

## Strategic Resource Base of Niobium and Rare Earths Positioned for Growth

Metals & Mining

We initiate coverage on St George Mining (ASX: SGQ) with a fair valuation of A\$0.14, representing a 475% potential upside from the latest share price of A\$0.024. St George has transformed its fortunes by acquiring the Araxá niobium-REE Project in Minas Gerais, Brazil in February 2025. The project is located adjacent to, and within the same carbonatite complex as, CBMM's niobium mine, which produces around 80% of the world's niobium. St George has recently defined a globally significant maiden JORC-Compliant Mineral Resource Estimate for Araxá, comprising 41.2 Mt at 0.68% Nb<sub>2</sub>O<sub>5</sub> for 280 kt of niobium oxide and 40.6 Mt at 4.13% TREO for 1.7 million tonnes of Total Rare Earth Oxide (TREO). The company has swiftly assembled an on-site team of niobium experts, primarily former CBMM executives, to expedite the development of the Araxá Project.

### Globally Significant Resource Base in the Right Location

The maiden MRE for Araxá includes high grades of TREOs, featuring commercially significant magnetic rare earth elements comparable to the grades and sizes of the largest global REE plays, such as Lynas (ASX: LYC), MP Materials (NYSE: MP), and Arafura (ASX: ARU). In addition, The Measured and Indicated niobium grade in Araxá's MRE stands at 0.99%, placing it among the highest-grade niobium deposits worldwide. Araxá's location near CBMM's niobium mine provides it with established infrastructure in the area. Leveraging the talent pool trained at CBMM's niobium mine, St George has quickly assembled a robust team of on-site experts at Araxá, including former CBMM executives and a former Brazilian Mines Minister, to ensure smooth project delivery. The team has over 80 years of combined experience in niobium mining and processing in the Araxá region.

### Tight Markets for Niobium and REEs to Fuel St George's Growth

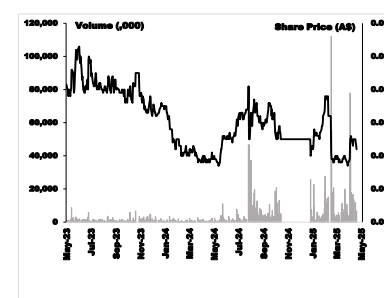
Niobium and REEs are listed as critical minerals by most developed countries due to their essential role in defence and advanced technologies. Despite their significance, the supply chain for these minerals is highly fragile. The global niobium supply relies on just three producers, with CBMM accounting for 80% of the market. Meanwhile, China dominates the REE sector, producing about 60% of global REEs and managing 90% of processing capacity, which poses security risks for other nations. Efforts by governments to diversify the REE supply chain beyond China present opportunities for companies like St George, which have high-grade, globally significant REE deposits outside of China. The Araxá Project, with its high-grade niobium deposit and favourable project logistics, creates a real opportunity for St George to be the next niobium producer to come to market.

### Valuation range of A\$0.12–0.16 per share

We have valued SGQ at A\$0.12 per share in a base-case scenario and A\$0.16 per share in a bull-case scenario using an NPV-based valuation methodology. The potential catalysts for a re-rating of SGQ's share price include successful metallurgical study results Araxá as well as potential upgrades to the maiden MRE at the project. Potential successful test results showing high recovery rates of niobium and REEs will indicate the operational and commercial viability of the Project and will guide future feasibility studies. The key risks to our investment thesis include volatility in commodity prices, execution delays and funding risks. St George will need to make additional payments of US\$11m to the Araxá Project's vendor. See page 29 for more explanation on potential risks and catalysts.

Date	06 May 2025
Share Price (A\$)	0.024
Target Price (A\$)	0.12-0.16
Price / NAV (x)	0.17x
Market Cap (A\$m)	64.0
52-week L/H (A\$)	0.015 / 0.045
Free Float (%)	78.5%

### Price Performance (in A\$)



### Business description

St George Mining Limited (ASX: SGQ) engages in the mineral exploration and development businesses in Australia and Brazil. Its flagship project is the Araxá Niobium-REEs Project in Minas Gerais, Brazil, which has large and high-grade defined resources of niobium and REEs. The Project is located in proximity to the world's largest niobium mine and has ready access to existing infrastructure for a potential rapid future development. St George Mining Limited was incorporated in 2009 and is based in West Perth, Australia.

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**Disclosure** - Readers should note that East Coast Research has been engaged and paid by the company featured in this report for ongoing research coverage.

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# Investment Rationale

*A large and high-grade niobium and REE Mineral Resource Estimate has been defined at the Araxá Project in compliance with the JORC 2012 requirements.*

Listed on the ASX, St George Mining (ASX: SGQ) has transformed its fortunes by acquiring the Araxá niobium-REE Project in Minas Gerais, Brazil, in February 2025 for a total cash consideration of USD\$21 million. The Araxá project spans approximately 2 km<sup>2</sup> and is located adjacent to, and within the same carbonatite complex as, CBMM's niobium mine, which produces around 80% of the world's niobium. St George has recently defined a globally significant maiden JORC-Compliant Mineral Resource Estimate for Araxá, comprising 41.2 Mt at 0.68% Nb<sub>2</sub>O<sub>5</sub> for 280 kt of niobium oxide and 40.6 Mt at 4.13% TREO for 1.7 million tonnes of Total Rare Earth Oxide (TREO). The company has swiftly assembled an on-site team of niobium experts, primarily former CBMM executives, to expedite the development of the Araxá Project.

## High-Quality Resource Base with Significant Expansion Potential

The Araxá Project is situated within the Barreiro Carbonatite Intrusive Complex, a circular geological formation approximately 5 km in diameter, rich in economically viable niobium, REEs, and phosphate mineralization. The maiden JORC-Compliant Mineral Resource Estimate for Araxá includes high grades of TREOs, featuring commercially significant magnetic rare earth elements comparable to the grades and sizes of the largest global REE plays, such as Lynas (ASX: LYC), MP Materials (NYSE: MP), and Arafura (ASX: ARU). In addition, The Measured and Indicated niobium grade in Araxá's MRE stands at 0.99%, placing it among the highest-grade niobium deposits worldwide.

## Ready Access to Existing Infrastructure and Talent

The Araxá Project's strategic location near CBMM's niobium mine offers significant advantages. With over 50 years of operational history, CBMM's mine brings significant infrastructure to the area, which St George can leverage to accelerate the development of the Araxá Project. The project benefits from excellent local infrastructure, including sealed roads, grid power (100% renewable), water supply, accommodation, telecommunications, and a skilled workforce, all within close proximity to the town of Araxá and other mining operations.

Leveraging the talent pool trained at CBMM's niobium mine, St George has quickly assembled a robust team of on-site experts at the Araxá Project, including former CBMM executives and a former Brazilian Mines Minister, to ensure smooth project delivery. The team has over 80 years of combined experience in niobium mining and processing in the Araxá region.

## Known Mineralisation with Established Processing Procedures

The niobium recovery process in the Araxá region is well-established due to CBMM's 50 years of production, using cost-effective methods like wet grinding, magnetic separation, and flotation to produce a 60% Nb<sub>2</sub>O<sub>5</sub> concentrate. This concentrate is then refined into products such as ferroniobium, niobium oxide, and pure niobium metal. St George can potentially use these proven methods to recover niobium from its deposits at Araxá, thereby reducing metallurgical risks associated with the project.

## Path to Fast-Tracking Regulatory Approvals Has Been Paved

St George has signed a Memorandum of Understanding (MoU) with Invest Minas, the State of Minas Gerais, to expedite regulatory approvals for the Araxá niobium-REE Project. This strategic partnership highlights the project's importance at various governmental levels and aims to streamline the approval process for exploration and mining licenses. The non-binding MoU is expected to significantly reduce the timeline for approvals, benefiting St George's development schedule and mitigating the project's regulatory risks.

## Strategic MoUs and Offtake Agreements with Industry Leaders In Place

In October 2024, St George signed a non-binding MoU with SKI Hong Kong Limited to collaborate on the Araxá Niobium REE Project. They will work together on marketing, offtake, and financing

*The Araxá Project is located within a large carbonatite intrusive complex that hosts the largest niobium mine in the world, CBMM, which produces 80% global supply of the metal.*

*St George has entered into multiple MoUs with leading industry players in the niobium and REEs supply chain. These agreements significantly mitigate the commercial, financing, and development risks associated with the Araxá Niobium-REE Project.*

opportunities, aiming to advance the project through feasibility studies and make a financial investment decision. SKI, a leading trading house in steel materials, specializes in niobium, manganese, and chrome, and supplies niobium products globally.

In December 2024, St George announced MoUs with SENAI to collaborate on rare earth magnet production at the Lab Fab facility in Minas Gerais, the first permanent magnet manufacturing site in Brazil and Latin America. This collaboration highlights the strategic importance of the Araxá Project and positions St George in the growing rare earths industry in Brazil.

In January 2025, St George signed a binding MoU with Shandong Xinhai Mining Technology & Equipment Inc. for expertise in metallurgical testing, mineral processing, plant design, and project construction, along with an equity investment of A\$8 million. Additionally, a non-binding MoU with Liaoning Fangda Group was announced, to consider commercial arrangements, funding support, and technical advice for mine development and construction, recognizing the Araxá Project's long-term strategic importance.

## **Niobium; The Silent Powerhouse Fuelling Tomorrow's Technologies**

Niobium is a versatile and increasingly valuable element across multiple industries due to its unique physical and chemical properties. In the steel industry, which consumes around 80% of global niobium supply, it is essential for producing high strength, low-alloy steels used in pipelines, automobiles, and large-scale construction.

Niobium's strategic value extends beyond commercial use into the realm of national defence, where it is classified by the U.S. government as a critical mineral. Its high performance in extreme conditions makes it vital for developing advanced military technologies, including jet engines, armoured vehicles, and missile systems. Given that the global supply is dominated by one or two producers, this dependency poses security challenges to the countries around the world.

As of 2025, Brazil dominates niobium production, accounting for approximately 90% of the global supply, primarily through Companhia Brasileira de Metalurgia e Mineração (CBMM). Canada follows with about 8.4% of production. This concentration creates potential vulnerabilities, especially as demand continues to grow for advanced applications. Therefore, the desire in diversifying the niobium supply chain is likely to encourage strategic investments in new mining projects, benefiting companies such as St George.

## **Rare Earth Elements (REEs): The Hidden Power Behind Modern Tech**

REEs are the unseen enablers behind many high-tech devices that define modern life. In smartphones and tablets, REEs such as neodymium, europium, and terbium enhance audio clarity and screen colour vibrancy, while yttrium improves display brightness and power efficiency. In computers, rare earth magnets made from neodymium, praseodymium, and dysprosium are essential for miniaturized, high-capacity hard drives. In healthcare and defence, REEs enable advanced diagnostics and mission-critical systems, making them indispensable across sectors.

While REEs are indispensable to modern technologies, a single country, China, dominates the market, producing around 60% of global REEs and handling 90% of processing capacity. This concentration grants China significant control over the global supply, which it has leveraged in geopolitical conflicts, particularly with the US. Consequently, governments are striving to diversify the REE supply chain beyond China, creating opportunities for companies like St George that possess high-grade, globally significant REE deposits outside of China.

## **Valuation: NPV-Based Approach Indicates Significant Upside Potential**

In 2012, the previous owner of Araxá completed a Preliminary Economic Assessment (PEA) for an REEs production scenario at Araxá with niobium by-products. The PEA showed a revealed an impressive estimated NPV<sub>10</sub> of US\$967 million for a mine life of 40 years. We have conducted our own modelling of Araxá, focusing on niobium production with REEs as potential by-products. Our model incorporates metrics from the 2012 PEA and our own estimates for the capital expenditure (Capex) required to build a processing plant at our assumed production rate.

*Governments' attempt to diversify the REE supply chain beyond China creates opportunities for companies like St George that possess high-grade, globally significant REE deposits outside of China.*



*Our modelling of a potential niobium production scenario at Araxá indicates robust project economics with an NPV<sub>8</sub> of US\$1,350m and an IRR of 58%.*

*Our mid-point valuation target of A\$0.14 for St George does not take into account the potential value unlocking from by products sales at Araxá nor the company's Australian exploration projects.*

*Volatility in commodity prices, execution delays and funding requirements are some of the key risks to our investment thesis.*

Our model is based on constructing a niobium processing plant with a production capacity of 10,000 tonnes of Ferroniobium (FeNb) containing 65% niobium. Production is assumed to commence in FY28 at 50% capacity, ramping up to full capacity after two years. Our assumed mine life is 25 years. The currently defined resources of 280kt of niobium oxide at the Araxa Project is more than enough to support our assumed production volume. We have conservatively estimated a pre-production Capex of US\$200 million for building the processing plant and other required infrastructure. We have assumed a niobium oxide price of 50 US\$/kg in our model, which is in line with the current commodity price.

In terms of costs, we have assumed C1 Cash Costs margin of 25%, which is in line with current open-pit mining operations which utilise conventional floatation processing flowsheets. We have then added operating costs of US\$40m per annum to calculate the total operating costs. This estimate is also in line with other projects of the same size. Our other assumptions include a 3% royalty fee, an annual sustaining Capex of US\$6m (3% of the pre-production Capex), and a 30% tax rate. Our model has resulted in an NPV<sub>8</sub> of US\$1,350m or A\$2,077m using an AUD/USD exchange rate of 0.65.

