# Auger Drill Program to Commence over Confirmed Saprolite Clay-Hosted REE at Poços de Caldas

## Key Highlights

- **Initial surface sampling program at the Caldera Project along the contact zone of the Poços de Caldas Alkaline Complex has confirmed saprolite clay-hosted Rare Earth Element (REE) mineralisation**
- **Total rare earth oxide (TREO) results up to 933 ppm with an average of 24% high value magnet rare earth oxide (MREO/TREO)**
- **Auger drill program commencing to test saprolite clays at depth, where higher-grade REE mineralisation is usually intersected with this style of deposit**

Si6 Metals Limited ("**Si6**" or "the **Company**", ASX: **Si6**) is pleased to announce highly encouraging surface sample results from 16 soil and channel samples and 3 rock chips at the Caldera Project on the edge of the Poços de Caldas Alkaline Complex, Minas Gerais. Results have confirmed saprolite clay-hosted rare earth elements (**REE**) mineralisation, with all samples returning elevated REE up to 933ppm total rare earth oxide (**TREO**).

### Managing Director, Jim Malone commented,

***"We are delighted to receive the first results from our initial exploration program at the Caldera Project's southern prospect (Andradas) at the highly prospective Poços de Caldas Alkaline Complex in Minas Gerais. These results provide a strong level of encouragement that the Caldera Project can follow the exploration success of neighbouring companies such as Meteoric Resources and Viridis Mining. We are now preparing an immediate auger drilling program to test the upper portion of the clay profile for the extent of the REE mineralisation."***

### Auger Drill Program

An auger drill program is planned over two grids comprising 26 holes to test the extent of the mineralisation at depth (see Figure 1). The Company expects to commence the auger drill program in early April 2023.

