

ON HER MAJESTY'S SERVICE

WASC 1481

ERDE

ERDE was formed in 1945 to carry out, on behalf of the Services, research and development concerned principally with ingredients and compositions for all types of explosives and propellants; the work and staff had a strong bias towards chemistry although physics and engineering were also represented. The field of interests of the Establishment has now widened considerably to include, in addition, many aspects of materials technology in the fields of rubbers, plastics and composite engineering materials, including high-strength composites based upon ceramic whiskers, but the bias towards chemistry remains. A more recent development has been towards rendering scientific and technical advice and assistance to industrial firms.

The work of ERDE is organized in the following groupings:

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| Propellants 1 & 2 | Formulation of new solid propellants and the study of ballistic and mechanical properties. Combustion kinetics. Rheology of heavily loaded, two-phase systems, and the mixing of stiff pastes. Adhesives and adhesive strength properties. |
| Explosives | The development of explosive compositions and research on explosion and detonation. |
| Non-metallic Materials | New organic polymers; synthesis, characterization and stability. Processing and mechanical properties of composite materials. |
| Process Research | Development and research on chemical and processing plant, instrumentation and remote-control systems. The growth and mechanical properties of ceramic whiskers. Heat transfer properties of fluids. |
| General Chemistry | Synthesis, analysis and thermochemical properties of organic and inorganic compounds. Development of new analytical methods particularly those based on physical techniques such as chromatography, spectroscopy and crystallography. |

Within these main groupings a wide range of topics in both research and development is actively investigated. In addition to the equipment appropriate for modern chemical and physical-chemical research, the Establishment operates a variety of good facilities for testing, evaluating, and investigation by special techniques; supporting services include sections responsible for electronics and glass technology. An Elliott 903 computer is in use and access is available to large fast computers. The library has a wide coverage of appropriate journals and reference works and includes a well equipped lecture theatre seating 120.

Close contacts are maintained with other Government Establishments and with universities, and the Establishment has a special relationship with the University of East Anglia at Norwich. Every encouragement is given to individual scientists to publish accounts of their work in the open literature.

Details of hours of work, staff conditions, superannuation and welfare matters are given in the current edition of 'The Scientific Civil Service' (Civil Service Commission).

ERDE is situated 12 miles from the centre of London on a site adjacent to the green belt countryside of Essex and Herts; the residential areas of Epping, Chingford, Enfield and Hertford are within easy reach and the area is well served by London Transport buses. From Waltham Cross BR Station (1 mile) a frequent service of electric trains connects with the new Victoria Underground line, providing easy access to Central London. An adjacent estate of post-war houses provides accommodation of good standard for established staff.

There is an active Sports and Social Club which provides club premises and organizes social events such as dances. Subsections of the club specifically provide for those interested in any of the following: Association football, badminton, bridge, chess, cinema, cricket, croquet, drama, golf, music, sailing, table tennis, tennis.

London and the surrounding districts, of course, provide opportunities for almost every kind of leisure activity.

This brief outline of the activities of ERDE can do no more than mention in general terms the main fields of our interests; there is wide scope for accommodation of individual aptitudes and preferences and if you think you may be interested in working with us you should write to the Director, ERDE, Waltham Abbey, Essex, when we shall be pleased to arrange an interview and an opportunity for you to see what we have to offer.