To drive at our valuation of St George, we have relied on a percentage of NPV approach. Although the 2012 PEA was conducted under a different economic landscape and commodity prices, it concluded that the project was robust enough to justify further advanced feasibility studies. Consequently, we have used the midpoint of the 10-20% range for projects with EA studies to value St George in our base case and used the upper 20% of the NPV in our bull case scenario. Our mid-point target price of A\$0.14 represents a Price/NAV of 0.17x, indicating a substantial valuation headroom of more than 475% to the current share price of A\$0.024.

The potential catalysts for a re-rating of SGQ's share price include successful metallurgical study results from Araxá Project as well as potential upgrades to the maiden JORC-compliant MRE at the project. St George is currently undertaking bench-scale metallurgical testwork on samples from historical drilling at the Araxá. Potential successful test results showing high recovery rates of niobium and REEs will indicate the operational and commercial viability of the Project and will guide future feasibility studies. The company is also currently undertaking an infill and step-out drilling campaign to upgrade the resource classifications at Araxá and potentially identify additional zones of high-grade mineralisation. Successful upgrades to the project's MRE will enhance the commercial viability of the Araxá deposit.

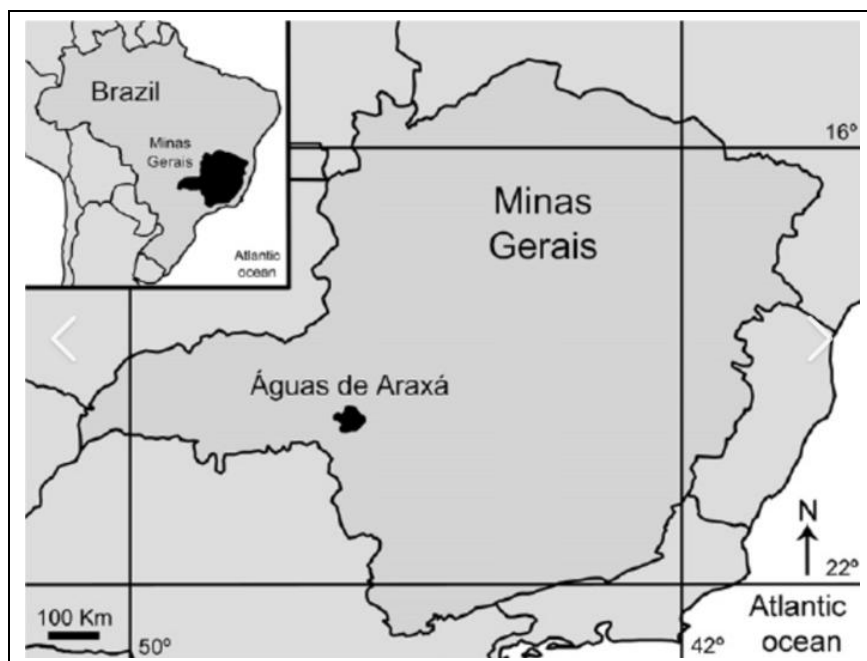
The key risks to our investment thesis include volatility in commodity prices (although we note that niobium prices are historically stable due to supply concentration), execution delays, and funding risks. St George will need to make another payment of US\$6 million to the Araxá Project's vendor in late 2025, followed by a final payment of US\$5 million nine months later. To meet these obligations, St George will need to raise additional equity capital. The company currently does not generate cash flows and is entirely dependent on capital raisings to fund its exploration activities and feasibility studies. See page 29 for more explanation on risks and catalysts.

## **Araxá Niobium-REE Project — St George's flagship Project**

St George completed the 100% acquisition of the Araxá niobium-REE Project in Minas Gerais, Brazil, in February 2025 for a total cash consideration of USD\$21m and equity in St George that give the vendor a 10% stake in St George at completion. The cash is paid in stages with USD\$10m payment at the closing of the transaction and deferred cash payments of USD\$6m and USD\$5m nine months and 18 months after closing, respectively. The Project is situated 5 km south of the town of Araxá in Minas Gerais State, Brazil. Araxá is approximately 375 km from Belo Horizonte, the state capital and mining hub of Minas Gerais. Additionally, Araxá is located 549 km from São Paulo and 848 km from Rio de Janeiro.

The Araxá project covers an area of c. 2 km<sup>2</sup> and it is immediately adjacent to, and within the same carbonatite complex as the niobium mine of CBMM that produces approximately 80% of the world's niobium. St George has recently defined a maiden globally significant JORC-Compliant Mineral Resource Estimate for Araxá of 41.2 Mt at 0.68% Nb<sub>2</sub>O<sub>5</sub> for 280kt of niobium oxide and 40.6 Mt at 4.13% TREO for 1.7 million tonnes of TREO (Total Rare Earth Oxide).

**Figure 1: Location of Araxa in Brazil**



Source: ResearchGate.net

Historical exploration of the Araxá Project has been ongoing since 1965, involving various entities and methods. From 1965 to 1974, the Brazilian government, CBMM, and Canopus Holding SA conducted drilling and sampling of 24 diamond boreholes and 59 pits. Between 2004 and 2008, Extramil and Companhia Industrial Fluminense drilled 11 diamond boreholes and 31 auger holes. From 2011 to 2012, Itafos (formerly MBAC Fertilizer Corp) carried out mapping, topographical surveys, and drilled 36 auger holes and 67 diamond core holes, along with preliminary metallurgical testwork and resource estimates. All diamond core samples are stored at a facility near Araxá town, which also houses a pilot plant used by Itafos for metallurgical testwork.

***The historical exploration identified extensive high-grade niobium mineralisation at the Project, with over 500 intercepts showing niobium grades above 1%.*** Additionally, high-grade rare earths mineralisation has been confirmed through drilling across a broad area. This provided a solid foundation for St George to swiftly advance towards maiden resource definition at Araxa.

### **Strategic benefits of the Araxá niobium-REE Project**

The Araxá Nb-REE Project offers multitude of advantages, i.e. mining-friendly location, existing infrastructure and high-quality resources, amongst others. These factors collectively position St George as a high-potential play in the critical metals space. Below is an overview of these advantages.

#### **I. Favourable geology for significant niobium, REEs, and phosphate discoveries**

The Araxá Project is located within the Barreiro Carbonatite Intrusive Complex, a circular geological formation approximately 5 km in diameter (Figure 2). This complex was formed around 90 million years ago when the intrusion occurred within the quartzites and schists

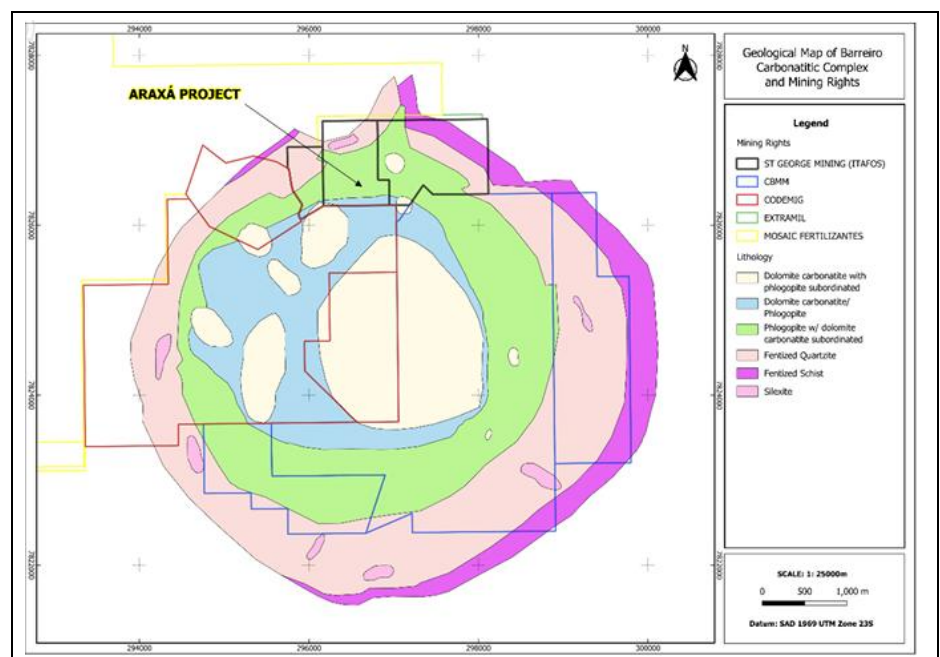
*The Araxá Project is located within a large carbonatite intrusive complex, which is abundant in economic grade niobium, REEs and phosphate mineralisation.*

of the Araxá Group, resulting in a domed structure with concentric radial fractures. These fractures have significantly influenced mineralisation by altering the surrounding quartzites and controlling the distribution of valuable minerals within the weathered saprolite zones. The carbonatite is abundant in pyrochlore (niobium), monazite (rare earth elements), and apatite (phosphate), which are the primary economic targets of the project.

Mineralisation in the Barreiro Carbonatite is driven by weathering and residual enrichment, where the breakdown of fresh carbonatite concentrates valuable minerals in the saprolite zone. This zone, extending from the surface to over 150m in depth, results from the dissolution of more soluble components, leaving behind enriched deposits of niobium, REEs, and phosphate. The radial fractures further enhance mineralisation by allowing fluid infiltration, which promotes alteration and concentration of minerals in specific areas.

The project area spans just over 2 km<sup>2</sup>, with limited outcropping rock, although strongly weathered carbonatite is visible in small pits. Historical drilling has identified the base of weathering at an average depth of around 100m, reaching below 150m in some cases. Current known niobium and REE mineralisation is concentrated within an 800m by 500m target area in the saprolite.

**Figure 2: Geology of Araxa Barreiro Carbonatite**



Source: Company

## I. High-quality mineral resource base with significant expansion potential

Shortly after acquiring the project, St George announced a maiden Mineral Resource Estimate (MRE) for Araxá (Figure 3), utilizing historical exploration work conducted by MBAC between 2011 and 2012 (MBAC is MBAC Fertilizer Corp, now known as Itafos Inc.). This included 67 diamond drillholes totalling 3,764 meters. The drilling primarily targeted the weathered domain, with depths reaching up to 200 meters and averaging 60 meters. Notably, over 80% of the drillholes were drilled to depths of 60 meters or less, leaving deeper mineralisation largely unexplored. Additionally, 35 auger drillholes totalling 176.56 meters were used for geological interpretation but were excluded from the resource estimate. **Among the reported drill results, grades of up to 82,970 ppm (8.29%) Nb<sub>2</sub>O<sub>5</sub> and 329,800 ppm (32.98%) TREO can be seen which highlight the high-quality mineralisation.**

*A large and high-grade niobium and REE Mineral Resource Estimate has been defined at the Araxá Project in compliance with the JORC 2012 requirements.*

The maiden reported JORC-Compliant Mineral Resource Estimate of the Araxá Project using a 0.2% Nb<sub>2</sub>O<sub>5</sub> cut-off grade showed 41.2 Mt at 0.68% Nb<sub>2</sub>O<sub>5</sub> for 280kt of niobium oxide and 40.6 Mt at 4.13% TREO for 1.7 million tonnes of TREO (Total Rare Earth Oxide), significant amount of which (~25%) are the commercially important magnetic rare earth elements. The MRE includes Measured and Indicated Resources of 9.25Mt at 0.99% Nb<sub>2</sub>O<sub>5</sub> and 4.9% TREO. The Maiden MRE also includes a significant phosphate (P<sub>2</sub>O<sub>5</sub>) content at a grade of 8.89%.

**Figure 3: Total JORC 2012 MRE – Grade Tonnage Report using a 0.2% Nb<sub>2</sub>O<sub>5</sub> cut-off**

Resource Classification	Million Tonnes (Mt)	TREO (%)	MREO (%)	Nb <sub>2</sub> O <sub>5</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)
Measured	1.90	5.44	1.04	1.18	7.97
Indicated	7.37	4.76	0.90	0.93	9.12
<b>M&amp;I</b>	<b>9.27</b>	<b>4.90</b>	<b>0.92</b>	<b>0.99</b>	<b>8.89</b>
Inferred	31.37	3.90	0.74	0.59	8.17
<b>Total</b>	<b>40.64</b>	<b>4.13</b>	<b>0.78</b>	<b>0.68</b>	<b>8.34</b>

Source: Company

**Figure 4: Araxa's TREO and NdPr grades are comparable to those of largest hard-rock REE plays outside of China**

Company	St George	Lynas	MP	Arafura
Market cap and stock exchange	A\$48 million ASX: SGQ	A\$7.3 billion ASX: LYC	US\$3.7 billion NYSE: MP	A\$420 million ASX: ARU
Project	Araxá, Brazil	Mt Weld, Australia	Mountain Pass, USA	Nolans, Australia
Deposit style	Hard-rock	Hard-rock	Hard-rock	Hard-rock
Stage	Development studies	Producing	Producing	Development studies; financing
REE Product	Oxide	Oxide	Oxide	Oxide
Mineral resource (Mt)	Measured: 1.9 Indicated: 7.37 Inferred: 31.37 Total: 40.64	Measured: 20 Indicated: 15.5 Inferred: 71.1 Total: 106.6	Measured: 0.1 Indicated: 31.5 Inferred: 9.1 Total: 40.6	Measured: 4.9 Indicated: 30 Inferred: 21 Total: 56
TREO grade (%)	Measured: 5.44% Indicated: 4.76% Inferred: 3.9% Total: 4.13%	Measured: 7.2% Indicated: 4.3% Inferred: 3.2% Total: 4.1%	Measured: 9.5% Indicated: 6.2% Inferred: 5.1% Total: 5.9%	Measured: 3.2% Indicated: 2.7% Inferred: 2.3% Total: 2.6%
NdPr grade (%)	Total: 0.78%	Total: 0.61%	Total: 0.93%	Total: 0.69%
Contained NdPr (Mt)	0.32	0.65	0.38	0.38

