

## **SPS Supplies Water Treatment System for the World's 4<sup>th</sup> Largest Tungsten Site**

Monmouth-based, Siltbuster Process Solutions (SPS) has just successfully completed a turnkey contract to design, construct and commission a water treatment system for Wolf Minerals' new tungsten mine at the Drakelands Mine, near Plymouth in Devon.

Although the tungsten deposit is the 4<sup>th</sup> largest in the world, it was last seriously worked during the second world war and again briefly in the 1960s. Wolf Minerals' new operation is based on working the deposit as a high tonnage open pit operation, with the ore processed through a new processing plant. This produces both tungsten and tin concentrates and removes potential arsenic contamination by roasting the concentrate in a controlled low oxygen environment.

SPS was engaged by Perth-based GR Engineering Services (GRES), the designated engineering procurement contractor on behalf of Wolf Minerals, to not only install the water treatment plant to treat the excess process water but to also install a system to convert the arsenic removed by the kiln, from calcium arsenate to the more stable ferric arsenate.

Rich Mathews, General Manager at Siltbuster Process Solutions, says: "This has been an excellent project for us to work on as it has drawn on SPS's strength to provide cost effective solutions not only to everyday water treatment projects but also to unusual applications."

The SPS solution not only removes dissolved arsenic from up to 150m<sup>3</sup>/h of excess plant water but also stabilises around 4kg of arsenic per day in a form which will allow its disposal to a non-hazardous landfill.

Rich Matthews again: "Key to success was our ability to quickly simulate the conversion process at both laboratory and pilot scale, prior to building the plant. This meant we could offer Wolf a competitive price backed up by the knowledge that we had already minimised the process risk through the laboratory and pilot trials."

In addition, the project's relatively short, 10-year, design life favoured the use of a modular system prefabricated off site, rather than the use of conventionally constructed plant.

“SPS specialises in this type of application,” says Rich Matthews. “In fact, having installed a similar modular based mine water treatment system in Slovakia two years earlier, we were uniquely placed in the UK to build this installation.”

During preliminary and detailed design works, the SPS team worked collaboratively with the GRES team based in Perth and developed detailed layouts. This ensured the plant integrated with other proposed pipelines and offered a compact footprint. The plant was designed and built in South Wales with modular units transported for installation. The final fit-out and commissioning works were carried out working with the GRES site-based team.

The performance of the water treatment plant has comfortably exceeded expectations. The dissolved arsenic concentration in the treated water is less than 1µg/l, significantly lower than the permitted limit of 50µg/l. The plant is now fully operational and under the responsibility of Wolf Minerals.

Russell Clark, Managing Director of Wolf Minerals commented: “The Drakelands mine has to meet very high environmental standards in its operations and the water treatment plant is doing its bit to ensure we remain compliant. SPS was good to work with and has a quality product.”

For further information on Siltbuster Process Solutions, please visit [www.siltbuster.com](http://www.siltbuster.com), call 01600 772256 or email [enquire@siltbuster.com](mailto:enquire@siltbuster.com)

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