



## **FURTHER TEST WORK ON SUREFIRE'S LEACH PROCESS FOR VANADIUM EXTRACTION IMPROVES RESULTS TO 97% RECOVERY AFTER 24 HOURS**

### **Key Points:**

- **A second phase of laboratory test work has improved the recovery of vanadium to 97% after 24 hours using its breakthrough pre-treatment and leach process of Victory Bore magnetite concentrate.**
- **This follow-up test work confirms that the metallurgical conditions require no high pressure or high temperatures (roasting) of the pre-treated magnetite.**
- **The fact that roasting is no longer required is significant for future processing with significantly reduced carbon footprint, reduced OPEX and CAPEX.**
- **The next stage of leach test work is being designed to confirm the commercial scalability of the process.**
- **Subject to satisfactory upscale, this will be included in Surefire's development plans for its World Class Victory Bore Project.**
- **The process will be protected by a provisional patent application, wholly owned by Surefire.**

Surefire Resources NL ("**Surefire**" or "**the Company**") is pleased to announce further laboratory test work results using its breakthrough novel process for extracting Vanadium and other metals directly from magnetite concentrate at its 100% owned flagship world class Victory Bore Vanadium project in Western Australia, (see ASX announcement 24 January 2024).

Follow up test work, conducted on the same sample material as used in the previous test work, has dramatically improved the recovery of vanadium in a much-shortened leach time on pre-treated magnetite concentrate (**PTMC**).

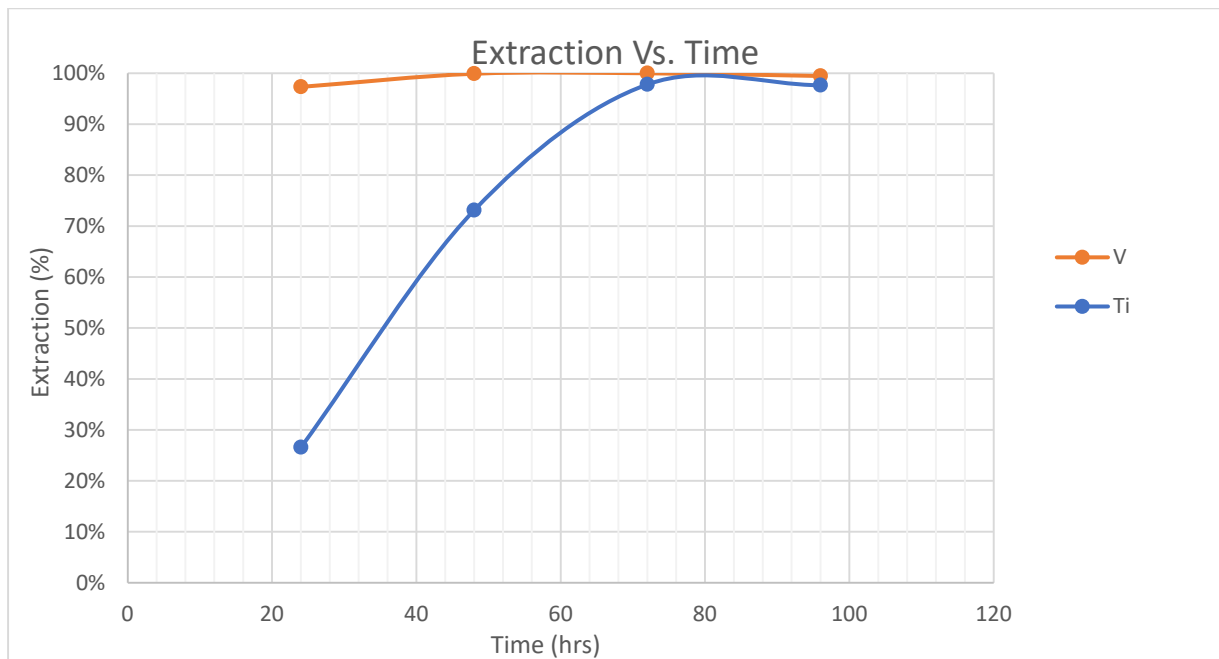
Previous test work achieved a remarkable 91% vanadium extraction and 88% titanium extraction after an extended leach time of 96 hours (see ASX announcement 24 January 2024).

