

Spotlight on the Brixham Environmental Laboratory

ASTRAZENECA BRIXHAM

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Minimising the environmental impact of creating life-changing medicines – this is the role of Brixham Environmental Laboratory, AstraZeneca’s multi-disciplinary research centre on the Devon coast.

In 1948 Brixham Environmental Laboratory (BEL) began life as a testing facility for ICI Paints, with the laboratory moving to its current site on the Brixham seafront in 1957. During the 1960s the remit of the laboratory gradually changed from the testing of the efficacy of marine antifouling paints, to testing and predicting the fate and effects of products and effluents in the environment. By the late 1980s, Brixham had gained a worldwide reputation. The laboratory transferred to Zeneca Limited following the demerger of ICI in 1993 and in 1999 the laboratory became part of AstraZeneca Pharmaceuticals.

Throughout its history the laboratory has worked for both its parent company and external clients, who have included a wide range of companies from across the international chemical industry.

At Brixham, AstraZeneca scientists test and assess the environmental impact of pharmaceutical products and processes to increase understanding of their environmental effects, as well as ensuring they meet the required regulatory approval standard. The objective is to deliver fit-for-purpose environmental support to the chemical industry worldwide, providing assessments of the environmental fate and effects of new and existing products and intermediates. The laboratory can also offer environmental support for the manufacturing processes that produce those products.

Understanding and minimising the environmental impact of pharmaceutical products is essential. That’s why, in 2008, AstraZeneca invested £13.1 million in new facilities at Brixham to support research into the environmental effects of potential medicines, prior to their approval for general use.

Ecotoxicology is the study of how chemicals affect the environment and the organisms living in it, and is a long-standing well-developed discipline at Brixham. The Ecotoxicology team of 15 scientists works in an area with 23 laboratories and a husbandry facility. These ‘state of the art’ high-specification facilities offer instant room water control, able to dial up any salinity and temperature, and room temperature control.



Another specialism is environmental monitoring, ie the measurement of chemical exposures and effects in the receiving environment, a valuable tool for environmental risk assessment (ERA), environmental impact assessment (EIA), and environmental performance assessment. While ERA predicts the environmental impact of an effluent, chemical release or product use, the only way of validating that prediction is to study the actual receiving environment. Monitoring the receiving environment takes into account the interaction of chemical mixtures effluents, environmental amelioration, and their long-term effects on exposed organisms.

Brixham’s areas of expertise include:

- Industrial chemicals
- Human pharmaceuticals
- Biocidal products
- Plant protection products
- Veterinary medicines

Brixham employs around 80 people, nearly half of whom are bench scientists. The site has an excellent reputation and a commitment to the future of applied environmental science education. Through AstraZeneca’s continued investment in research in the UK, Brixham is now a global leader in the study of industrial environmental science, with some of the most advanced equipment available in the world.

