

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

1997 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 2

STAFF

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DURATION:

CIROLANA left Lowestoft at 1030h on 11 February
Arrived at Lowestoft at 2200h on the 25 February

LOCALITY:

North Sea, English Channel, Irish Sea

AIMS:

1. To collect and examine dab and other fish species for diseases.
2. To collect samples of dab and other flatfish livers for histopathology, DNA adducts, bile analysis and EROD measurements.
3. To collect samples of frozen dab and whiting for contaminant analysis (A Franklin).
4. To examine herring for Ichthyophoniosis.
5. To collect samples of viscera from gadoids and herring for VHS virus testing (P Dixon).
6. To collect blood and gonad samples from flounders (J Thain).
7. To collect samples of whelks (J Thain).
8. To collect sediment samples for use in laboratory toxicity experiments.

ADDITIONAL AIM:

1. To collect ovaries from Dover Sole (P Whittames)

NARRATIVE (all times are GMT):

RV CIROLANA sailed on the morning of the 11th and proceeded to Smiths Knoll (ICES rectangle 34F2) where, during the afternoon, two tows were completed. Despite poor catches of dab, sufficient samples and data were collected to meet the various aims. The ship then moved overnight to Sole Pit (ICES rectangle 36F1). A

total of five tows in this area yielded sufficient samples of dab, cod and small herring to meet the requirements of aims 1, 2, 4 and 5. A sediment sample was also obtained in fulfilment of aim 8. On the 13th the programme continued at Humber Off Ground (ICES rectangle 36F0) where a total of three tows were completed. The final tow in particular, for which a tickler chain was fitted to the trawl, produced good numbers of dab and other flatfish. Herring and small cod were sampled for the presence of VHS virus.

During the evening of the 13th CIROLANA steamed to Flamborough Off Ground (ICES rectangle 37F0) and during the 14th fishing continued in this area. A total of four tows were completed in good weather and all aims were successfully met. A sediment sample was also collected from this area. Because of the forecast of deteriorating weather it was decided to proceed firstly to the western Dogger (ICES rectangle 38F1) while conditions permitted. During the 15th three hour long tows were made and good catches of dab enabled several aims to be met for this area. In addition, cod, whiting and herring were sampled in fulfilment of aim 5 and whelks were collected for aim 7. On completion of work in this area CIROLANA steamed to an area off the north east coast (off Amble) (ICES rectangle 39E8). In rapidly worsening weather conditions during the morning of the 16th, only two tows were possible (the second curtailed after 30 minutes). Although relatively few dab were caught, good samples of haddock and small cod were obtained and examined for disease and sampled for the various aims. Herring and whelks were sampled for aims 4 and 7 respectively. Because of the gale force southerly winds, which were forecast to persist for several days, CIROLANA proceeded northwards around Scotland and into the Irish Sea. The planned changeover of two members of scientific staff at an east coast port was abandoned.

Approaching the north coast of Ireland on the 18th a pair of bottlenose dolphins were sighted alongside the ship and were observed for several minutes before disappearing. Because of the continuing gale and severe gale force winds from the south, it was not possible to fish at stations at Dundrum Bay and Morecambe Bay. Consequently, CIROLANA continued directly on to Liverpool Bay (ICES rectangle 35E6) seeking some shelter from the prevailing gales, thus providing the best opportunity to continue the programme. During the morning of the 19th three tows and a sediment day grab were completed in this area in fulfilment of the various aims. Despite working at relatively sheltered inshore stations, conditions deteriorated throughout the morning and fishing became impossible with wind gusting in excess of Force 12. The ship then moved to Red Wharf Bay (ICES rectangle 35E5) but was unable to work because of the conditions during the afternoon.

On the 20th work commenced in Red Wharf Bay using an adjusted tow in order to avoid ships at anchor sheltering from the gales. The first of three half hour tows provided a large catch of herring and with the exception of flounders, few flatfish, including dab were caught. Subsequent tows produced sufficient fish to complete aims 2, 3, 5 and 6.

The programme then continued, on the 21st in improving weather conditions, to stations in southern Cardigan Bay (ICES rectangle 33E5). Catches here were

sufficient to meet the primary aims although few large dab were caught. During the 22nd a total of six hour and half hour tows were completed in the Carmarthen Bay area (ICES rectangle 32E5). The first tow produced only few dab and further attempts were made at an inshore station which yielded numerous juvenile fish and debris. Other stations consistently produced poor catches although, in total, sufficient fish were sampled to meet aims 2, 5 and 6. CIROLANA then proceeded to Lyme Bay (ICES rectangle 30E6) and commenced trawling in marginal conditions during the afternoon of the 23rd. Catches were insufficient for a full disease record to be taken. Herring, cod and whiting were sampled for aim 5. On the 24th work commenced at Rye Bay (ICES rectangle 30F0), again in marginal conditions. A total of four tows produced good catches of dab and flounder together with several large cod. Target numbers for disease recording were met, although as in certain other areas, larger size group dab were sparse. All other aims for this area were also met

After sheltering overnight CIROLANA then proceeded to a station in the outer Thames estuary (south west of the Gabbard) (ICES rectangle 32F1) in order to obtain samples for aims 2, 5, 6 and 7. A total of three tows were successfully completed in this area on the 25th. CIROLANA then returned to Lowestoft.