Source: Company

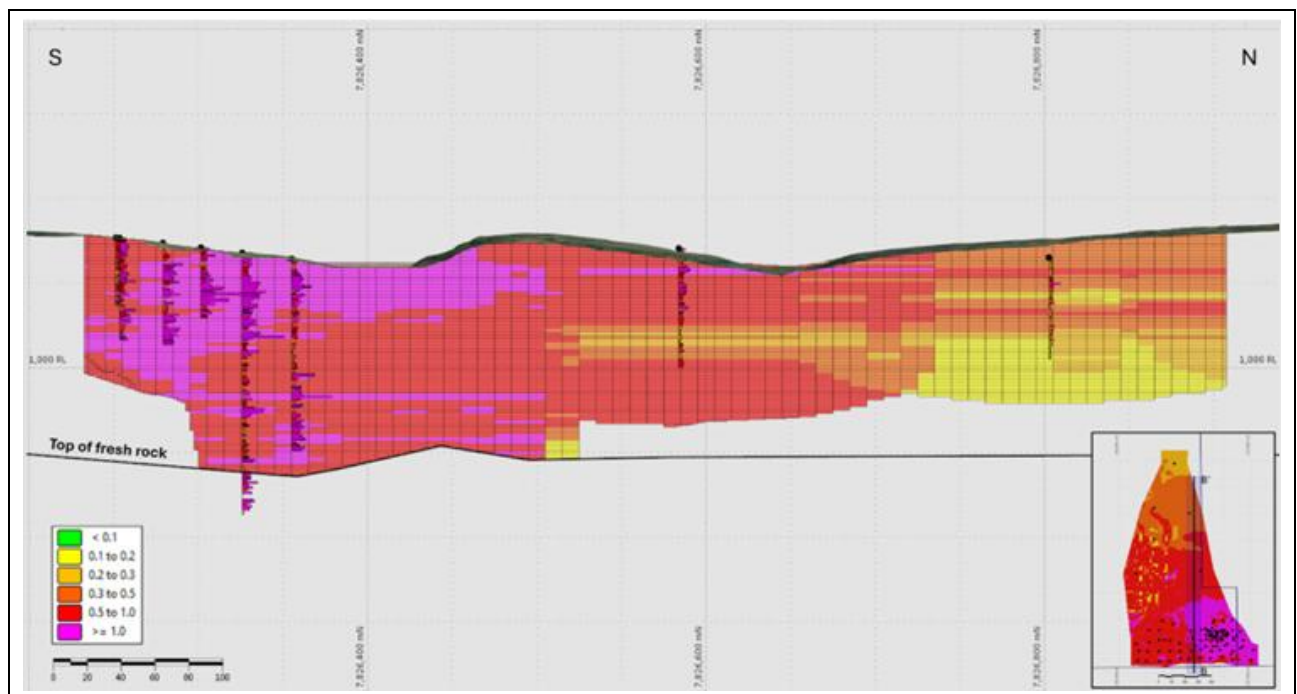


All mineralisation defined in the MRE is confined within the weathered profile, with more than 95% of the total resource located between 0 to 100 meters below the surface (Figure 5). The weathered profile and high-grade mineralisation are known to extend beyond 100 meters from the surface. The deepest hole in the weathered profile recorded weathered saprolite at 157 meters. Strongly weathered bedrock has also been intercepted at 126 meters, indicating a transitional zone between weathered and fresh rock.

This highlights the continuity of mineralisation at depth, reinforcing the potential for further mineralisation below the currently modelled depth. High-grade assay results, such as 2 meters at 2.31% Nb<sub>2</sub>O<sub>5</sub> from 155 meters in drillhole AAX-DD-046, confirm that weathered saprolite mineralisation remains open at depth and presents additional potential for resource expansion.

Bedrock carbonatite was intersected in three instances, primarily below 100 meters, and confirmed to be mineralised. Drillhole AAX-DD-066 returned assay results of 3 meters at 1.35% Nb<sub>2</sub>O<sub>5</sub> from 95 meters, highlighting the potential for mineralisation in fresh rock.

**Figure 5: North-South Cross Section of the Araxá Project MRE showing Nb2O5 grades**



Source: Company

The MRE provides St George with a high degree of confidence in the currently defined resource at the project. This robust assessment not only validates the existing geological model but also strengthens the company's understanding of the project's potential. With this solid foundation, St George is now positioned to focus on resource growth through further drilling. ***SGQ notes that less than 10% of the project area is closely spaced drilled, and that significant mineralisation below 100 meters from the surface and in deeper fresh rock remaining largely unexplored.***

## II. Excellent location with ready access to existing infrastructure

The Araxá Project is strategically located within the Barreiro Carbonatite complex, a 5 km wide carbonatite that hosts hard-rock niobium, REE, and phosphate mineralisation. This prime location places it adjacent to CBMM's niobium mine (896 Mt @ 1.49% Nb<sub>2</sub>O<sub>5</sub>) and Mosaic's Araxá phosphate mine (519 Mt @ 13.4% P<sub>2</sub>O<sub>5</sub>), both situated within the Barreiro

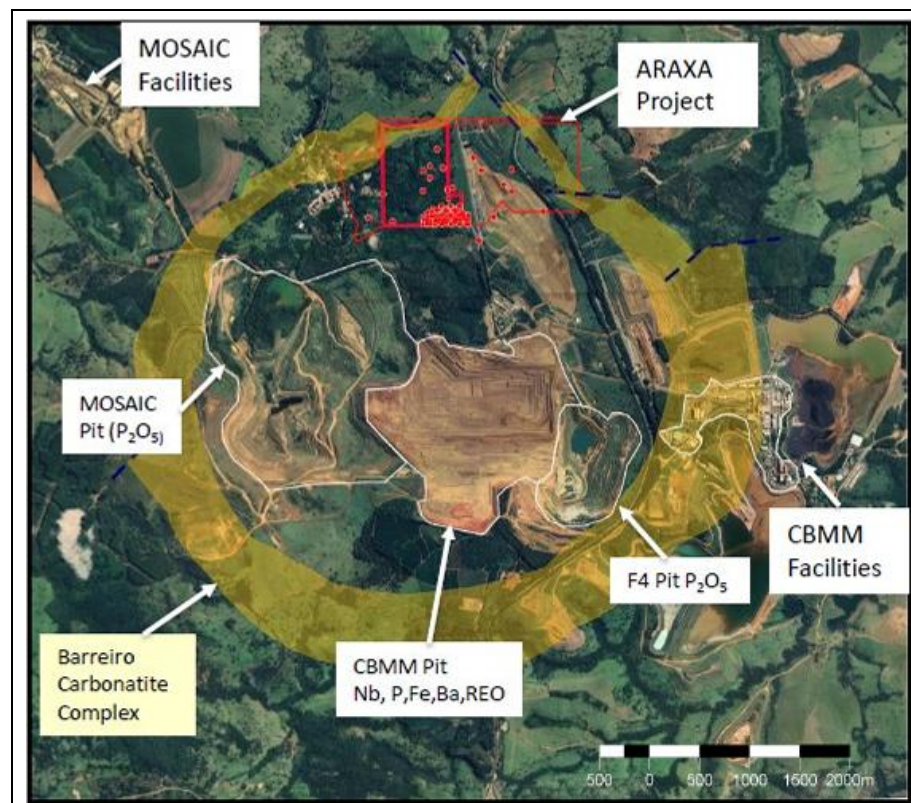
Carbonatite. The Barreiro Carbonatite is renowned as the world's premier location for niobium, producing approximately 80% of the global supply. CBMM's mine has been operational for over 50 years, bringing significant mining infrastructure to the area, which St George can potentially leverage to accelerate the development of the Araxá Project.

The local infrastructure available to the Araxá Project is excellent, with the project situated 5 km south of the town of Araxá and within 1 km of two other mining operations. The following resources are available within the project area or in close proximity (within 5 km of the project), potentially benefiting St George's Araxá Project:

- Sealed roads to the project and major destinations
- Grid power
- Water – borehole and mains
- Accommodation and offices – available in Araxá town
- Telecommunications – network coverage on site
- Skilled workforce – available locally from Araxá or Belo Horizonte

This infrastructure support enhances the project's feasibility and positions St George for successful development and operation.

**Figure 6: Aerial view of the Barreiro carbonatite complex showing St George's Araxá Project as well as the adjacent CBMM niobium mine and the Mosaic phosphate mine.**



Source: Company

## II. Known mineralisation with established processing procedures

The metallurgical recovery process for niobium from the area's material is well-established, thanks to 50 years of production by CBMM. CBMM utilizes conventional, low-cost processing methods, including wet grinding, magnetic separation, and flotation, to

produce a concentrate with 60% Nb<sub>2</sub>O<sub>5</sub>. This concentrate is then used to produce final products such as ferroniobium, niobium oxide, and pure niobium metal. Given that the same materials will be mined at Araxá as at the CBMM Niobium Mine, St George could potentially employ the same straightforward yet effective methods to recover niobium from its deposits. This approach would help mitigate the metallurgical risks associated with the project.

### **III. Path to fast-tracking regulatory approvals has been paved**

St George has signed a non-binding Memorandum of Understanding (MoU) with the State of Minas Gerais (Invest Minas), under which the State will assist in accelerating regulatory approvals in recognition of St George's significant proposed investment in the Araxá niobium-REE Project. The MoU with Invest Minas is a selective initiative by the State to form strategic partnerships with private projects that can contribute sustainably to the local economy. Invest Minas' selection of the Araxá Project underscores its importance at local, state, and federal levels in Brazil.

The State's support for a streamlined approvals pathway will significantly de-risk the project and expedite its execution timeline. Under the MoU, Invest Minas will prioritize and support St George's development plans for the Araxá Project. This includes facilitating a streamlined regulatory process for exploration approvals and mining licenses, which will greatly assist St George in advancing the Araxá Project through feasibility studies and potentially into production. The MoU has the potential to significantly shorten the approvals timeline from years to mere months, greatly benefiting St George's development schedule for the Araxá Project.

### **IV. Strategic MoUs and offtake agreements with industry leaders in place**

In October 2024, St George entered into a non-binding Memorandum of Understanding (MoU) with SKI Hong Kong Limited (SKI) regarding the development of the Araxá Niobium-REE Project. The parties will collaborate on marketing, offtake, and financing opportunities, aiming to establish a roadmap for advancing the project through feasibility studies and making a financial investment decision for development. SKI is a leading trading house in steel materials, specializing in niobium, manganese, and chrome. With industry-leading expertise in niobium, SKI is a key supplier of niobium products to various end-consumers in China and globally. Having SKI onboard mitigates the project's future sales risks and opens potential avenues for financing the project's development, which are important de-risking factors for investment in St George.

In December 2024, St George announced the signing of MoUs with SENAI, Latin America's largest scientific and technological agency, to collaborate on the research, development, and production of rare earth magnets at the Lab Fab facility in Minas Gerais. This facility is the first permanent magnet manufacturing site in Brazil and Latin America. Operated by the Federation of the Industries of Minas Gerais (FIEMG), the Lab Fab facility is set to begin production this year with an initial capacity of 100 tonnes of permanent magnets per year, with plans to double this capacity within the first three years.

St George has been selected as a potential supplier of rare earth materials in Brazil, a country that is rapidly emerging as a global leader in the rare earths sector. This collaboration underscores the strategic importance of the Araxá Project and positions St George to play a pivotal role in the burgeoning rare earths industry in Brazil.

In January 2025, St George entered into a binding MoU with Shandong Xinhai Mining Technology & Equipment Inc. (Xinhai), a global service provider to the mining sector with experience in over 2,000 mines across more than 100 countries, to collaborate on the development of the Araxá Project. Under the agreement, Xinhai will offer expertise in metallurgical testing, mineral processing options, plant design, and project construction.

*St George has entered into multiple MoUs with leading industry players in the niobium and REEs supply chain. These agreements significantly mitigate the commercial, financing, and development risks associated with the Araxá Niobium-REE Project.*

They will also provide a proposal for a fixed-price EPC (engineering, procurement, and construction) contract for the development of the Araxá Project and assist St George in securing optimal, non-dilutive funding for the EPC contract. Additionally, Xinhai has made an equity investment of A\$8 million in St George, further aligning its interests to the success of St George at Araxá

Xinhai is a leading global process engineering and contracting company specializing in engineering design, procurement, and construction services for the mining industry. With over 500 completed EPC contracts globally, many of which include mine construction and operation management services, Xinhai's involvement significantly enhances St George's in-country project delivery team dedicated to the accelerated development of the advanced Araxá Project, further de-risking this world-class venture.

In the same month, an MoU was announced with Liaoning Fangda Group ('Fangda'), one of the world's largest steelmaking enterprises and heavy mine equipment manufacturers. Fangda will consider commercial arrangements that may include an offtake commitment, securing a minimum of 20% of potential niobium products from the project. Additionally, Fangda may provide funding support for the project's development, including investment in St George and/or pre-payment for offtake. They will also offer technical advice and support for mine development and construction.

Fangda produces approximately 20 million tonnes of steel products per year, ranking 16th among the world's top steel producers. They are expanding capacity to 50 million tonnes per annum, potentially making Fangda a top 5 global steel producer. As a large consumer of niobium products, essential for high-strength steel used in construction, bridges, ships, autos, and heavy mining equipment, Fangda recognizes the long-term strategic importance of the Araxá Project as a potential global supplier of niobium products.