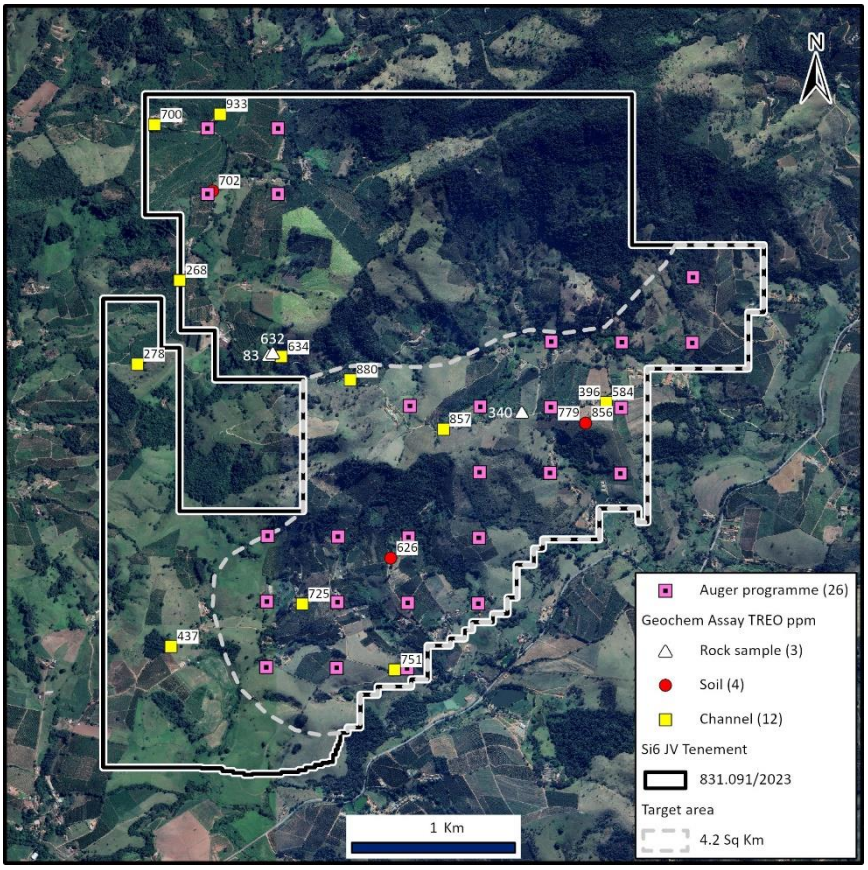


*Figure 1 – TREO results and planned auger drill holes over satellite imagery.*

## High Proportion of High-Value Magnet Rare Earths

The surface sampling results returned an average of 24% high-value magnet rare earth oxide (**MREO**), with NdPr oxide making up an average 94% proportion of the MREO. NdPr oxide stands as the most valuable REE, playing a crucial role as a primary component in the manufacture of rare-earth magnets. These magnets are essential for the operation of motors and generators in electric and hybrid vehicles, wind turbines, and a wide range of clean energy technologies.

Ionic Adsorption Clay (**IAC**) deposits tend to have lower results near the top of the regolith profile, with higher grades and higher proportion of heavy rare earth elements and magnet rare earth elements at depth, as shown in Figure 2.

The results are comparable to initial results reported by Viridis Metals & Mining Ltd (ASX: VMM release dated 29 August 2023) on nearby tenure where some samples retuned high values of $CeO_2$.

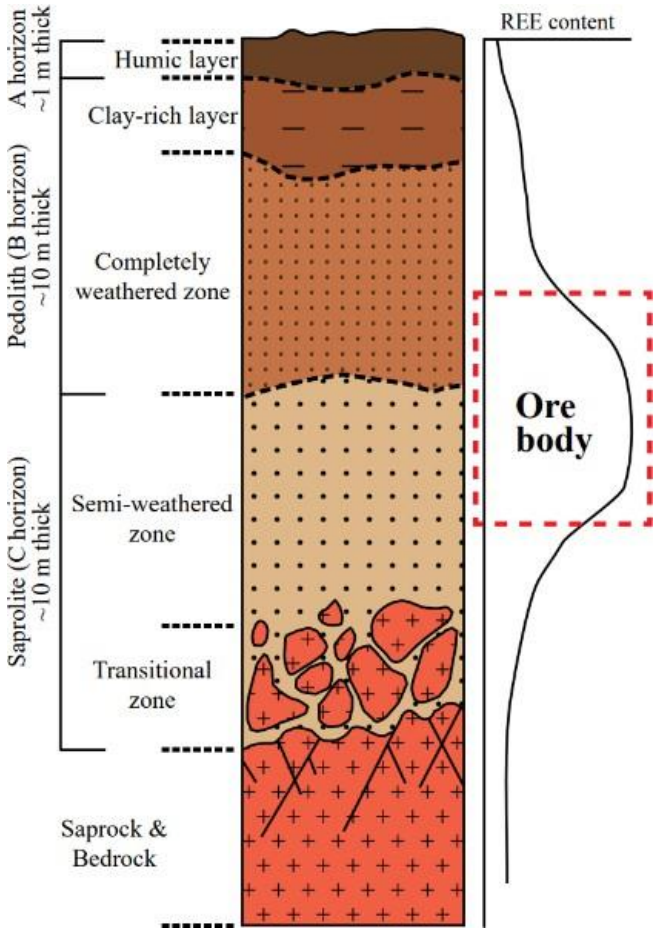


*Figure 2 - General IAC Deposition Model (Li and Zou, 2020)*

According to the above model, it is expected that higher grades are found in depth and the MREO/TREO ratio typically increases.

Other higher grade results were located in the eastern portion of the Project area along a NE-SW trend following approximately the contact zone between the granite gneiss and migmatite geological units. Four results averaging 843ppm TREO are in the south-eastern portion of the area.

