

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

1989 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES CRUISE 13

STAFF:

- S M Rowlatt
- H L Rees
- D Limpenny (part-time)
- G Lees
- R Flatt
- W Dore (part-time)
- M Lambert

DURATION:

Left Lowestoft 1700h 8 December
 Arrived Lowestoft 0100h 20 December
 All times are Greenwich Mean Time

LOCALITY:

North Sea and English Channel

AIMS:

1. To survey the Roughs Tower sewage sludge and dredged material disposal ground using grabbing, dredging and sidescan sonar.
2. To survey the Hastings Shingle Bank and Isle of Wight sand and gravel extraction sites using grabbing, sidescan sonar and underwater video.
3. To collect sediment samples for temporal trends monitoring of chemical contaminants from the sewage sludge disposal sites at Roughs Tower, Nab, Exeter and Plymouth.
4. To collect sediment samples throughout the British sector of the English Channel as part of the JMG baseline study.
5. To process samples of water using XAD columns for laboratory analysis by an oyster embryo bioassay.
6. To collect samples of fish for chemical analysis from the English Channel.

NARRATIVE:

CORYSTES sailed from Lowestoft at 1700h on 8 December and proceeded to Roughs Tower disposal ground (sewage sludge and dredged material). On 9 December sediment samples were collected for the determination of faecal bacteria, metals and benthic infauna. On completion of this work CORYSTES steamed to Exeter and then Plymouth where surveys of sediments were carried out around the sewage sludge disposal sites on 11 and 12 December.

On the evening of 12 December a sediment survey was started in the SW Approaches but had to be abandoned at 0735h on 13 December due to deteriorating weather conditions. A sample of seawater was processed for later oyster larvae bioassay as CORYSTES steamed to Tor Bay for shelter.

Further work was attempted at the Exeter sewage sludge disposal site on 14 December but had to be abandoned after only two beam trawl hauls due to poor weather conditions. Mr Dore was then put ashore in Brixham and Mr Limpenny joined the ship.

CORYSTES steamed overnight to the Nab area east of the Isle of Wight. On 15 December a survey was started of the aggregate extraction areas 340, 351 and 213 and the Nab Tower sewage sludge disposal and dredged material disposal site. The work, almost complete, had to be abandoned at 0700h on 16 December due to poor sea conditions.

CORYSTES then sheltered at Mother Bank off Ryde, IoW until the morning of 18 December when a grab survey was carried out at the Nab Tower sewage sludge and dredged material disposal site.

CORYSTES then steamed to Roughs Tower taking sediment and water samples en route. The sediment sampling had to be terminated due to poor weather conditions. On 19 December three beam trawl samples were collected at Roughs Tower disposal site, followed by a sidescan survey of the area.

CORYSTES docked in Lowestoft at 0100h on 20 December.

RESULTS:

1. Aims 1, 2, 3 and 5 were successfully completed. Aim 4 was only partially successful due to poor weather conditions. Aim 6 had to be abandoned due to the weather conditions.
2. Bacterial results at Roughs Tower indicate sewage sludge dispersion along the main tidal axis with only limited movement in other directions (Fig 2).
3. Bacterial results at Exeter indicate a south-westwards drift of sewage sludge (Fig 3).
4. Further results will be available only after laboratory analyses of the samples.