#### **V. A team of in-country experts have been appointed to ensure project delivery**

St George has assembled a robust team of on-site experts at the Araxá Project to ensure smooth project delivery. The company's Brazil management team comprises industry-leading professionals with over 80 years of combined experience in niobium mining and processing in the Araxá region. This includes former CBMM executives and a former Brazilian Mines Minister, who will serve as an advisor to St George's board, providing strategic advice and support to expedite the development of the Araxá Project.

Additionally, St George has engaged Alger, a leading Brazilian environmental consultancy, to advise on socio-environmental and cultural heritage matters. Alger aims to facilitate the progression of all necessary licenses for the development and operation of the Araxá Niobium-REE Project. Alger boasts an impressive track record, including assisting with the licensing of Brazil's first producing lithium mine, Grota do Cirilo, owned by Sigma Lithium Resources in the State of Minas Gerais.

To learn more about St George's board and technical management team, see "Appendix II: Management Team" on page 31.

## **St George's Western Australian assets**

In addition to niobium and REEs, St George targets a variety of commodities across its other exploration assets in Western Australia. While the company is currently laser-focused on its lucrative Araxá Niobium-REE Project, we find several of its exploration projects in WA particularly attractive due to their high potential for copper-gold exploration. We believe these projects present valuable diversification opportunities for St George in case the company decides to expand its current focus on niobium-REEs to include highly sought after commodities of copper and gold in the future. Below is a brief overview of some of St George's projects in WA:



## **Mt Alexander Ni-Cu-Li-PGE Project**

The Mt Alexander Project is situated 120km south-southwest of the Agnew-Wiluna belt, renowned for its world-class nickel deposits. BHP Billiton Nickel West made the initial discovery of high-grade nickel-copper sulphides at Mt Alexander with drill hole MAD12, which intersected 3.95m at 5.05% Ni, 1.55% Cu, 0.11% Co, and 4.44g/t total PGEs from 91.4m. St George has built on this success with further shallow high-grade discoveries at the Stricklands, Investigators, and Radar prospects, extending the strike of mineralisation in the Cathedrals Belt to over 5.5km.

Preliminary metallurgical testwork has confirmed that Mt Alexander will produce a high-value saleable concentrate, highly sought after by smelters. The test achieved grades of 18% nickel and 32% copper, along with high values for cobalt and PGEs, which will provide valuable smelter credits. The PGEs included 9g/t Palladium and 1.2g/t Rhodium.

The project's proximity to world-class nickel sulphide mines in the Agnew-Wiluna belt offers St George access to existing roads and infrastructure, as well as opportunities to utilise existing processing plants. The lithium potential at Mt Alexander was also recognised in 2022 following Delta Lithium's (previously named Red Dirt Metals) significant discovery at its Mt Ida Project, located 15km south of St George's Mt Alexander tenure.

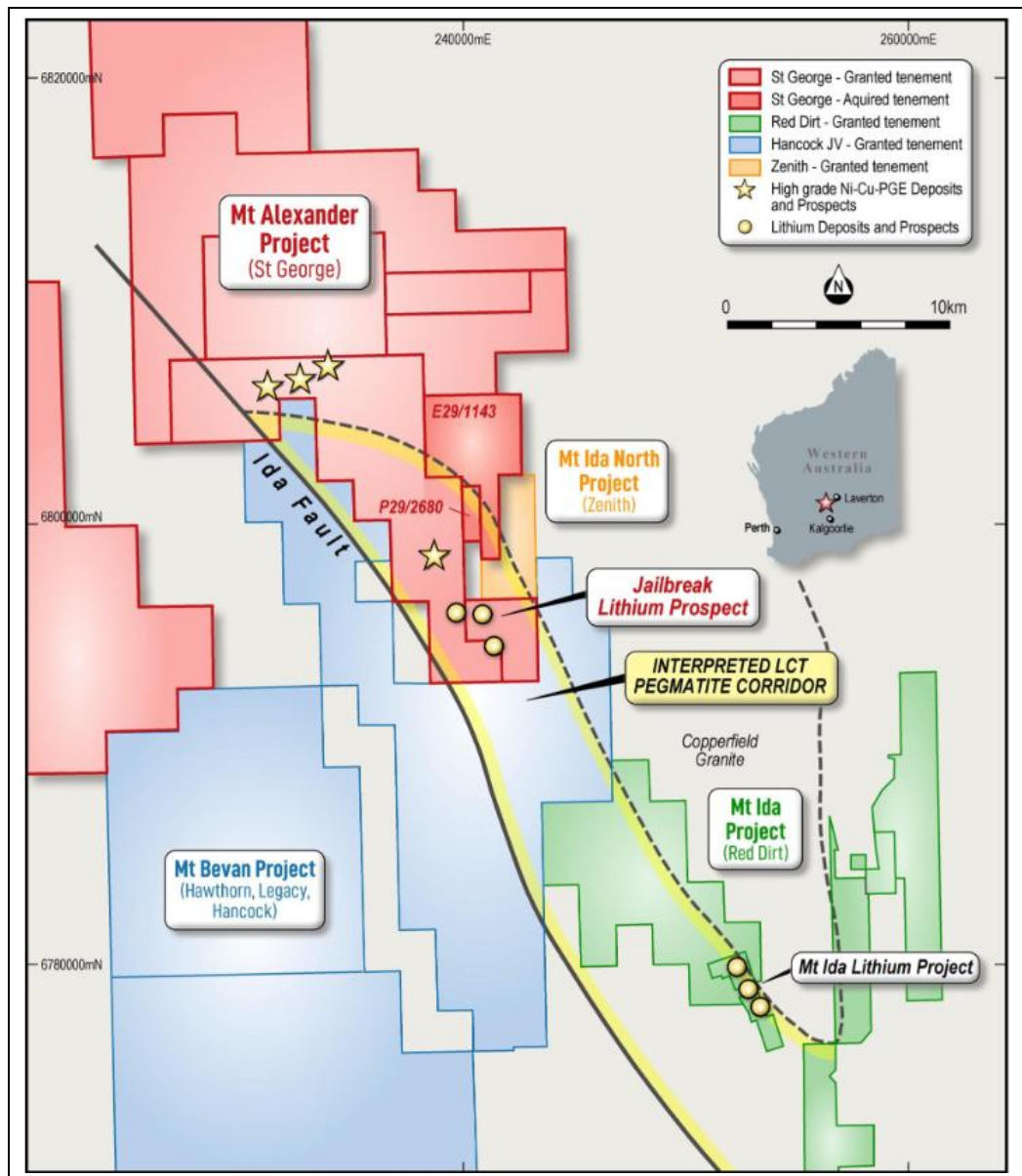
Delta Lithium has since declared this area a 'lithium corridor of power,' stretching from Kathleen Valley (156Mt at 1.4% Li<sub>2</sub>O and 130ppm Ta<sub>2</sub>O<sub>5</sub>, owned by Liontown) in the north to Mt Marion (71.3Mt at 1.37% Li<sub>2</sub>O, owned by Mineral Resources/Ganfeng) in the south.

While lithium and nickel are currently less favoured due to global oversupply and low metal prices, copper and PGEs are highly attractive due to their ongoing supply shortages and rising prices. This makes the Mt Alexander Ni-Cu-Li-PGE Project particularly appealing, given its proven potential for significant copper and PGE discoveries.

***Mt Alexander Ni-Cu-Li-PGE Project has proven potential for making significant copper and PGEs discoveries, which have ongoing supply shortages. Its strategic location near world-class mines ensures access to established infrastructure, facilitating swift future developments and offering toll-treating options.***



**Figure 7: Mt Alexander Project's tenements and its Ni-Cu-PGE deposits and prospects**



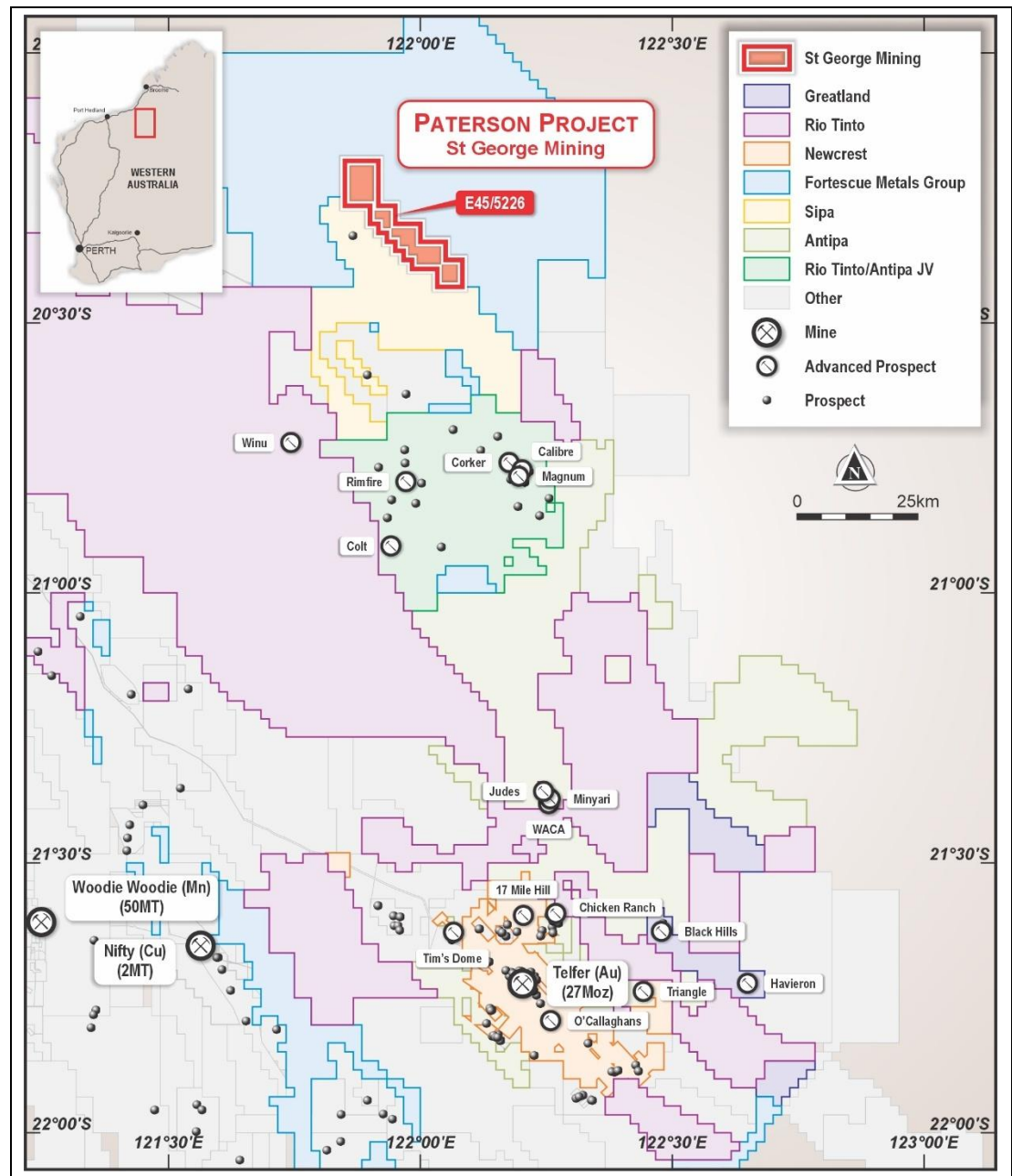
Source: Company

## Paterson Gold and Base Metals Project

The Paterson Province is one of Australia's most mineral-rich regions, hosting significant deposits like Nifty (2Mt Cu) and Telfer (27M oz Au). Despite its potential, the area remains underexplored, with recent copper and gold discoveries at Rio Tinto's Winu Project (which is being developed in joint venture with Sumitomo Metal Mining) and the Havieron Project (being developed by Greatland Gold after buying out its joint venture partner, Newcrest). Major mining companies such as Fortescue Metals, Rio Tinto and IGO are active in the region with further potential M&A activity likely to consolidate opportunities in the region.

St George's exploration license E45/5226 covers over 35km of prospective stratigraphy, similar to that hosting mineralization at Winu, Nifty, and Telfer. Drilling by St George has confirmed the presence of chalcopyrite and metasediments, which are known to host base metal mineralization in the Paterson region.