This follow up test result is shown in table 1 and Figure 1 achieving a remarkable 97% recovery of vanadium after only 24 hours.

TEST	LEACHANT	Time (Hours)	Recovery Vanadium %	Recovery Titanium %
E	Mixed	24	97	27

**Table 1: Recovery results from Leachate.**

This result was achieved by further optimising the pre-leach and leach conditions, which are part of the proprietary nature of the process. No heat treatment or roasting of the concentrate has been applied or was required. Although titanium recovery was lower than the 88% achieved originally, it would appear that further leaching time would achieve 98% recovery of titanium.



**Figure 2: Vanadium extraction from Magnetite concentrate over leachate time.**

While additional test work will be required in the next stages leading to a pilot plant testing, the fact that roasting of the concentrate is not required is significant for future processing implications. No roasting will mean that a kiln used in traditional current vanadium extraction methods will not be required. This will mean a much reduced or zero carbon footprint, and much reduced CAPEX. This will also mean a much reduced operating cost as the power required for the traditional kiln to operate at very high temperatures will not be required.

The Company will continue to assess the benefits in using this process for the downstream process flow sheet with possible reductions in capital and operating costs, and also assess the potential to licence the process for use on other vanadium resources.

The production of metals from the leach solution is a well understood solvent extraction process and will be included in the scale up test work to analyse product purity and establish grades.

This confirmatory work follows the Company's announcement of a break through process for vanadium extraction, (see ASX announcement 24 January 2024); the completion of a Pre-Feasibility Study on the Victory Bore deposit which showed a remarkable financial outcome with an NPV<sub>10</sub> AUD\$1.7B, IRR 42%, Pay Back 2.4 years, and initial mine life of 24 years (see ASX announcement 5 December 2023), and the recent signing of an MOU with Saudi Arabian based Ajlan & Bros Mining and Metal group for downstream processing of magnetite concentrate in Saudi Arabia (see ASX announcement 15 January 2024), which forms part of the Companies development plan for the project.

**Authorised for release by Paul Burton, Managing Director**

**Inquiries:** Paul Burton +61 8 6331 6330.

**Competent Person Statements:**

*The information in this report that relates to metallurgical results has been reviewed, compiled, and fairly represented by Mr Damian Connelly, a Member of the Australian Institute of Mining and Metallurgy ('AusIMM') and the Australian Institute of Geoscience ('AIG') and a fulltime employee of METS engineers. Mr Connelly has sufficient experience in the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee ('JORC') Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Connelly consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.*

**Forward Looking Statements:**

*This announcement contains 'forward-looking information' that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the Company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance, or achievements to be materially different from those expressed or implied by such forward-looking information.*

**New Information or Data:**

*SRN confirms that it is not aware of any new information or data that materially affects the information included in the original referenced market announcements, other than the results advised in this announcement. In the case of estimates of Mineral Resources, all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not materially changed from the original market announcement.*

**JORC Code, 2012 Edition:**  
**Section 1: Sampling Techniques and Data**  
*(Criteria in this section apply to all succeeding sections.)*

