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MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1985 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 8

(Provisional: Not to be quoted without prior reference to the author)

STAFF

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DURATION

24 June-1 July

LOCATION

Outer Thames Estuary

AIMS

1. To conduct a sidescan survey of, and collect samples of epibenthos from, the Roughs Tower dredged spoil dumpsite.
2. To collect suspended solids in the wake of sewage sludge dumping vessels in the Barrow Deep for chemical analysis.
3. To conduct a routine monitoring survey of the Barrow Deep and Middle Deep using grabbing, coring and beam trawling.
4. To determine the vertical distribution of sulphides in sediments from the Middle Deep.
5. To collect cores from the Barrow and Middle Deeps for sedimentation rate determination.
6. To collect sediments by grabbing and coring for physical, biological, microbiological and chemical analysis at the South Falls sewage sludge dumpsite.

NARRATIVE

CLIONE left Lowestoft at 1242 hours on 24 June. The first part of a side-scan sonar survey of the Roughs Tower dredged spoil and sewage sludge dumpsites was carried out that afternoon and evening.

On 25 June a transect of 10 grab samples was collected across the spoil site. These were analysed on board for the presence of various sewage-associated bacteria (E.Coli, Faecal Streptococci and Clostridium). A Newhaven scallop dredge was then deployed at five sites (four successful) across the area to collect samples of epibenthos. The sidescan survey of the dumpsite was completed and, based on the sonar records, twelve ground truth grab samples collected.

On 26 and 27 June 51 grab samples were collected in the vicinity of the South Falls sewage sludge and dredged spoil dumpsites. These were analysed for bacteria and for benthos extracted by sieving. Samples were collected for chemical, physical and virological analysis in the laboratory.

On 28 June work commenced in the area of the Barrow Deep dumpsite. In the morning, three beam trawls were carried out in the Barrow Deep and in the afternoon water samples were collected from, and Guildline measurements made in, the slick of the Thames Water Authority vessel, the MV HOUNSLOW, shortly after it had discharged its load of sewage sludge. The slick was sampled for three hours after discharge by which time the slick had dispersed.

On 29 June three beam trawl stations were worked during the morning in the Middle Deep followed by a further survey of a sludge slick using the Guildline only in the afternoon.

On 30 June a series of 8 core stations were worked in the Middle Deep followed by 12 grab stations in the Middle and Barrow Deeps. Water quality samples were also taken in these areas. Two plankton tows were carried out at the Barrow dumpsite and the headline camera deployed using a frame. Work was completed at 2000 hours and CLIONE steamed to Lowestoft, berthing at 0740 hours on 1 July.

RESULTS

All aims were successfully achieved.

Fig 1 shows the areas investigated and Fig 2 and 3 the results of the bacteriological determinations at the South Falls dumpsite.

S M Rowlatt
24 September 1985

INITIALLED: HWH

SEEN IN DRAFT: J Sinclair, Master
E Pearce, Fishing Skipper

DISTRIBUTION:

