



AIM Announcement

15 April 2025

Pioche Sepiolite Project – Positive Test Results

Sunrise Resources plc (ticker symbol 'SRES') is pleased to announce positive results from its first evaluation programme for samples from its Pioche Sepiolite Project (the "Project") in Nevada, USA, since resuming management of the Project.

Highlights

- Sepiolite is a rare industrial clay found in only a few commercial deposits around the world.
- Evaluation tests carried out to simulate processing methods employed for commercial sepiolite production in the United States.
- Results:
 - compare very favourably with commercially available sepiolite in the US;
 - confirm the commercial potential of the large sepiolite clay deposits at Pioche across a range of applications including critical saltwater applications in the valuable oil and gas drilling market; and
 - allow the Company to identify higher grade areas within the several square kilometre area in which sepiolite has been drilled to date.

Commenting today, Executive Chairman Patrick Cheetham said:

"We are delighted to release these results. They allow us to demonstrate - for the first time - the suitability of Pioche sepiolite for the US market when suitably processed. The results should help dispel any uncertainties that surrounded the Project following Tolsa's decision not to exercise its option to purchase the Project at the end of last year, a decision that may ultimately work in the Company's favour."

"Sepiolite is very rare in commercial quantities but has now been found at Pioche in surface sampling and drilling over several square kilometres. With the only other US sepiolite producer facing severe environmental restrictions, Pioche now presents an opportunity to develop a new replacement source of sepiolite in the US."

"The largest single market for sepiolite is in oil and gas well drilling, a market not served by Tolsa. We believe the Project could be a beneficiary of planned US policies to increase domestic oil and gas drilling as a way to reduce reliance on foreign energy sources and therefore, the Project is now generating interest from a range of consumers and other clay producers."

"We expect to receive all of the remaining drill samples from Tolsa over the next several weeks and to continue engagement with the industry to find the best development option for the Company."

Further information:

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Market Abuse Regulation (MAR) Disclosure

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014 which forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ('MAR'). Upon the publication of this announcement via a Regulatory Information Service ('RIS'), this inside information is now considered to be in the public domain.

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Shares in the Company trade on AIM. EPIC: "SRES". Website:
www.sunriseresourcesplc.com

Detailed Information

The Pioche Sepiolite Project is located near the historic mining town of Pioche in southeastern Nevada, USA. The Project was held under option by Spanish sepiolite producer, Tolsa, from June 2022 to the end of December 2024. Tolsa carried out mapping, trenching and two phases of drilling prior to withdrawing from the Project at the end of 2024.

In the United States, sepiolite is primarily used for its viscosity modification (gelling) properties in freshwater and saltwater applications (see "About Sepiolite" below). Viscosity testing is therefore critical to assessing the commercial potential of the Pioche sepiolite. The testwork programme now being reported was designed and executed by Mr Tom Powell. Mr Powell is a chemical engineer and was formerly the General Manager of the IMV sepiolite mine in the Amargosa Valley, Nevada, the only producing sepiolite mine in the US. Mr Powell is an acknowledged expert on clays and sepiolite in particular, and holds a number of patents on clay products. Mr Powell holds a 20% economic interest in the Pioche Sepiolite Project.

Three Pioche sepiolite samples were provided by Tolsa in advance of the return to the Company of all remaining samples from Tolsa's exploration programmes at Pioche. The samples were selected based upon freshwater viscosities and available sample size reported by Tolsa.

Sunrise received one kilogram of each sample of which 200g of each has been provided to an interested third party.

The three Pioche samples were tested for both freshwater and saltwater viscosities. As a control/comparison, various samples of commercially available sepiolite produced in the US were tested at the same time.

The three Pioche samples were processed to simulate commercial sepiolite processing methods used in Nevada. Samples were dried to 8-12% free moisture at 215 degrees Fahrenheit, then ground and screened through a 60-mesh screen. A subset of screened Pioche and control samples were then “extruded” through a kitchen-top meat grinder to simulate commercial extrusion.

