13.1 SAMPLING METHODOLOGY AND ANALYSIS

The ten intertidal sites were surveyed on 7th, 23rd and 25th of June 2001 by the University of Newcastle. Samples were taken by means of a Haps corer ($0.01m^2$, square section 10cm by 10cm), which penetrated to 15cm depth, depending on the sediment type. Three replicates were taken at each sampling station and the position recorded using differential GPS. Samples were placed in polythene bags, labelled and taken back to a laboratory where they were sieved using a 0.5mm mesh and the residue retained.

The subtidal sampling sites were surveyed on 4th and 5th May 2001 by the University of Newcastle. Ten subtidal sites were sampled, with two replicates taken at each station. The sampling stations were all located between one kilometre of the vicinity of the works. Sampling was carried out from the RV Bernicia and samples were taken by means of a $0.1m^2$ Van Veen grab. The samples were sieved immediately using a mesh of 0.5mm and the residue preserved in formalin.

Analysis of the samples were undertaken by Identicheate in accordance with the National Marine Biological Analytical Quality Control (NMBAQC) procedures. After samples were sieved the residue was fixed in formalin then stained to enable sorting of the fauna. All fauna were identified to the lowest taxonomic level possible using standard north European keys, named in accordance with Howson and Picton (1997) and the number of each taxa counted. The wet weight biomass of each major taxonomic group was also measured.

On several of the subtidal samples analysis of the full sample was impracticable and thought not to add significantly to the information derived and therefore sub-sampling was carried out. The gravimetric sub-sampling method was used, as is employed for analysis of samples on behalf of the Environment Agency (P.Garwood, *pers. comm.)*. The unsorted portion was then quickly scanned for any rare taxa, which would otherwise be subject to too much error if only the subsample was analysed.

At each sampling station, a sample was also taken for particle size analysis. Analysis of these samples was carried out by CEFAS using a combination of wet sieving and laser diffraction. All samples were subject to single process analysis, whereby the section of the sample with particles less than 63μm in diameter is not subdivided. This provides a sufficient level of information to determine the nature of the sediment and its influence on associated infauna.