

R1/12

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FRV *Scotia*

Cruise 1200S

## REPORT

1-7 August 2000

**Start port:** Aberdeen

**End port:** Aberdeen

## Personnel

Alistair McIntosh (In charge)  
Pam Simpson  
Lesley Campbell  
Colin Megginson  
Bruce McIver  
Eric Dalgarno  
Gill Packer

## Fishing Gear

Granton 48' Trawl (BT101 with 'monk extensions to wings) and 3 m Beam Trawl

## Objectives

1. To obtain samples of fish, shellfish, other biota and sediments along gradients from fixed offshore oil production installations in the North Sea for determination of hydrocarbon composition and concentration, biological effects measurements and sensory assessment.

**Out-turn days per project:** 7 days AE08o

## Narrative

After loading and securing all scientific equipment, *Scotia* departed from Aberdeen at 1300 hours on 1 August and made passage to the first sampling ground on the Little Halibut Bank. A bottom trawl was taken for samples of fish. At the start, mid and end points of the trawl track, sediments were taken by Day grab. At the mid point on the track, water was sampled at 5 m from the surface, at 50 m and at 5 m from the sea bed. At the conclusion of this sampling, *Scotia* made passage for the Brent oil field, arriving at the first of the sampling stations at 1200 hours on 2 August.

A bottom trawl was taken between the Brent 'A' and Brent 'B' platforms providing a sample of fish species for sensory assessment, hydrocarbon determination in flesh and liver and for hepatic biological effects measurements. Water and sediment samples were taken as

previously described. A beam trawl was taken over the same area to obtain benthic material not available by bottom trawling.

Bottom trawls, water and sediment samples were taken along a southerly gradient from the Brent field at distances of one and five miles. During 3 August a further trawl and associated sediments was taken at 10 miles and then at 20 mile intervals which took *Scotia* to the Beryl oil field on the morning of 4 August.

After a bottom trawl had been completed three miles south of the Beryl field, *Scotia* approached the platform complex and then having obtained the necessary permission and with the cooperation of the Beryl platform, *Scotia* approached to 100 m from the south west corner of the platform where water and sediment samples were successfully obtained. A further station was taken at 300 m for sediment and again at 500 m where water and sediment was sampled. The bottom trawl was deployed just outside the 500 m zone and a trawl was taken on the south side of the platform. A further three trawls with their associated sediments were then completed at 7 and 15 miles to the south.

During 5 August passage was for the Forties field and trawls taken at 20 mile intervals, arriving at the Forties field on the morning of 6 August.

Three trawls were taken within the Forties field. Sediments were taken at the start, mid and end point of each trawl with water samples being taken at the mid point of the trawls in the middle of the field and that to the west.

Further trawls were taken at 5 and 15 miles west of the Forties field before *Scotia* made passage for Aberdeen where docking was completed by 0930 hours on 7 August.

## Results

Twenty-four bottom trawls were taken from which 29 plaice, 113 lemon sole, 291 haddock, 76 saithe and 89 cod were sampled for sensory assessment. In addition five megrim, six witch, nine ling, 13 torsk, 60 *Nephrops* and 100 *Pandalus* were also sampled. Where appropriate, pools of these fish flesh samples and their associated livers were prepared and hydrocarbon concentration and composition. One hundred sixty-four livers were sampled for biological effects analyses.

Water was sampled at 10 sites providing 60 samples for hydrocarbon concentration and composition.

Sediment was sampled at the start, mid and end point of each trawl and provided 74 samples for hydrocarbon concentration and composition.

All samples were treated according to standard protocols and result of analyses will be available in due course.

A McIntosh  
10 August 2000

Seen in draft: Capt R Walton, OIC *Scotia*