## Annex 1 – Table of Results.

| SAMPLE ID | EASTING | NORTHING | SAMPLE TYPE | TREO ppm | HREO ppm | HREO / TREO | MREO ppm | MREO / TREO | $CeO_2$ ppm |
|---|---|---|---|---|---|---|---|---|---|
| AND-001 | 344815.957 | 7558713.593 | CHN | 584 | 96 | 16% | **146** | **25%** | 201.3 |
| AND-002 | 344815.957 | 7558713.593 | CHN | 396 | 76 | 19% | **92** | **23%** | 135.9 |
| AND-003 | 344699.553 | 7558586.881 | SOIL | 856 | 73 | 9% | **174** | **20%** | 396.2 |
| AND-004 | 344699.553 | 7558586.881 | SOIL | 779 | 95 | 12% | **170** | **22%** | 326.3 |
| AND-005 | 343894.184 | 7558540.487 | CHN | 857 | 142 | 17% | **208** | **24%** | 323.6 |
| AND-006 | 343361.586 | 7558836.367 | CHN | 880 | 81 | 9% | **190** | **22%** | 406.8 |
| AND-007 | 342968.426 | 7558974.952 | CHN | 634 | 101 | 16% | **149** | **24%** | 250 |
| AND-008 | 342386.902 | 7559432.637 | CHN | 268 | 63 | 24% | **61** | **23%** | 81.2 |
| AND-009 | 342568.462 | 7559978.564 | SOIL | 702 | 86 | 12% | **155** | **22%** | 294.4 |
| AND-013 | 342606.099 | 7560446.758 | CHN | 933 | 186 | 20% | **223** | **24%** | 192.2 |
| AND-014 | 342234.353 | 7560380.144 | CHN | 700 | 95 | 14% | **144** | **21%** | 310.9 |
| AND-015 | 342151.772 | 7558919.499 | CHN | 278 | 32 | 12% | **58** | **21%** | 130 |
| AND-016 | 343600.747 | 7557754.186 | SOIL | 626 | 94 | 15% | **143** | **23%** | 263.1 |
| AND-017 | 343631.887 | 7557072.092 | CHN | 751 | 101 | 13% | **177** | **24%** | 299.7 |
| AND-018 | 343102.464 | 7557467.645 | CHN | 725 | 65 | 9% | **146** | **20%** | 347 |
| AND-019 | 342359.725 | 7557201.558 | CHN | 437 | 49 | 11% | **87** | **20%** | 211 |
| AND-020 | 344337.626 | 7558647.967 | ROCK | 340 | 27 | 8% | **74** | **22%** | 149.6 |
| AND-021 | 342896.424 | 7558981.430 | ROCK | 83 | 19 | 23% | **17** | **20%** | 30.7 |
| AND-022 | 342919.714 | 7558995.282 | ROCK | 632 | 54 | 9% | **139** | **22%** | 294.6 |

*Table 1 - Results for calculated TREO and other selected suite of elements, from reported SGS Geosol ICP90A assay*

**This announcement has been approved by the Board of Si6 Metals Ltd.**

## Contacts

**For further information, please contact:**


**Jim Malone**
*Managing Director*
**T +61 (0) 419 537 714**
jm@si6metals.com

**Ben Creagh**
*Investor Relations Consultants*
**T +61 (0) 417 464 233**
benc@nwrcommunications.com.au

## About Si6

Si6 is a diversified critical metals and minerals explorer with a portfolio of flagship projects in Botswana, Brazil and Western Australia.

The Company's Botswana portfolio contains three flagship projects where high-grade Cu-Ag (Airstrip and Dibete) and a Maiden JORC Inferred Resource (Maibele North) have been discovered. Maibele North currently hosts a JORC (2012) inferred resource of 2.4Mt @ 0.72% Ni and 0.21% Cu + PGE's + Co + Au and is located within 50km of the Selebi mine recently acquired by TSX-listed Premium Nickel Resources Ltd (TSX-V:PNRL).

Si6 has also entered a joint venture to acquire 50% of a portfolio of critical metals exploration assets from Foxfire Metals Pty Ltd, predominantly focused on rare earth elements and lithium in Brazil including projects amongst known discoveries in the Lithium Valley (North Minas Gerais) and Poços de Caldas (South Minas Gerais).