Criteria	Commentary
<b>Sampling Techniques</b>	<p>Reverse Circulation ("RC") drilling was carried out with an RCD250 drilling rig with a Deck mounted Sullair 1150/350 compressor coupled to a Sullair 1350/500 Auxiliary compressor and 2400cfm/950psi Air Research booster. Rig mounted sampling system with twin sample collection chambers and a Sandvik cone splitter. 4 ½ inch drill pipe with 5-inch face sampling hammer. The holes were drilled to 140mm diameter. Standard rig mounted sampling system was employed.</p> <p>Samples were taken from the collar (0m). Sampling was continuous to the end of hole depth. Each metre was geologically logged and assayed by hand-held XRF, assayed for mag sus. and recorded. Each metre was chip trayed and kept in storage. Drill collar positions were captured using a DGPS to 10mm accuracy.</p> <p>Each metre of samples was split with a three-tier riffle splitter mounted beneath the cyclone on the drill rig. Metre samples were collected in green mining bags and calico bags. Each metre was also sieved and collected in a chip tray for geological logging. Samples were composited to 2m manually using a 50% riffle splitter. The 2m composite samples were delivered to Nagrom Laboratories in Kelmscott by Surefire staff for assay of vanadium and multi-element assay.</p>
<b>Drilling techniques</b>	<p>62 X 140mm RC holes were drilled for a total of 5,189 metres. The Reverse circulation rig used a downhole hammer and face sampling button bit.</p> <p>Sample piles were recorded for each 6m rod. Rods were counted when pulled at the end of each hole. Given the relatively short hole length, no down hole surveying instruments were used.</p>
<b>Drill sample recovery</b>	<p>Geologist supervising the drilling program recorded each metre as it was drilled. Geological logs, samples logs, daily drill logs, and sample piles all recorded hole depths. No aberrations were found.</p> <p>All logs of sampling and drilling lengths matched.</p> <p>Each metre was recovered. No re-drilling was necessary. No biases were recorded.</p>
<b>Logging</b>	<p>Drill cuttings were geologically logged to the level of detail deemed appropriate for mineral exploration, with details entered into a geological database.</p> <p>Drilling logs record weathering, oxidation, mineralogy, colour, texture, structure accessory minerals sulphides and mineralisation. All logging is quantitative.</p> <p>The drill holes reported were logged in full.</p>
<b>Sub-sampling techniques and sample preparation</b>	<p>No core drilling carried out.</p> <p>Three tier riffle splitters were used to take one metre samples. Samples were combined to form 2m composites using a 50% riffle splitter.</p> <p>All samples were transported to the Nagrom sample preparation/assay laboratory Kelmscott. The sample preparation followed industry best practise. All samples pulverised to 75µm passing 85%.</p> <p>The external laboratory's QA/QC procedures involved the use of appropriate standards, duplicates and blanks which are inserted into sample batches at a frequency deemed appropriate for the exploration results.</p>
<b>Quality of assay data and laboratory tests</b>	<p>The analytical technique utilised the Nagrom Panalytical Axial Wavelength Dispersive XRF</p> <p>The Laboratory has provided standards and QA/QC additional to that of Surefire. The external laboratory used maintains their own process of QA/QC using standards, and blanks. Review of the external laboratory quality QA/QC reports and Surefire external laboratory quality QA/QC reports has shown no sample preparation issues with acceptable levels of accuracy and precision and no bias in the analytical datasets.</p>

<b>Verification of sampling and assaying</b>	<p>The sampling techniques were reviewed in the field by an external consultant.</p> <p>No twinned holes were drilled.</p> <p>All data is recorded in specifically designed templates. Assay data was received in spreadsheets and downloaded into geological database.</p> <p>The analysis of Vanadium was provided by the laboratory as V and V2O5. No other adjustments were made to the data on receipt from the assay laboratory.</p>
<b>Location of Data Points</b>	<p>Initial drill hole collars were located with a Garman GPS. Final collar locations were located using a digital GPS, accuracy +/- 10mm.</p> <p>Drill hole location is reported using the GDA94_MGAz50 grid system.</p> <p>Drill hole collar was located by GPS. Elevation value is in AHD.</p>
<b>Data spacing and distribution</b>	<p>RC holes were drilled at approximately 25m across strike and 100m line spacings.</p> <p>The data spacing is considered sufficient to assume geological and grade continuity. It is expected that this drilling will allow the estimation of Inferred and Measured Mineral Resources.</p> <p>Samples were composited from 2m according to supervising geologist.</p>
<b>Orientation of data in relation to geological structure</b>	<p>The drill hole was angled perpendicular to the strike of the target horizon to achieve unbiased sampling of the target horizon.</p> <p>Drill intersections are not true widths.</p>
<b>Sample security</b>	<p>Chain of custody of samples was managed by the company and the laboratory. Logging and sampling were carried out in the field at the time of drilling.</p>
<b>Audits or reviews</b>	<p>Sample preparation followed industry best practice at the commercial laboratory facility. QA/QC of assay analyses shows there are no issues with sampling, analytical techniques, or results.</p>