S M Rowlatt
Scientist-in-Charge

SEEN IN DRAFT: JRF, PM

INITIALLED: CEP

DISTRIBUTION

Basic List +
H Rees
D Limpenny
G Lees
R Flatt
W Dore
M Lambert

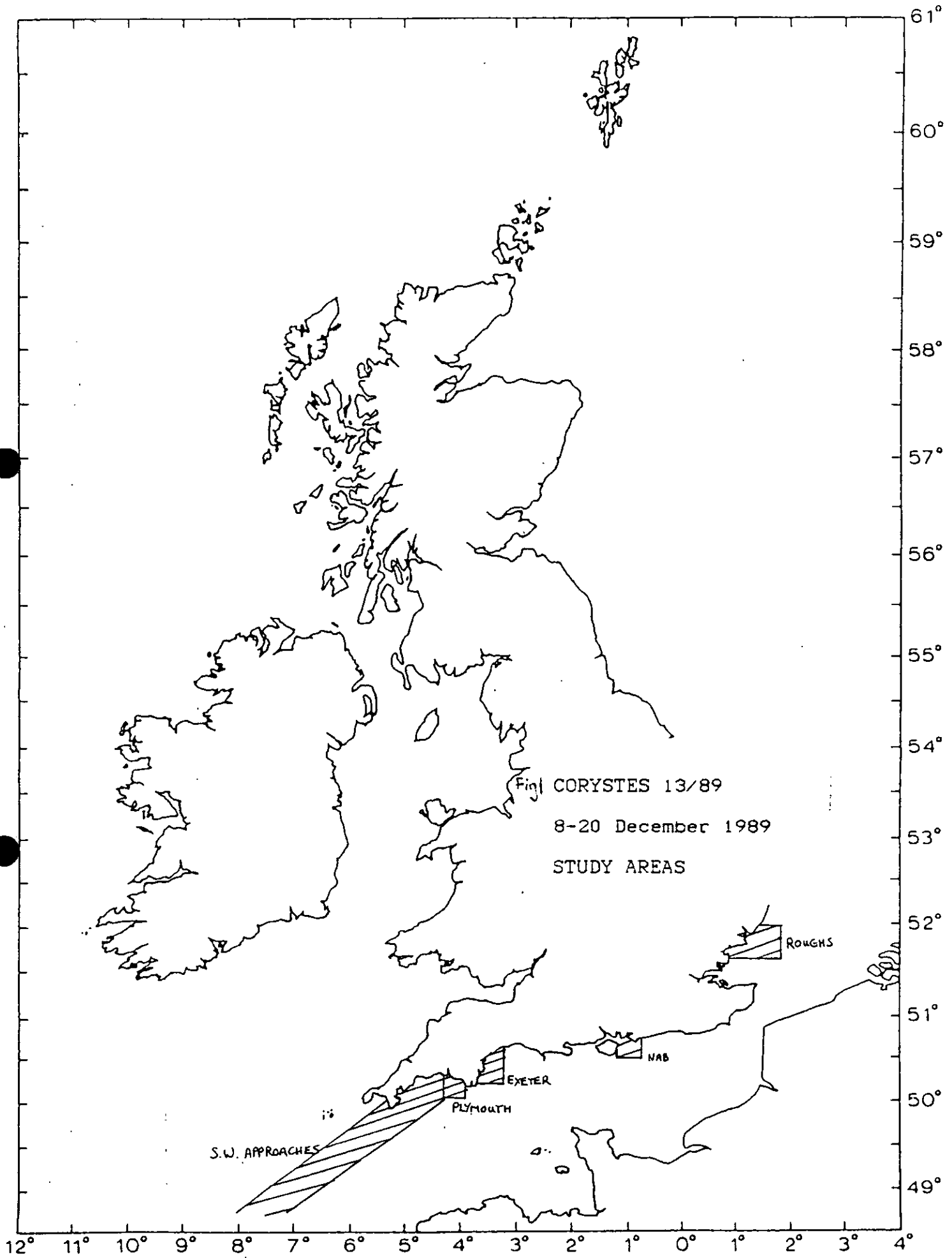


Fig 1 CORYSTES 13/89