### Botswana

- **Dibete Project** – high grade copper-silver
- **Airstrip Project** – high grade copper-silver
- **Maibele North Project** – Ni-Cu-PGE JORC Inferred Resource 2.38Mt @ 0.72% Ni + 0.21% Cu + PGE + Au

### Brazil (50% Joint Venture)

- **Lithium Valley Projects**, North Minas Gerais (Lithium, Rare Earth Elements)
- **Caldera Project**, South Minas Gerais (Rare Earth Elements)
- **Apuí Project**, Amazonas (Rare Earth Elements, Gold)
- **Pedra Branca Project**, Ceara (Lithium, Gold)


## Competent Persons Statement

The information in this report that relates to Exploration Targets and Exploration Results is based on recent and historical exploration information compiled by Dr Paul Woolrich, who is a Competent Person and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Dr Woolrich has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for the reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Woolrich consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Disclaimer

In relying on the above mentioned ASX announcement and pursuant to ASX Listing Rule 5.23.2, the Company confirms that it is not aware of any new information or data that materially affects the information included in the above announcement. No exploration data or results are included in this document that have not previously been released publicly. The source of all data or results have been referenced.

## Forward-Looking Statements

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Si6's mineral properties, planned exploration program(s) and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may", "potential," "should," and similar expressions are forward looking statements. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

## Appendix 1 - JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

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

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| **Sampling techniques** | *- Nature and quality of sampling (eg channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br><br>*- Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br><br>*- Aspects of the determination of mineralisation that are Material to the Public Report.*<br><br>*- In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | Channel samples collected on road cuts evenly distributed along the area. Outcrop was cleaned, measured and 1m to 2m channel samples collected depending on local lithological variability.<br><br>All sampling sites were photographed for future reference.<br><br>Soil samples collected with the aid of an auger. The material between the surface and down to the stone-line layer was discarded, and sample collection started below the stone line layer. Sample depths were measured and noted.<br><br>Samples weighting between 2 and 3 kilos were bagged, labelled and taken to a local facility for quartering. |
| **Drilling techniques** | *- Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face sampling bit or other type, whether core is oriented and if so, by what method, etc).* | No drilling activity |
| **Drill sample recovery** | *- Method of recording and assessing core and chip sample recoveries and results assessed.*<br><br>*- Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br><br>*- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain offline/coarse material.* | No drilling activity |
| **Logging** | *- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*<br><br>*- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br><br>*- The total length and percentage of the relevant intersections logged.* | No drilling |

| | | |
|---|---|---|
| ***Sub-sampling techniques and sample preparation*** | *- If core, whether cut or sawn and whether quarter, half or all core taken.*<br><br>*- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br><br>*- For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br><br>*- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br><br>*- Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br><br>*- Whether sample sizes are appropriate to the grain size of the material being sampled.* | Soil and channel samples were taken to a preparation facility where they were quartered before being sent to the lab. Samples are placed in an even and clean surface, homogenized, placed in a cone shaped mound and split in equal size quarters. Two opposite quarters are bagged, named and sealed and sent to SGS Geosol.<br><br>The remaining sample is bagged, named and sealed and stored as a duplicate.<br><br>Soil and channel samples weighting up to 3kg were sent to SGS- Geosol laboratory where were dried, riffle split to industry standards. The contracted preparation services are as follows:<br>Sample drying at 105$^{o}$C, disaggregation and grinding 90%< 2mm, homogenization and quartering (Jones) and pulverization of 300g in steel mill to 90%< 200#.<br><br>Rock samples: crushing 90%<2mm, quartering and pulverizing 1kg to 85%<200#. |
| ***Quality of assay data and laboratory tests*** | *- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br><br>*- For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br><br>*- Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | Samples sent to SGS Geosol for assay after preparation listed above.<br><br>Selected methodology: ICM90A - Sodium peroxide fusion prior to acid dissolution and ICPOES and ICP MS analysis. |
| ***Verification of sampling and assaying*** | *- The verification of significant intersections by either independent or alternative company personnel.*<br><br>*- The use of twinned holes.*<br><br>*- Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br><br>*- Discuss any adjustment to assay data.* | Sampling data was recorded in field books and tablet and checked upon transferring to Database. |
| ***Location of data points*** | *- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*<br><br>*- Specification of the grid system used.*<br><br>*- Quality and adequacy of topographic control.* | Sample location determined with Garmin hand held GPS (UTM SIRGAS 22S) with 5m precision. |

