would be: 5-10cms. of fine-medium sand to coarse sand with shelly gravel, then fining downwards to the top of the underlying clay which lies at about 50cms. The clay is silty, often pebbly gritty and shelly, dark grey-black, and varying from firm to very stiff. Further north the clays are softer and in the very deep water are very soft. The succession was somewhat monotonous.

Conclusions

1. The geological objectives of the leg were achieved, a

substantial number of samples (128) having been collected and the Cormorant SE sheet completed.

2. The anchoring system on the ship is not satisfactory. The rollers on the stern are liable to collapse, and the sponsons were being deeply cut into by the anchor wire. In addition the winches are not very fast. The total result was a number of stoppages to repair the system and a major repair of the rollers in Lerwick at the end of the leg, in addition to those carried out in port at the beginning of the leg.

3. Given this anchoring system the anchors were efficiently operated, but an average of four sites a day, with a maximum of five is well below that which would have been occupied employing the Emerald.

4. The low freeboard of the spacious deck is fine in good conditions, but once anchoring is impossible the situation deteriorates. If the ship is unable to hold her head to the sea (and she has a natural inclination to go broadside on) then the waves break across the deck in a way which makes it dangerous to work on deck. On the one occasion when sampling was attempted in poor conditions (wind force 6-7), waves broke heavily on the deck and came into the laboratory. It was felt that during the one day lost to weather we could have gravity cored with little difficulty from the Emerald.

5. The ship is well suited to the work in respect of bridge, laboratory, deck and equipment handling facilities, although the shipek winch remains slow. The performance

of the crew was generally impressive.

6. The IGS equipment worked well.

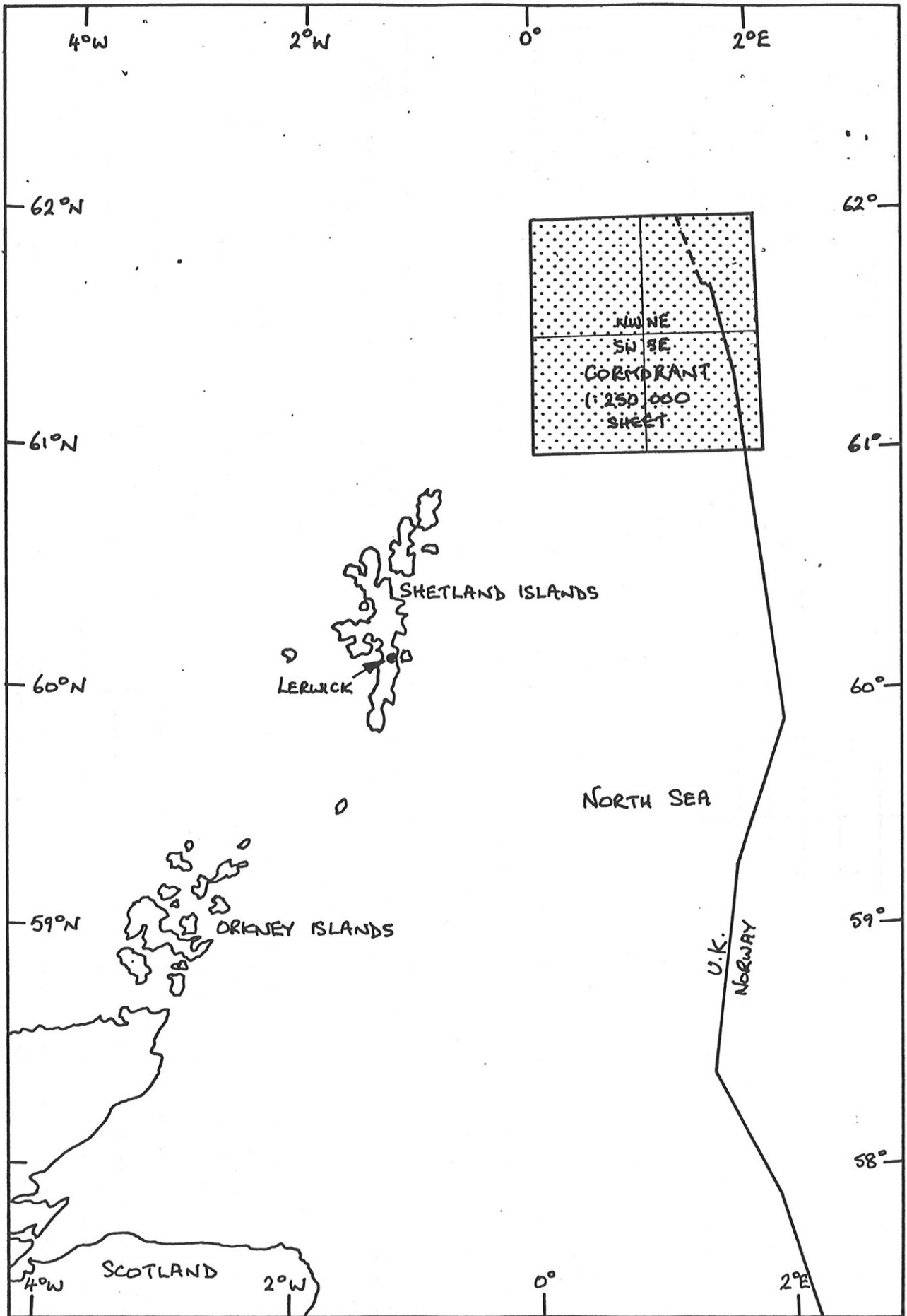


FIG 1. LOCATION MAP

Activity	MAY 19 Fri	20 Sat	21 Sun	22 Mon	23 Tue	24 Wed	25 Thur	26 Fri
On passage		8.4	8.5	7.3	7.5	7.3	7.2	9.1
Anchoring			5.3	3.9	3.8	1.5	6.5	4.1
On station		0.2	10.2	12.8	12.4	6.0	8.7	8.2
Downtime					0.4		1.6(2.2)	2.2
Ship Equipt.				(2.0)	0.3(2.4)			0.4
Waiting on weather						9.2		
In port	24.0	15.4						
No. VE sites			4	4	4	1	4	4
No. GS/CS sites		1	7	7	7	9	8	9
Activity	27 Sat	28 Sun	29 Mon	30 Tue	31 Wed	JUNE 1 Thur	Totals	% of time
On passage	8.5	8.4	8.5	8.9	12.1	6.8	108.5	32.3
Anchoring	4.8	4.4	5.5	4.6	4.3		48.7	14.5
On station	10.6	8.6	8.7	10.5	7.6		104.5	31.2
Downtime		2.6					6.4	1.9
Ship Equipt.			1.3				2.0	0.6
Waiting on weather							9.2	2.7
In port						17.2	56.6	16.8
No. VE sites	5	4	5	4	4		43	n/a
No. GS/CS sites	7	8	7	11	6		85	n/a
						Total	128	

Bracketed times included in other activity category.

TABLE 1
TIME UTILISATION ANALYSIS