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RV ERNEST HOLT

Report for Cruise 10/1969

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Staff:

J W Ramster
R R Dickson
A R Folkard
J A Bedwell
J W Read

Duration:

4-21 November 1969

Aims:

1. To lay 11 moored current-meter stations in a network covering the western Irish Sea, and towards the end of the cruise recover, change the films and relay the four stations at which German meters will be used.
2. To release 50 sea-surface and seabed drifters at each moored station.
3. To do hydrographic sections at the beginning and end of the cruise across the North Channel and between the coast of Ireland and Anglesey.
4. To rendezvous with one of Manchester Corporation's sludge carriers, observe the discharge, anchor in it and take detailed current measurements and water samples for chemical and mechanical analysis over the next 12½ hours.
5. To supplement earlier nutrient surveys in the eastern Irish Sea by sampling along a grid covering the area west of the Isle of Man.
6. To release parachute drogues near one of the moored stations and track them for as long as possible.
7. To test the Bissett-Borman TSD system in the Rockall channel.
8. To collect surface water samples for the Radiobiological Section.
9. To bring back to Lowestoft some deep-frozen Kilkeel herring for Mr. Burd.

NARRATIVE

The ship sailed from Grimsby at 1300 hours, 4 November and put into Yarmouth the following morning to take aboard the gear and the scientific staff. At 1830 hours course was set for the Irish Sea and at 0300 hours, 8 November ERNEST HOLT dropped anchor in Dublin Bay.

A westerly gale blew throughout the day, the wind in the anchorage never falling below 35 knots, but 7 current meter rigs were prepared and by 0800 hours the next morning both wind and swell conditions had moderated sufficiently for the buoy laying to begin. The Dublin buoy (53° 18' 5° 35' W) was laid by 1000 hours but by the time the ship had reached 53° 19' 5° 20' W, the St. George's buoy, the wind had freshened and the swell was too great for the launching operation. The ship dodged about this station until 1000 hours

the next day, Monday 10 November, and then in rapid succession and steadily deteriorating conditions the St Georges, Holyhead ($53^{\circ}18'04''56''$), Anglesey ($53^{\circ}37'4''37''$) and Southman ($53^{\circ}51'4''32''$) buoys were laid.

The last of these rigs cleared the ship at 1705 hours and while the next set of gear was being made ready the surface buoy was seen to turn over in the swell. In the next ten minutes it almost turned back several times and then finally came upright of its own accord. Since the wind and sea were making steadily the ship steamed to Douglas Bay and anchored. The remaining buoy stations were made ready during the night and the 4 German meters set-up at 0700 hours the next morning.

At 0815 hours the ship weighed anchor and moved round the southern tip of the Isle of Man. Between 1045 and 0140 hours the next day (12 November) rigs were laid at the Calfman ($54^{\circ}04'4''59''W$), Mid-Channel, ($54^{\circ}04'5''19''W$) Solway ($54^{\circ}32'4''20''W$), Portpatrick ($54^{\circ}44'5''05''W$), North Channel ($54^{\circ}40'5''19''W$) and Belfast ($54^{\circ}38'5''23''W$) stations.

The ship then dodged around the Belfast buoy until 0730 hours when serial hydrographic observations were made there and 50 Woodhead sea-bed and surface drifters released. The same operation was then carried out at the North Channel and Portpatrick stations in turn. The surface nutrient grid was then begun and interrupted only by a call at Portavogie during the afternoon of 12 November in order to collect a toroidal buoy "lost" in 1968, some deep-frozen Kilkeel herring for Mr Burd and some fresh caught Dundrum Bay whiting for Dr Portman. Most of the moored stations lay on the grid and at each 50 sea-bed and surface drifters were released while at the three stations lying between Holyhead and Dublin serial observations were again made. The nutrient survey ended at 2350 hours, 13 November near the Kish Bank and for the next eleven hours the crew and scientific staff line-fished for whiting without much success before the ship put into Dublin where she secured alongside at 1500 hours.