8-20 December 1989
STUDY AREAS

S.W. APPROACHES

PLYMOUTH

EXETER

NAB

ROUGHS

Fig 2a ROUGHS TOWER SEWAGE SLUDGE DISPOSAL SITE

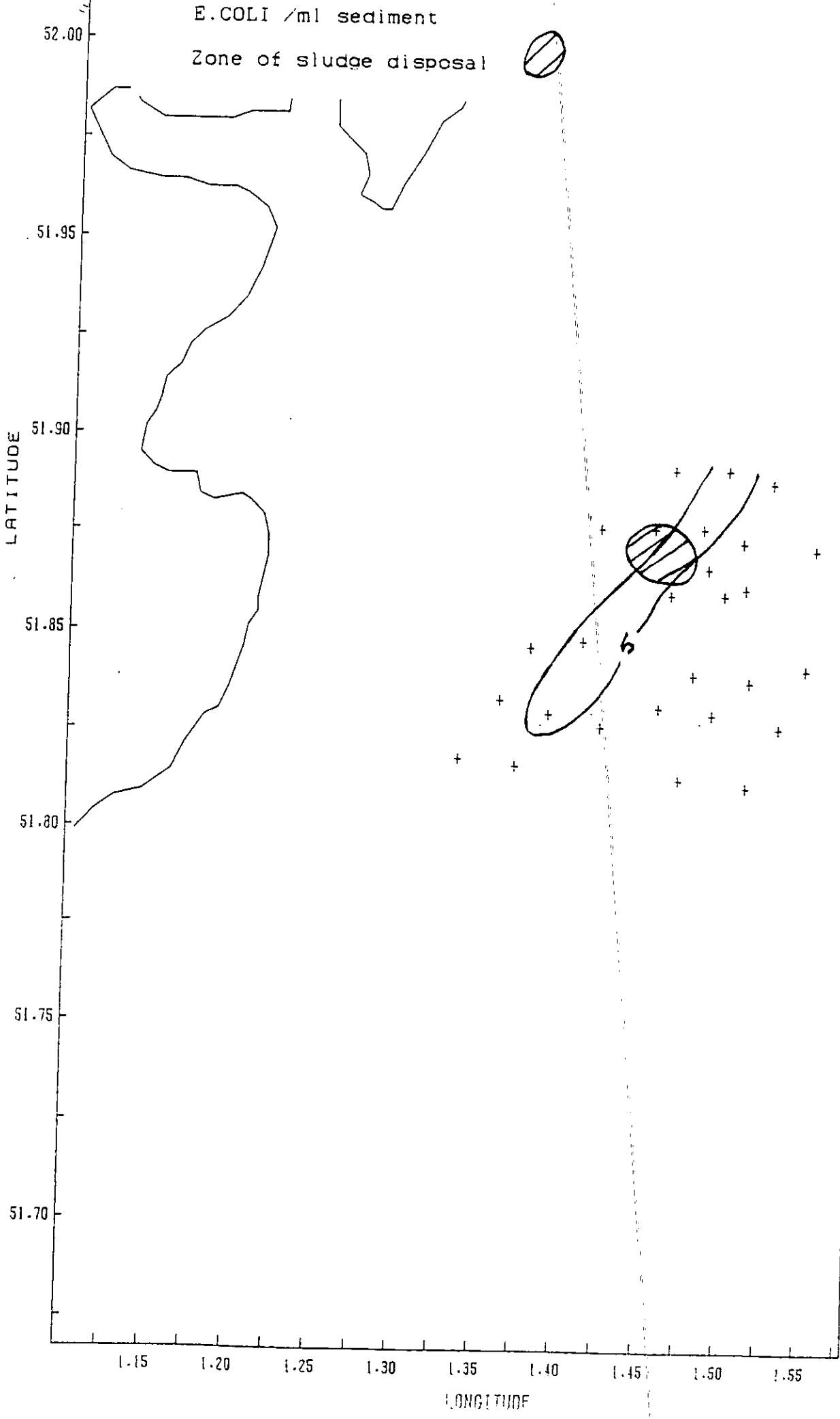


Fig 2b ROUGHS TOWER SEWAGE SLUDGE DISPOSAL SITE