**Figure 8: Paterson Project's tenements in WA**



Source: Company

*We think the gold-copper exploration potential at some of SGQ's Australian projects, including Paterson and Ajana, offers an attractive diversification opportunity to St George given the bullish outlook for these two metals.*

## Ajana Base Metals Project

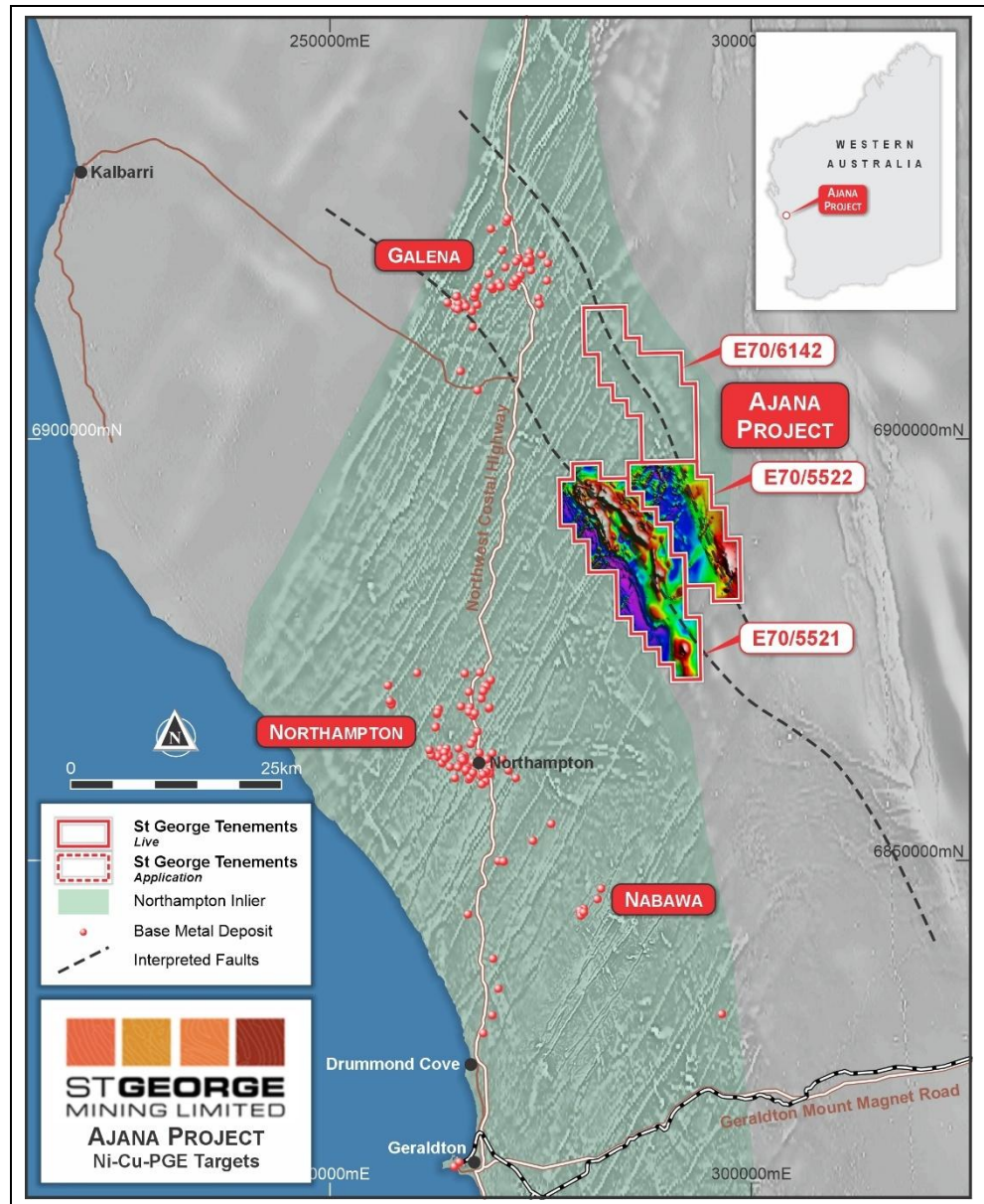
The Ajana Project, 100% owned by St George, is located in the Northampton mineral field near the western margin of the Yilgarn Craton. This area has gained renewed exploration interest following the discovery of Chalice Mining's substantial Julimar deposit.

Historically, numerous copper and lead-zinc deposits were mined at Northampton between 1850 and 1973. These deposits were relatively small, associated with outcropping mineralisation, and structurally controlled, presenting as massive and disseminated sulphides. Since mining ceased, minimal exploration has occurred, leaving most of the Northampton mineral field underexplored.

St George believes that modern exploration techniques, including advanced geophysical surveys, have the potential to identify blind deposits of mineralization under 20m to 100m of cover. (Figure 9) shows St George's Ajana tenements in WA and the result of the company's 2022 airborne magnetic survey which clearly defined a 20km-long magnetic anomaly. This large Ajana magnetic

anomaly includes several concentric features and is cut by the same dykes that host the historic lead, zinc and copper sulphide deposits in the Northampton mineral field.

**Figure 9: Ajana Project's tenements in WA**



Source: Company

## Niobium; The Silent Powerhouse Fuelling Tomorrow's Technologies

Niobium is a silvery-grey, ductile metal with the chemical symbol Nb and atomic number 41. Discovered in 1801 by English chemist Charles Hatchett, it was initially named "columbium" after the United States but later renamed to niobium to align with international naming conventions<sup>1</sup>.

<sup>1</sup> Source: Britannica

*Niobium is a versatile and increasingly valuable element across multiple industries due to its unique physical and chemical properties. In the steel industry, which consumes around 80% of global niobium supply, it is essential for producing high-strength, low-alloy steels used in pipelines, automobiles, and large-scale construction.*

Found primarily in the minerals pyrochlore and columbite, niobium is never encountered in its pure form in nature<sup>2</sup>.

### Global Production and Market Dynamics

Brazil dominates the global niobium market, accounting for approximately 90% of the world's production, followed by Canada with about 8%. The market size is estimated at 117.45 kilotons in 2025 and is expected to reach 188.47 kilotons by 2030, at a compound annual growth rate (CAGR) of 9.92% during the forecast period.<sup>3</sup>

### Applications and Benefits of Niobium

Applications and benefits of Niobium include:

#### 1. Steel Industry

Approximately 80% of niobium is used in the steel industry to produce high-strength, low-alloy (HSLA) steels<sup>4</sup>. Even small additions of niobium (as little as 0.01%) can significantly enhance the strength, toughness, and corrosion resistance of steel<sup>5</sup>. This makes it invaluable in constructing pipelines, automotive components, and structural frameworks.

#### 2. Aerospace and Superalloys

Niobium-based superalloys are essential in the aerospace industry. Alloys like C-103, composed of 89% niobium, 10% hafnium, and 1% titanium, are used in rocket engines and jet turbines due to their ability to withstand temperatures above 1,000°C.

#### 3. Superconducting Materials

Niobium's superconducting properties make it critical in medical imaging and particle physics. Niobium-titanium (NbTi) and niobium-tin (Nb<sub>3</sub>Sn) alloys are used in MRI machines and particle accelerators like the Large Hadron Collider, which utilizes approximately 600 tons of superconducting strands.

#### 4. Energy Storage and Batteries

Recent advancements have shown niobium's potential in battery technology. CBMM, the leading niobium producer and St George's Araxá Project's neighbour, in collaboration with Toshiba and Volkswagen, has developed a niobium-based lithium-ion battery capable of fully charging in just ten minutes. This battery also boasts a lifespan up to three times longer than conventional batteries and operates at lower temperatures, reducing the risk of overheating.

#### 5. Medical Applications

Due to its biocompatibility and resistance to corrosion, niobium is used in medical implants such as pacemakers and prosthetics. Its hypoallergenic properties also make it suitable for surgical instruments and jewellery.

#### 6. Electronics and Optics

<sup>2</sup> Source: Webelements/Niobium

<sup>3</sup> Morder Intelligence

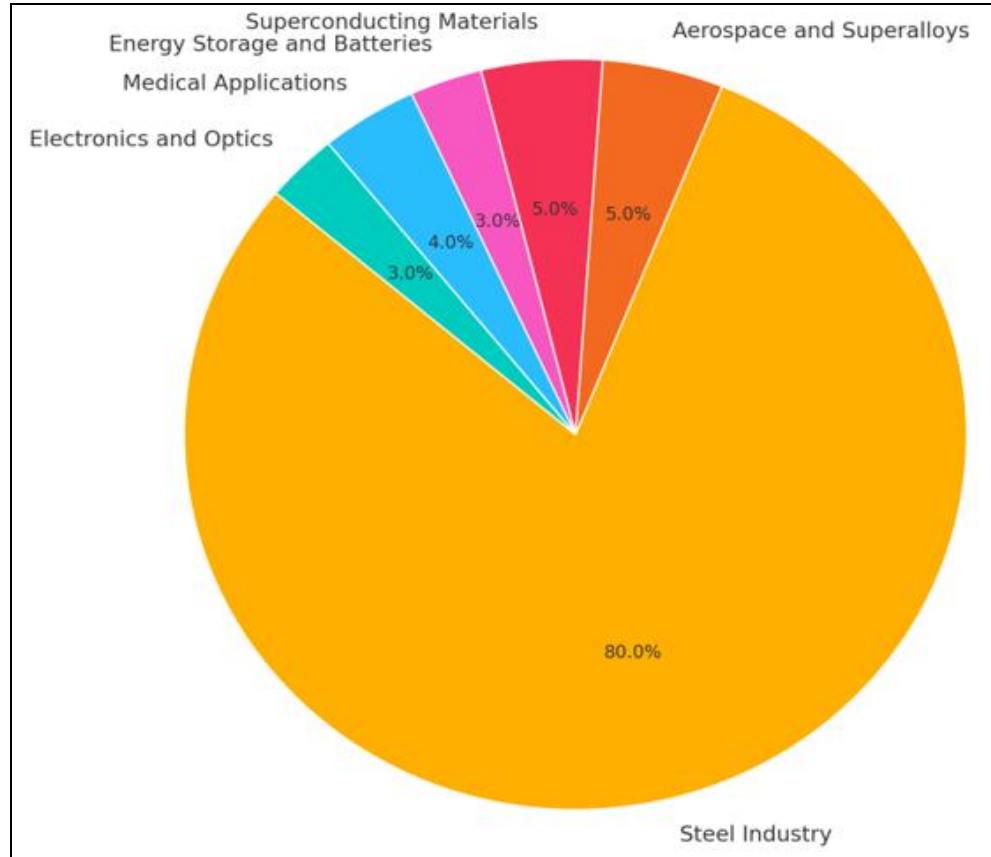
<sup>4</sup> Livescience/Facts About Niobium

<sup>5</sup> Admatinc/Facts About Niobium: Production, Properties, Applications, and Availability



Niobium is utilised in the production of capacitors, particularly as an alternative to tantalum capacitors. Additionally, niobium-doped glass is used in camera lenses and optical fibres to enhance refractive indices.

**Figure 10: Applications of Niobium**



Source: Admatinc and East Coast Research

## Environmental and Economic Advantages of Niobium

Niobium's ability to strengthen materials means less material is required for the same structural integrity, leading to weight reduction and energy savings. For instance, in the automotive industry, using niobium-alloyed steel can reduce vehicle weight, improving fuel efficiency and reducing emissions.

Environmental and economic advantages of Niobium include:

### 1. Enhancing Sustainability Through Recycling

Niobium recycling presents a significant opportunity to reduce environmental impacts associated with its extraction and processing. Recent studies indicate that up to 90% of niobium can be recovered from scrap materials using advanced hydrometallurgical techniques. This high recovery rate substantially lowers the carbon footprint compared to traditional mining methods<sup>6</sup>.

<sup>6</sup> MarketReach/Niobium Recycling Market



Despite this potential, the current global recycling rate for niobium remains relatively low, estimated between 20% and 30%. This underutilization suggests a significant opportunity to improve sustainability by enhancing recycling practices<sup>7</sup>.

## 2. Energy Savings and Emission Reductions

Recycling niobium not only conserves the metal but also leads to substantial energy savings. Detailed calculations show that recycling niobium could save approximately 133 to 161 million gigajoules (GJ) of energy between 2010 and 2050. This energy conservation also contributes to a significant reduction in greenhouse gas emissions<sup>8</sup>.

## 3. Economic Growth and Market Expansion

The global niobium market is experiencing robust growth, driven by increasing demand in various industries. The market size is estimated at 117.45 kilotons in 2025 and is expected to reach 188.47 kilotons by 2030, at a compound annual growth rate (CAGR) of 9.92% during the forecast period<sup>9</sup>.

This growth is attributed to niobium's critical role in enhancing the strength and durability of steel, which is essential in construction, automotive, and infrastructure projects. Additionally, niobium's applications in emerging technologies, such as electric vehicle batteries and renewable energy systems, are expanding its market potential.

## 4. Strategic Importance and Supply Chain Security

Niobium is considered a critical raw material due to its unique properties and limited sources of production. Brazil dominates the global niobium market, accounting for approximately 90% of the world's production. This concentration raises concerns about supply chain security, especially as demand continues to rise.

To mitigate potential supply risks, efforts are being made to diversify sources and enhance recycling practices. Developing a circular economy for niobium is strategically important to diversify the supply chain, reduce environmental burden, and increase market acceptance of secondary products<sup>10</sup>.

## 5. Supporting Renewable Energy and Green Technologies

Niobium plays a vital role in the development of renewable energy technologies. Its use in high-strength, low-alloy steels contributes to the construction of wind turbines and other renewable energy infrastructure. Moreover, niobium's incorporation into lithium-ion batteries enhances their performance, offering faster charging times and longer lifespans.

## Strategic Importance of Niobium in National Security

Niobium is designated as both a critical and strategic mineral by the U.S. government, underscoring its essential role in national security and the challenges associated with its production. Its unique properties—such as high melting point, superconductivity, and corrosion resistance—make it

*Niobium's strategic value extends beyond commercial use into the realm of national defence, where it is classified by the U.S. government as a critical mineral. Its high performance in extreme conditions makes it vital for developing advanced military technologies, including jet engines, armoured vehicles, and missile systems. Given that the global supply is dominated by one or two producers, this dependency poses security challenges to the countries around the world.*

<sup>7</sup> link.springer/ Circularity Reinforcement of Critical Raw Materials in Europe: A Case of Niobium

<sup>8</sup> Researchgate / Environmental Sustainability of Niobium Recycling the Case of the Automotive Industry

<sup>9</sup> Mordorintelligence / Niobium Market Size & Share Analysis - Growth Trends & Forecasts (2025 - 2030)

<sup>10</sup> Beta Technology / A Circular Economy for Niobium the Challenge of Recycling

indispensable in the manufacturing of advanced defence systems, including jet engines, missile components, and other military-grade equipment.

