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Critical Minerals.
High-tech Metals.

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ASX Release

11 July 2025

Heap Leach Option delivers major cost reductions for Dubbo Project

Australian Strategic Materials Limited (**ASM** or the **Company**) (**ASX:ASM**) is pleased to present the results of a Scoping Study evaluating a potential first-phase development of the Dubbo Project, focused on rare earth oxide production using a heap leach purification, separation and refining flowsheet.

This high-level economic assessment outlines a potential phased implementation strategy, with the initial phase processing 1 million tonnes of material per annum to produce separated light and heavy rare earth oxides to meet growing global demand. This Scoping Study evaluates only the feasibility of the first phase.

The Scoping Study represents a transformative shift in the Dubbo Project's development approach – eliminating complex initial processing stages, simplifying construction, and accelerating the pathway to cash flow generation.

Cautionary Statement

This Scoping Study has been undertaken to evaluate the viability of processing 1 million tonnes of material per annum over a 42-year mine life utilising the Heap Leach Option. It is a preliminary technical and economic study of the potential viability of developing the Dubbo Project Measured Mineral Resources estimate in a first phase pursuant to the Heap Leach Option. It is based on low-level technical and economic assessments that are not sufficient to support the estimation of ore reserves or to provide certainty that the conclusions of the Scoping Study will be realised.

The Scoping Study is a preliminary assessment based on Class 5 Association for the Advancement of Cost Engineering (AACE) compliant cost development, with a typical range of ±50% and includes a contingency factor of 18%. Further evaluation work and appropriate studies are required before ASM will be in a position to estimate any ore reserves or to provide any assurance of an economic development case for the Heap Leach Option.

The Scoping Study is based on the material assumptions outlined in the Scoping Study. These include assumptions about the availability of funding. While ASM considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the range of outcomes indicated in the Scoping Study, funding of approximately AUD 740 million is estimated to be required (which amount may vary). ASM's reasonable grounds for its assumption about the availability of funding are detailed in this Scoping Study, including in Section 3 of the Study. Investors should note that there is no certainty that ASM will be able to raise that amount of funding when needed (nor any certainty as to the form such capital raising may take, such as equity, debt, hybrid and/or other capital raising). It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of ASM's existing shares.

It is also possible that ASM could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the Dubbo Project. If it does, this could materially reduce ASM's proportionate ownership of the project.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

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KEY HIGHLIGHTS

- **Forecast capital cost of AUD 740 million (including contingency),** a reduction of over AUD 900 million, or ~56%, from the AUD 1,678 million estimate in ASM's 2021 Optimisation Feasibility Study[1].
- **Forecast operating expenses in the lowest quartile of operating costs among ex-China rare earth producers.**
    - Operating C1 Cash Cost over years 3-15:
        - USD 39/NdPr kg
        - USD 421/Tb kg
        - USD 122/Dy kg
    - Operating C1 Cash Cost over LOM (42 years):
        - USD 47/NdPr kg
        - USD 506/Tb kg
        - USD 147/Dy kg
- **Average production targets for years 3-15 estimate a total of 1,242 tpa[2] of rare earth oxides:**
    - NdPr oxide: 1,157tpa
    - Tb oxide: 13tpa
    - Dy oxide: 72tpa
- **Robust financials forecast across multiple pricing scenarios:**
    - Based on the blended pricing forecast from Project Blue and Adamas Intelligence:
        - Pre-Tax $NPV_{8\%}$ of AUD 967 million
        - Pre-Tax IRR of 18.3%
    - Based on pricing upside, based solely on the pricing forecast from Adamas Intelligence:
        - Pre-Tax $NPV_{8\%}$ of AUD 1,468 million
        - Pre-Tax IRR of 22.9%
    - Dubbo Project forecast to break even at an NdPr price of USD 87/kg, Tb price of USD 1,160/kg and Dy price of USD 258/kg.

[1] Refer to ASX Announcement 7 December 2021 "Dubbo Project Optimisation Delivers Strong Financials"
[2] References in this announcement to tonnes per annum are to metric tonnes per annum.

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- Chinese spot prices (inclusive of VAT) as at the date of this announcement are USD 64.15/kg for NdPr oxide, USD 1,160/kg for Tb oxide and USD 264.50/kg for Dy oxide.

- **Processing methodology leverages proven heap leaching technology** and extensive In-house purification, separation and refining technology work to prioritise the production of light and heavy rare earth oxides to address near-term global demand growth.

- **42-year mine** life underpinned by the existing Measured Mineral Resource for the Dubbo Project.

Delivering the Rare Earth Options Assessment

In 2024, ASM launched the Rare Earth Options Assessment (**REOA**) to evaluate alternative pathways for developing the Dubbo Project. The goal: identify lower-capital, shorter implementation options for recovering both light and heavy rare earths as high-purity, separated oxides.

Historically, the Dubbo Project was shaped around a single, all-in-one flowsheet to recover all minerals – a comprehensive but capital-intensive approach. However, over the past year, shifting market conditions and growing policy momentum, particularly in the US and allied regions, have prompted a strategic reassessment.

In response, ASM commenced the REOA to explore a phased development pathway, beginning with a first phase focused on rare earths – the highest value and most in-demand segment of the Dubbo resource. This approach offers a more agile and targeted entry point, aligning with current market priorities while potentially reducing initial capital requirements.

This strategic shift has opened the door to a staged implementation of the Dubbo Project. The first phase, would concentrate on rare earth recovery. A potential second phase could target the broader suite of critical minerals in the Dubbo resource and stockpile.

The REOA identified several technically viable options, with particular promise shown in heap and atmospheric tank leaching. These methods have the potential to remove the need for a capital- and energy-intensive acid bake in the initial development phase, significantly simplifying the process flowsheet. To assess these options, ASM conducted extensive metallurgical test-work, including scoping variability tank leach and bottle roll tests across different zones of the Dubbo Project deposit. These tests demonstrated encouraging rare earth recoveries and revealed opportunities for further investigation and optimisation.

Whilst ASM continues to investigate tank leaching, early findings highlighted the strong potential of heap leaching due to its lower capital and operating costs, and potentially strong recoveries. Consequently, ASM has advanced a targeted work program to further assess heap leaching, which included follow-on test-work, preliminary engineering design, and development of high-level capital and operating cost estimates. ASM announced indicative rare earth recoveries from the heap leach metallurgical testing on 17 June 2025. These have been incorporated into this Scoping Study, along with the outputs of the other work, which presents an initial economic evaluation of the heap leach option as a potential first-phase development pathway for the Dubbo Project.

Management comment: Rowena Smith, Managing Director and CEO

"The work ASM has done as part of the Rare Earth Options Assessment directly responds to two critical needs: first, it offers a pathway to reduce upfront capital costs in the face of inflationary pressures and challenging market funding conditions; second, it accelerates the delivery of a viable source of rare earth oxides – particularly heavy rare earths – in a time of surging global demand. With China tightening export controls on dysprosium and terbium, concerns over secure supply are growing. ASM's unique mine to metals strategy is now more crucial than ever in addressing supply chain vulnerabilities exposed by recent geopolitical shifts."

"The Heap Leach Scoping Study represents a pivotal moment in ASM's evolution. By prioritising rare earth production through this approach, we are de-risking project execution, accelerating our pathway to production, and positioning the Dubbo Project strongly to take advantage of the strategic opportunities before us in global rare earth markets.

"When combined with our established mid-stream metallisation capability in Korea and our growing magnet customer relationships, ASM is in a unique position to support the western world's ambition to secure an alternative, end-to-end rare earth supply chain.

A transformational approach

The adoption of the Heap Leach Option would present the opportunity to implement a simplified processing route for rare earths using low-cost, proven heap leaching technology, followed by purification, separation and refining, which leverages the extensive technology work ASM has completed to date. Compared to conventional methods – such as grinding, flotation and intensive reagent use – this approach offers the potential for significantly lower capital and operating costs.

The capital cost of the Heap Leach Option is estimated at AUD 740 million, consisting of:

Direct Capital	AUD 574 million
Indirect Capital	AUD 63 million
Contingency	AUD 103 million
Total	**AUD 740 million**

The Heap Leach Option has adopted the same open pit mining approach outlined in ASM's 2021 Optimisation Feasibility Study (**OFS**) and maintains the same mine plan assumptions for this early stage of assessment.

Like in the OFS, the Heap Leach Option has been designed to process 1 million tonnes of material per annum. However, this first phase of processing will focus solely on the production of high-purity NdPr oxide, Dy oxide and Tb oxide. The approach evaluated in the Scoping Study represents a material departure from the development case presented in the OFS, which contemplated a broader product suite and a more capital-intensive flowsheet. Further detail on the differences between the two cases is provided in Section 4.4 of the Scoping Study.

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The operational and financial forecasts from this Scoping Study are presented below:

Operational forecasts				
Life of mine (years)	42			
Average plant throughput (mtpa)	1.0[3]			
Strip ratio (waste/ore)	<0.1			
Capital cost estimate (AUD m, real, incl. contingency)	740			
Capital cost contingency (%)	18%			
Operating expenses estimate (AUD m per annum)	93			
Average annual production target	**Years 3-15**	**LOM**		
NdPr oxide (tpa)	1,157	1,037		
Tb oxide (tpa)	13	11		
Dy oxide (tpa)	72	49		
	Base Case pricing		**Adamas Case pricing[4]**	
Financial forecasts	**Years 3-15**	**LOM**	**Years 3-15**	**LOM**
Average revenue per annum (AUD m)	300	254	358	300
Average operating expense[5] per annum (AUD m)	88	91	88	91
Average EBITDA[6] per annum (AUD m)	202	155	257	200
NdPr operating cost[4] (USD/kg)	39	47	39	47
NPV (pre-tax) (discount rate 8%, AUD m)		967		1,468
IRR (pre-tax) (%)		18.3%		22.9%
NPV (post-tax) (discount rate 8%, AUD m)		570		921
IRR (post-tax) (%)		14.8%		18.4%
Payback period (years)		5.8		4.3

The financial model underpinning the above forecasts is based on two pricing scenarios: the Base Case, which uses a blended forecast from independent market research firms Project Blue and Adamas Intelligence (NdPr: USD 130/kg, Tb: USD 1,410/kg, Dy: USD 410/kg); and the Adamas Case, which applies Adamas Intelligence's more optimistic pricing outlook (NdPr: USD 154/kg, Tb: USD 1,539/kg, Dy: USD 500/kg). ASM notes Chinese spot prices (inclusive of VAT) as at the date of this announcement are USD 64.15/kg for NdPr oxide, USD 1,160.00/kg for Tb oxide and USD 264.50/kg for Dy oxide[7].

ASM's directors believe they have a reasonable basis for adopting these price assumptions in the Scoping Study.

[3] Underpinned solely by ASM's Measured Resource Estimate of 42.81 Mt.
[4] Adamas Intelligence base case pricing, Rare Earth Pricing Quarterly Outlook, Q2 2025 (4) C1 operating cost with assuming 0.67 USD/AUD and operating expenses allocated to NdPr in line with revenue.
[5] Operating expense estimate includes benefit of Critical Minerals Production Tax Incentive in years 1-10.
[6] EBITDA is revenue less operating expenses and NSW royalty.
[7] As quoted by Argus International Metals Intelligence

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Please refer to the full Scoping Study attached to this announcement for further details and the assumptions underpinning the above forecasts.

Next steps and development pathway

The completion of this Scoping Study marks a key milestone in ASM's REOA work and reinforces the strong potential of launching the Dubbo Project with a first-phase heap leaching approach focused on rare earth oxide production. The financial and technical forecasts of the study show that this rare earth-first phase is deliverable, fundable, and potentially economically robust, and on this basis, ASM will now progress the Heap Leach Option to a Pre-Feasibility Study (**PFS**).

In evaluating this approach, the Board considered that it would potentially meet the following project hurdles:

- **Shorter implementation:** An accelerated pathway to the production of separated rare earth oxides, importantly including those restricted by Chinese export controls.
- **Lower up-front capital cost:** Reduced initial capex expenditure of AUD 740 million, representing a cost saving of AUD 938 million (or 56%) from the previous estimated capital expenditure presented in the Company's 2021 Optimisation Study.
- **Lower operating cost:** estimated operating expenses of AUD 93 million per annum, positioning ASM in the at or near the lowest quartile of unit operating costs among ex-China rare earth producers.
- **Focused pre-development:** Streamlines the Front-End Engineering Design work, reducing pre-development costs.
- **Simplified offtakes:** A first phase will produce separated REE oxide products only, simplifying offtake agreements – a key funding requirement.
- **Funding pathway potential:** A phased development approach potentially enables a pathway to funding a second phase, supported by operational performance and revenue generation from the first phase.

Going forward, ASM will focus on:

- Conducting additional metallurgical test-work, including drilling, column testing, and optimisation of the leach process.
- Establishing a JORC-compliant Ore Reserve Estimate to underpin the mine life and product recovery assumptions.
- Producing separated rare earth oxides at the Dubbo Project pilot plant in collaboration with ANSTO.
- Engaging specialist engineering partners to refine the separation technology and residue storage facilities designs.
- Delivering a PFS specific to the heap leach process, which will be accelerated by leveraging ASM's extensive prior technical and engineering work. This study will form the basis of future FEED and investment decisions.

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The majority of these activities remain eligible for support under the AUD 5 million grant awarded by the Australian Federal Government on 15 October 2024 under its International Partnerships in Critical Minerals Program.[8] The Company gratefully acknowledges the support of the Australian Government, whose funding through the International Partnerships in Critical Minerals program has enabled the advancement of this Scoping Study. ASM thanks the Government for its continued commitment to fostering the development of sustainable and secure critical minerals supply chains, and for its recognition of the strategic importance of the Dubbo Project.

ASM is targeting completion of the PFS in Q1 2026, which will further define the technical and economic viability of the Heap Leach Option and inform the decision on whether to proceed. If deemed viable, this pathway enables a streamlined transition to Front-End Engineering Design, followed by a Financial Investment Decision (FID) and a 30-month construction phase, during which the processing facility and the heap leach facility would be built in parallel. This positions ASM to fast-track the Dubbo Project towards production.

"At a time of great uncertainty and volatility, ASM is taking a dynamic approach to ensure it can deliver on the Western world's rare earth needs. We have strong alignment with global policy momentum, enjoy national and international government funding support, and have increasing engagement from international partners. As such, ASM remains well-positioned to deliver a project that meets the strategic needs of both customers and allied supply chains," said Ms Smith.

- ENDS -

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This document has been authorised for release to the market by the Board.

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[8] Refer to ASX Release 15 October 2024: *ASM awarded A$5M Federal Government grant for Dubbo Project*

Forward Looking Statements

This Release and Scoping Study contain certain statements which constitute “forward looking statements”. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “plan”, “believes”, “estimate”, “anticipate”, “outlook” and “guidance”, or similar expressions, and may include, without limitation, statements regarding plans; strategies and objectives of management; production targets; financial forecasts such as estimates of future capital expenditure; estimates of construction commencement dates; expected costs or production outputs; estimates of future product supply, demand and consumption and statements regarding future product prices. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements. Past performance is not a guide to future performance.

While these forward-looking statements reflect the Company’s expectations at the date of this Scoping Study, they are not guarantees or predictions of future performance or statements of fact. The information is based on the Company's forecasts and as such is subject to variation related to, but not restricted to, economic, market demand/supply and competitive and other factors. Readers are cautioned that forward-looking statements and information involve known and unknown risks, uncertainties, sensitivities, contingencies, assumptions and other factors (many of which are beyond the control of ASM and its directors and management) which may cause the actual results, targets, performance or achievements of ASM to be materially different from any future results, targets, performance or achievements expressed or implied by the forward-looking statements and information.

A number of important factors could cause actual results or performance to differ materially from the forward-looking statements, including known and unknown risks (such as, for example, those contained immediately below and in the Section 15 of the Scoping Study). These factors may include, but are not limited to, changes in commodity prices (including resulting from the Chinese control of the rare earth supply chain), foreign exchange fluctuations and general economic factors, increased capital costs and operating costs, the speculative nature of exploration and project development, general mining and development risks, closure and rehabilitation risks, changes to the regulatory framework within which ASM and its group operates or may in the future operate, environmental conditions and environmental issues, and the recruitment and retention of key personnel, industrial relations issues, accidents, cyber security risks, risks of war and litigation and other disputes. Refer also to the risk factors which the Company has previously announced to the ASX, such as those in its investor presentation announced to the ASX on 16 June 2025. Forward looking statements are only predictions and are subject to known and unknown risks, uncertainties, assumptions, and other important factors that could cause the actual results, performances or achievements of the Company to differ materially from future results, performances or achievements expressed, projected or implied by such forward looking statements.