FAECAL STREPTOCOCCI /ml sediment

Zone of sludge disposal

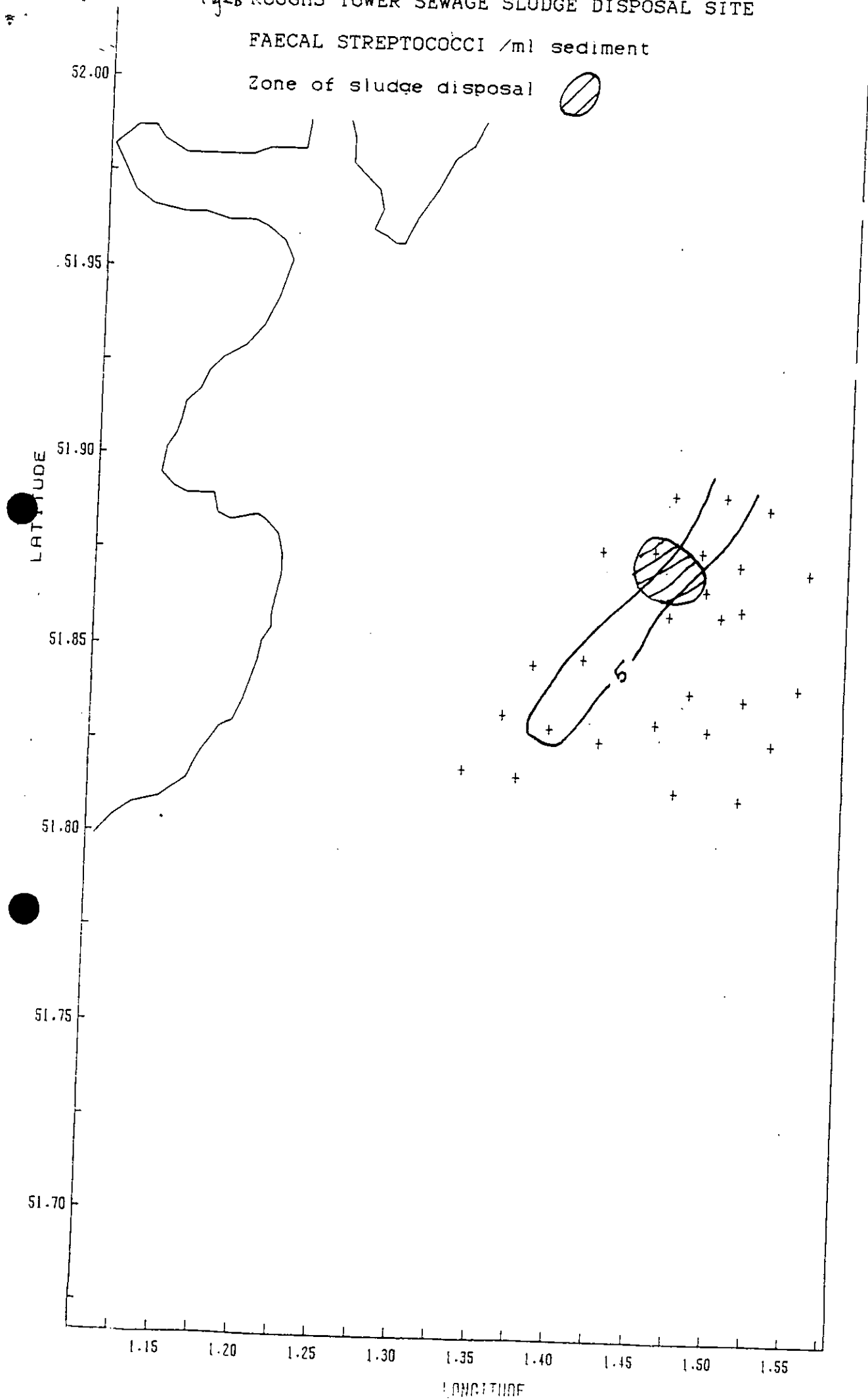


Fig 3a EXETER SEWAGE SLUDGE DISPOSAL SITE

E. COLI /ml sediment

Zone of sludge disposal

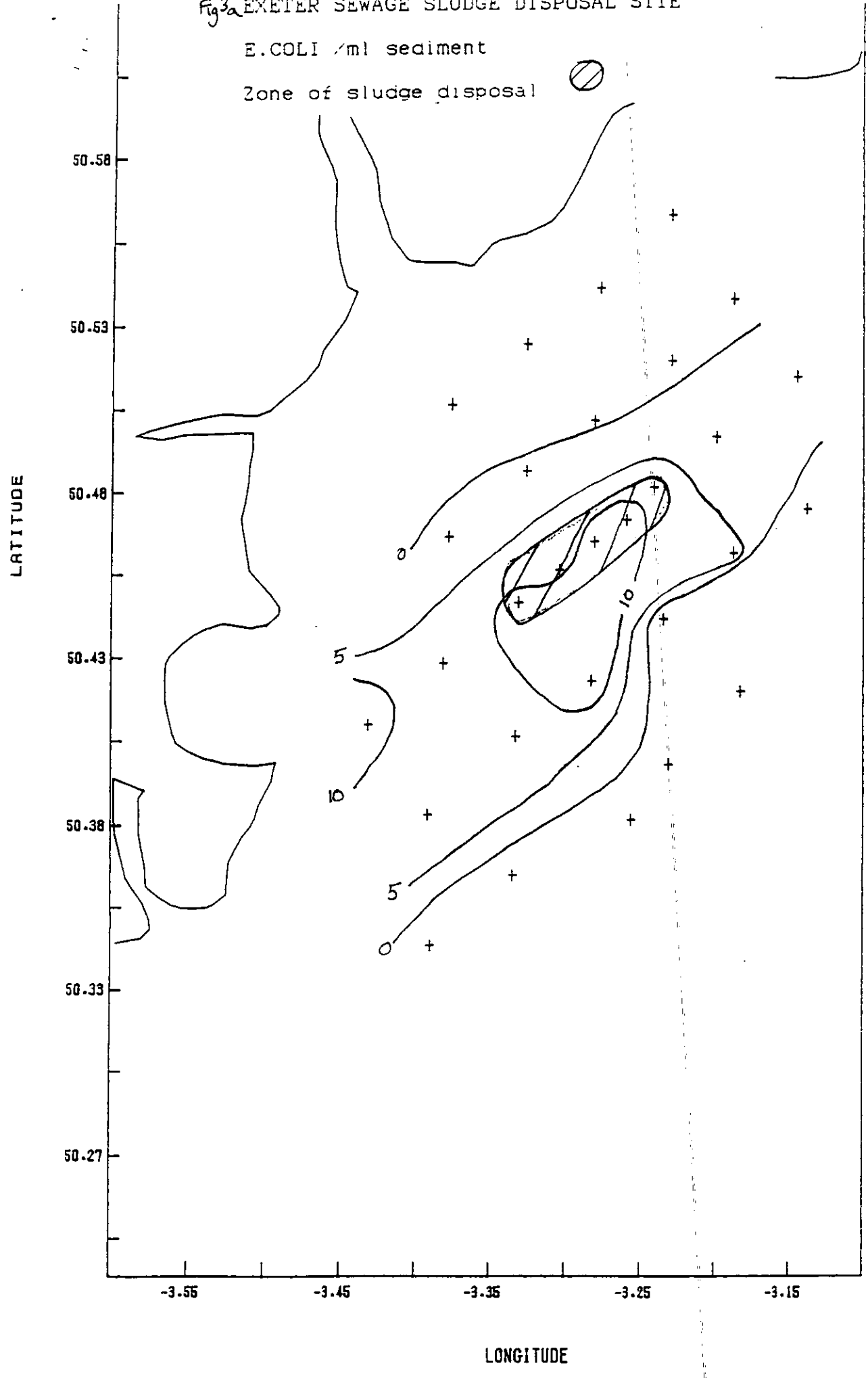


Fig 3b EXETER SEWAGE SLUDGE DISPOSAL SITE

FAECAL STREPTOCOCCI /ml sediment

Zone of sludge disposal



50.58

50.53

50.48

50.43

50.38

50.33

50.27

LATITUDE

-3.55

-3.45

-3.35

-3.25

-3.15

LONGITUDE