## Section 2: Reporting of Exploration Results

*(Criteria in this section apply to all succeeding sections.)*

Criteria	Commentary
<b>Mineral tenement and land tenure status</b>	<p>The exploration results in this report relate to Exploration Licence E57/1036. This EL is 100% owned by Surefire Resources NL and is currently a M in application - M57/656.</p> <p>Tenure in the form of Exploration Licences with standard 5-year expiry dates which may be renewed. There are no known impediments to obtaining a licence to operate in this area.</p>
<b>Exploration done by other parties</b>	<p>Previous regional exploration on the project was undertaken by the company and included, geophysical surveys, geochemical surveys, rock sampling and RC drilling. Historical geophysical surveys included an airborne (helicopter) magnetic survey. Geochemical surveys included soil sampling. A detailed assessment of the historic data is in progress. No significant issues with the data have been detected to-date.</p>
<b>Geology</b>	<p>The Project occurs within the Atley Igneous Complex in the East Murchison Mineral field of Western Australia. The Atley Intrusion is an Anorthosite body that is elongate in an NNE/SSW orientation and runs along the axis of the regional scale Youanmi Fault, a regionally dominant geological feature. Further drilling and assaying is required to fully assess the geology and style of mineralisation.</p> <p>Mineralogy and petrology studies completed suggest that host rocks at Unaly Hill are historical magnetite layers within intrusive Anorthosite, gabbro and ultra mafics. The targeted deposit type and style of mineralisation is a Fe-Ti-V magnetite system.</p>
<b>Data aggregation methods</b>	<p>Where assays were composited for summary purposes, all assays were weighted by drill interval. No high-grade cuts have been applied to the sample data reported.</p> <p>Where assays were composited for summary purposes, all assays were weighted by drill interval.</p> <p>No metal equivalent values are used</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>All drill hole results reported are downhole length, true widths are approximately 82.6% of the down hole widths.</p>
<b>Balanced Reporting</b>	<p>Reporting of the drill results is considered balanced.</p>
<b>Other substantive exploration data</b>	<p>No additional meaningful and material exploration data has been excluded from this report.</p>
<b>Further work</b>	<p>Resource estimation and a prefeasibility work is planned for the Project which may require additional RC percussion and/or diamond drilling to be undertaken.</p>
<b>Bulk density</b>	<p>Dry Bulk Density (DBD) has been determined from a very large number of down-hole densitometer measurements taken as part of the recent Surefire drilling program.</p> <p>The bulk densities measured appear sufficiently variable considering the distribution of the mineralization zones and are deemed representative for the rock material and mineralization types described for the Victory Bore deposit.</p> <p>The density measurements have been averaged in deposit areas according to the geologically logged material type characterization where densitometer readings are not available. Locally where measurement data is available these have been interpolated locally into the block model.</p> <p>The bulk density values applied in the deposit are: Highly weathered zone = 2.22 – 2.34 t/m<sup>3</sup>, Transitional Zone = 2.57 -2.74 t/m<sup>3</sup> and Fresh / Sulphide Zone = 2.98 -3.42 t/m<sup>3</sup>. Locally the nearest neighbour assigned values can be both slightly higher and lower than the averages shown here.</p>
<b>Metallurgical factors or assumptions</b>	<p>Reasonable mineral recovery levels are expected for the V<sub>2</sub>O<sub>5</sub> components through magnetic media separation based on previous work and understanding of the metallurgical characteristics of the known mineral species observed. This assessment has been made by using available drill samples and laboratory bench scale concentrate recovery tests as well as Davis Tube Recovery Tests showing good Vanadium concentrate recoveries.</p>