When viscosities were tested in freshwater, the Pioche samples showed relatively low viscosities, but when extruded the viscosities increased several-fold to levels similar or higher than the commercially available control samples.

These results confirm that sepiolite processing has a major impact upon viscosity, particularly the shearing, drying, grinding and extrusion methodologies employed. The shearing effect of extrusion helps delaminate bundled fibres of sepiolite which are typically found in the Nevada sepiolite deposits, thereby substantially improving the gelling properties.

Tolsa has reported lower freshwater viscosity results for these three samples but their sample preparation and testing methods are not comparable. Spanish sepiolite fibres are not typically bundled and so Tolsa’s standard sample preparation methods may not have achieved the delamination of the sepiolite fibres required for the Nevada sepiolite deposits.

The three Pioche sepiolite samples and the control samples were also tested for their gelling effect in saltwater. Saltwater viscosities were measured in accordance with American Petroleum Institute (API) Specification 13A Section 8, using a Fann Viscometer. In these tests, extruded Pioche sepiolite out-performed the commercially available extruded US control samples.

Tolsa did not report any saltwater viscosity results. This is not a significant market for their Spanish sepiolite but saltwater uses are particularly important for the US oil well market which accounts for approximately 50% of the US market for sepiolite.

Tolsa’s reported freshwater results, whilst not directly comparable, do provide a basis to assess the *relative* performance of different sepiolite samples at Pioche and has allowed the Company to define higher grade areas within the large Pioche sepiolite deposit where commercial production could be started.

About Sepiolite

Sepiolite is a non-swelling, lightweight, porous hydrous magnesium silicate clay. It has unique characteristics, is scarce, and there are very few commercial deposits in the world.

In the US, a major use is in oil well drilling fluids primarily as a viscosifier and suspending agent, especially in saltwater or brine-based systems where other clays like bentonite are less effective. It has a high salt tolerance and maintains viscosity in saline or seawater environments where bentonite tends to flocculate and lose effectiveness. It also exhibits thixotropic behaviour forming gels when static, suspending drill cuttings and weighting materials such as barite, but thins out under shear, aiding in pumpability. It provides good rheological properties without adding a large amount of solid material, reducing the risk of formation damage. Sepiolite has high thermal stability and so is the only clay used in high temperature and high pressure wells.

Sepiolite is used in liquid animal feed supplements as a binder and carrier for nutrients and growth promoter. It is also used in building products such as drywall tape joint compounds, putty, caulk, texture coatings and asphalt emulsion coatings where freshwater viscosity is important.

Sepiolite possesses a high surface area due to channels in the crystal lattice that gives it a structural nano-porosity. Its unusual crystal shape also adds to the internal porosity and gives it a light weight. Sepiolite's high surface area and porosity account for sepiolite's outstanding sorption capacity. Just 20g of sepiolite can have an internal surface area equivalent to that of a football field and sepiolite can absorb more than its weight in water. The largest market globally for sepiolite is for use in light-weight non-clumping pet litters where it has superior properties compared to other clays used in this application.

Glossary:

Flocculate: means to form or cause to form to clumps or masses of particles otherwise dispersed in a fluid.

Rheological Properties: means the properties of a material such as a fluid, particularly viscosity, which change in response to physical stress such as shearing.

Thixotropic: refers to a material (typically a fluid or gel) that becomes less viscous (thinner) when subjected to a constant shear stress, like stirring or shaking, and then recovers its original viscosity over time when the stress is removed.

A Pioche Project specific presentation can be found at:

<https://www.sunriseresourcesplc.com/presentations>

An interview with the Executive Chairman, Patrick Cheetham, featuring the Pioche Sepiolite Project can be found at:

<https://www.sunriseresourcesplc.com/interviews>

Qualified Person Information:

The information in this release has been compiled and reviewed by Mr. Patrick Cheetham (MIMMM, MAusIMM) who is a qualified person for the purposes of the AIM Note for Mining and Oil & Gas Companies. Mr. Cheetham is a Member of the Institute of Materials, Minerals & Mining and also a member of the Australasian Institute of Mining & Metallurgy.