Forward-looking statements, opinions and estimates provided in this Scoping Study are based on assumptions and contingencies that are subject to change without notice. There can be no assurance that actual outcomes will not differ materially from these forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the relevant dates detailed in this Scoping Study. Except as required by applicable laws or regulations, the Company does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events. The Company cautions against reliance on any forward-looking statements or guidance, particularly in light of the current economic climate.

Readers should consider the forward-looking statements contained in the Scoping Study in light of those risks and disclosures. Neither ASM, nor any of its directors, officers, employees, agents or advisers makes any representation or warranty, express or implied as to the accuracy, likelihood of achievement or reasonableness of any forward-looking statement contained in this Scoping Study. Except as required by law or regulation (including the ASX Listing Rules), none of ASM, nor any of its directors, officers, employees, agents or advisers undertakes any obligation to supplement, revise or update forward-looking statements or to publish prospective financial information in the future, regardless of whether new information, future events, results or other factors affect the information contained in this Scoping Study.

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Investors should note that there is no certainty that the Heap Leach Option will be feasible and there can be no assurance of whether it will be funded, permitted, developed, constructed and commence operations, nor whether the Scoping Study results will be accurate.

Mineral Resource estimates are necessarily imprecise and depend on interpretations and geological assumptions, minerals prices, cost assumptions and statistical inferences (and assumptions concerning other factors, including mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors) which may ultimately prove to be incorrect or unreliable. Mineral Resource estimates are regularly revised based on actual exploration or production experience or new information and could therefore be subject to change. In addition, there are risks associated with such estimates, including (among other risks) that minerals mined may be of a different grade or tonnage from those in the estimates and the ability to economically extract and process the minerals may become compromised or not eventuate. ASM's plans, including its mine and infrastructure plans, and timing, for the Heap Leach Option, are also subject to change. Accordingly, no assurances can be given that the production targets, financial forecasts or other forecasts or other forward-looking statements or information in this Scoping Study will be achieved.

Readers are advised that the assumptions and inputs to the financial model may require review as project development progresses. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the production target or estimated outcomes indicated by this Scoping Study (such as the financial forecasts) will be achieved.

ASX Listing Rules 5.16 and 5.17 information

Various aspects of the information regarding the Dubbo Project presented in this Release and Scoping Study represent production targets and forecast financial information derived from a production target, as contemplated in Listing Rules 5.16 and 5.17, respectively.

The Company satisfies the requirements of these Listing Rules as follows:

(i) for the purposes of Listing Rule 5.16.3, the Company confirms that 100% of the total LOM production targets for the Dubbo Project in the Release and the Scoping Study are underpinned by the Measured category Mineral Resource estimate at the Dubbo Project;

(ii) for the purposes of Listing Rule 5.16.2, the Company confirms that the Measured Mineral Resource estimate has been prepared by a Competent Person in accordance with the requirements of the JORC Code – please refer to section 5 of the Scoping Study;

(iii) for the purposes of Listing Rules 5.16.1 and 5.17.1, all of the material assumptions on which the total LOM production targets and forecast financial information are based, are set out in the Scoping Study; and

(iv) for the purposes of Listing Rule 5.17.2, the forecast financial information contained in the this Release and the Scoping Study is derived from the total LOM production targets also contained in the Scoping Study.

The Scoping Study contains requisite information with respect to the selected modifying factors and outcomes which are disclosed throughout the report. Except where otherwise specified all assumptions are based on ASM's internal expertise.

No other provision of Listing Rules 5.16 or 5.17 is required to be satisfied in respect of the total LOM production targets and forecast financial information derived from a production targets in this Scoping Study.

Non-IFRS financial measures

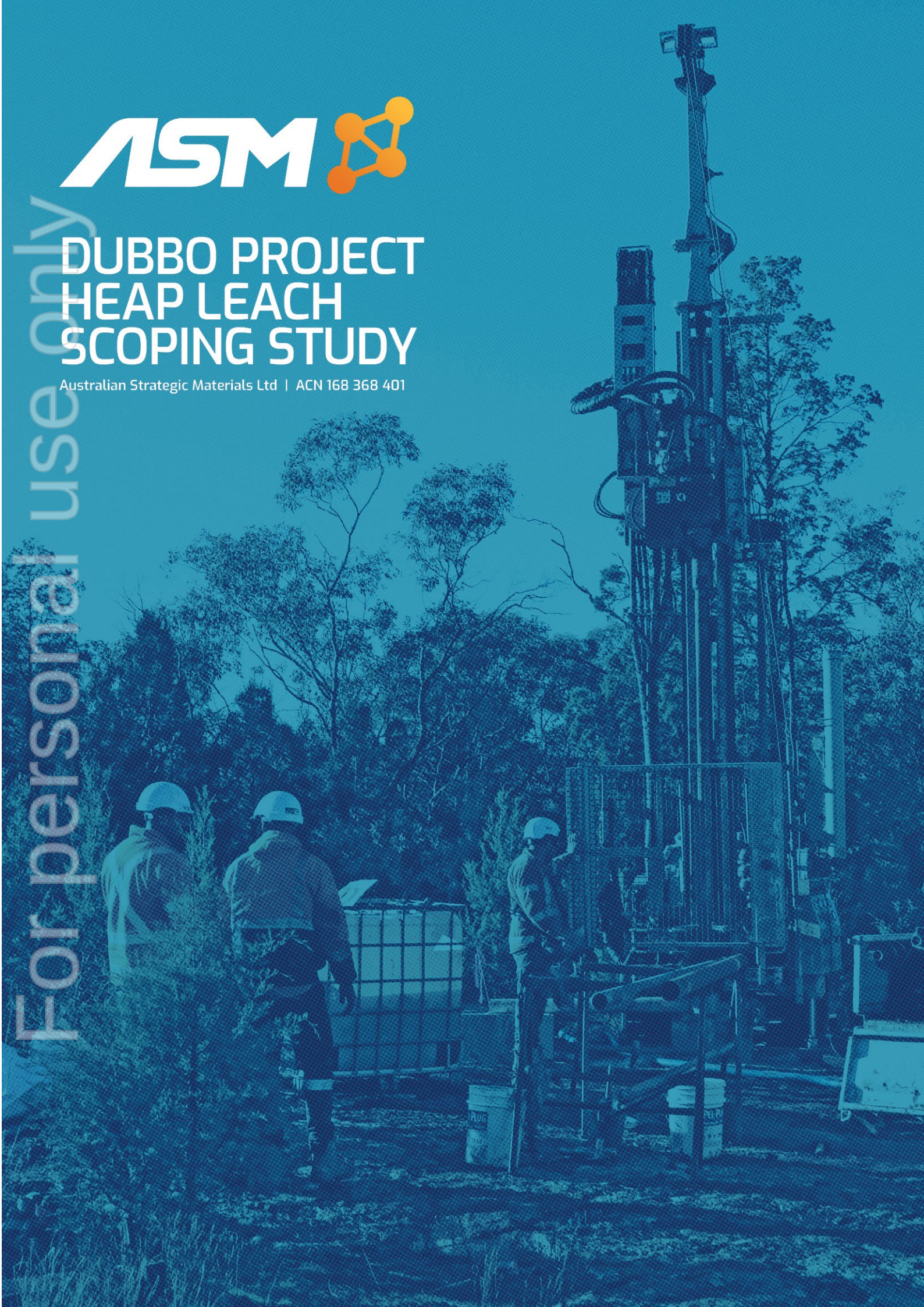
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This Release and the Scoping Study contain certain financial measures (such as NPV and IRR) that are not recognised under International Financial Reporting Standards (**IFRS**). Although the Company believes these measures provide useful information about the Company's financial forecasts, they should not be considered in isolation or as a substitute for measures of performance or cash flow prepared in accordance with IFRS. As these measures are not based on IFRS, they do not have standardised definitions and the way the Company calculates these measures may not be comparable to similarly titled measures used by other companies. Consequently, undue reliance should not be placed on these measures.

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DUBBO PROJECT HEAP LEACH SCOPING STUDY

Australian Strategic Materials Ltd | ACN 168 368 401



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1. Executive summary

1.1. Scoping Study highlights

This Scoping Study presents a high-level economic assessment of a potential phased development pathway for the Dubbo Project, focused on a first phase of rare earth element (**REE**) production using a heap leach processing flowsheet (**Heap Leach Option**). The Scoping Study evaluates the viability of an alternative project implementation, involving processing 1 million tonnes of material per annum over a 42-year mine life (underpinned by ASM's Measured Mineral resource for the Dubbo Project of 42.81 Mt), producing separated light and heavy rare earth oxides.

Key forecasts include:

- **Capital Efficiency**: Estimated capital cost of **AUD 740 million**, which would enable the Dubbo Project to be developed into production at an up-front capital cost that is a 56% reduction from that stated in ASM's 2021 Optimisation Feasibility Study (**OFS**).
- **Competitive Operating Costs**: Projected to sit **at or near the first quartile** of the global (ex-China) neodymium-praseodymium (**NdPr**), Terbium (**Tb**) and Dysprosium (**Dy)** cost curves.
- **Strong Economics**: Base-case **pre-tax $NPV_{8\%}$ of AUD 967 million** and **pre-tax IRR of 18.3%**, indicating robust financial returns.
- **Accelerated Market Entry**: Enabled by existing approvals, simplified flowsheet design, lower funding requirements, and short production ramp-up timelines.
- **Strategic Product Focus**: Early production of **dysprosium (Dy)** and **terbium (Tb)** oxides being REEs the subject of recent Chinese export control restrictions.

This Scoping Study relates solely for a potential initial phase for the Dubbo Project prioritising rare earth recovery responding to a growing global demand for such minerals. The financial model is built on two price forecast scenarios:

- Base Case: Utilises a blended pricing forecast for rare earth oxides, derived from independent market research firms Project Blue and Adamas Intelligence:
  - NdPr: USD 130/kg
  - Tb: USD 1,410/kg
  - Dy: USD 410/kg
- Adamas Case: Applies pricing exclusively from Adamas Intelligence, representing a more optimistic market outlook and highlighting potential upside in revenue and project valuation:
  - NdPr: USD 154/kg
  - Tb: USD 1,539/kg
  - Dy: USD 500/kg

The Chinese spot prices (inclusive of VAT) as at the date of this announcement are USD 64.15/kg for NdPr oxide, USD 1,160.00/kg for Tb oxide and USD 264.50/kg for Dy oxide[1]. The Dubbo Project is forecast to break even (ie post-tax NPV = $0) at an NdPr price of USD 87/kg, Tb price of USD 1,160/kg and Dy price of USD 258/kg, noting some of the breakeven prices are at or above spot price as at the date of the Scoping Study.

ASM's directors believe they have a reasonable basis for using the above assumed prices in the Scoping Study.

[1] As quoted by Argus International Metals Intelligence

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1.2. Cautionary statement and disclaimers

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Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

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While these forward-looking statements reflect the Company's expectations at the date of this Scoping Study, they are not guarantees or predictions of future performance or statements of fact. The information is based on the Company's forecasts and as such is subject to variation related to, but not restricted to, economic, market demand/supply and competitive and other factors. Readers are cautioned that forward-looking statements and information involve known and unknown risks, uncertainties, sensitivities, contingencies, assumptions and other

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factors (many of which are beyond the control of ASM and its directors and management) which may cause the actual results, targets, performance or achievements of ASM to be materially different from any future results, targets, performance or achievements expressed or implied by the forward-looking statements and information.

A number of important factors could cause actual results or performance to differ materially from the forward-looking statements, including known and unknown risks (such as, for example, those contained immediately below and in Section 15 of this Scoping Study). These factors may include, but are not limited to, changes in commodity prices (including resulting from the Chinese control of the rare earth supply chain), foreign exchange fluctuations and general economic factors, increased capital costs and operating costs, the speculative nature of exploration and project development, general mining and development risks, closure and rehabilitation risks, changes to the regulatory framework within which ASM and its group operates or may in the future operate, environmental conditions and environmental issues, and the recruitment and retention of key personnel, industrial relations issues, accidents, cyber security risks, risks of war and litigation and other disputes. Refer also to the risk factors which the Company has previously announced to the ASX, such as those in its investor presentation announced to the ASX on 16 June 2025. Forward looking statements are only predictions and are subject to known and unknown risks, uncertainties, assumptions, and other important factors that could cause the actual results, performances or achievements of the Company to differ materially from future results, performances or achievements expressed, projected or implied by such forward looking statements.

Forward-looking statements, opinions and estimates provided in this Scoping Study are based on assumptions and contingencies that are subject to change without notice. There can be no assurance that actual outcomes will not differ materially from these forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the relevant dates detailed in this Scoping Study. Except as required by applicable laws or regulations, the Company does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events. The Company cautions against reliance on any forward-looking statements or guidance, particularly in light of the current economic climate.

Readers should consider the forward-looking statements contained in this Scoping Study in light of those risks and disclosures. Neither ASM, nor any of its directors, officers, employees, agents or advisers makes any representation or warranty, express or implied as to the accuracy, likelihood of achievement or reasonableness of any forward-looking statement contained in this Scoping Study. Except as required by law or regulation (including the ASX Listing Rules), none of ASM, nor any of its directors, officers, employees, agents or advisers undertakes any obligation to supplement, revise or update forward-looking statements or to publish prospective financial information in the future, regardless of whether new information, future events, results or other factors affect the information contained in this Scoping Study.

Investors should note that there is no certainty that the Heap Leach Option will be feasible and there can be no assurance of whether it will be funded, permitted, developed, constructed and commence operations, nor whether the Scoping Study results will be accurate.

Mineral Resource estimates are necessarily imprecise and depend on interpretations and geological assumptions, minerals prices, cost assumptions and statistical inferences (and assumptions concerning other factors, including mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors) which may ultimately prove to be incorrect or unreliable. Mineral Resource estimates are regularly revised based on actual exploration or production experience or new information and could therefore be subject to change. In addition, there are risks associated with such estimates, including (among other risks) that minerals mined may be of a different grade or tonnage from those in the estimates and the ability to economically

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extract and process the minerals may become compromised or not eventuate. ASM's plans, including its mine and infrastructure plans, and timing, for the Heap Leach Option, are also subject to change. Accordingly, no assurances can be given that the production targets, financial forecasts or other forecasts or other forward-looking statements or information in this Scoping Study will be achieved.

Readers are advised that the assumptions and inputs to the financial model may require review as project development progresses. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the production target or estimated outcomes indicated by this Scoping Study (such as the financial forecasts) will be achieved.

ASX Listing Rules 5.16 and 5.17 information

Various aspects of the information regarding the Dubbo Project presented in this Scoping Study represent production targets and forecast financial information derived from a production target, as contemplated in Listing Rules 5.16 and 5.17, respectively.

The Company satisfies the requirements of these Listing Rules as follows:

i. for the purposes of Listing Rule 5.16.3, the Company confirms that 100% of the total LOM production targets for the Dubbo Project in this Scoping Study are underpinned by the Measured category Mineral Resource estimate at the Dubbo Project;

ii. for the purposes of Listing Rule 5.16.2, the Company confirms that the Measured Mineral Resource estimate has been prepared by a Competent Person in accordance with the requirements of the JORC Code – please refer to section 2.3 of this Scoping Study;

iii. for the purposes of Listing Rules 5.16.1 and 5.17.1, all of the material assumptions on which the total LOM production targets and forecast financial information are based, are set out in this Scoping Study; and

iv. for the purposes of Listing Rule 5.17.2, the forecast financial information contained in this Scoping Study is derived from the total LOM production targets also contained in this Scoping Study.

This Scoping Study contains requisite information with respect to the selected modifying factors and outcomes which are disclosed throughout the report. Except where otherwise specified all assumptions are based on ASM's internal expertise.

No other provision of Listing Rules 5.16 or 5.17 is required to be satisfied in respect of the total LOM production targets and forecast financial information derived from a production targets in this Scoping Study.

Non-IFRS financial measures

This Scoping Study contains certain financial measures (such as NPV and IRR) that are not recognised under International Financial Reporting Standards (**IFRS**). Although the Company believes these measures provide useful information about the Company's financial forecasts, they should not be considered in isolation or as a substitute for measures of performance or cash flow prepared in accordance with IFRS. As these measures are not based on IFRS, they do not have standardised definitions and the way the Company calculates these measures may not be comparable to similarly titled measures used by other companies. Consequently, undue reliance should not be placed on these measures.