| | | |
|---|---|---|
| ***Data spacing and distribution*** | *- Data spacing for reporting of Exploration Results.*<br><br>*- Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*<br><br>*- Whether sample compositing has been applied.* | Samples evenly distributed across the area with variable spacing along roads.<br><br>Data spacing is sufficient for the reconnaissance level aimed and for the commodity type. |
| ***Orientation of data in relation to geological structure*** | *- Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br><br>*- If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | Expected mineralization is developed in the weathered horizon, reflecting weathering and parent rock, and is expected to be predominantly horizontal, thus the vertical sampling.<br><br>No sampling bias is believed to be introduced. |
| ***Sample security*** | *- The measures taken to ensure sample security.* | A competent, independent contractor transported and delivered samples to SGS-Geosol lab at Vespasiano. |
| ***Audits or reviews*** | *- The results of any audits or reviews of sampling techniques and data.* | Field duplicate samples stored for future reference. |

## Section 2 Reporting of Exploration Results

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

| ***CRITERIA*** | ***JORC Code Explanation*** | ***Commentary*** |
|---|---|---|
| ***Mineral tenement and land tenure status*** | *- Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*<br><br>*- The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.* | Project Andradas consist of 01 granted mineral exploration right with ANM process number 831.091/2023 granted in 31/may/2023, valid for 3 years. |
| ***Exploration done by other parties*** | *- Acknowledgment and appraisal of exploration by other parties.* | There´s no previous exploration by other parties to the best of my knowledge. |
| ***Geology*** | *- Deposit type, geological setting and style of mineralisation.* | The deposit type sought off is described as an Ionic Adsorption Clay Rare Earth Element (REE).<br><br>The REE mineralisation is in clays located in the saprolite/clay zone of the weathering profile derived from the subjacent rocks. |
| ***Drill hole Information*** | *- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all material drill holes:*<br><br>o *easting and northing of the drill hole collar*<br>o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>o *dip and azimuth of the hole*<br>o *down hole length and interception depth*<br>o *hole length.*<br><br>*- If the exclusion of this information is justified on the basis that the information is not Material and this* | No drilling reported. |

| | | |
|---|---|---|
| | *exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | |
| ***Data aggregation methods*** | *- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br><br>*- Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*<br><br>*- The assumptions used for any reporting of metal equivalent values should be clearly stated.* | Data collected for this work is composed of surface sampling and geochemical analyses and geological mapping. All data points are reported without any selectivity exclusion. |
| ***Relationship between mineralisation widths and intercept lengths*** | *- These relationships are particularly important in the reporting of Exploration Results.*<br><br>*- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br><br>*- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | Given the nature of the data, the samples collected are point samples and don´t provide a direct measurement of mineralization widths. All samples from saprolite or soil offer insights into the presence of mineralization, but not directly into widths or continuity of mineralization. |
| ***Diagrams*** | *- Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | Regional geological map, regional map with Th radiometrics results both showing the Exploration License, are presented in the report.<br><br>A summary table with the most significative results is presented as TABLE 1. |
| ***Balanced reporting*** | *- Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | All exploration results are presented in the current report. |
| ***Other substantive exploration data*** | *- Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | There is no additional substantive exploration data to report. |
| ***Further work*** | *- The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br><br>*- Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | Immediate future work is an auger drill campaign. |