Recognising the strategic importance of niobium, the U.S. has taken steps to secure its supply chain. The Department of Defence (DoD) has identified niobium as essential for national defence and has included it in the National Defence Stockpile. Efforts are underway to diversify sources, including domestic production and international partnerships, to mitigate reliance on a single supplier.

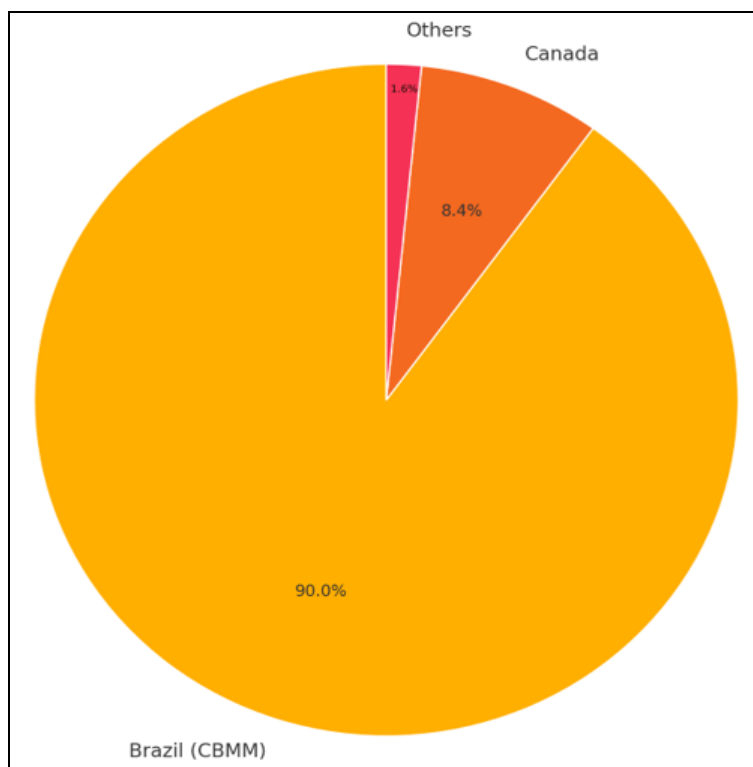
## Challenges and Opportunities in Niobium Supply Chain Diversification

The global supply chain for niobium is heavily concentrated, posing significant risks. Diversifying this supply chain is not only a strategic imperative but also presents numerous opportunities for economic growth and technological advancement.

### Current Supply Chain Landscape

As of 2025, Brazil dominates niobium production, accounting for approximately 90% of the global supply, primarily through Companhia Brasileira de Metalurgia e Mineração (CBMM). Canada follows with about 8.4% of production<sup>11</sup>. This concentration creates potential vulnerabilities, especially as demand continues to grow for advanced applications<sup>12</sup>.

**Figure 11: Global Niobium Production by Country (2025 estimate)**



Source: Financial Times and East Coast Research

<sup>11</sup> Financial Times / Brazilian niobium carves out an energy niche

<sup>12</sup> DiscoveryAlert / Niobium and Its Applications: Essential Properties for Modern Industry

## **Challenges in Diversification**

### **1. Geopolitical Risks**

The heavy reliance on one company / one country for niobium supply puts the global market at risk. Any political instability, regulatory changes, or trade restrictions posed by that single company / country could disrupt the supply chain, affecting industries worldwide.

### **2. Limited Alternative Sources**

While niobium deposits exist in other countries, such as Canada and Australia, their production capacities are currently very limited. Developing these resources requires significant investment and time, posing a challenge to rapid diversification.

### **3. Infrastructure and Technological Barriers**

Establishing new mining operations and processing facilities involves overcoming substantial infrastructure and technological hurdles. This includes securing funding, obtaining environmental approvals, and developing the necessary expertise. This gives niobium projects like St George's Araxá Project a significant advantage, thanks to the existing infrastructure and established niobium production expertise in the area that can accelerate development timelines while reducing costs and execution risks.

## **Opportunities for Diversification**

### **1. Development of New Mining Projects**

Efforts are being made in countries like Canada to develop new niobium mining projects to diversify the niobium supply chain. For instance, Taseko Mines' Aley project in British Columbia – a relatively low-grade niobium project with feasibility studies ongoing – aims to produce approximately 9,000 metric tons of niobium annually, contributing to supply diversification<sup>13</sup>. The Araxa Project, with its high-grade niobium deposit and favourable project logistics, creates an opportunity for St George to be the next niobium producer to come to market.

### **2. Recycling and Circular Economy**

Enhancing niobium recycling efforts can provide a sustainable and diversified supply source. Advanced recycling technologies enable the recovery of niobium from end-of-life products, reducing reliance on primary mining.

### **3. International Collaborations**

Collaborative efforts among countries can facilitate the sharing of technology, expertise, and resources to develop alternative niobium sources. Such partnerships can accelerate the establishment of new supply chains and promote global stability. St George Mining's development of the Araxá Niobium-REEs Project in Brazil exemplifies international collaboration. The company is leveraging Australia's mining expertise alongside Brazil's established niobium production capabilities to expedite the project's development.

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<sup>13</sup> Miningnewsnorth / B.C. mine may diversify niobium market

## Conclusion: Niobium is Silently Fuelling the Future Technologies

Niobium's unique properties—strengthening capabilities, superconductivity, corrosion resistance, and biocompatibility—make it indispensable across various industries. Its role in advancing technologies, from aerospace to medical devices and energy storage, underscores its importance in building a sustainable and efficient future. As research continues to unveil new applications, niobium stands out as a critical material driving innovation and progress.

While challenges exist in diversifying the niobium supply chain, the opportunities and benefits far outweigh the obstacles. Strategic investments in new mining projects, recycling initiatives, and international collaborations are essential to build a resilient and sustainable niobium supply network. Embracing these opportunities will not only secure the future of critical industries but also drive economic growth and technological innovation.

## Rare Earth Elements (REE): The Hidden Power Behind Modern Tech

Rare Earth Elements (REEs) comprise a group of 17 metallic elements, including the 15 lanthanides, plus scandium and yttrium. Despite their name, these elements are relatively abundant in the Earth's crust. However, they are rarely found in concentrated forms, making economically viable extraction challenging.

*REEs are the unseen enablers behind many high-tech devices that define modern life. In smartphones and tablets, REEs such as neodymium, europium, and terbium enhance audio clarity and screen colour vibrancy, while yttrium improves display brightness and power efficiency. In computers, rare earth magnets made from neodymium, praseodymium, and dysprosium are essential for miniaturized, high-capacity hard drives. In healthcare and defence, REEs enable advanced diagnostics and mission-critical systems, making them indispensable across sectors.*

### Key Applications and Strategic Importance

REEs are integral to over 200 products across various sectors. Their unique magnetic, luminescent, and electrochemical properties make them essential in:

- **Consumer Electronics:** Used in smartphones, computer hard drives, and flat-screen displays.
- **Clean Energy Technologies:** Neodymium and praseodymium are critical for manufacturing permanent magnets in wind turbines and electric vehicle motors.
- **Defence Systems:** Employed in guidance systems, lasers, and radar technologies<sup>14</sup>.

### The Backbone of High-Tech: REEs in Everyday Devices

Rare Earth Elements (REEs) are indispensable to modern technology, underpinning the functionality of numerous everyday devices:

- **Smartphones and Consumer Electronics**

Smartphones incorporate several REEs to enhance performance and user experience. Neodymium is used in compact, high-strength magnets found in speakers and microphones, enabling clear audio in a small form factor. Europium and terbium are essential for producing the vibrant red and green colours in display screens. Additionally, yttrium and lanthanum contribute to screen brightness and energy efficiency<sup>15</sup>.

- **Computers and Data Storage**

In laptops and desktop computers, REEs play a vital role in data storage solutions. Neodymium-iron-boron (NdFeB) magnets, utilizing neodymium, praseodymium, and dysprosium, are integral to hard disk drives, allowing for high-density data storage in compact devices<sup>16</sup>.

- **Electric Vehicles and Renewable Energy**

<sup>14</sup> [profession.americangeosciences.org/](https://profession.americangeosciences.org/) What are rare earth elements, and why are they important?

<sup>15</sup> [mining-international.org](https://mining-international.org/) / Rare Earth Elements Role in the Energy Transition

<sup>16</sup> [noahchemicals.com](https://noahchemicals.com/) / Rare Earth Elements: Unveiling the 17 Hidden Treasures of Modern Technology

The transition to electric vehicles (EVs) and renewable energy sources heavily relies on REEs. EV motors and wind turbine generators commonly use NdFeB magnets, which require neodymium, praseodymium, dysprosium, and terbium. These elements provide the necessary magnetic strength and thermal stability for efficient energy conversion <sup>17</sup>.

- **Medical and Defence Technologies**

REEs are also crucial in medical imaging and defence systems. Gadolinium is used as a contrast agent in magnetic resonance imaging (MRI), while samarium-cobalt magnets, containing samarium, are employed in precision-guided missile systems due to their high-temperature stability.

## Global Supply and the China Factor

Rare Earth Elements (REEs) are indispensable to modern technologies, including electric vehicles (EVs), wind turbines, and defence systems. China's dominance in the REE market has significant implications for global supply chains and geopolitical dynamics.

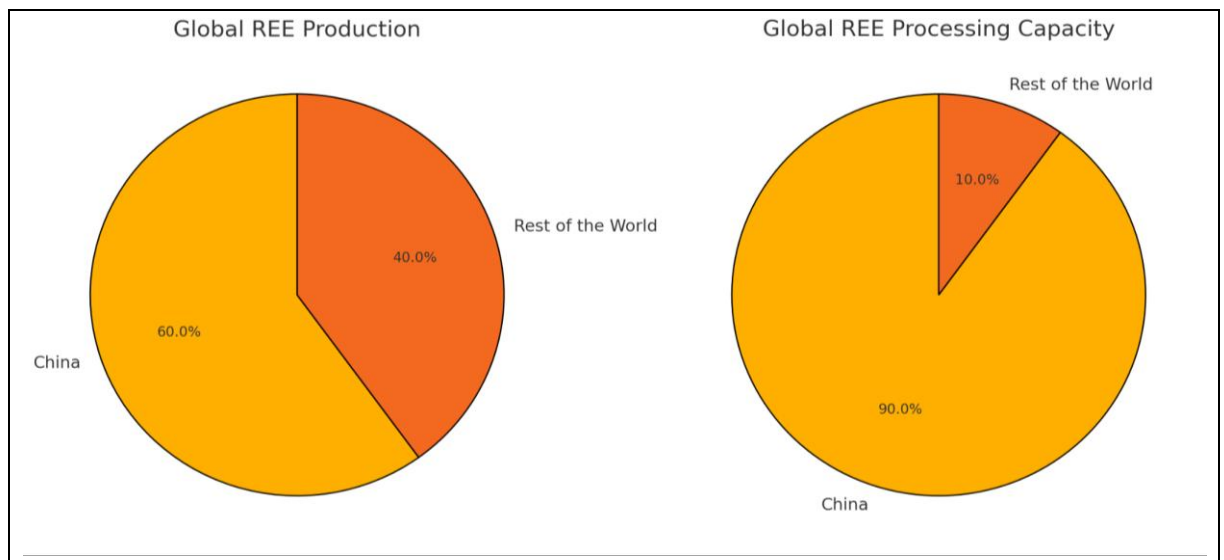
### China's Dominance in REE Production

As of 2025, China accounts for approximately 60% of global REE production and 90% of processing capacity. This concentration gives China substantial leverage over the global supply of these critical minerals.

### Recent Export Restrictions and Their Implications

In April 2025, China imposed export restrictions on several REEs, including dysprosium and neodymium, which are vital for EV motors and wind turbines. These measures, part of a broader response to U.S. tariffs, have led to increased prices and supply uncertainties <sup>18</sup>.

**Figure 12: China's dominance over the global REE supply chain**



Source: Discovery Alert and East Coast Research

The restrictions have particularly impacted the U.S., which relies heavily on Chinese REEs for defence and technology sectors. The U.S. Department of Defence has expressed concerns over potential disruptions to military readiness and technological development.

<sup>17</sup> batterypowertips.com / Rare earths and EVs — it's not about batteries

<sup>18</sup> Discoveryalert.com.au / China's Rare Earth Export Restrictions: Global Impact and Future Outlook



## Efforts to Diversify REE Supply Chains

In response to China's export controls, countries are seeking to diversify their REE sources. The U.S. is investing in domestic production and processing capabilities, including projects like the Mountain Pass mine in California.

Additionally, international collaborations are underway to develop REE resources in countries like Australia, Canada, and South Africa. These efforts aim to reduce dependency on Chinese supplies and enhance global supply chain resilience <sup>19</sup>.

## Environmental and Geopolitical Challenges in REE Mining

Rare Earth Elements (REEs) are indispensable to modern technologies, including electric vehicles, wind turbines, and defence systems. However, their extraction and processing pose significant environmental and geopolitical challenges that impact global supply chains and sustainability efforts.

### Environmental Impacts

REE mining and processing can lead to substantial environmental degradation. For instance, the Bayan Obo mine in Inner Mongolia, China's largest REE operation, has caused extensive soil and water contamination due to the release of heavy metals, fluorine, and arsenic. This pollution has adversely affected local ecosystems and communities. Additionally, the extraction processes often produce radioactive waste, particularly when thorium and uranium are present in the ore, posing long-term environmental and health risks.