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1.3. Scoping Study metrics

The operational and financial forecasts from this Scoping Study are presented in the below Table 1:

Table 1 – Operational and financial forecasts[2]

Operational forecasts				
Life of mine (years)	42			
Average plant throughput (mtpa)	1.0[3]			
Strip ratio (waste/ore)	<0.1			
Capital cost estimate (AUD m, real, incl. contingency)	740			
Capital cost contingency (%)	18%			
Operating expenses estimate (AUD m per annum)	93			
Average annual production target	**Years 3-15**	**LOM**		
NdPr oxide (tpa)	1,157	1,037		
Tb oxide (tpa)	13	11		
Dy oxide (tpa)	72	49		
	Base Case pricing		**Adamas Case pricing**[4]	
Financial forecasts	**Years 3-15**	**LOM**	**Years 3-15**	**LOM**
Average revenue per annum (AUD m)	300	254	358	300
Average operating expense[5] per annum (AUD m)	88	91	88	91
Average EBITDA[6] per annum (AUD m)	202	155	257	200
NdPr operating cost[4] (USD/kg)	39	47	39	47
NPV (pre-tax) (8% discount rate, AUD m)		967		1,468
IRR (pre-tax) (%)		18.3%		22.9%
NPV (post-tax) (8% discount rate, AUD m)		570		921
IRR (post-tax) (%)		14.8%		18.4%
Payback period (years)		5.8		4.3

[2] All financial figures in real 2024 terms as underlying estimates and third-party price forecasts were provided in real 2024 terms. For further information regarding the assumptions underpinning the production targets and forecasted financial outcomes refer to the remainder, including section 13.3, of this Scoping Study.
[3] Underpinned solely by ASM's Measured Resource Estimate of 42.81 Mt.
[4] Adamas Intelligence base case pricing, Rare Earth Pricing Quarterly Outlook, Q1 2025 (4) C1 operating cost with assuming 0.67 USD/AUD and operating expenses allocated to NdPr in line with revenue.
[5] Operating expense estimate includes benefit of Critical Minerals Production Tax Incentive in years 1-10.
[6] EBITDA is revenue less operating expenses and NSW royalty.

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2. Introduction

2.1. Project overview

ASM is an emerging vertically integrated producer of critical materials for new growth industries, advanced technologies and sustainable energy solutions.

The Dubbo Project is the cornerstone of ASM's vertically integrated business, providing a long-term, secure resource of rare earths and critical minerals. Located in New South Wales, Australia, the Dubbo Project is a globally significant resource of neodymium (**Nd**), praseodymium (**Pr**), dysprosium (**Dy**), terbium (**Tb**), and other critical minerals including zirconium, niobium and hafnium.

ASM's mine-to-metals strategy will see resources from the Dubbo Project mined, separated and refined on site to produce a range of metal oxides and mixed chlorides. Products from the Dubbo Project will be processed at ASM's metallisation plants (the first of which is located in Ochang, South Korea) or sold directly to global customers.

2.2. Purpose of the Scoping Study

In 2024, ASM launched the Rare Earth Options Assessment (**REOA**) to evaluate alternative pathways for developing the Dubbo Project. The goal: identify lower-capital, shorter implementation options for recovering both light rare earths (Nd, Pr) and heavy rare earths (Dy, Tb) as high-purity, separated oxides.

A key opportunity emerging from this work is the potential to deliver the Dubbo Project in phases – beginning with a first phase focused on rare earth recovery. A second phase (which is not contemplated by this Scoping Study) potentially could target the broader suite of critical minerals in the Dubbo resource and stockpile.

The REOA identified several technically viable options, with particular promise shown in heap and atmospheric tank leaching. These methods have the potential to remove the need for a capital- and energy-intensive acid bake in the initial development phase, significantly simplifying the process flowsheet.

To assess these options, ASM conducted extensive metallurgical test work, including scoping variability tank leach and bottle roll tests across different zones of the Dubbo Project deposit. These tests demonstrated encouraging rare earth recoveries and revealed opportunities for further investigation and optimisation.

Whilst ASM continues to investigate tank leaching, early findings highlighted the strong potential of heap leaching due to its lower capital and operating costs, and potentially strong recoveries. Consequently, ASM progressed a targeted work program to further explore the use of heap leaching. This included follow-on test work, preliminary engineering design, and development of high-level capital and operating cost estimates.

The purpose of this Scoping Study is to present the outcomes of that work and to provide an initial economic evaluation of the Heap Leach Option as a potential first phase development pathway for the Dubbo Project. This approach represents a material departure from the development case presented in the 2021 Optimisation Feasibility Study (**OFS**), which contemplated a broader product suite and a more capital-intensive flowsheet. Further detail on the differences between the two cases is provided in Section 4.4.

The Board has approved this Scoping Study.

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2.3. Competent persons

The information in this Scoping Study that relates to process metallurgical recovery results is extracted from ASM's ASX announcement titled "Heap leach metallurgical testwork delivers encouraging rare earth recoveries' released to ASX on 17 June 2025 and is available at www.asx.com.au. ASM confirms that it is not aware of any new information or data that materially affects the information included in that original market announcement. ASM confirms that the form and context in which the findings of the Competent Person are presented have not been materially modified from the original market announcement. The Competent Person for that announcement was Mr Wayne Dicinoski.

The information in this document that relates to ASM's Mineral Resources is extracted from ASM's Information Memorandum released to ASX on 29 July 2020 and is available at www.asx.com.au. ASM confirms that it is not aware of any new information or data that materially affects the information included in that original market announcement in relation to those Mineral Resource estimates and that all material assumptions and technical parameters underpinning the Mineral Resource estimates in that announcement continue to apply and have not materially changed. ASM confirms that the form and context in which the findings of the Competent Person are presented have not been materially modified from the original market announcement. The Competent Person for that announcement was Mr D I Chalmers.

2.4. Key assumptions and parameters

The assumptions underpinning this Scoping Study are based on current technical and economic evaluations undertaken by ASM and are subject to further refinement as ASM progresses the Heap Leach Option. Key assumptions include (among other assumptions detailed through this Scoping Study, such as in Section 13.3):

- Product recoveries aligned with outcomes from recent heap leach metallurgical test work[7], which are detailed further in section 6 of this Scoping Study.
- Capital expenditure has been estimated at AUD 740 million, based on preliminary engineering assessment by DRA Pacific Pty Ltd (**DRA**).
- Operating expenditure projected at AUD 93 million annually, reflecting current cost structures and operational parameters further detailed in section 12.3 of this Scoping Study.
- Commodity price assumptions have been derived from a blended analysis of market forecasts provided by independent research firms Project Blue and Adamas Intelligence as further detailed in Section 13.1.2.
- Receipt of required funding for construction of the Heap Leach Option as detailed in Section 3 of this Scoping Study.
- Receipt of required permitting for the development of the Heap Leach Option including but not limited to the modification to its State Development Consent and renewal of ML 1724 as detailed further in Section 10 of this Scoping Study.
- Construction schedule of 30 months from EPCM award based on supply and construction durations developed in earlier studies informed from market requests and assuming overlapping FEED and EPCM services with some early procurement of long lead items.

Further information regarding the basis and rationale for these assumptions is provided in section 13.3 of this Scoping Study. Except where otherwise specified all assumptions are based on ASM's internal expertise.

[7] Refer ASX announcement dated 17 June 2025 'Heap leach metallurgical testwork delivers encouraging rare earth recoveries'

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The Scoping Study is a preliminary assessment based on Class 5 Association for the Advancement of Cost Engineering (AACE) compliant cost development, with a typical range of ±50% and includes a contingency factor of 18%.

This Scoping Study contains requisite information with respect to the selected modifying factors and outcomes.

3. Reasonable basis of funding

3.1. Debt funding

ASM continues to make meaningful progress in advancing debt funding pathways for the Dubbo Project. The Dubbo Project has attracted strong interest from Export Credit Agencies (ECAs) and government agencies across multiple jurisdictions. This growing engagement reflects a shared policy focus among Australia and key allied countries – particularly the US, Canada, South Korea, Japan, and several European governments – on establishing secure, transparent, and diversified supply chains for critical minerals.

To date, ASM has received a number of non-binding and conditional expressions of support for the construction phase of the Dubbo Project (as ASM has previously announced to the ASX), including:

- Export-Import Bank of the United States (US EXIM):
  Letter of Interest (**LoI**) for a debt funding package of up to USD 600 million (AUD~923 million)[8]
- Export Development Canada (EDC):
  LoI to provide a direct lending debt funding package of up to AUD 400 million
- Export Finance Australia (EFA):
  Conditional letter of support to for financing of up to AUD 200 million.

The potential funding sources outlined above remain relevant for the advancement of the Dubbo Project under the Heap Leach Option, based on recent discussions—particularly with US EXIM and EDC, whose support is linked to content levels consistent with those anticipated under this approach. ASM will continue to engage with these organisations as it progresses the Heap Leach Option to the next stage.

ASM also continues to engage with Australian and global project finance banks. Based on discussions to date, it is expected that a significant portion of any future commercial bank debt will rely on credit support provided by ECAs or equivalent agencies.

ASM has also secured non-binding conditional funding support from US EXIM under its Engineering Multiplier Program (**EMP**), covering over 80% of the costs associated with Front-End Engineering Design (**FEED**) services provided by Bechtel Mining and Metals, Inc for the Dubbo Project. This funding, estimated at approximately USD 32 million, supports critical early-stage engineering and design work and strengthens ASM's strategic partnership with US EXIM as the Company advances toward a final investment decision.

ASM therefore considers it has reasonable grounds to expect that debt financing will be available for the Dubbo Project, recognising that financing will be reliant on the ability of ASM, together with any strategic partners, to secure offtake contracts for its core products that meet the financing requirements of these financiers and to meet

[8] Exchange rate (A$: US$) – 0.65

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other condition precedents that the financiers impose. No legally binding funding commitments have been made at the date of this Scoping Study, and ASM cannot be certain funding commitments will be forthcoming.

Investors should note that there is no certainty that ASM will be able to raise that amount of funding when needed (nor any certainty as to the form such capital raising may take, such as equity, debt, hybrid and/or other capital raising).

3.2. Equity and strategic partners

ASM has met with relevant government agencies, industrial conglomerates, product end-users, engineering companies and financial investors regarding potential collaboration and investment in the Dubbo Project. Other initiatives such as listed equity issuances, sale of project interests to other investors, equipment leasing, royalties and streaming, convertible debt instruments, and offtake pre-payment structures represent other options that may be considered and progressed in the future as part of the overall funding strategy.

The Heap Leach Option focuses on producing separated REE oxide products first. This will simplify future offtake agreements compared to the polymetallic product suite expected under the full Dubbo Project as set out in the OFS. Potential offtake partners will also be likely candidates for future equity investment (e.g. through a joint venture of the Dubbo Project), and offtake agreements are key funding requirements for both debt and other equity partners.

As of the date of this Scoping Study, the market capitalisation of ASM is approximately AUD 100 million. While subject to specific and general risks, ASM considers that if the following occur, they could provide material catalysts for ASM (although these are aspirational statements and are not intended to be forecasts, as the Company does not yet have reasonable grounds to expect that they will be achieved):

- further support for movement towards ex-China rare earths supply chain (e.g. tariffs or export restrictions);
- the execution of offtake contracts for key products from the Dubbo Project;
- progression towards the procurement of significant debt or equity financing; and/or
- improving profitability at the Korean Metals Plant.

ASM also notes it has a demonstrated track record in capital raising, having successfully secured funding through both placements and other capital raising structures to support its project development objectives.

It is important to note that while ASM continues to actively pursue funding options, there is no certainty that equity or other forms of financing will be secured. However, ASM considers that it has reasonable grounds to believe that the funding required to progress the Dubbo Project can be obtained, based on its engagement to date, the range of funding options available, its demonstrated track record in successful capital raising and other matters above.

4. Project description and background

4.1. Ownership and title

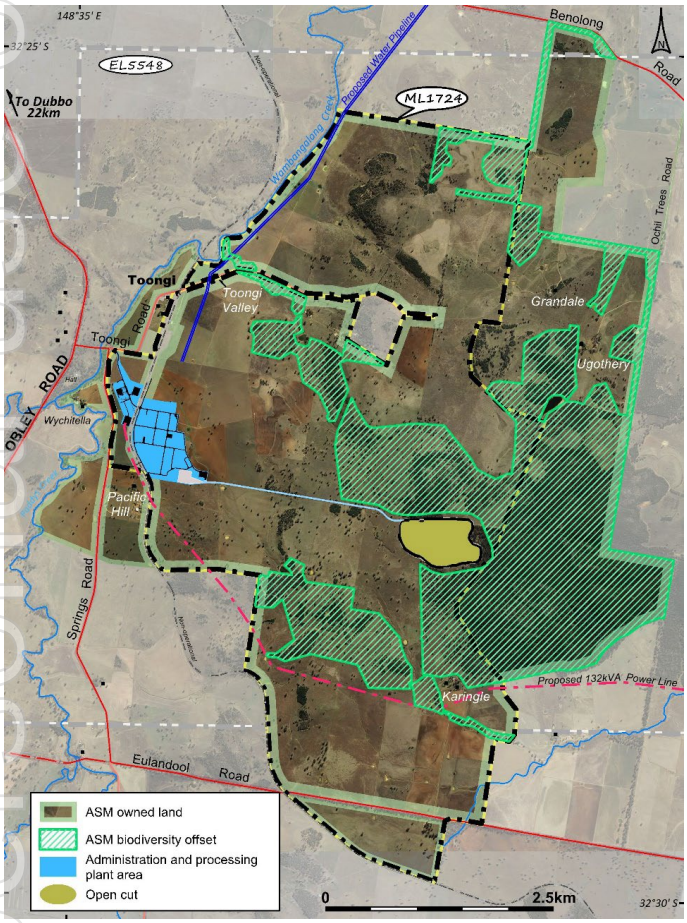
The mining lease for the Dubbo Project is Mining Lease (ML) 1724 and was granted to ASM's wholly owned subsidiary Australian Strategic Materials (Holdings) Ltd (**ASMH**) on 18 December 2015 and expires on 18 December 2036. ASMH owns 3,456 hectares of land where ML 1724 is located. The entirety of the Dubbo Project Measured

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Mineral Resource Estimate, mine and required processing facilities will all be located within the boundaries of that mining lease.

To renew a mining lease in New South Wales (NSW), lease holders must apply before the expiry date, submit required documentation via the Titles Management System no earlier than 5 years and not later than one year before the lease ceases to have effect. The process is accelerated if prior approvals and technical work are already in place.

Figure 1 – Project Mining Lease



The Dubbo Project will use water for construction and operations sourced from the Macquarie River and the Upper Macquarie River Alluvial Aquifer. ASM holds sufficient river and groundwater licences (including some high-security licences) for approximately 2 GL per annum in the Cudgegong-Macquarie Water Sharing Plan to develop the Dubbo Project as a 1 Mtpa operation.

Further details of mining and environmental permitting and approvals are provided in section 10.

4.2. Existing infrastructure

ASM's Dubbo Project is located near Toongi, about 25 km south of Dubbo, in central-western New South Wales (**NSW**), Australia. The site is close to key infrastructure, with road and rail links to Dubbo and major cities like Sydney and Newcastle, approximately 400km away.

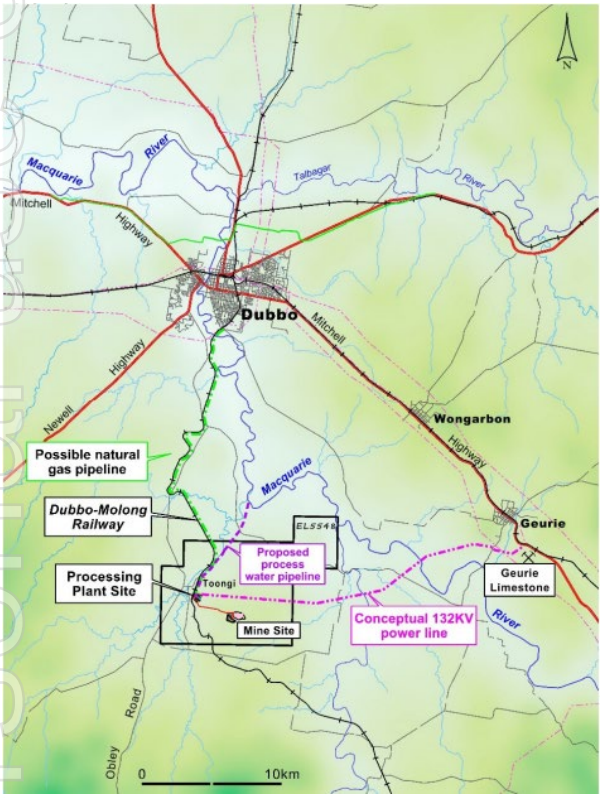
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Electricity will be supplied from the grid if needed, although ASM is exploring a behind-the-meter solution. There is also potential to use renewable energy from the Central-West Orana Renewable Energy Zone – a nearby wind and solar development hub covering 20,000 km^2 and generating over 7 GW of energy.