RESULTS:

A total of 9 main sampling areas were investigated using a Granton trawl fitted with a tickler chain and liner. Stations at Smith's Knoll, Sole Pit and Humber Off Ground were fished without a tickler chain.

- Aim 1. All dab (over 5000), cod (421) and flounder (88) were length measured, examined for disease and recorded according to ICES recommended protocols for standardised disease monitoring. All suspect liver neoplasias were preserved for confirmatory diagnosis. Otoliths from these fish were taken for age correlation. Other commercial species were examined macroscopically for disease and photographs and samples were taken as appropriate. All results were entered onto a spreadsheet for subsequent statistical analysis.
- Aim 2. Samples of liver from dab, flounder and plaice from the various areas were taken for histopathology and immunohistochemistry. Samples from the same specimens were also taken for a suite of additional tests including EROD and DNA adduct measurements.
- Aim 3. Samples of dab and whiting from the majority of the areas visited were collected and frozen for contaminant analysis.
- Aim 4. No evidence of Ichthyophoniosis in herring was observed.

- Aim 5. Samples of viscera from cod and herring were collected from all areas visited for laboratory testing for the presence of VHS virus. Other relevant species such as turbot were also sampled.
- Aim 6. Ovaries and blood samples from all flounder were taken for intersex investigations.
- Aim 7. Samples of whelks were collected from all areas where sufficient numbers were caught.
- Aim 8. Sediment samples were collected from 4 areas for use in laboratory toxicity experiments.
- Aim 9. The ovary from a single Dover Sole caught in cardigan Bay was preserved.

Despite exceptionally poor weather conditions the cruise aims were successfully met. The expertise and perseverance of the ships personnel in marginal fishing conditions is gratefully acknowledged.

S W Feist (SIC)
25 February 1997

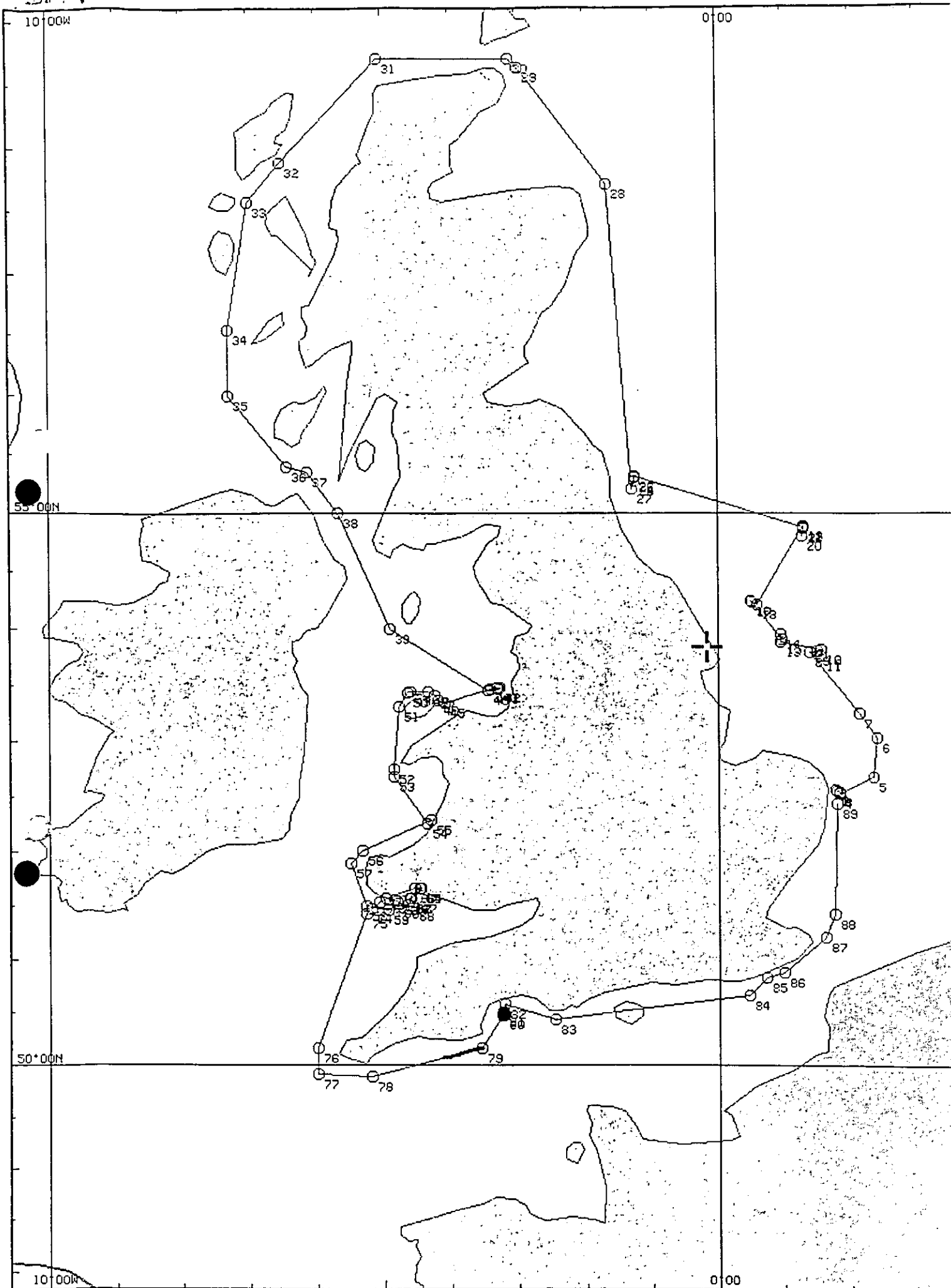
SEEN IN DRAFT:

Master : D McDarren
Fishing skipper: A Lincoln

INITIALLED:

DISTRIBUTION:

S W Feist
B J Hill
D J Alderman
G Jones
E Kehoe
I McDonald
M Green
P Wright
D Sheahan
S Howarth
Relevant Sea Fisheries Committees from NE to Cumbria



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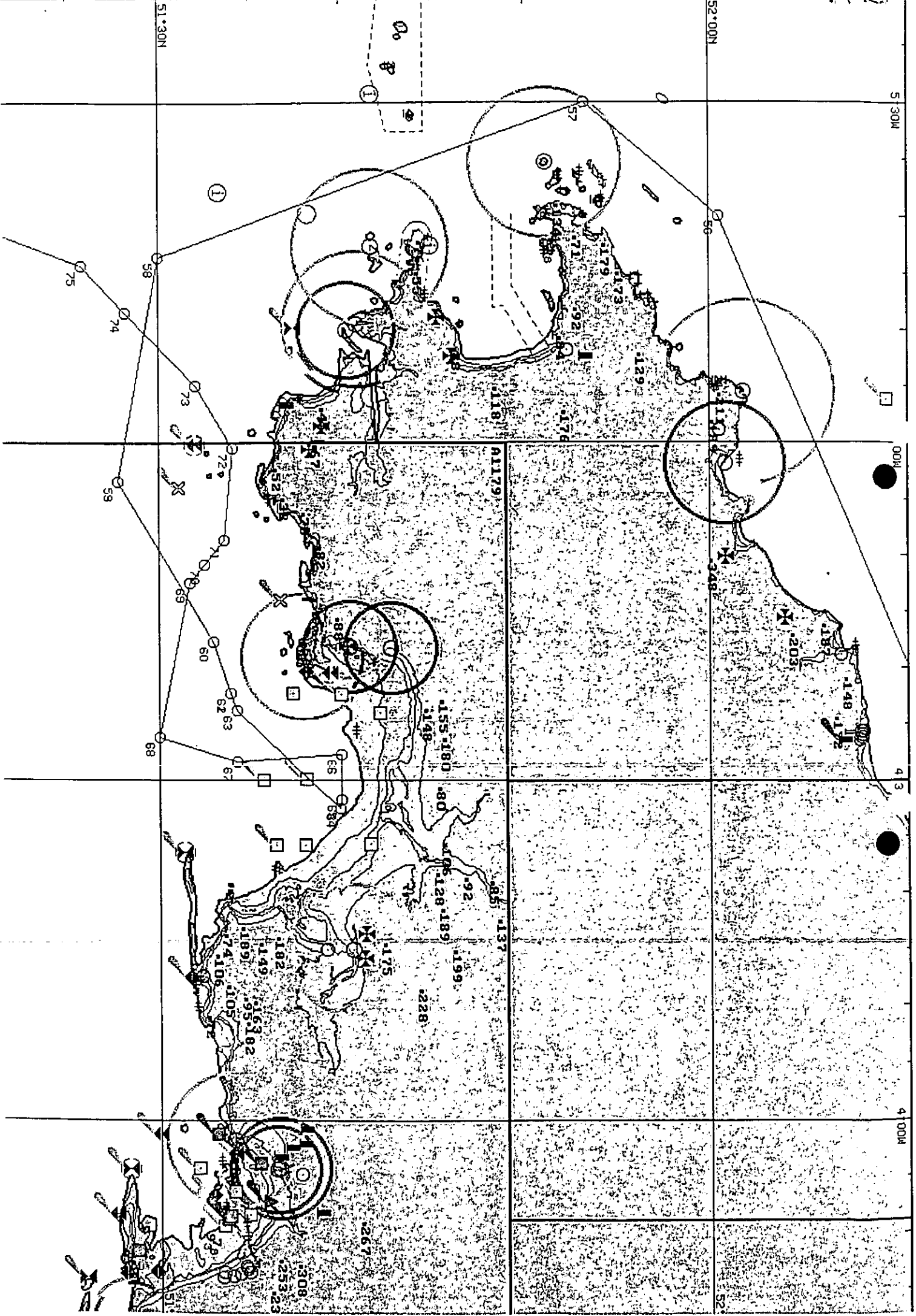
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Cruise Programme and Report not sent by CEFAS