In Myanmar, the rapid expansion of REE mining has led to severe environmental and health issues. Workers and nearby residents have reported respiratory problems, skin conditions, and other health concerns linked to the chemicals used in extraction processes.

The U.S. and its allies are actively seeking to diversify their REE supply chains. For example, the U.S. has invested in domestic projects like the Mountain Pass mine in California and is exploring partnerships with countries such as Australia and Canada to develop alternative sources. However, establishing new mining and processing facilities involves significant financial investments, regulatory approvals, and time, making it a complex endeavour <sup>20</sup>.

## New Frontiers: Recycling and Alternative Sources of REEs

As global demand for Rare Earth Elements (REEs) intensifies—driven by their critical role in clean energy technologies, electronics, and defence systems—securing sustainable and diversified supply chains has become paramount. Traditional mining practices, often concentrated in specific regions, pose environmental and geopolitical challenges. Consequently, attention is turning toward recycling and alternative sources to bolster REE availability.

### Recycling: Unlocking Value from Waste

Recycling REEs from end-of-life products offers a promising avenue to supplement supply. Electronic waste (e-waste), including discarded smartphones, hard drives, and electric vehicle (EV) motors, contains significant quantities of REEs. However, current recycling rates remain low due to technical and economic hurdles <sup>21</sup>.

Innovative methods are emerging to address these challenges. For instance, Queen's University Belfast's QUILL research centre is developing ionic liquid technologies to efficiently extract REEs from industrial waste, reducing environmental impact and enhancing recovery rates. Similarly, companies like HyProMag are pioneering hydrogen-based processes to recycle magnets from electronic waste, aiming to reduce dependence on primary mining. Despite these advancements,

*To reduce reliance on traditional mining, researchers and industries are increasingly focusing on unconventional sources of REEs. Extracting these elements from coal ash, red mud, and phosphogypsum offers a way to turn industrial waste into valuable resources. At the same time, exploration of deep-sea REE deposits, like those found off Japan's coast, is gaining momentum. While promising, these methods face environmental scrutiny and require advanced technologies to be economically viable.*

<sup>19</sup> reuters.com / China hits back at US tariffs with export controls on key rare earths.

<sup>20</sup> ips-dc.org / Mapping the Impact and Conflicts of Rare-Earth Elements.

<sup>21</sup> link.springer.com/ Recycling rare earths: Perspectives and recent advances.

scaling up recycling infrastructure and improving collection systems are essential to realize the full potential of REE recycling <sup>22</sup>.

### **Alternative Sources: Expanding the Resource Base**

Beyond recycling, alternative sources of REEs are being explored to diversify supply. Industrial by-products such as coal fly ash, red mud from aluminium production, and phosphogypsum—a waste product from fertilizer manufacturing—contain appreciable concentrations of REEs. For example, Purdue University researchers have developed a cost-effective method to extract REEs from coal ash, potentially tapping into the vast quantities of this by-product generated annually in the U.S <sup>23</sup>.

Additionally, unconventional sources like deep-sea sediments and mine tailings are under investigation. Japanese researchers have identified REE-rich mud layers on the Pacific Ocean floor, presenting a potential new frontier for extraction. However, environmental concerns and technical complexities pose significant challenges to these endeavours.

### **Why Investing in REE Supply Chain Is the Future**

Rare Earth Elements (REEs) are indispensable to modern technology, playing a crucial role in the development of electric vehicles (EVs), renewable energy systems, and advanced electronics. As global demand for these technologies surges, investing in REE supply chain presents a strategic opportunity for long-term growth and sustainability.

The geopolitical landscape has underscored the need for diversified and secure REE supply chains. Recent export restrictions by China on key REEs have highlighted vulnerabilities in global supply chains, prompting countries like the United States to seek alternative sources and invest in domestic production capabilities.

Investments in REE technology are driving innovations in recycling methods and alternative extraction techniques. Companies are exploring the recovery of REEs from electronic waste and industrial by-products, reducing environmental impact and dependence on traditional mining. Additionally, the development of new processing facilities outside of China, such as the Pensana Saltend plant in the UK, aims to bolster global REE supply chains.

The growing importance of REEs has led to increased investor interest in companies involved in their extraction and processing. Notable examples include MP Materials, which operates the Mountain Pass mine in California and has recently commenced production of neodymium and praseodymium metals in Texas. Similarly, American Rare Earths is developing the Halleck Creek project in Wyoming, one of the largest REE deposits in the United States.

Investing in REE technology aligns with the global shift towards sustainable and advanced technologies. By supporting innovations in extraction, processing, and recycling, investors can contribute to building resilient supply chains and capitalise on the growing demand for REEs in various high-tech applications. As the world continues to prioritise clean energy and technological advancement, REE technology stands out as a promising and strategic investment frontier.

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<sup>22</sup> theguardian.com / Recycling of rare earth metals and other solutions for a sustainable future: meet the scientists making it happen.

<sup>23</sup> sciencedirect.com / Rare earth metals from secondary sources: Review of potential supply from waste and byproducts

## Valuation: NPV-based approach indicates significant upside potential

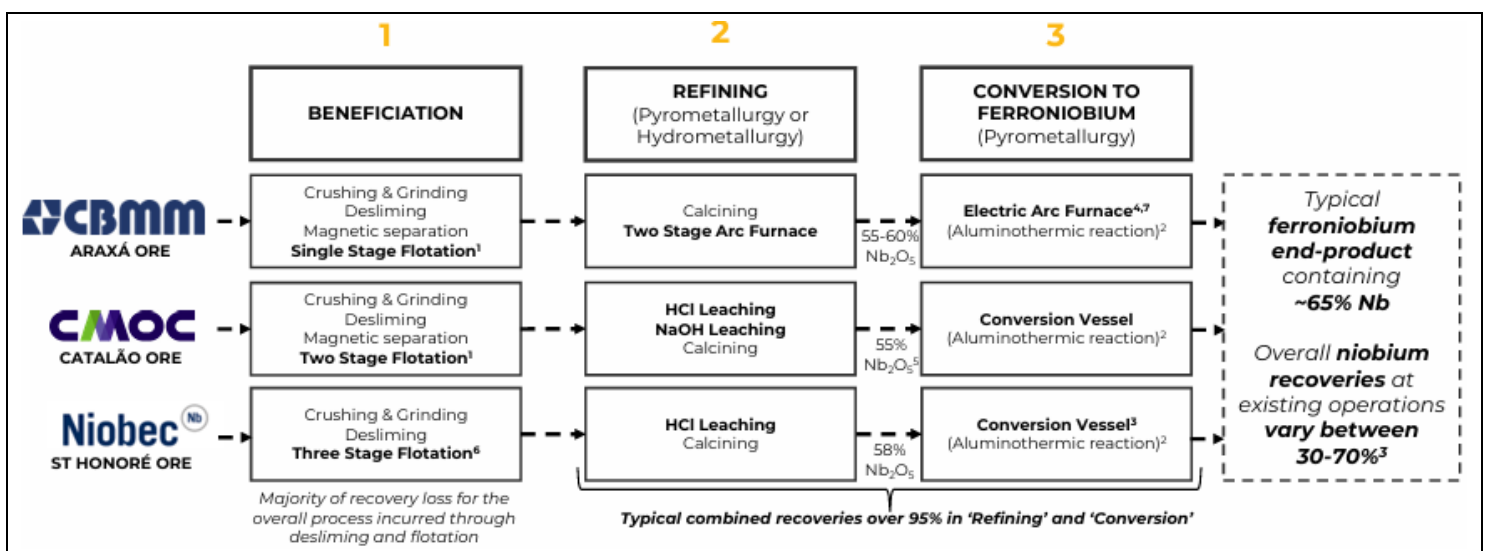
In 2012, the previous owner of Araxá completed a Preliminary Economic Assessment for the Project. The report revealed an impressive estimated NPV<sub>10</sub> of US\$967 million for a mine life of 40 years, highlighting significant resource expansion potential. The project economics were evaluated based on an initial annual production estimate of 8,750 tonnes of individual Rare Earth Oxides (REO) and 740 tonnes of niobium oxide as a by-product for the first five years. Production was projected to increase to 17,500 tonnes per annum of REO and 1,832 tonnes per annum of niobium oxide after year five. Capital costs for Phase 1 were estimated at US\$406.05 million, with an additional US\$214.48 million required for expansion after the fifth year of operation.

We have conducted our own modelling of Araxá, focusing on niobium production with Rare Earth Elements (REEs) as potential by-products. Our model incorporates metrics from the 2012 Preliminary Economic Assessment (PEA) and our own estimates for the capital expenditure (Capex) required to build a processing plant at our assumed production rate.

Our model is based on constructing a niobium processing plant with a production capacity of 10,000 tonnes of Ferroniobium (FeNb) containing 65% niobium. Production is assumed to commence in FY28 at 50% capacity, ramping up to full capacity after 2 years. Our assumed mine life is 25 years. The currently defined resources of 280kt of niobium oxide at the Araxa Project is more than enough to support our assumed production volume.

We have conservatively estimated a pre-production Capex of US\$200 million for building the processing plant and other required infrastructure. As illustrated in (Figure 13), the ore from the Araxá region can be processed using a simple conventional flotation plant, employing a proven flowsheet that has been used by CBMM at their Araxá niobium mine for over 50 years. All three major niobium producers globally utilise similar conventional flotation processing plants to produce ferroniobium. Constructing such a processing plant is significantly cheaper than building the REE processing plant proposed in the 2012 PEA. Our Capex estimate of US\$200 million for the niobium processing plant at Araxá is higher than the figures we have observed for projects of similar size, providing scope for valuation enhancement as feasibility study catalysts are delivered.

Figure 13: Simplified, Adapted Process Flowsheets for the Three Existing Niobium Operations.



Source: WA1 RESOURCES LTD

We have assumed a niobium oxide price of 50 US\$/kg in our model, which is in line with the current commodity price<sup>24</sup>. In terms of costs, we have assumed C1 Cash Costs margin of 25%, which is in line with current open-pit mining operations which utilise conventional floatation processing flowsheets. We have then added operating costs of US\$40m per annum to calculate the total operating costs. This estimate is also in line with other projects of the same size.

*C1 cash costs represent the direct costs of producing a metal, including:*

- **Mining:** Extracting the ore.
- **Processing:** Milling and concentrating the ore.
- **On-site administration:** Managing the mining operations.
- **Freight and selling costs:** Transporting and marketing the product.

*These costs are reported in US dollars per unit of production and exclude indirect expenses like exploration, research, depreciation, and interest charges. C1 Cash Costs are defined to make the operations efficiency of different mining operations.*

Our other assumptions include a 3% royalty fee, an annual sustaining Capex of US\$6 (3% of the pre-production Capex), and a 30% tax rate. Our model has resulted in an NPV<sub>8</sub> of US\$1,350m or A\$2.077m using an AUD/USD exchange rate of 0.65.

To drive at our valuation of St George, we have relied on a percentage of NPV approach. We make the assumption that mining projects that are not operational yet should trade at a percentage of their project's NPV. (Figure 14) shows how the market on average values mining companies based on the stage of their mining projects.

**Figure 14: Basis for using NPV-based valuation**

Stage of Development	% of NAV
Scoping Study	0-10%
<b>Economic Assessment (EA)</b>	<b>10-20%</b>
Pre-Feasibility Study (PFS)	20-30%
Definitive Feasibility Study (DFS)	30-40%
Fully Funded DFS	40-50%

*Source: East Coast Research*

*Our modelling of a potential niobium production scenario at Araxa indicates robust project economics with an NPV<sub>8</sub> of US\$1,350m and an IRR of 58%.*

Although the 2012 Preliminary Economic Assessment (PEA) primarily focused on REEs and the economic landscape has since changed in terms of commodity prices and costs, the report thoroughly examined various aspects of a potential mining operation at Araxá. It concluded that the project was robust enough to justify further advanced feasibility studies. Consequently, we have used the midpoint of the 10-20% range for projects with EA studies to value St George in our base case and used the upper 20% of the NPV in our bull case scenario.

(Figure 15) shows our final valuation results for St George. The mid-point target price of A\$0.14 represents a Price/NAV of 0.17x, indicating a substantial valuation headroom of more than 475% to the current share price of A\$0.024.

<sup>24</sup> metal.com/Niobium-Tantalum

**Figure 15: NPV-based valuation calculation for St George Mining**

SGQ Valuation (A\$m)	Base Case	Bull Case
Araxá Niobium-REE Project NPV (10%, post-tax)	2,077	2,077
Average % of NPV	15.0%	20.0%
<b>Firm Value</b>	<b>311.57</b>	<b>415.42</b>
Cash & Cash Equivalents*	5.26	5.26
Provisions and Liabilities^	-0.47	-0.47
Minority Interest^	-0.08	-0.08
<b>Total value</b>	<b>316.28</b>	<b>420.13</b>
Number of Shares (m) **	2,667.8	2,667.8
<b>Implied price (A\$)</b>	<b>0.12</b>	<b>0.16</b>
Current price (A\$)	0.024	0.024
Upside (%)	394.0%	556.2%
<b>Mid-point Target Price (A\$)</b>	<b>0.14</b>	
<b>Price / NAV (X)</b>	<b>0.17x</b>	

Notes: \*As of 31 Mar 2025

^As of 31 Dec 2024

\*\* Number of Shares only includes ordinary shares on issue and does not include more than 1b quoted and unquoted options and performance rights. For more information see Appendix III in the bottom of the report.