A significant portion of the Dubbo Project's water needs will be met via a 7 km pipeline from the Macquarie River, under existing water licences.

Figure 2 highlights the site's strong access to utilities, road and infrastructure.

Figure 2 - Proximity of the Dubbo Project to Dubbo facilities



4.3. History

The Dubbo Project was originally developed by Alkane Resources Limited (**Alkane**), which applied for an exploration licence for the Toongi deposit in 1987. Between 1999 and 2002, Alkane conducted drilling and metallurgical testwork that demonstrated a remarkably uniform grade across the deposit. Early processing trials showed that a sulphuric acid roast and leach process could be effective, avoiding the silica-related issues seen in similar deposits.

While the project was deferred in 2003, further metallurgical process work continued, including the construction of a demonstration pilot plant at ANSTO in 2008. This led to the development of a flowsheet capable of producing separate products for light and heavy rare earths, zirconium, hafnium and niobium.

A Definitive Feasibility Study based on a flowsheet to recover the above products, was completed in 2013 by TZ Minerals International Pty Ltd (**TZMI**), building on earlier studies by TZMI (2011) and SNC Lavalin (2002). Additional technical studies were undertaken by Hatch Pty Ltd in 2015 and GHD in 2017, culminating in the release of the Maiden Ore Reserves Report in 2017[9].

[9] Refer Alkane Resources Limited ASX Release, 19 September 2017 – Dubbo Project Resource and Reserve Statement FY17

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ASM was later spun out of Alkane to advance the Dubbo Project. ASM completed an Optimisation Feasibility Study (**OFS**) in September 2021, which led to an updated Ore Reserves Estimate in October 2021. ASM has continued to work closely with ANSTO to optimise the Dubbo Project flowsheet, significantly enhancing recoveries across the entire product suite and driving greater operational efficiencies.

4.4. Optimisation Feasibility Study

The 2021 OFS evaluated a processing circuit designed to produce oxides of zirconium, hafnium, niobium and key rare earth elements (including NdPr, Dy and Tb), with enhanced ESG performance through infrastructure upgrades such as a chlor-alkali plant, brine concentrator, and rail refurbishment. The OFS excluded inferred resources and led to an updated reserve statement of 18.9Mt of proven ore reserves.

The case assessed in this Scoping Study differs materially from that presented in the OFS. The OFS evaluated a broader product suite comprising a wider range of oxides, which necessitate a significantly higher capital investment (estimated at AUD 1.678 billion) but also forecast higher revenues. In contrast, this Scoping Study reflects a more streamlined development scenario, with several material assumptions updated to align with current market and technical parameters. Notable updates include:

- Commodity pricing: Long-term pricing assumptions in this Scoping Study are based on a blend of current forecasts from independent agencies as at Q1 2025, whereas the OFS relied on pricing data from 2018 to 2021.
- Operating costs: Cost estimates take into account the significant reduction in scale moving to a reduced product suite and have been informed by more recent market enquiries and supplier engagement, providing a more current basis for operating expenditure.
- Contingency allowance: A contingency of 18% has been applied in this Scoping Study, compared to 10% in the OFS.
- Exchange rate: A revised AUD/USD exchange rate of 0.67 has been adopted, superseding the 0.75 rate used in the OFS.

Other material assumptions such as corporate tax rate and discount rate have remained the same (other than in the Scoping Study including the benefit of certain incentives such as royalty deferrals and the CMPTI).

5. Geological setting, mineralisation and deposit

5.1. Geology

The Toongi deposit is centred on a trachyte outcrop that forms one of several alkaline volcanic and intrusive bodies of the Jurassic age in the region (formed 190 - 210 million years ago). The elliptical-shaped body has approximate dimensions of 850 m east-west by 550 m north-south. The deposit forms a low irregular topographic rise and has an average depth extent of 115 m below the surface.

The Toongi deposit is predominantly a massive, fine-grained microporphyritic trachyte with more than 80% of the deposit consisting of feldspar, albite and aegirine (in roughly equal amounts). The rest of the rock is made up of opaque minerals. Extensive mineralogical studies have indicated that the minerals contained in the deposit are extremely fine-grained, being less than 100 µm in size (and generally less than 10 µm), and uniformly distributed throughout the rock mass. The bulk of the metals are hosted in complex Na–Ca–Zr–Hf–HREE silicate phases

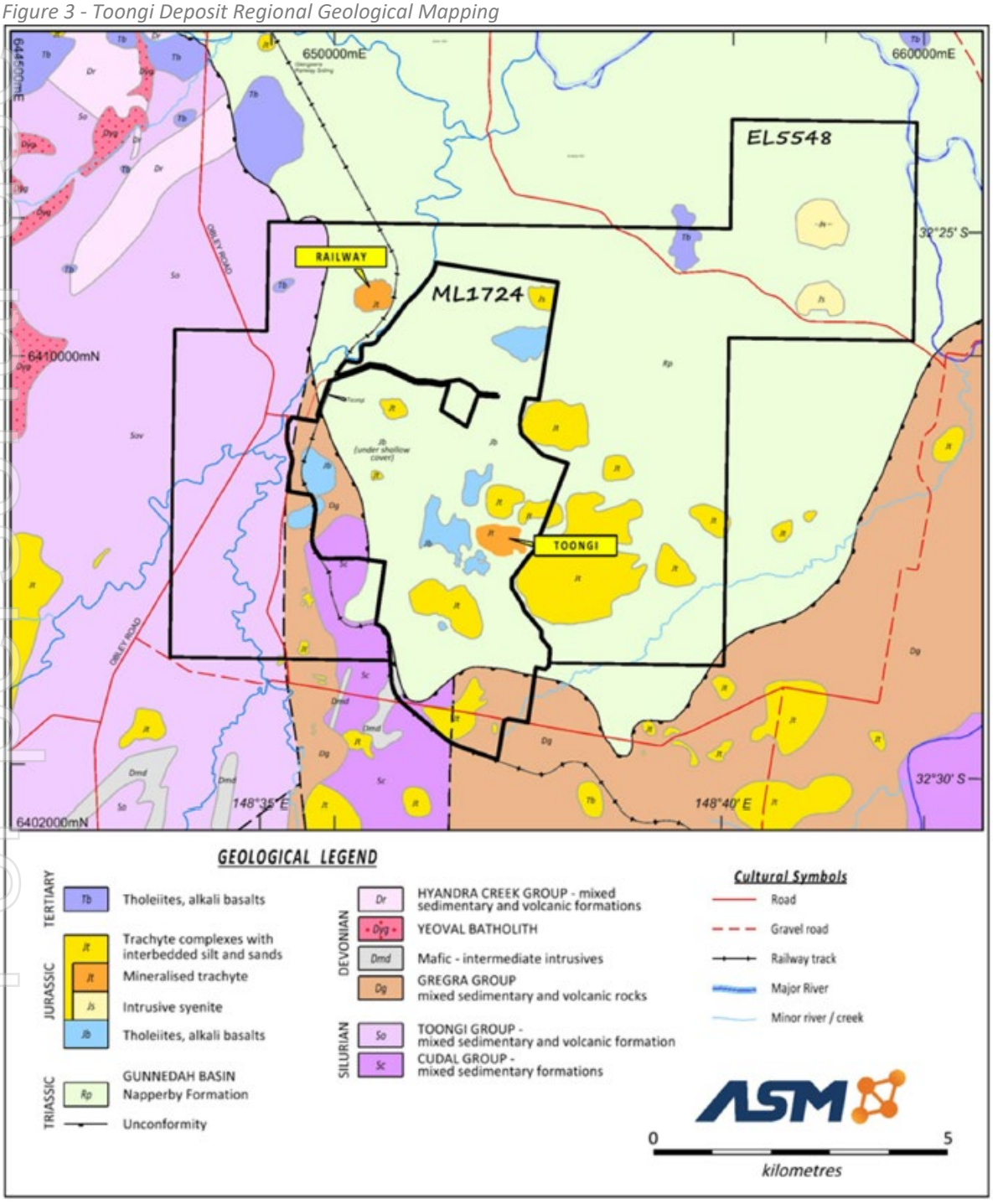
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(eudialyte like mineral). The dominant niobium (and tantalum) mineral is close to NaNbO3 (natroniobite) in composition. Separately bastnasite hosts the light rare earth metals.

The deposit contains elevated levels of the metals zirconium (Zr), hafnium (Hf), niobium (Nb), tantalum (Ta), yttrium (Y) and rare earth elements (REEs) – lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), samarium (Sm), europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu). Refer to Appendix 1 for further detail of the grades in the Measured Resource Estimate. The orebody also holds some uranium and thorium and is classified as weakly radioactive.

Figure 3 illustrates the geological setting of the Dubbo Project.

Figure 3 - Toongi Deposit Regional Geological Mapping



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5.2. Resource statement

This Scoping Study is underpinned by the existing Measured Mineral Resource estimate for the Toongi deposit, which forms the foundation of the Dubbo Project. The Mineral Resource estimate, prepared by independent consultants Mining One Pty Ltd in 2017, has not been updated for the purposes of this Scoping Study. A summary of the 2017 Mineral Resource estimate is provided in Table 2.

Table 2 - Dubbo Project Toongi JORC Resource (2017)

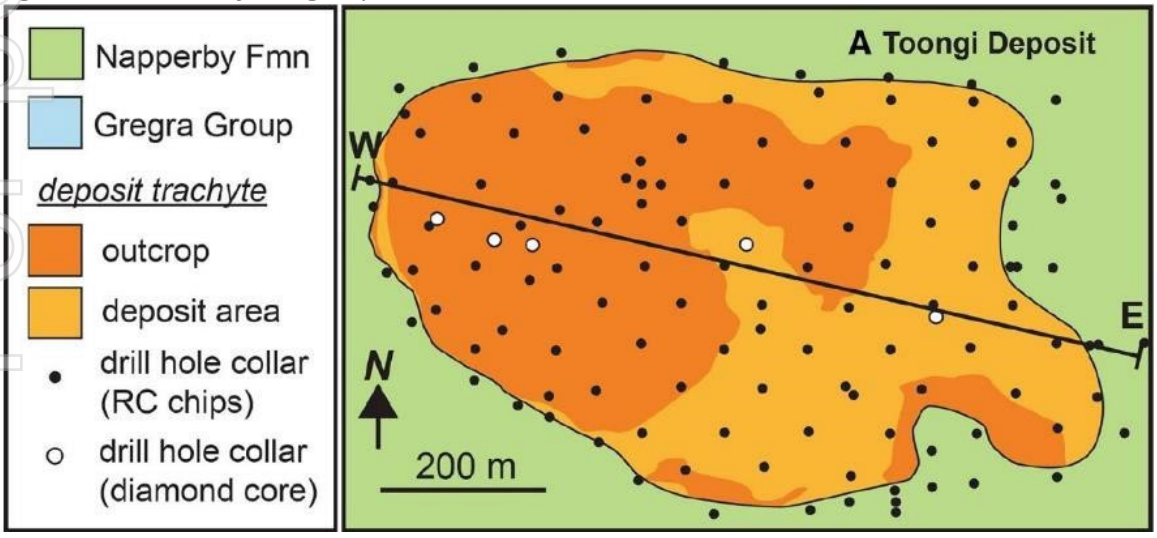
Resource Category	Tonnes (Mt)	ZrO_2 (%)	HfO_2 (%)	Nb_2O_5 (%)	Ta_2O_5 (%)	Y_2O_3 (ppm)	TREO[10] (ppm)	MREO[11](ppm)			
Measured	42.81	1.89	0.04	0.45	0.03	1,400	7,400	1,660			
								Nd_2O_3 1,100	Pr_6O_{11} 340	Dy_2O_3 190	Tb_4O_7 30
Inferred	32.37	1.9	0.04	0.44	0.03	1,400	7,400	1,670			
								Nd_2O_3 1,100	Pr_6O_{11} 350	Dy_2O_3 190	Tb_4O_7 30
Total	75.18	1.89	0.04	0.44	0.03	1,400	7,400	1,660			

The Mineral Resource was based on a comprehensive drilling program comprising 122 largely vertical reverse circulation (**RC**) holes, drilled on a 50 m offset rectangular pattern to vertical depths varying from 50–100 m (see Figure 4 and Figure 5).

Five vertical diamond core holes were also drilled to confirm the geology and geochemistry of the deposit.

ASM confirms that all of the production targets assumed in this Scoping Study are derived from the 2017 Measured Mineral Resource (42.81 Mt). As the Company advances the Heap Leach Option, it intends to seek to develop an Ore Reserve estimate specific to that processing route (but no forecast is made of whether, nor when, that may be achieved).

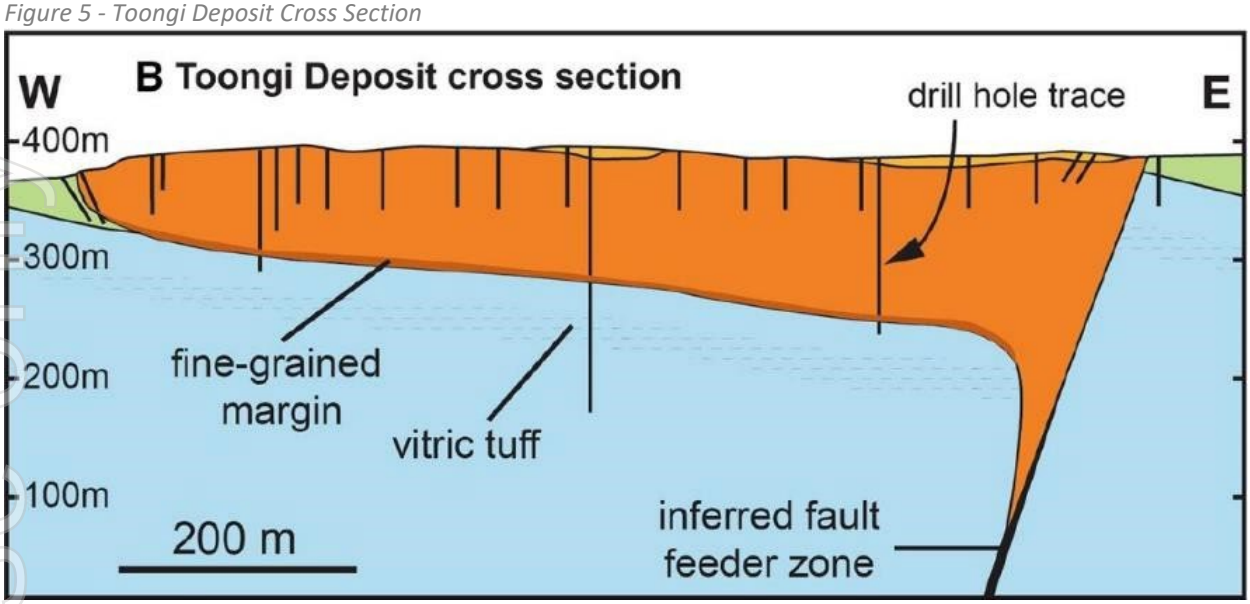
Figure 4 - Schematic of Toongi Deposit



[10] TREO is the sum of all rare earth oxides excluding ZrO_2, HfO_2, Ta_2O_5 and Y_2O_3
[11] MREO (being a subset of the TREO) is the sum of ND O_3, Pr_6O_{11}, DY_2O_3 and Tb O_7

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Figure 5 - Toongi Deposit Cross Section



6. Metallurgy

To progress the Heap Leach Option, following the scoping variability testing (**Phase A Program)**, ASM commenced a metallurgical testwork program of bottle roll leach testing on recently drilled core samples and three large mining zone composites (**Phase B Program**). A summary of the Phase B Program and the results are presented below, along with details of the development of the composites used in the testwork. Please refer to ASM's announcement 'Heap leach metallurgical testwork delivers encouraging rare earth recoveries' dated 17 June 2025 for further details of the Phase B Program.

