

SUNRISE RESOURCES plc

("the Company")

AIM Announcement

4 September 2017

TESTWORK UPDATE CS POZZOLAN-PERLITE PROJECT, NEVADA

Sunrise Resources plc, the AIM-traded company focusing on the development of its CS Pozzolan-Perlite Project in Nevada, USA, is pleased to provide this interim update on testing of samples from its recently completed trenching and drill programmes and the further development of its pozzolan/perlite business.

HIGHLIGHTS:

- **Preliminary testing of drill samples confirms:**
 - **thick intervals of pozzolan and perlite-pozzolan previously reported from visual observation of drill samples; and**
 - **commercial qualities for the perlite and pozzolan.**
 - **Preliminary trench results show extensions of the Main Zone towards the Northeast Zone.**
 - **Pozzolan testwork moving on to more extensive external certification, starting with the Tuff Zone samples.**
 - **Positive meetings held with potential customers in the USA - cooperative test programmes planned.**
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Commenting today, Executive Chairman Patrick Cheetham said: "I am pleased to report that our preliminary testing has confirmed the visual observations that we reported on completion of our recent drilling and that the trenching programme has indicated important extensions to the Main Zone perlite and pozzolan. We have prioritised pozzolan testing on the Tuff Zone and I am pleased to report that the preliminary results show that, in all cases, the pozzolan strength requirements of ASTM C618 required after 28 days curing have been exceeded after only 7 days curing. We have recently held positive meetings with a number of raw perlite and pozzolan consumers and as a result we will now proceed to supply initial samples for their internal evaluation whilst continuing our own testwork programmes."

Further information

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Detailed Information.

Perlite and volcanic natural pozzolan share important features. They are silica and aluminium rich volcanic rocks that, on formation, were rapidly cooled or quenched such that crystallisation did not take place and the rock has an amorphous (non-crystalline) structure like glass.

Silica and aluminium in glassy rocks is reactive with lime and water in a cement/concrete mix unlike that in crystalline rocks, making such glassy rocks attractive as natural pozzolans. Consequently, a perlite can be a natural pozzolan.

Perlite is, however, distinguished from some other glassy silica and aluminium rich volcanic rocks by its higher water content which, on rapid heating, is lost explosively causing an expansion of the raw material to a useful lightweight industrial material.

A glassy silica and aluminium rich volcanic rock that does not have a significant water content cannot be a perlite but can still be a good natural pozzolan.

Both pozzolan and perlite are used extensively as industrial minerals globally and in the western United States where the CS project is located (see “about” details below).

Geological Context

The completion of the recent drilling and trenching programme, together with various phases of field mapping and reconnaissance sampling, has increased our understanding of the geology of the CS Project and the distribution of the volcanic deposits that have commercial potential as perlite and/or pozzolan. These volcanic deposits were developed in and around a rhyolitic (silica-rich) volcano, the crystalline core of which lies to the west of the Main Zone.

At the CS Project thick deposits of perlite have formed on the margins of crystalline rhyolite lava flows in the inner parts of the volcanic complex immediately east of the crystalline rhyolite core. This perlite is well represented in the surface and in drill holes in the Main Zone. Further out from the core, to the east and northeast of the Main Zone, zones of “tephra” (semi-consolidated fragmental material ejected from the volcano) formed as air fall deposits, some of which was contaminated by silty material in water courses and marginal lakes (Lahar) and is referred to here as silty tuff. Mapping and reconnaissance sampling suggests the newly discovered Northeast Zone is an extensive zone of tephra. In the eastern part of the Main Zone perlitic flows are interbedded with tephra deposits.

Still further away from the core of the volcano, finer grained pyroclastic material fell to the ground to form volcanic tuffs - as in the Tuff Zone.

All of the rocks in this volcanic complex were deposited on an older basement of andesitic (less silicic) volcanic rocks.

The above features are illustrated in a new map added to the CR Project page on the Company’s website.

At the CS Project, the more distal tephra, tuffs and silty tuffs are glassy, silica and aluminium rich and also contain a significant water content. These features make them attractive as good pozzolans but when compared to the Main Zone perlitic flows, their perlitic properties may be compromised by a finer grain size, a higher content of non-expandable material, especially where contaminated by non-glassy silty material.

All Main Zone perlite encountered on surface, trenching and drilling is being evaluated for perlite quality and pozzolanic reactivity (strength) whereas the Tuff Zone is being tested primarily as pozzolan with selected check samples for perlitic expansion.

Mapping and reconnaissance sampling also suggests that some areas of tephra in the Main Zone and the Northeast Zone appear to be relatively coarse with minimal contamination and so require testing for both perlite and pozzolan, but no drilling of these areas has been carried out as yet. However, additional surface samples were collected during the recent field programmes and are now under evaluation.

Testing Programme

Drill Samples

Perlite testing is being carried out primarily at independent laboratory In-Mat-Lab in Greece. Twenty-nine composite drill samples have been submitted. Results are expected in the coming months.

For testing quality control, and to obtain some early results, seven duplicate samples were submitted to a second independent perlite testing laboratory at the New Mexico Bureau of Geology and Mineral Resources (NMBGMR).