Source: Company and East Coast Research

Our mid-point valuation target of A\$0.14 for St George does not take into account the potential value unlocking from by-products sales at Araxá nor the company's Australian exploration projects.

It is important to note that our valuation target does not account for the value of REE by-products, as well as other potential by-products, such as magnetite, phosphate and barite. St George has two potential avenues to realise the value of the REE content in its resources: selling the tailings from niobium processing to a third-party customer for refinement, or constructing a dedicated REE processing plant, which would require significant Capex. In any case, the REE content in Araxá's resources represents an upside to our current NPV and valuation calculations, which we have not included. Additionally, we have not factored in any value from the company's Australian assets. We are particularly interested in the copper-gold exploration potential at St George's Paterson and Ajana Projects in Western Australia, given the current favourable prices and bullish outlook for these two metals.

## St George is on a fast-track to value creation

The maiden Mineral Resource Estimate (MRE) allows St George to initiate essential mining and economic studies, a crucial step in preparing for potential mining activities at the project. These studies will focus on optimising development strategies, including mine scheduling, downstream processing, and product development.

The recently completed MRE marks a significant milestone for the Araxá Project, laying the foundation for St George to advance further along its development roadmap. This achievement unlocks several critical workstreams vital for the project's progression, including a comprehensive infill and step-out drilling program aimed at upgrading the resource classification and identifying additional high-grade mineralization, thereby enhancing the project's potential.

Furthermore, additional metallurgical studies will be conducted to assess and optimise processing methods, providing essential insights into the project's economic and operational feasibility. Following the completion of further drilling, an updated MRE, and metallurgical testwork, a feasibility study will be undertaken to evaluate the most viable development pathways, ensuring a strategic approach to resource advancement.

Given Araxá's numerous advantages—such as large and high-grade resource base, existing infrastructure, established MoUs with potential development partners and offtakers, known



mineralisation with proven processing procedures, a supportive government, and, importantly, a robust on-site team in Brazil with substantial expertise and experience in similar operations—we consider Araxá to be a relatively low-risk project that can swiftly advance towards development and production.

## Re-rating of SGQ

SGQ is currently trading significantly below our mid-point target valuation. Meeting the following milestones can enable a re-rating on the stock, thereby narrowing the gap to our valuation target:

- **Successful metallurgical study results from Araxá Project.** St George is currently undertaking bench-scale metallurgical testwork on samples from historical drilling at the Araxá Project. Samples are selected from a range of mineralisation across the project area. Potential successful test results showing high recovery rates of niobium and REEs will indicate the operational and commercial viability of the Project and will guide future feasibility studies.
- **An upgrade to the maiden JORC-compliant MRE at Araxá.** The majority of the currently defined resources at Araxá are in the lower confidence Inferred category. The company is currently undertaking an infill and step-out drilling campaign to upgrade the resource classifications at Araxá and potentially identify additional zones of high-grade mineralisation. Successful upgrades to the project's MRE will enhance the commercial viability of the Araxá deposit.
- **Any increase in niobium and REE prices** will have a direct impact on the expected cash flows of Araxá and its expected return profile.
- **An improvement of the macroeconomic picture** and the subsequent relaxation of financial markets will have a positive impact on investors' confidence in St George's ability to raise funds for the development of the Araxá Project, which can lead to a re-rating in the stock's price.
- **Successful exploration results at the Australian projects.** Further exploration success at copper-gold targets within St George's projects in Western Australia could attract extra investor attention to SGQ, given the bullish outlook for these metals.

## Risks

Although we believe that SGQ makes up an attractive investment case, especially due to the multitude advantages of the Araxá Nb-REE Project, we foresee the following key mining standard risks to our investment thesis:

- **Underlying commodity price risk:** SGQ's fortunes are directly linked to Niobium and REE metal prices. Niobium prices have a long history of relative stability and growth, but REE prices have displayed volatility in recent years. This exposes the company's performance to commodity price risk (which depends on global demand and supply dynamics of the metals). Any material and prolonged change in Nb or REE prices will impact our investment thesis.
- **Funding risk:** Another payment of US\$6 million to the Araxá Project's vendor is due in late 2025, followed by a final payment of US\$5 million nine months later. To meet these obligations, St George will need to raise additional equity capital. The company currently does not generate cash flows and is entirely dependent on capital raisings to fund its exploration activities and feasibility studies. Timely raising of funds on favourable terms could pose a challenge due to the currently tight credit markets and high levels of economic uncertainty.
- **Execution delays:** The majority of future growth for SGQ is expected to come from the developments at its Araxá Nb-REE Project. Any prolonged delay in metallurgical study results, upgrades to the maiden MRE, and other steps necessary to show the economic and operational feasibility of the Araxá Project will likely jeopardise investor sentiment and subsequently the company's share price.
- **Geological risk:** For a mining company such as SGQ, there exists a perennial risk of downward estimates of Resources figures. There also exists a risk of re-categorisation of the indicated reserves to inferred reserves in further studies. Any such incident will negatively impact the stock's valuation.

## Appendix I: SGQ SWOT Analysis

Figure 16: SWOT analysis

Strengths	Weakness
<p>(1) The Araxá Niobium-REEs Project is located in proximity to the world's largest niobium mine and has ready access to existing infrastructure for a potential rapid future development.</p> <p>(2) Large and High-grade mineral resource base at the Araxá Project with significant upside potential.</p> <p>(3) Known mineralisation with established processing procedures at Araxá due to the decades of niobium mining in the area by the world's largest niobium producer, CBMM.</p> <p>(4) MoU has been signed with Brazilian authorities for a streamlined approvals pathway to expedite execution timelines at Araxá.</p> <p>(5) Strategic MoUs and offtake agreements with industry leaders have been signed for collaborations on marketing, offtake, and financing opportunities at Araxá.</p> <p>(6) A team of in-country experts have been appointed, mainly from former CBMM executives, to ensure project delivery</p>	<p>(1) Majority of the currently defined resources at the Araxá Niobium-REEs Project are in the lower confidence Inferred category.</p> <p>(2) St George is not generating any cash and is reliant on capital raisings to continue its operations.</p> <p>(3) Another payment of US\$6 million to the Araxá Project's vendor is due in late 2025, followed by a final payment of US\$5 million nine months later. To meet these obligations, St George will need to raise additional equity capital, which will result in further dilution of the shares on issue.</p>
Opportunities	Threats
<p>(1) Potential for copper and gold exploration at the company's Australian assets.</p> <p>(2) Potential to rapidly upgrade current Inferred resources to Indicated through further infill drillings at the Araxá Project.</p> <p>(3) The extremely tight niobium and REEs markets and their strategic importance for military applications can attract government agencies' attention to the Araxá Project.</p> <p>(4) Possibility for higher metallurgical performance through the metallurgical work being done on samples from the Araxá Project Nb-REE deposit.</p>	<p>(1) Global recession leading to high volatility in commodity prices, impacting the economics of Araxá Project.</p> <p>(2) China might lift its restrictions on exports of REEs, adversely affecting economic attractiveness of the Araxá Project.</p> <p>(3) Tight credit markets due to the currently high economic uncertainty levels make raising capital on favourable terms difficult for SGQ to continue its operations and make the last two payments for Araxá acquisition.</p>

Source: East Coast Research

## Appendix II: Management Team

Figure 17: St George's key management and board members

Name and Designation	Profile
<b>John Prineas</b> Executive Chairman	John is a founding shareholder and director of the Company. John has a diverse range of high-level experience in mining, finance and corporate governance gained over more than 25 years experience in the mining, banking and legal sectors. Prior to establishing St George Mining, John was Australian Country Head for Commerzbank with a focus on project and acquisition finance for resources and infrastructure projects as well as associated commodities trading
<b>John Dawson</b> Non-Executive Director	Mr Dawson has over 30 years' experience in the finance and mining sectors where he occupied very senior roles with global investment banks including Goldman Sachs and Dresdner Kleinwort Wasserstein.  At Goldman Sachs, Mr Dawson was a Managing Director of FICC (Fixed Income, Currency and Commodities) for Australia. At Dresdner Kleinwort Wasserstein, Mr Dawson was Global Head of Commodities as well as the Country Head for Australia.
<b>Sarah Shipway</b> Non-Executive Director	Sarah is a Chartered Accountant with extensive experience in advising on ASX company listings, financial reporting, corporate planning and equity and debt funding.  Sarah has a Bachelor of Commerce from the Murdoch University and is a member of the Institute of Chartered Accountants.  She was appointed Non-Executive Director on 11 June 2015 and has been Company Secretary of the Company since 22 March 2012.
<b>Adolfo Sachsida</b> Advisor to the Board	Mr Sachsida – a former Minister of Mines in Brazil – is an Advisor to the Board of St George to provide insights, strategic advice and support to the Board as the Company develops its niobium business in Brazil.  Mr Sachsida has extensive high-level experience across Government and business sectors in Brazil. He has occupied important Federal Government positions in Brazil during his career including: Minister of Mines and Energy, Chief Secretary of Economic Affairs of the Ministry for the Economy, and Secretary of Economic Policy of the Ministry for the Economy. Mr Sachsida has also served as Professor of Economics at the University of Texas and the Universidade Catolica de Brasilia.
<b>Adriano Rios</b> Director, Mining Operations – Brazil	Mr Rios was employed at the Araxá operations of CBMM from 1996 to 2020, working in several roles including senior leadership positions in mineral processing and mining operations culminating in the Mineral Production Senior Management position responsible for seven departments. Key functions at CBMM included management of mineral processing systems, metallurgy analysis, product innovation, offtake specification, utilities and mine operations.  Mr Rios was appointed by CBMM to serve from 2018 to 2020 as Director of Operations at COMIPA, the mining joint venture between CBMM and CODEMIG (the mining company owned by the State of Minas Gerais) that handles most of the niobium and REE mining at the Barreiro Carbonatite.
<b>Thiago Amaral</b> Director, ESG and Technical Development – Brazil	Mr Amaral has extensive experience in niobium mining and production gained through more than 17 years with CBMM at its Araxa operations where his roles spanned licensing and permitting, implementation of ESG and sustainability programs, and quality control for processing and production. Senior leadership positions held by Mr Amaral included Global Quality and Product Regulation Coordinator, Head of Sustainability, and Business Development Manager in China.  Mr Amaral also served as a Professor of Engineering from 2008 to 2017 at the University of Araxá and the Santa Edwiges Escola Técnica.

<b>Caue 'Paul' Araujo</b> Director, Corporate Development	<p>Mr Araujo is an experienced natural resources executive. Previous roles include Global General Manager (Mine Finance) at Palaris; Partner / Regional Director - Investment and Business Planning at Hatch in Perth (Advisory); and SRK Consulting - General Manager Brazil. His skills &amp; experience encompass commercial leadership, geology and exploration, mining finance &amp; investment strategy, market research, technical and economic modelling, project evaluations and global strategic assessments across a range of commodities, project management and consultancy.</p> <p>Mr Araujo is a MBA qualified geologist, member of the Australasian Institute of Mining &amp; Metallurgy and the Australian Institute of Company Directors. He has dual citizenship (Brazil/Australia) and speak fluent English &amp; Portuguese, with basic level of Spanish.</p>
<b>Wanderly Basso</b> Exploration Manager	<p>Wanderly is a Brazilian trained geologist who has been working in Australia for more than 10 years. He has extensive experience across a range of mining projects spanning greenfields exploration, advanced developments, resource definition and producing mines. Wanderly has been involved with projects in Brazil and Western Australia including both open-pit and underground mines.</p> <p>Wanderly is a Member of the Australian Institute of Geoscientists (AIG) and a Member of the Brazilian Geological Society (SBGeo). He is fluent in English and Portuguese.</p>
<b>Charles Wilkinson</b> Technical Consultant	<p>Charles has over 35 years' experience as a geologist in the mining industry. He worked with WMC Resources Limited for 16 years, holding various senior exploration and operational positions including Exploration Manager - Nickel Exploration Australia, and Geology Manager Hill 50 Gold Mine.</p> <p>During his time with WMC Resources, Charles was instrumental in the discovery of the Argo gold mine at Kambalda and managed exploration programmes during the discovery of the West Musgrave Nebo and Babel deposits. After five years as the initial Managing Director of Northern Star Resources Ltd, Charles joined Western Areas Limited in 2008 as General Manager Exploration.</p> <p>During his 9 years at Western Areas, that company developed the Spotted Quoll deposit, significantly increased its resource inventory and became Australia's No. 1 independent nickel sulphide producer.</p>

Source: Company

## Appendix III: Capital Structure

Figure 18: St George Mining's capital structure

Class	In millions	% of fully diluted
<u>Quoted Securities</u>		
Ordinary shares on issue	2,667.8	71.3%
Options	900.3	24.1%
<u>Unquoted</u>		
Options	61.7	1.6%
Performance rights	111.1	3.0%
<b>Fully diluted shares</b>	<b>3,741.0</b>	

Source: S&P Capital IQ, Company announcements: Application for quotation of securities - 27 February 2025

## Appendix IV: Analyst's Qualifications

Behzad Golmohammadi, the lead analyst on this report, is an equity research analyst at Shares in Value (East Coast Research). Behzad has a bachelor's degree in Engineering (Industrial) and a master's degree in Applied Finance (Investing) from Sydney Business School, where he was the top performer in his cohort. He has also passed all three levels of the CFA Program. Behzad has several years of experience working as an Equity Research Analyst and Technical Analyst in Australia and overseas and has a broad knowledge of ASX-listed companies.

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