6.1. Metallurgical composite sample development

The Toongi deposit was divided into three east-to-west zones, producing three heap leach composites (**HLC**) – HLC-East, HLC-Central, and HLC-West as shown in Figure 6. Each zone was represented by a composite created from three diamond-core drill holes, combining seven diamond-core holes completed in late 2024 with three earlier diamond-core holes. These composites are considered representative of the Toongi deposit's mineralogy and grade.

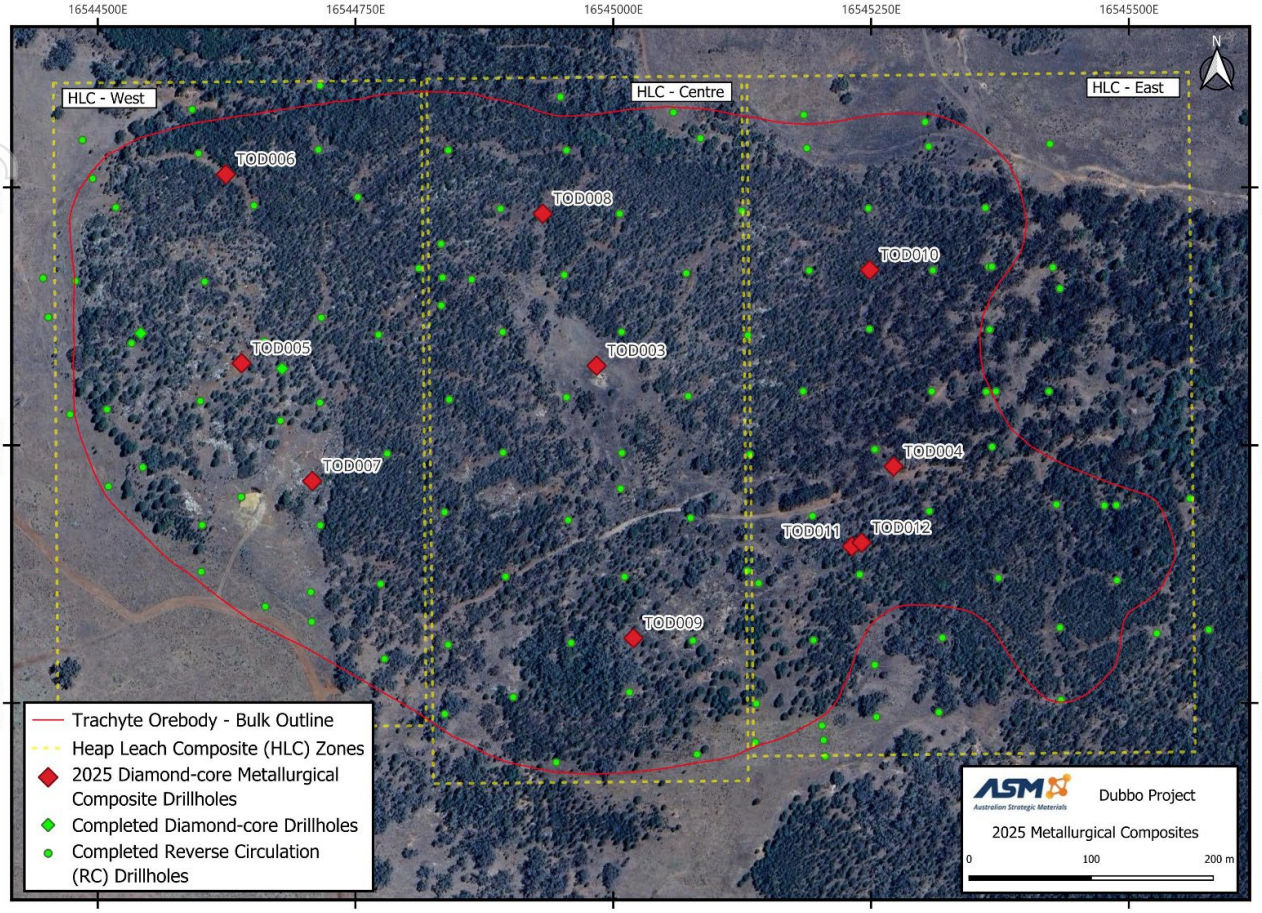
Sampling was conducted from the coherent trachyte contact down to 360 m RL, using predominantly HQ core with some PQ contributions. Core intervals included half-core, quarter-core, three-quarter core, and full-core samples. Minor unsampled sections were noted due to prior testwork consumption or nil core recovery.

The trachyte unit exhibits a uniform weathering profile and consistent mineralogy to 360 m RL, with primary minerals such as feldspars, aegirine, eudialyte, and quartz largely replaced by clay. Alteration is strongest in the groundmass, while quartz and phenocryst minerals remain relatively intact. A manganese-iron oxide overprint is present, forming dendritic coatings along fractures.

Despite minor losses in the overlying sedimentary cover, core recovery exceeded 98.5%, with actual recovery within the trachyte likely higher. The consistency in lithology, alteration, and grade across the sampled interval supports the validity of the composite samples used in the heap leach testwork program.

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Figure 6 - Dubbo Project Toongi deposit showing overlay of the three composite zones selected for the Phase B Program



6.2. Phase B Program composite handling and head grade characterisation

Each composite sample was crushed to a top size of 25 mm, then split into 10 kg aliquots. One 10 kg aliquot from each of the crushed samples was crushed to a top size of 12.5 mm, and another 10 kg aliquot from each of the crushed samples was crushed to a top size of 6 mm.

These along with an additional 25 mm aliquot were subdivided into 1 kg aliquots for testwork. One 1 kg 6 mm aliquot was used for head characterisation which included multi-element assays using FUSION-ICP-OES (Al, Fe, Mg, Si, Ti), 4AD-ICP-OES (Ca, Mn, Na, S, Zn) and ALS methods ME-MS81 (REEs), ME-MS81 (Nb, Zr) and ME-F-ELE81a (F).

The assayed head grades of each composite are shown in Table 3.

Table 3- Phase B Program Composite Head Grade Characterisation

Composite	Assayed Head Grade, ppm								
	TREO*	MREO**	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Y_2O_3	Zr	Nb
HLC-West	8,006	1,921	387	1,283	35.4	216	1,340	13,800	2,910
HLC-Central	7,884	1,808	372	1,207	34.2	195	1,276	13,250	2,980
HLC-East	7,624	1,803	369	1,207	32.0	196	1,269	13,350	2,840

** TREO (Total Rare Earth Oxide) = La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Lu_2O_3 **excluding Yb_2O_3***

*** MREO (Magnetic Rare Earth Oxide) = Pr_6O_{11} + Nd_2O_3 + Tb_4O_7 + Dy_2O_3*

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6.3. Phase B Program: intermittent bottle roll leach testing

The Phase B intermittent bottle roll testing (**BRT**) builds on earlier scoping testwork conducted and assessed the leach performance of the three composite samples. Testing focused on two key variables: crush size (25 mm, 12.5 mm and 6 mm) and starting initial hydrochloric acid concentration (20 and 50kg/t) resulting in 18 tests.

Each test used a 1kg aliquot mass in a 4 L bottles with a pulp density of 50 w/w% solids, run intermittently (5 mins ON, 55 mins OFF) at ambient temperature over 28 days. Liquor samples were taken daily during the first week and twice weekly thereafter to coincide with kinetic sampling times.

Elemental analysis of the leach solutions was performed using ICP-OES, while final solids were assayed using a combination of FUSION-ICP-OES (Al, Fe, Mg, Si, Ti), 4AD-ICP-OES (Ca, Mn, Na, S, Zn) and ALS methods ME-MS81 (REEs), ME-MS81 (Nb, Zr) and ME-F-ELE81a (F).

6.4. Testwork Program Results

6.4.1. HLC-West Results

The HLC-West composite results, representing the western zone of the Toongi deposit from surface to 360 m RL and the first 8 – 10 years of planned mining, are presented in Table 4. Mineralisation below this depth will be assessed in future programs.

Key findings from the HLC-West results:

- Rapid leaching, with most recoveries achieved within 18-20 days.
- Finer crush sizes (12.5 mm and 6 mm) improved recoveries over 25 mm, with:
  - ~6% higher Nd/Pr recovery
  - ~18% higher Tb/Dy recovery
- Minimal difference between 12.5 mm and 6 mm crush sizes.
- Higher acid concentration (50 kg/t) improved recoveries, especially at 25 mm:
  - ~10% increase in Nd/Pr
  - ~25% increase in Tb/Dy
- Optimal recovery was achieved at 12.5 mm crush size with 50 kg/t acid, yielding:
  - Pr: 84.9%
  - Nd: 79.9%
  - Tb: 44.2%
  - Dy: 37.3%

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Table 4 - Summary of Phase B Program Bottle Roll Results for HLC-West

RE Element	HLC-West Final Extraction (%) (MS-81 Fusion/acid digestion/ICP-MS for solids, ICP-OES for liquids)					
	25 mm crush		12.5 mm crush		6 mm crush	
	50g/L HCl	20g/L HCl	50g/L HCl	20g/L HCl	50g/L HCl	20g/L HCl
La	86.8	79.3	90.9	87.0	91.9	88.0
Ce	79.8	69.9	83.4	79.8	84.5	80.9
Pr	80.0	73.5	84.9	81.8	85.4	82.5
Nd	75.1	68.1	79.9	77.0	80.4	77.2
Sm	58.1	53.1	63.8	63.4	64.7	62.2
Eu	54.7	41.8	59.6	51.9	57.9	53.3
Gd	50.7	39.4	56.4	51.0	55.0	50.8
Tb	38.6	31.5	44.2	40.9	44.7	40.8
Dy	30.6	21.3	37.3	29.8	35.3	29.8
Ho	25.9	24.0	30.9	32.3	31.1	32.0
Er	20.5	13.0	24.7	23.0	25.4	21.5
Tm	19.3	14.8	22.8	21.0	24.0	21.2
Yb	18.9	23.3	25.5	30.9	24.6	29.5
Lu	22.2	16.8	27.5	20.7	27.7	20.1
Y	24.9	21.5	28.5	30.2	29.8	27.2

6.4.2. HLC-Central results

The HLC-Central composite, covering the central zone of the Toongi deposit from surface to 360 m RL, showed rapid leaching, with most recoveries achieved within 18 – 20 days, similar to HLC-West. The results are presented in Table 5 below.

Key findings from the HLC-Central results:

- Nd/Pr recoveries were consistent across all crush sizes.
- Tb/Dy recoveries decreased at smaller crush sizes, especially with higher acid concentration, likely due to increased iron (**Fe**) extraction interfering with heavy rare earth recovery.
- Minimal difference between 12.5 mm and 6 mm crush sizes.
- 50 kg/t acid concentration slightly improved Nd/Pr and Tb/Dy recoveries at 25 mm, but reduced Tb/Dy recovery at finer crush sizes.
- Optimal recovery was achieved at 25 mm crush size with 50 kg/t acid, yielding:
  - Pr: 74.9%
  - Nd: 68.7%
  - Tb: 36.1%
  - Dy: 22.8%

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Table 5 - Summary of Phase B Program bottle roll results for HLC-Central

RE Element	HLC-Central Final Extraction (%) (MS-81 Fusion/acid digestion/ICP-MS for solids, ICP-OES for liquids)					
	25 mm crush		12.5 mm crush		25 mm crush	
	50g/L HCl	20g/L HCl	50g/L HCl	20g/L HCl	50g/L HCl	20g/L HCl
La	81.6	77.8	81.3	79.7	84.1	81.4
Ce	75.1	70.5	72.6	73.3	74.8	74.3
Pr	74.9	71.9	73.4	73.1	75.9	73.2
Nd	68.7	65.8	66.2	65.5	68.4	65.7
Sm	52.2	50.9	46.3	45.8	47.0	45.7
Eu	43.2	41.9	31.8	31.2	31.3	32.0
Gd	43.1	41.9	33.8	33.4	33.7	34.1
Tb	36.1	34.5	26.3	26.9	25.3	27.1
Dy	22.8	19.0	7.7	11.8	6.1	9.7
Ho	29.6	25.5	17.7	20.4	16.4	17.0
Er	17.9	16.8	8.9	10.7	7.2	6.2
Tm	16.0	12.0	4.3	10.8	6.0	5.3
Yb	25.5	21.4	17.6	19.3	14.6	15.6
Lu	17.4	10.2	5.1	13.5	3.0	5.3
Y	25.4	20.6	13.2	19.4	12.3	13.0

6.4.3. HLC-East results

The HLC-East composite, covering the eastern zone of the Toongi deposit to 360 m RL, showed rapid leaching, with most recoveries achieved within 18-20 days. The results are presented in Table 6 below.

Key findings from the HLC-East results:

- Finer crush sizes (12.5 mm and 6 mm) improved recoveries over 25 mm:
  - ~4% higher Nd/Pr
  - ~26% higher Tb/Dy
- No significant difference between 12.5 mm and 6 mm sizes.
- Higher acid concentration (50 kg/t) improved Nd/Pr recovery across all sizes, most notably at 25 mm (up to 17% gain).
- Tb/Dy recovery improved slightly at 25 mm and 12.5 mm with higher acid, but showed no improvement at 6 mm.
- Optimal recovery was achieved at 12.5 mm crush size with 50 kg/t acid, yielding:
  - Pr: 82.7%
  - Nd: 75.9%
  - Tb: 27.1%
  - Dy: 17.1%

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Table 6 - Summary of Phase B Program bottle roll results for HLC-East

RE Element	HLC-East Final Extraction (%) (MS-81 Fusion/acid digestion/ICP-MS for solids, ICP-OES for liquids)					
	25 mm crush		12.5 mm crush		6 mm crush	
	50g/L HCl	50g/L HCl	50g/L HCl	50g/L HCl	50g/L HCl	50g/L HCl
La	83.9	73.4	88.5	77.5	88.2	78.9
Ce	75.2	65.2	79.8	68.1	79.3	70.4
Pr	79.7	68.6	82.7	72.5	82.7	74.0
Nd	72.9	61.9	75.9	65.5	75.8	68.1
Sm	51.4	43.4	53.8	44.8	52.7	48.9
Eu	46.8	33.8	43.9	34.4	45.0	36.2
Gd	38.2	29.8	36.6	26.8	34.9	34.8
Tb	20.2	23.5	27.1	19.6	26.0	27.4
Dy	14.3	11.9	17.1	6.3	16.4	16.9
Ho	14.8	12.6	16.8	8.3	15.5	16.6
Er	4.4	0.9	7.2	-0.5	4.3	7.8
Tm	16.5	13.0	20.7	11.5	16.4	21.6
Yb	8.1	3.0	13.2	1.2	7.9	10.2
Lu	15.9	8.2	15.8	8.6	13.7	17.0
Y	14.6	6.0	14.4	5.0	11.3	12.6

7. Mining method

The Scoping Study has adopted the mining approach outlined in the OFS, maintaining the same mine plan assumptions for this early stage of assessment. Further exploration and refinement of the mining method, including detailed design and scheduling, will be undertaken during the next phase of study – the Pre-Feasibility Study (**PFS**).

The Toongi orebody essentially starts at ground level as illustrated in Figure 5 above, with 3.8Mt of waste material required to be moved over the life of mine resulting in a low 1:11 strip ratio. Mining is planned to occur in a single open pit, using conventional drill and blast methods. Fragmented material will be transported to the Run-of-Mine (**ROM**) Pad for subsequent crushing and grinding.

Open-pit operation is currently envisaged to run on a 5 to 5½ day week with 9-to-10-hour shifts. This schedule is designed to attract local operators and allow for operational flexibility, including potential weekend operations to boost production if required.

The proposed mining method involves benching through hilly terrain and hauling downhill. Articulated dump trucks have been selected for their adaptability in rugged conditions and their utility in pre-mining construction activities such as pond excavation, bund construction, and ROM Pad development.

Support infrastructure will include a three-bay workshop for the mining fleet, along with a dedicated light vehicle servicing bay. ASM will provide the mine management team, including the statutory mine manager and supporting personnel.