The NMBGMR results are now available and confirm that the thick intervals of perlite previously reported from visual observations in holes 17CSRC 2, 3 and 4 have good commercial properties. The thinner perlite zone found in holes 5, 6 and 7, all drilled from the same collar for structural information, is of lower quality as a perlite but may still be a good pozzolan and is scheduled for testing as such.

Twelve composite drill samples have been submitted to Magmatics Inc. for pozzolan reactivity testing alongside samples from trenching and surface mapping and general reconnaissance.

This reactivity (strength) testing programme is ongoing and it is anticipated that testing of all samples currently in the testing pipeline will be completed in 3-4 months time. However, four composite samples representing the full thickness of the tuff intersected in the Tuff Zone were prioritised in this testing programme and interim results from these samples have now been received.

These results show that, in all cases, the pozzolan strength requirements of ¹ASTM C618 required after 28 days curing have been exceeded after only 7 days curing. Twenty-eight day strengths are not yet available but are expected to increase further.

The Tuff Zone is very large in area and drilling has now demonstrated significant thicknesses of pozzolanic material amenable to low cost open-pit mining without the use of explosives. The Tuff Zone samples will now be subject to an accelerated programme of external certification testing.

Trench Samples

The trenching programme tested speculative areas peripheral and to the east and north of the Main Zone for occurrences of perlite and pozzolan. 11 trenches were completed mainly in the transition zone from perlite to tephra and in the tephra/silty tuff zones.

Samples were submitted to Magmatics Inc. for pozzolan testing and In-Mat-Lab for perlite testing.

Details of the rock type encountered together with test results summary are given in the table on the next page.

All trench samples encountering perlite, tephra or tuff were submitted for pozzolan testing. Interim results are available for some of these samples as tabulated and, in all cases pass the 75% strength against index (SAI) threshold required at 28 days curing by ASTM C618 after only 7 days curing. Where pozzolan results are awaited they will be reported when testing of all of the samples in the testwork pipeline is completed.

Conventional (flow related) perlite was found in two trenches. The perlite in Trench 2 testing showed good commercial characteristics as did the tephra encountered in Trench 3. The tephra and perlite found in Trench 8 appears to be of marginal quality.

TRENCHING TESTWOK UPDATE

Trench No.	Rock type	Pozzolan Test		Comment
		7 day SAI	Perlite Test	
1	Andesite	Not submitted	Not submitted	Basement Andesite
2	Perlite	Pass	Positive	
3	Tephra	Awaited	Positive	
4	Tephra	Awaited	Not submitted	Indurated
5	Tephra	Pass	Marginal	Higher density and unexpanded material
6	Silty Tuff	Awaited	Not submitted	
7	Silty Tuff	Awaited	Not submitted	
8	Tephra/Perlite	Pass	Marginal	Higher density and unexpanded material
9	Silty Tuff	Awaited	Negative	Higher density, black spots.
10	Colluvium	Not submitted	Not submitted	Trench did not reach bedrock
11	Tephra	Awaited	Not submitted	Indurated

Marketing

A series of meetings have recently been held with potential customers for perlite and pozzolan in the USA.

The potential for new sources of perlite and pozzolan was well received and arrangements are being made for samples from the CS Project to be submitted to interested parties for their internal laboratory testing. If this is successful, it may lead to bulk sample trials.

ENDS

About Natural Pozzolan

Pozzolan is a cementitious material that can partially replace ordinary Portland cement in cement and concrete mixes in amounts up to 35%. Natural pozzolans, therefore, have strong “green” credentials as the production of Portland cement is responsible for 5% of the global man-made carbon dioxide emissions with nearly one tonne of carbon dioxide (CO₂) generated for each tonne of cement produced. Natural pozzolans can also improve the strength and chemical resistance of concrete. Natural pozzolans can also replace industrial by-product pozzolans in cement such as coal fly ash. The availability and quality of fly ash is under threat

as coal-fired power stations are phased out in favour of natural gas plants and fly ash quality becomes more variable due to increased emission control legislation.

About Perlite

Perlite is a glassy raw material which, when heated in a furnace, pops like popcorn and expands by up to 20 times in volume into a white or pale coloured, low density material. Expanded perlite is used in various industrial and household applications such as insulation, paint texturing, building materials, filter aids, insulating industrial cryogenic storage vessels and as a potting medium in gardening and horticulture to aid water retention and aeration of the soil. Some perlites can also be used as a natural pozzolan.

Notes:

1. *ASTM International is a globally recognized leader in the development and delivery of voluntary consensus standards. ASTM C618 is the standard for natural pozzolan.*
2. *The news release may contain certain statements and expressions of belief, expectation or opinion which are forward-looking statements, and which relate, inter alia, to the Company's proposed strategy, plans and objectives or to the expectations or intentions of the Company's directors. Such forward-looking statements involve known and unknown risks, uncertainties and other important factors beyond the control of the Company that could cause the actual performance or achievements of the Company to be materially different from such forward-looking statements. Accordingly, you should not rely unduly on any forward-looking statements and save as required by the AIM Rules for Companies or by law, the Company does not accept any obligation to disseminate any updates or revisions to such forward-looking statements.*
3. *This announcement contains inside information.*
4. *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.*

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