

Wheal Jane

John F Hunt

Long term operation and maintenance of flag ship mine water treatment scheme.

Location & Overview

The Coal Authority on behalf of DEFRA and the Environment Agency awarded the operation and maintenance contract for the Wheal Jane mine water treatment scheme near Truro, Cornwall to John F Hunt Regeneration.

The operation of the Mine Water Treatment Works commenced in October 2020, with the contract running to 2025, with an option to extend till 2030.



Background Information

The Wheal Jane mine water treatment scheme treats mine water pumped from below ground using a high density sludge process.

The resultant sludge is pumped to a dam and the treated water is discharged to a stream. In a typical year approximately 6,000,000 m³ of mine water is abstracted, 600 tonnes of metal contaminants (predominantly iron and zinc) are removed and 2,000 tonnes of hydrated lime, 7,000 kg of anionic flocculant and 3,000 MW-h of power are consumed.

In addition to the operating plant, the plant infrastructure includes a workshop, storage facilities and office space.

The Wheal Jane plant was built after a catastrophic release of contaminated water in 1992, a year after the mine was closed and its pumps turned off. A drainage tunnel, or adit, near the surface collapsed and more than 45million litres of acidic mine water poured into the Carnon River and the Fal Estuary. This was the biggest water related pollution incidents in the UK and ranks highly among the world's largest water pollution events.



Services to be Provided

John F Hunt ensure the effective and continuous operation, planned and preventative maintenance to the mine water treatment plant including:

- carrying out daily checks on the plant, taking samples and carrying out maintenance activities,
- making informed adjustments to the treatment process to ensure efficient use of chemicals and power.
- procuring chemicals and supervising delivery.
- developing and implementing a 10 year asset management programme and maintaining an asset management system.
- ensuring compliance with consents, licences and permits and liaising with appropriate regulatory bodies.
- adhering to health, safety and environmental standards.
- reporting operational costs, safety statistics and performance trends.
- provision and management of a database to capture and store plant data.

Additional services may be instructed and may include:

- project management of capital projects.
- managing, supervising and assisting in research and development projects.
- providing flow monitoring and water sampling services in the south west region.
- emergency works.