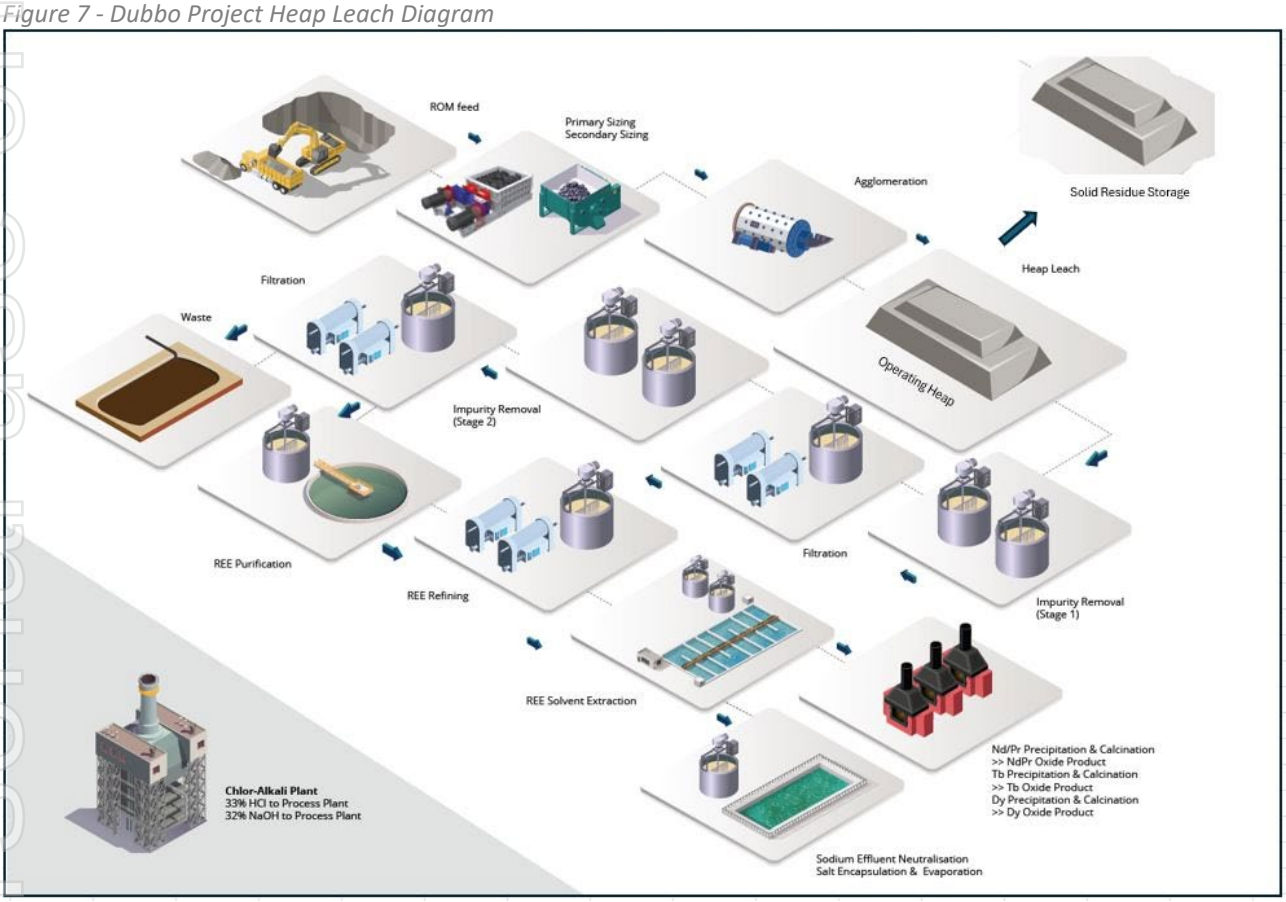
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8. Processing and recovery methods

8.1. Overview

ASM's proposed Heap Leach Option is designed to process 1 million tonnes of material per annum, targeting the production of high-purity NdPr oxide, Dy oxide and Tb oxide, as shown in Figure 7 below.

Figure 7 - Dubbo Project Heap Leach Diagram



This Scoping Study evaluates a simplified processing route for rare earths using low-cost, proven heap leaching, followed by purification, separation and refining. Compared to conventional methods – such as grinding, flotation, acid roasting and intensive reagent use – this approach offers the potential for significantly lower capital and operating costs.

Heap leaching is also lower risk than other leaching methods like in-situ leaching, which carries a higher risk of groundwater contamination.

The Heap Leach Option could position ASM's Dubbo Project as one of the lowest-cost producers of high-purity separated NdPr, Tb and Dy oxides in Australia, particularly given the high concentrations of heavy rare earths in the Toongi deposit.

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8.2. Process description

8.2.1. Excavate/mine

The Toongi deposit, shown in Figure 8, will be cleared progressively. Topsoil containing nutrients and seed bank will be stockpiled for site rehabilitation.

The rare earth material will be mined by traditional open cut drill and blast mining method. Blast holes will be drilled with drill rigs equipped with dust and noise suppression equipment to limit dust and noise impact. Blasting the material will fragment the material to allow excavation by front end loader.

Material will be hauled to the crushing plant near the heap leach pad using 41 tonne CAT745 articulated dump trucks operating on a 5.5-day shift.

Figure 8 - Toongi deposit at Surface



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8.2.2. Mobile crushing

A two-stage mobile crusher, as shown in Figure 9, will reduce material size for effective leaching. The system will operate on a 5.5-day shift, with a ROM pad buffer between haul trucks and the loader feeding the plant.

Figure 9 - Mobile Crusher



Source: MMD website.

8.2.3. Agglomeration

Crushed material will be combined with a binder in an agglomeration drum, as shown in Figure 10, producing uniform agglomerates that ensure proper heap permeability and prevent pooling or channelling.

Figure 10 - Agglomeration Drum



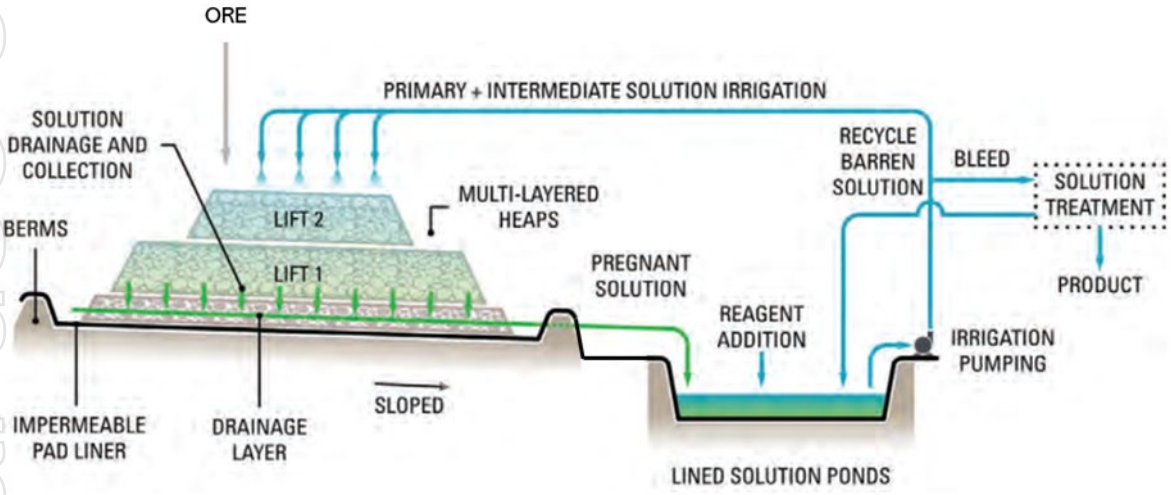
Source: Sepro brochure.

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8.2.4. Heap leach

The heap leach pad is to be constructed with engineered fill, placed after cut and fill has been completed. The heap leach pad will be lined with high density polyethylene (**HDPE**) over compacted fill and feature leak detection and drainage systems. Material will be stacked up to 30 m high in compact cells using conveyors, with micro-spray irrigation applying leach solution. Leaching is continuous, progressing from barren solution to pregnant leach solution (**PLS**), as shown in Figure 11.

Figure 11 - Heap Leach Process



Source: Experience-based approach to successful heap leach pad design, Mining World, Volume 12, Issue 5, October 2015

The heap leach piles will be continuously built to match the sequential leaching process of the heap leach, as shown in Figure 12.

Figure 12 - Sequential Heap Leach Pads



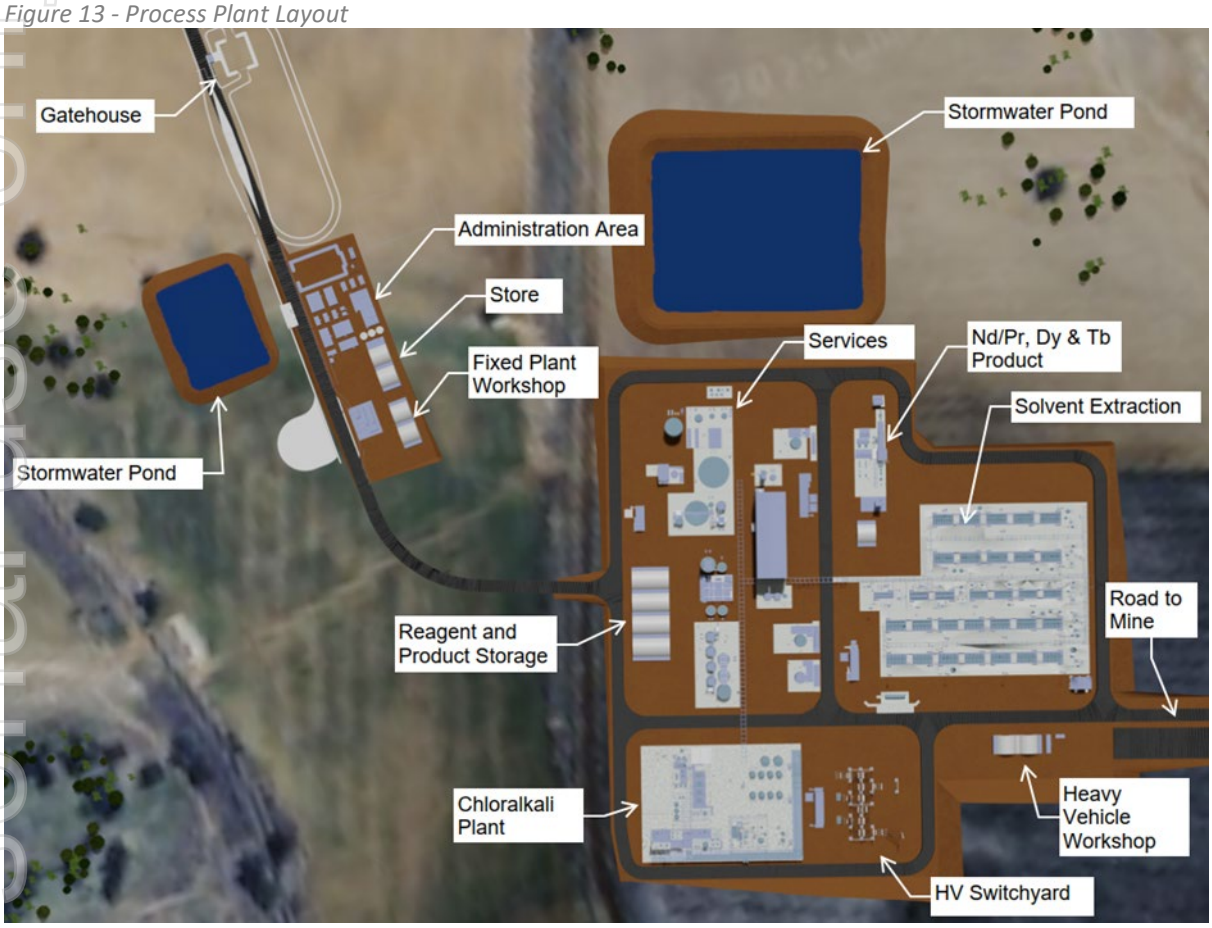
Source: Proceedings of the 5th International Conference on Heap Leach Mining Solutions 2022, Sparks, USA.

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8.2.5. Purification

The pregnant solution is pumped to the process plant, shown in Figure 13, to be purified by precipitating iron, aluminium and zinc from the solution. The precipitated particles are then removed with filters from the solution as filter cake at the purification plant, shown in Figure 14.

Figure 13 - Process Plant Layout



Source: Dubbo Project 3D rendered drawing

Figure 14 - RE Purification Processing Plant



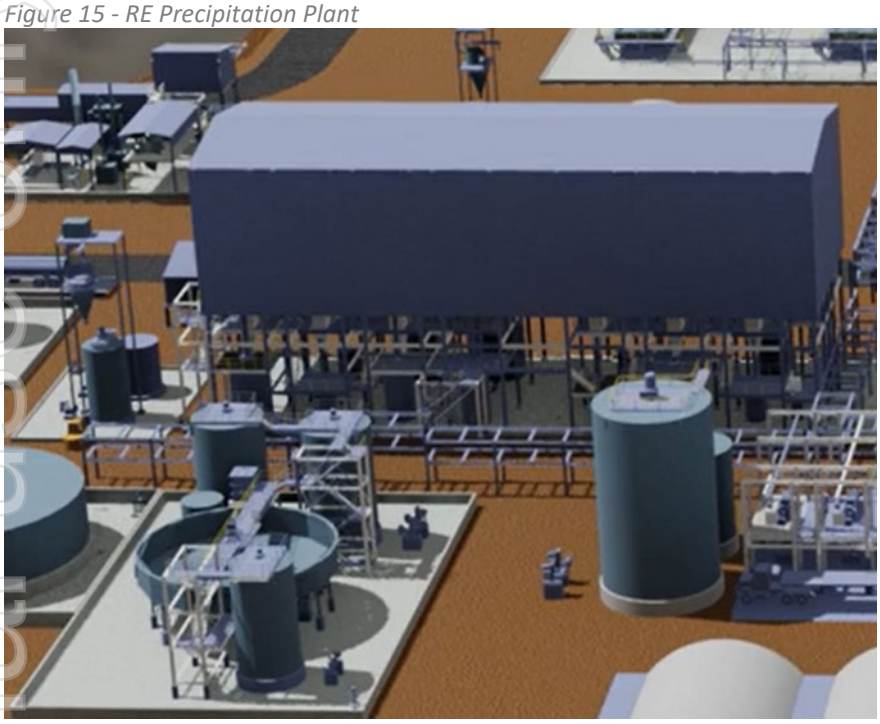
Source: Dubbo Project 3D rendered drawing

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8.2.6. Rare earth precipitation

The rare earth elements are then purified through precipitation and filtration to provide a leach filtrate to be processed in a rare earth separation circuit as shown in Figure 15.

Figure 15 - RE Precipitation Plant

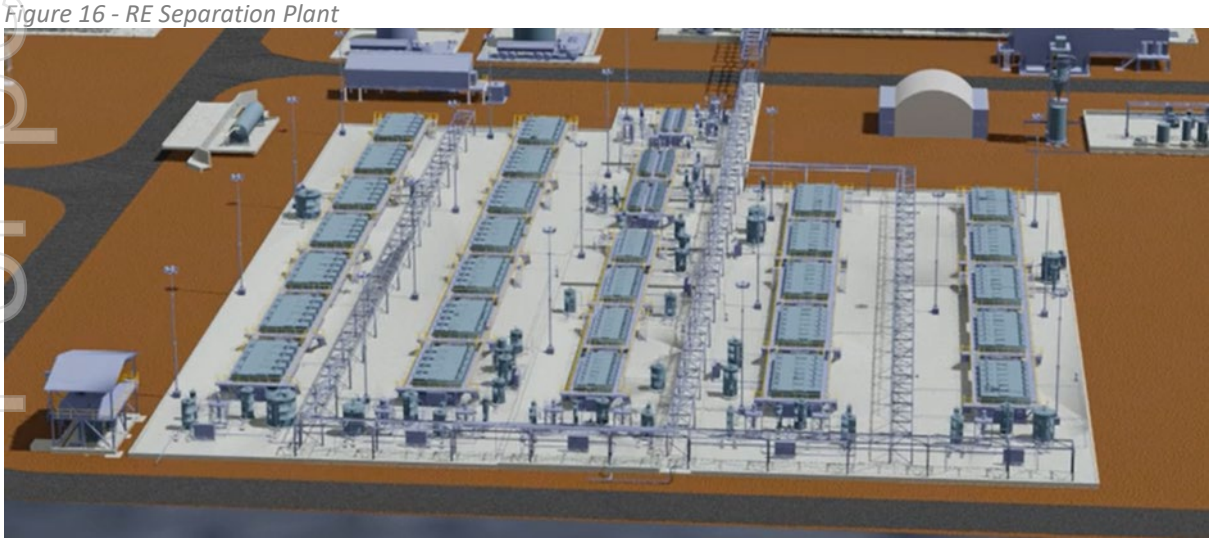


Source: Dubbo Project 3D rendered drawing

8.2.7. Rare earth separation

Solvent extraction separates rare earth elements from the filtrate using an organic extractant in a counter-current system as shown in Figure 16.