Thirty hours later (2100 hours, 15 November) drifters were being released at the Holyhead buoy and the ship was moving to the Manchester spoil ground area off the Great Orme. The van Veen and Baird grabs were rigged and tried before breakfast the next morning, the latter proving by far the more suitable for this area. Sampling over a grid covering the region began at 0845 hours and continued until 1515 hours in rapidly worsening conditions. By 1515 the swell was such that the grab seemed to be triggering before it reached the bottom. The ship therefore dodged around the central station of the grid until 0900 hours the next morning when conditions had improved to such an extent that anchoring was feasible.

Measurements at 4 metre intervals every half-hour were made with a Kelvin-Hughes Direct Reading Current Meter from 1030 hours until 1900 hours when the MVs PERCY DAWSON and MANCUNIAN discharged cargoes of sludge in the vicinity of the anchored ERNEST HOLT. Unfortunately the swell prevented this operation from being done upstream and across the tide but continuous profiles were made over the next $1\frac{1}{2}$ hours while the sludge was in the vicinity if not actually lapping around the ship. The measurements ended at 2250 hours and the ship then set course for a "north-about" passage to Grimsby.

At 0525 hours, 18 November, the first of the Radiobiological Laboratory sampling stations was reached and then at 0545 hours the Solway buoy was found upside down. It was righted and the light found to be running continuously with flashes superimposed on the steady background glow. Unfortunately

the spare light that was available did not fit either the type of buoy frame used at this station or the spare frames being carried on the ship at this point in the cruise. Consequently little could be done to improve the situation. Drifters were released at the buoy before the vessel moved on to the next sampling station. The North Channel and Belfast buoys were checked later that morning and found to be in order. By midday the ship was countering a force 9 WNW gale which blew throughout the journey home and forced some changes in the positions of the hose-sampling stations and prevented bucket samples being taken. During the passage 7 Russian mother ships and at least 20 trawlers were sighted working about 15 miles east of St Abb's Head. The vessel docked at Grimsby at 0230 hours, 21 November.

RESULTS

1. 11 moored current meter stations were laid in the western Irish Sea and their lights and surface buoys checked at least once during the latter part of this cruise. The poor condition of the light at the Solway buoy was reported to the Portpatrick and Anglesey wireless stations.

It was not possible to change the films in the German meters because spare take-up spools were not available. A separate hydrographic gear report covering various aspects of the launching operation has been prepared. (Aim 1)

2. Bottom samples from the Manchester Spoil ground were collected and detailed current measurements over a tidal cycle made for the M.H.L.G. Working Party on "Sludge disposal in Liverpool Bay". Tide, swell, weather and darkness prevented the original aims of the rendezvous with the sludge carriers being fully implemented. (Aim 4)

3. The collection of the Kilkeel herring, the drifter releases and the nutrient survey were carried out as planned, but it was only possible to make one set of hydrographic sections across the northern and southern entrances to the region. (Aims 9, 5, 2 and 3)

4. Hose surface water samples for the Radiobiological Laboratory were taken but because of the weather conditions encountered one station had to be omitted, the stations in the bays and off the headlands near Dounreay had to be amended "seawards" and bucket samples could not be taken. (Aim 8)

5. A Whiting sample from Dundrum Bay, and single fish from Dublin Bay and the Great Orme were brought back for Dr Portman. No distressed sea-birds were sighted.

6. Aims 6 and 7 were not fulfilled: the TSD system was still undelivered when the ship sailed and there was no time for the parachute drogue tracking.

7. 7 Russian mother ships and at least 20 trawlers were sighted working about 15 miles east of St Abb's Head.

J W Ramster
27.11.69

Seen in draft: E A Binnington, G W Argumont

Initialed: AJL

Distribution:

Basic list, plus the following:

J W Ramster
R R Dickson
A R Folkard
J A Bedwell
J W Read