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FIG 1

CLIONE 8/85

LOWESTOFT

ROUGHS

BARROW

FALLS

52°

51°N

1°E

2°

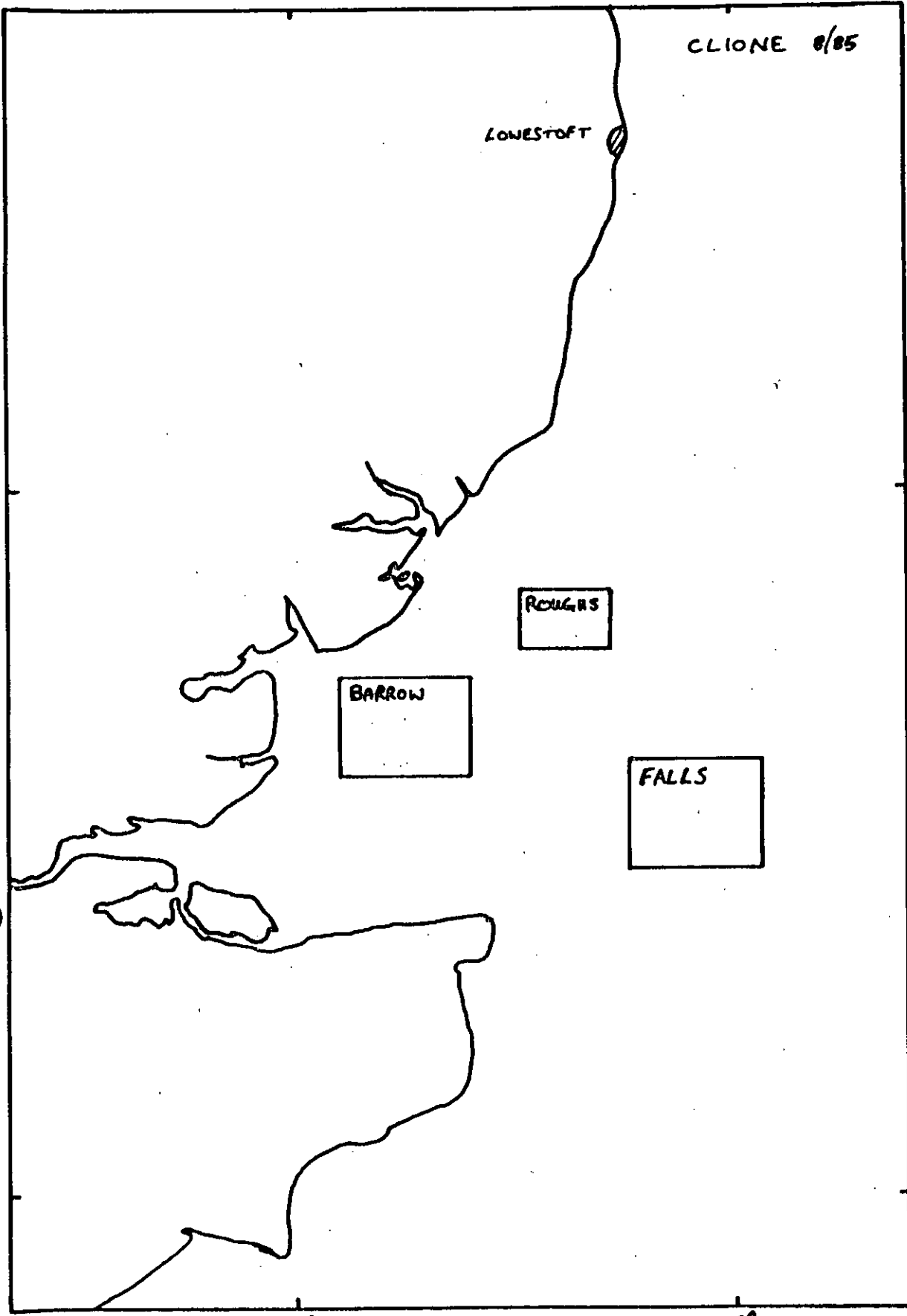


Fig 2 CLIONE 8/85

DISTRIBUTION OF
FAECAL STREPTOCOCCI