Figure 16 - RE Separation Plant



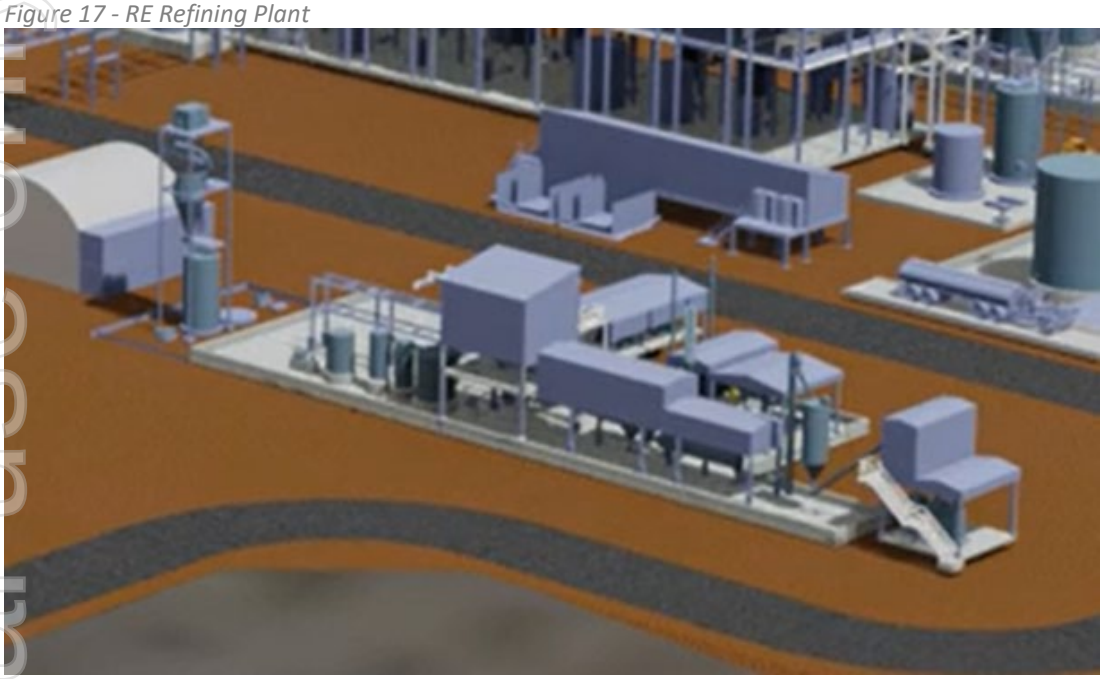
Source: Dubbo Project 3D rendered drawing

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8.2.8. Rare earth refining

The solvent extraction loaded strip solution is pumped to the precipitation tanks with rare earth precipitated solids. Filtered solids are calcined for final rare earth product bagging ready for shipment as shown in Figure 17.

Figure 17 - RE Refining Plant

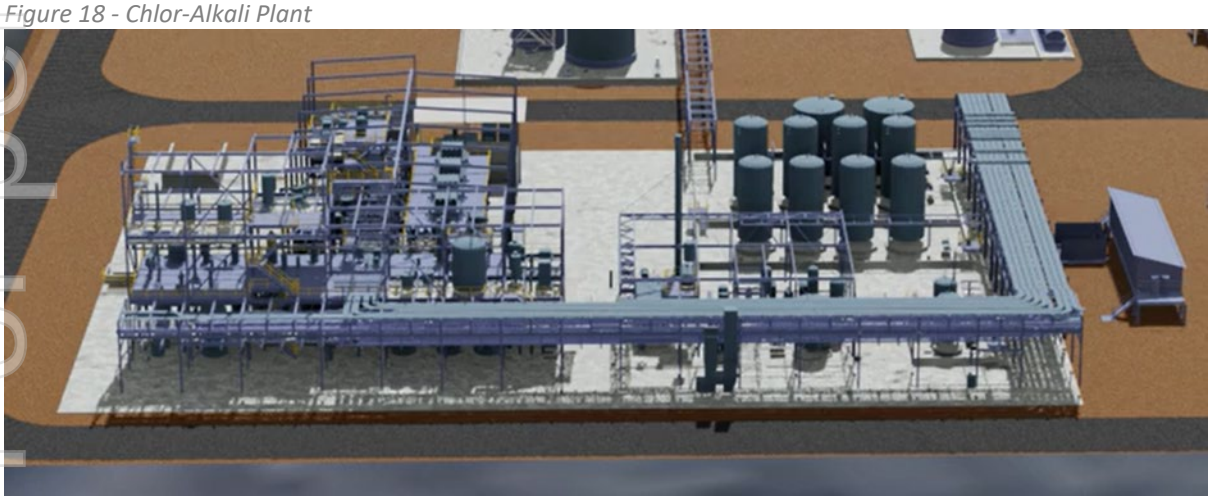


Source: Dubbo Project 3D rendered drawing

8.2.9. Chlor-alkali plant

A chlor-alkali plant produces caustic soda (for precipitation) and hydrochloric acid (for leaching) as shown in Figure 18.

Figure 18 - Chlor-Alkali Plant



Source: Dubbo Project 3D rendered drawing

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8.2.10. Waste

Process waste (filter cake) will be disposed of in a double HDPE-lined facility with leak detection. The facility will include the provision for rehabilitation of the facility.

The Dubbo Project's orebody holds low levels of radionuclides (e.g. uranium and thorium). Any radionuclides present in the initial material will report to the solid residue storage facility after undergoing an acidic "fixing" process prior to neutralisation. ASM possesses all the necessary state and federal approvals and licenses required to separate and disperse these radionuclides.

8.2.11. Solar evaporation and salt encapsulation

Chloride-rich effluents containing free acid are neutralised with sodium hydroxide before being sent to the solar evaporation pond. Evaporated salts are transferred to salt encapsulation cells for life of mine storage.

8.2.12. Non-process infrastructure

Facilities include a gatehouse, security, vehicle parks, weighbridge, wheel wash, administration offices, lab, workshops, laundry, lunchroom, medical and emergency services, change rooms, ablutions, warehouses, product/reagent storage, and utility buildings.

9. Infrastructure

The Scoping Study has drawn on the infrastructure planning and design work completed during the OFS, with the understanding that much of the same supporting infrastructure will be required for the Heap Leach Option. However, further definition, and optimisation of infrastructure components will be undertaken in the next stage of study – the Preliminary Feasibility Study (**PFS**).

The Heap Leach Option has potential to reduce the overall infrastructure footprint and associated capital requirements. Notably, the removal of rail as a transport option simplifies logistics and eliminates the need for rail-specific infrastructure.

Key infrastructure elements expected to remain relevant include:

- Site access and road upgrades, including the use of existing local roads and construction of a new site access road, with planned upgrades to bridges and traffic management features.
- Water supply infrastructure, levering ASM's existing water licences and planned pipeline from the Macquarie River, with the Heap Leach Option presenting opportunity for reduced water demand.
- Power supply, within continued planning for a third-party behind-the-meter solution under an offtake agreement.
- Reagent supply and handling, including on-site storage and handling facilities, though the Heap Leach Option may reduce the scale and complexity of these systems.
- Site buildings, including administration, maintenance, and operational facilities to support ongoing project activities.

The PFS will further assess infrastructure requirements in light of the revised processing flowsheet, with a focus on optimising cost, constructability, and operational efficiency.

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10. Permitting and approvals

ASM has secured all major state and federal regulatory approvals required to commence detailed design, construction and operation of the Dubbo Project, providing confidence that the Dubbo Project can be delivered quickly. These approvals include:

- Development Consent from the NSW Planning Assessment Commission (2015);
- Federal environmental approval under the EPBC Act (2015);
- Mining Lease 1724 (2015); and
- Environment Protection Licence for construction activities (2016).

In 2023, ASM received approval for Modification 1 (MOD1) to SSD-5251, reflecting design enhancements identified through further project optimisation. This followed a thorough public submission and review process during which ASM received only a small number of submissions, primarily from government agencies rather than the general public. No significant objections were raised by community members or stakeholders.

As ASM progresses the Heap Leach Option through the current pre-feasibility study, it is likely that a further modification to the existing development consent and additional regulatory approvals will be required. These will be identified and addressed as part of the ongoing technical and environmental assessment process, but they are not anticipated to cause delays to the construction schedule set out in section 12.2.7 below. This additional modification will be sought concurrently with Front-End Engineering Design (**FEED**), mitigating the impact on the development timeline.

In addition, to accommodate the proposed mine life, ASM will need to apply for a renewal of its Mining Lease (ML 1724). To renew a mining lease in New South Wales (NSW), lease holders must apply before the expiry date, submit required documentation via the Titles Management System no earlier than 5 years and not later than one year before the lease ceases to have effect. The process is accelerated if prior approvals and technical work are already in place.

11. Environment, sustainability and governance

ASM is committed to responsible and sustainable development, and has established a strong foundation in environmental, social, and governance (**ESG**) practices. This commitment has been recognised through an improved ESG risk rating of 25.6 from Sustainalytics in April 2025, placing ASM in the top 8% globally within the Diversified Metals and Mining sector.

The Heap Leach Option will be pursued in alignment with ASM's ESG principles, with further detailed assessment and planning to be undertaken in the next stage of study – the PFS. Notably, the adoption of the Heap Leach Option presents potential ESG benefits, including significantly reduced power and water requirements from that envisaged by the 2021 OFS, which may lower the project's overall environmental footprint in a first rare earth focused phase as contemplated by the Heap Leach Option.

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Key elements of ASM's ESG approach include:

- **Environment**: ASM maintains a comprehensive Environmental Management Strategy and annual reporting in line with regulatory approvals. Biodiversity offsets, including protection of habitat for the Pink-tailed Worm-lizard, are managed in perpetuity. ASM also operates a carbon farming initiative under the Emissions Reduction Fund to support carbon offsetting.
- **Social**: ASM fosters a culture of innovation, inclusion, and integrity. The company has a long-standing relationship with the Dubbo community and local Aboriginal groups, with ongoing engagement and heritage protection measures. ASM prioritises local employment, training, and economic development, and anticipates significant regional benefits during both construction and operations.
- **Governance**: ASM is governed by a skilled and experienced Board, adhering to ASX Corporate Governance Principles. ASM maintains robust policies on risk management, ethics, diversity, and anti-corruption, and promotes a strong culture of accountability and transparency.

As the Dubbo Project progresses, ASM will continue to integrate ESG considerations into all aspects of project planning and execution, ensuring alignment with stakeholder expectations and global best practices.

12. Capital and operating costs

12.1. Capital and operating cost estimate summary

The capital cost of the Heap Leach Option is estimated at AUD 740 million consisting of:

- Direct capital of AUD 574 million
- Indirect capital of AUD 63 million
- Contingency of AUD 103 million

The average annual operating costs for the Heap Leach Option are estimated to be AUD 93 million.

12.2. Capital estimate

12.2.1. Basis of capital cost estimate

ASM engaged DRA Pacific Pty Ltd (**DRA**) to evaluate the feasibility of the Heap Leach Option, progress engineering to develop a Class 5 capital cost estimate. DRA conducted a comprehensive trade-off assessment across 96 potential configurations, ultimately narrowing them down to 13 viable combined options. These options varied by heap leach type (static or dynamic), location, crushing circuit placement, material handling method, and potential phasing strategies. The engineering approach included concept-level design, development of a 3D model, and site planning, supported by mechanical and electrical equipment lists, civil and structural estimates, and process flow diagrams.

To develop the capital estimate, DRA produced a Class 5 (±50%) capital cost estimate for each of the 13 shortlisted options, with costs ranging from AUD 728 million to AUD 756 million. The estimates were based on a combination of market quotes, factored costs from previous studies, and preliminary engineering data. The most cost-effective and technically viable option is featured in this Scoping Study, featuring a static heap leach west of the mine with adjacent crushing and conveyor feeding, estimated at AUD 740 million. DRA also developed a project execution schedule from PFS to commencement of operations comprising estimated time for studies, design and construction, and identified key risks related to process design, regulatory approvals, and PFS scope. Recommendations were

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provided across engineering disciplines to guide the implementation of the Heap Leach Option, including further testwork, market engagement, and refinement of design and cost assumptions.

DRA prepared the capital cost estimate based on the following key assumptions:

- a base date of December 2024, with no escalation applied beyond the included contingency;
- a foreign exchange rate of 0.64 USD to AUD at the time of procurement; and
- estimate prepared to an AACE Class 5 level of accuracy, with a typical range of ±50%, consistent with early-stage project evaluations.

12.2.2. Estimate classification

The estimate classifications and approximate accuracy associated with these categories have been adopted from the AACE (**Association for the Advancement of Cost Engineering**), Australasian Institute of Mining and Metallurgy which was compared to other organisations' standards in table format to produce a common set.

The target estimate accuracy is Class 5 in accordance with AACE 47R-11 guidelines.

12.2.3. Contingency

The purpose of the contingency is to cover the uncertainty and variability associated with a capital estimate, and unforeseeable elements of cost within the defined project scope. The contingency assumed in preparing the capital cost estimate for this Scoping Study covers inadequacies in project scope definition, estimating methods, and estimating data. It is expected that should ASM proceed with the Heap Leach Option, all contingency monies will be spent in execution.

The contingency was set at 18% of direct project work costs and excluding owners' costs.

12.2.4. Sustaining capital

In addition to the estimated capital cost, the financial model underpinning the financials presented as part of this Scoping Study incorporates sustaining capital in every year of production following the initial construction period. An estimate of AUD 7 million per annum in sustaining capital has been assumed approximating 1% of the capital cost estimate, although ASM recognises that there will be significant variance in sustaining capital expenditure from year to year as specific components are replaced or refurbished.

The total quantum of sustaining capital over the anticipated 42-year operation totals AUD 311 million in real terms.

12.2.5. Key estimate exclusions

The following three elements have been excluded from the capital cost estimate presented in this Scoping Study:

- off-site road upgrades (with the exception of Obley Road and Toongi Road intersection, and Wambangalang Creek Bridge);
- overhead high voltage powerline; and
- construction camp.

While these items have been excluded, ASM will continue to work on testing the assumptions underpinning their exclusion as work progresses.

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12.2.6. Capital cost estimate

The overall Scoping Study capital cost estimate for the Heap Leach Option is estimated at AUD 740 million and is summarised in Table 7 below.

Table 7 - Capital Cost Estimate

Item	AUD m (real)
Equipment Supply	13.5
Packages (Chlor Alkali plant, solvent extraction circuit)	148.0
Main Electrical Equipment Supply	35.5
Steelwork Supply	14.4
Platework Supply	7.0
Freight	14.9
Installation & Civil Works	197.3
Heap Leach	16.3
Solid Residue Storage Facility (**SRSF**)	27.1
Contractor's Indirect Costs and Management	31.3
EPCM Fee	65.7
Operational Readiness	2.5
Contingency @ 18%	103.2
Total project works excluding owners' costs	**676.7**
Owner's Team (Project Management)	50.0
Vendors, First Fill & Spares	13.3
Project total	**740.0**

The capital cost estimate for the Heap Leach Option represents a substantial reduction compared to the AUD 1,687 million capital cost estimate presented in the OFS. This significant decrease is primarily driven by the adoption of heap leach processing, which eliminates the need for high-cost infrastructure associated with conventional method and a streamlined focus on producing high-purity rare earth oxides.

12.2.7. Construction schedule

The estimated construction timeline spans 30 months after taking Final Investment Decision (**FID**), beginning with the award of EPCM Contract through to detailed engineering, procurement, and construction phases. This schedule reflects the simplified scope provided by the Heap Leach Option and focuses on ramping up to full production in a shorter timeframe compared to previous plans. Table 8 sets out the estimated timetable assuming the PFS is completed in Q1 2026 and FID is taken in H1 2027.

The construction schedule is based on supply and construction durations developed in earlier studies informed from market requests and assuming overlapping FEED and EPCM services with some early procurement of long lead items.

It should be noted that achieving FID is subject to a range of factors, including securing funding and offtake agreements, and therefore cannot be assured.

