

Not to be cited without prior reference to the Laboratory

FRV "Clupea"
Cruise 1/88 Part 2

1pt2CR88

19-22 March 1988

REPORTPersonnel

| | |
|------------------|-----------------|
| J M Pirie | SSO (in charge) |
| J C McKie | HSO (part time) |
| C Glass | SO |
| G K Clark (Miss) | SO |

Objectives

1. To collect water samples at the Garroch Head dump site immediately post dumping.
2. To deploy and recover settlement traps at and around the dump site.
3. To collect Craibe core samples at and around the dump site.

Narrative

"Clupea" sailed from Troon at 1000 on 19 March and proceeded to the area of the Garroch Head sewage sludge dump site. During 19-20 March, settlement traps were successfully deployed and recovered and control stations sampled. Intensive water sampling was carried out on 21 and 22 March immediately after sewage sludge dumping. Sampling was completed at 1400 on 22 March and "Clupea" proceeded to Greenock docking at 1700 and unloading that evening. The scientists travelled back to Aberdeen the following day except for J McKie who left at Troon on the morning of 22 March.

Results

The control sampling prior to dumping established that the water column was not stratified. Sewage sludge dumped on 21 and 22 March was successfully tracked for several hours on each occasion, transmissometer and echosounder traces indicating that the heavier fraction of the sludge settled at a maximum rate of 1 m/minute. Sampling also indicated that under the calm conditions during this period a significant proportion of sewage sludge remained in the surface 5 m of the water column. The area of this upper fraction was determined by transects over the visible delineation of the "patch".

Samples of suspended material both from the settlement traps and the water column were collected by filtration on board the vessel and await subsequent analysis. Analysis for both "total" and dissolved mercury were carried out on board and indicate levels of <10 ng/l from control samples and in the range <10-60 ng/l post dumping.

Due to lack of time no Craibe core samples were collected.

J M Pirie
7 July 1988

Seen in draft: W Smith