/g SEDIMENT

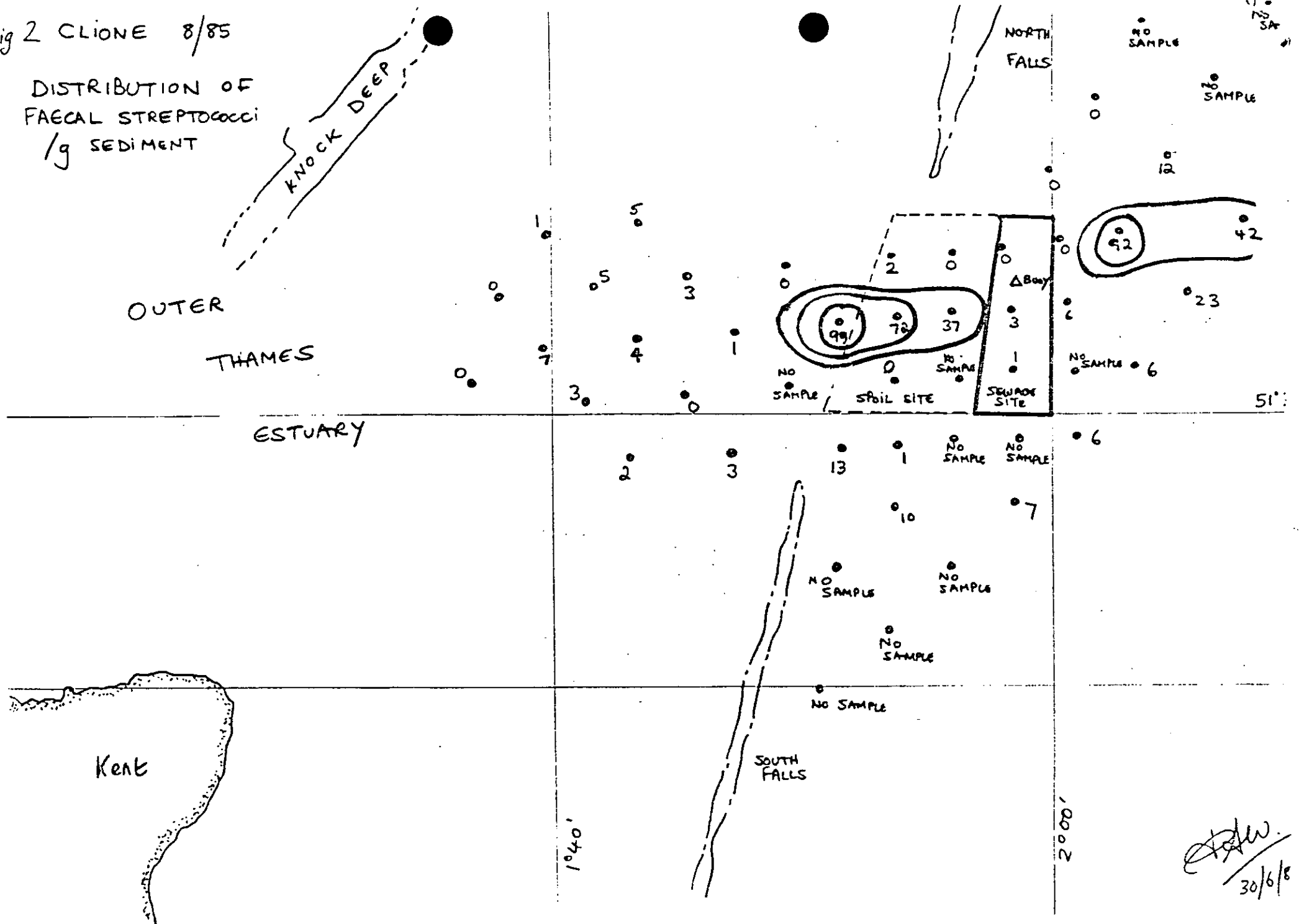
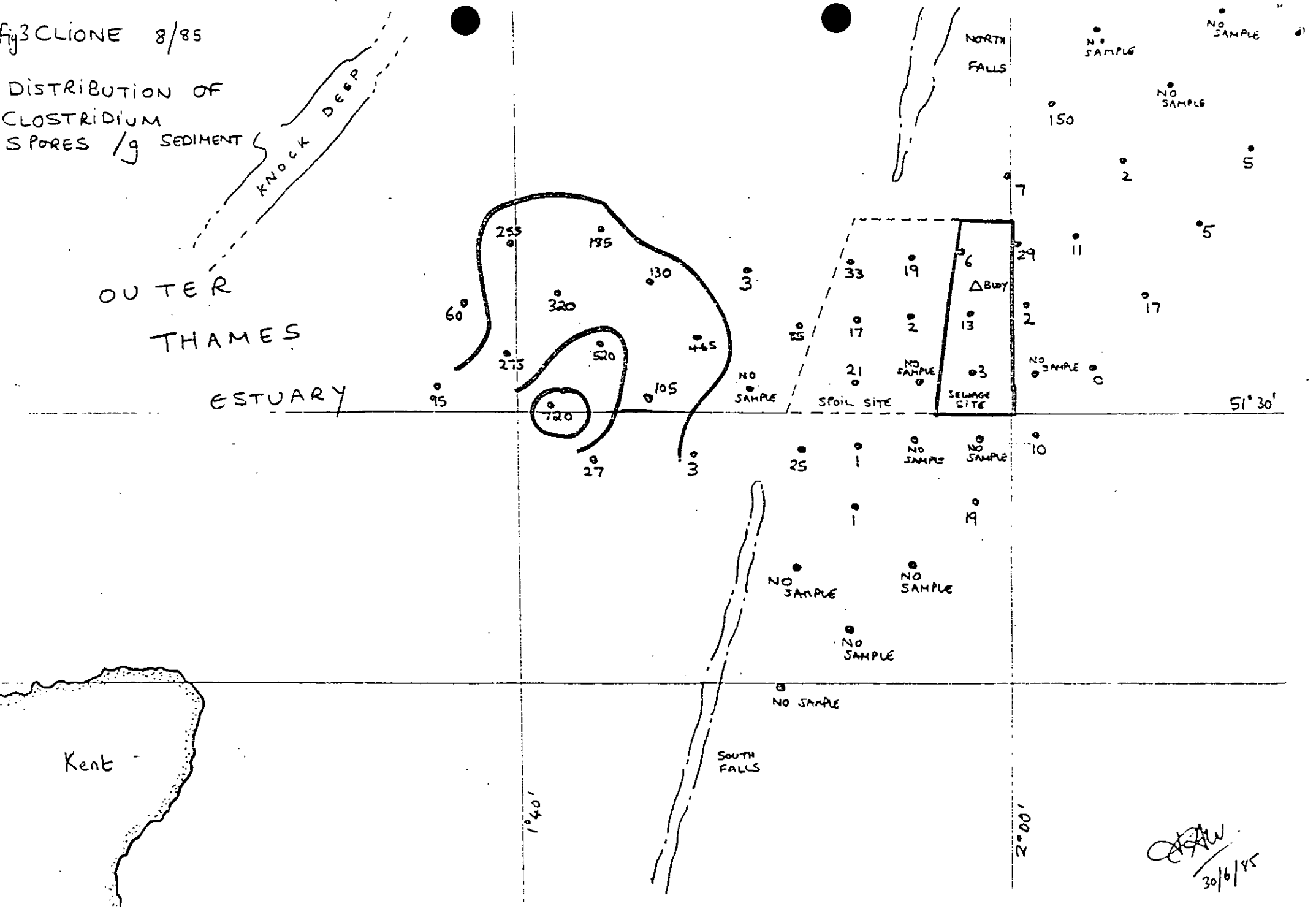


Fig 3 CLIONE 8/85

DISTRIBUTION OF CLOSTRIDIUM SPORES /g SEDIMENT



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