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Table 8 – Key construction milestones

Activity	Assumed Timeline	Indicative Completion Date
PFS	8 months from July 2025	Q1 2026
FEED	14 months from PFS completion	H1 2027
FID	1 month from FEED completion	H1 2027
EPCM Award	1 Month From FID	H1 2027
Implementation	30 months from EPCM award	2029

There is no warranty nor assurance given as to whether this assumed timeline will be met. ASM also reserves the right to vary the timeline.

12.3. Operating costs

12.3.1. Basis of operating cost estimate

The operating cost estimate for the Heap Leach Option was built internally by ASM with some pricing for reagents sourced by DRA. The operating cost estimate is based on mining and processing of 1.0 Mtpa of material at 8,000 hrs per annum to produce a suite of products listed in Table 9.

Table 9 - Dubbo Project Product Summary

Dubbo Products	Production Target Quantity Average Metric Tonnes per Annum (tpa)	
	Years 3-15	LOM
Nd/Pr Oxide (solid)	1,157	1,037
Tb Oxide (solid)	13	11
Dy Oxide (solid)	72	49
Total	**1,243**	**1,097**

The main constituents of the operating cost estimate include:

- mining costs;
- operations and maintenance labour;
- electric power;
- reagents;
- consumables (including natural gas);
- maintenance;
- general and administration;
- contracts and consultant services;
- product transport; and
- waste transport of salts generated by the brine concentrator to the salt encapsulation facility.

The operating cost estimate has been prepared based on the following parameters:

- estimate base date of the first quarter of 2024;
- target accuracy of -15% to +40%;
- reagent and consumable quantities calculated from the concept METSIM modelling of the process design criteria and flowsheets;
- applicable equipment operating power requirements from the concept study load list;

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- power rates utilising public data sets;
- reagents either updated from budget pricing or factored up from OFS pricing;
- organisation chart determined by ASM and labour rates from internal wage data;
- general, administration and consulting expenses factored from the OFS; and
- maintenance costs based on a fixed percentage of the total mechanical equipment cost in each area varied to reflect the type of equipment and process conditions of operation in the area.

12.3.2. Operating cost estimate

The estimated annual operating costs for the Heap Leach Option are summarised below in Table 10, highlighted by key cost categories contributing to the total projected expenditures of AUD 93.1 million per annum (in real terms).

Table 10 - Average Annual Operating Cost Assumptions Summary

Cost category	AUD m (real)
Heap management	6.0
Reagent consumption	8.2
Labour	25.7
Electric Power	14.7
Reagent transport	4.4
Product Transport	0.1
Waste Transport	2.4
Mining and haulage contract	13.9
Maintenance	3.0
General & Admin	9.0
Consumables	1.5
Contracts	4.2
Total	**93.1**

12.3.3. Key operating cost assumptions

Table 11 summarises the estimated key operating cost assumed inputs.

Table 11 - Key Operating Cost Assumption Inputs

Key opex items	Qty	Assumption	Rate	AUD m (real)	% of total
Labour	125	FTE	205,531	25.7	28%
Electrical	125,214,154	KwH / annum	0.117	14.7	16%
Mining and haulage	1,060,000	tonnes	13.12	13.9	15%
Reagents (including transport)	76,865	tonnes	165	12.680	14%
Heap management	1,000,000	tonnes	6.00	6.0	6%
Key reagents (incl. transport)					
Salt (NaCl)	62,568	tonnes	107	6.7	7%
Sulphuric Acid (H_2SO_4)	12,408	tonnes	268	3.3	4%
Other key items					
Insurance				3.9	4%
Laboratory product sampling				2.1	2%
Maintenance				3.0	3%
Key opex items subtotal				**78.9**	**85%**

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The five largest categories of costs (labour, power, mining, reagents and heap management) comprise 85% of the total operating cost estimate. These costs have been estimated on the basis of:

- **Labour:** Target organisational structure totalling 125 employees has been built and costed based on internal wage data, with costs inclusive of superannuation, payroll tax, workers compensation and short-term incentive plan;
- **Power:** Price of AUD 0.117/KwH based on futures contracts plus a capital component for the construction of the electricity connection;
- **Mining and haulage:** Cost of AUD 13.12/tonne based on contractor quotes, inclusive of clear and grub, drilling, blasting and management, mining excavation and haulage;
- **Reagents:** Prices based on domestic supplier quotes; and
- **Heap management:** AUD 6/tonne moving 1,000,000 tpa of material per year, based on the above mining cost with non-relevant items removed (e.g. topsoil removal, drilling and blasting) and factored for haul distances.

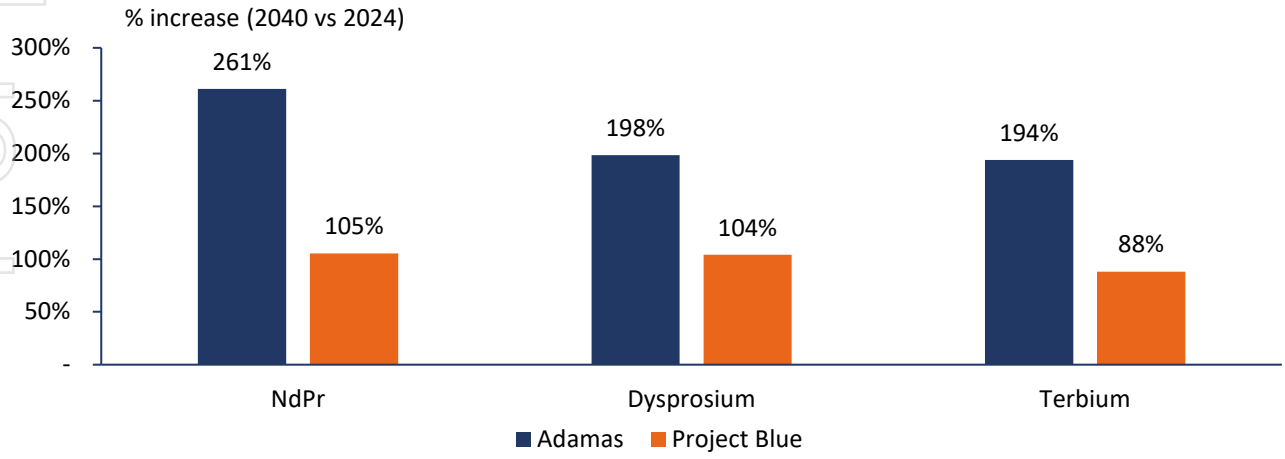
13. Economic analysis

13.1. Market studies

13.1.1. Supply and demand forecasts

The demand for magnetic rare earth oxides is forecasted to dramatically increase over the next years and decades. Magnetic rare earths are used in NdFeB permanent magnets, which are used in advanced manufacturing, sustainable energy industries and defence applications. Independent market research firm Project Blue note several megatrends that support demand growth, such as the energy transition, increasing use of portable electronics, and new technological breakthroughs. Adamas Intelligence, another independent market research firm, also forecast a large increase in magnetic rare earth oxide demand due to growth in electric vehicles, advanced air mobility, and with robotics to become the largest global demand driver by 2040. Figure 19 below depicts forecast growth in demand by Adamas Intelligence and Project Blue from 2024 to 2040 in magnetic rare earths, showing an approximate doubling to tripling of demand.

Figure 19 - Increases in Demand Forecast by Adamas Intelligence and Project Blue from 2024 to 2040



Source: Rare Earths long-term outlook, energy transition horizon outlook to 2050, February 2025, Project Blue, and Rare Earth Magnet Market Outlook to 2040, Q3 2024, Adamas Intelligence

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China announced export restrictions on a range of medium and heavy rare earths elements on 4 April 2025, as well as their oxides, metals, alloys and magnets. The export restrictions include several of the Dubbo Project's proposed products as per the OFS:

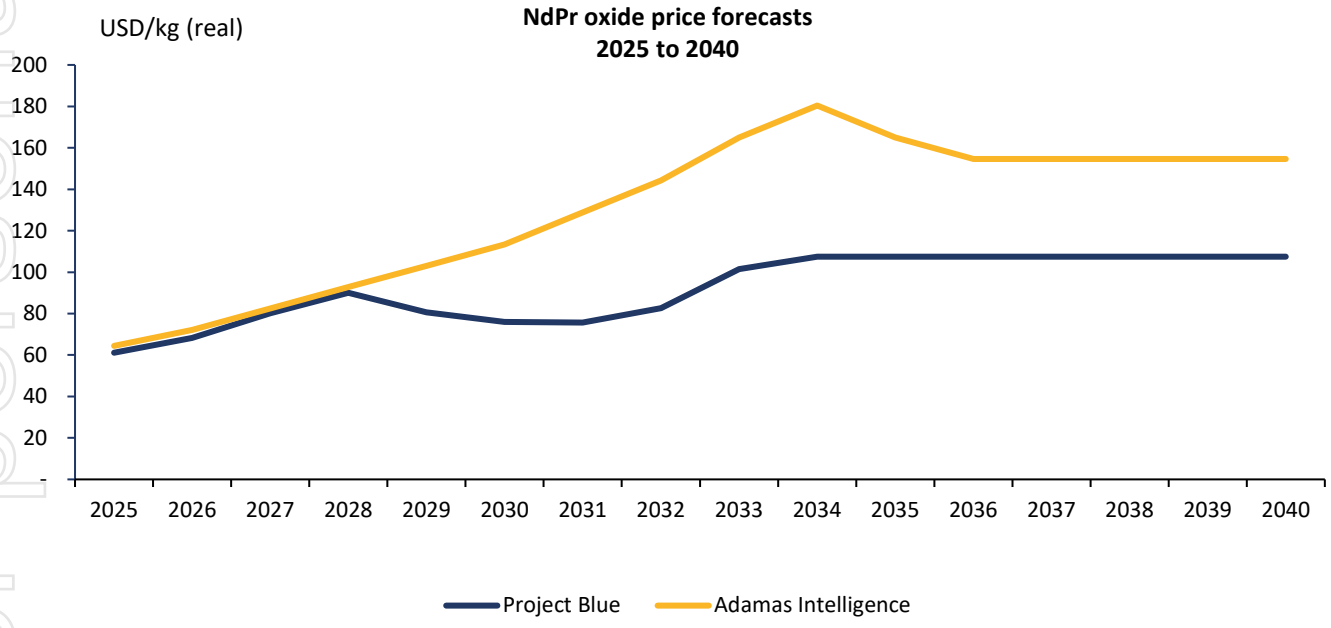
- Terbium;
- Dysprosium;
- Samarium;
- Gadolinium;
- Lutetium; and
- Yttrium.

Chinese export restrictions and other trade developments such as tariffs may present opportunities to move towards an ex-China market that will have different supply and demand dynamics.

13.1.2. Price forecasts

Both Adamas Intelligence and Project Blue forecast a long-term increase in magnetic rare earth oxide prices due to forecast deficits in supply relative to demand. Figure 20 illustrates these price forecasts for NdPr oxide for the period 2025 to 2040 as at Q1 2025 in real 2024 terms.

Figure 20 - NdPr Oxide Price Forecasts to 2040 From Project Blue and Adamas Intelligence

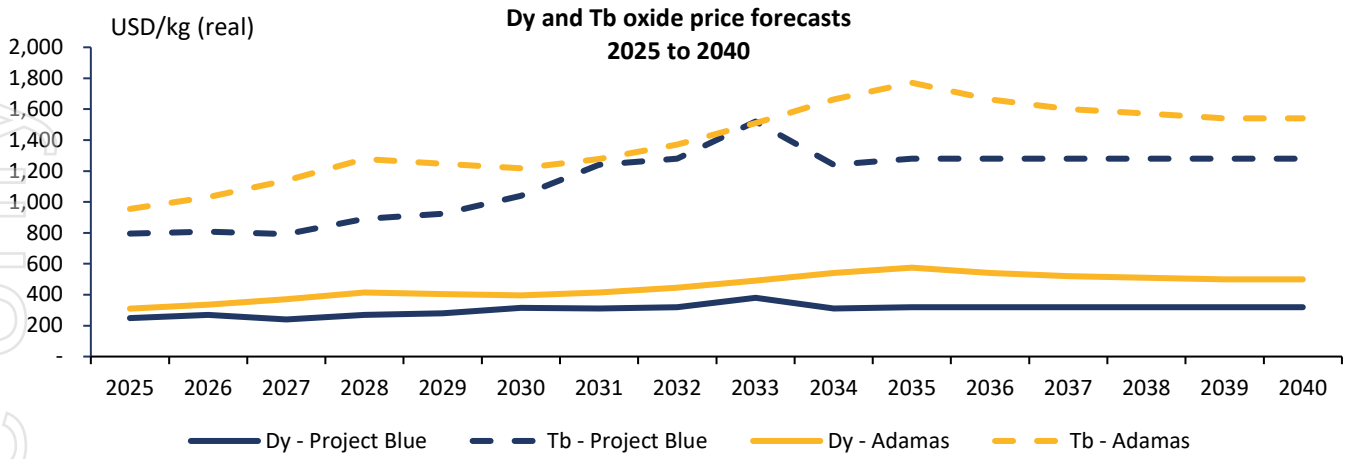


Source: Project Blue Rare Earths Medium-term outlook, Q1 2025, Adamas Intelligence Rare Earth Pricing Quarterly Outlook, Q1 2025

Figure 21 illustrates these price forecasts for Dy and Tb oxide for the period 2025 to 2040. The Toongi deposit has relatively high grades of Dy and Tb oxide, and these heavy rare earth products comprise 24% of the estimated project revenue for the Heap Leach Option over the first 15 years.

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Figure 21 - Dy and Tb Oxide Price Forecasts from Project Blue and Adamas Intelligence



Source: Project Blue Rare Earths Medium-term outlook, Q1 2025, Adamas Intelligence Rare Earth Pricing Quarterly Outlook, Q1 2025

Chinese spot prices (inclusive of VAT) for NdPr, Tb and Dy oxides as at the date of this Scoping Study are:

- NdPr oxide: US$64.15/kg;
- Tb oxide: US$1,160.00/kg; and
- Dy oxide: US$264.50/kg[12].

The current spot prices are below the long-term pricing forecasts provided by independent market analysts such as Adamas Intelligence and Project Blue and ASM does not consider these spot prices to be a reliable reflection of long-term market fundamentals. The Company's basis for use of the pricing assumptions informed by these independent market forecasts is underpinned by several factors: projected growth in global demand for magnet rare earths, anticipated price premiums for non-China sourced material, and the influence of trade restrictions and geopolitical dynamics expected to exert upward pressure on prices. Historical pricing data also demonstrated significant volatility and periods of elevated pricing, supporting the view that current spot levels may be cyclical lows. Accordingly, ASM considers it has a reasonable basis to rely on the long-term pricing assumptions adopting in this Scoping Study. However, it is acknowledged that there is inherent risk in doing so. Should market prices fail to improve in line with these assumptions, the economic outcomes presented in this Scoping Study may be adversely impacted.

13.2. Financial modelling and evaluation process

As part of this Scoping Study, ASM has developed a detailed financial model to assess the financial and economic parameters and the overall economic viability of the Heap Leach Option (**Financial Model**). The Financial Model is based on a discounted cash flow analysis, supported by updated technical inputs and external long-term pricing assumptions. A financially viable Heap Leach Option provides a potential opportunity to implement the Dubbo Project in phases, with a rare earths first phase.

To evaluate the potential financial outcomes for the Heap Leach Option, ASM has assessed two pricing scenarios:

[12] As quoted by Argus International Metals Intelligence

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- Base Case: Utilises a blended pricing forecast for rare earth oxides, derived from independent market research firms Project Blue and Adamas Intelligence. This scenario provides a balanced view of expected market conditions (**Base Case**).

- Adamas Case: Applies pricing exclusively from Adamas Intelligence, representing a more optimistic market outlook and highlighting potential upside in revenue and project valuation (**Adamas Case**).

These externally sourced long-term pricing assumptions have been adopted by the ASM Board for this Scoping Study and form the basis of the revenue projections in each scenario.

ASM has reviewed the inputs to the Financial Model and considers the assumptions to be reasonable and appropriate for this stage of project evaluation. However, it is acknowledged that certain assumptions – particularly those related to future markets conditions – are inherently uncertain and subject to change.

A detailed summary of the key inputs and assumptions underpinning the Financial Model are set out in the following sections.

13.3. Assumptions

The Financial Model incorporates the following key economic assumptions set out in Table 12:

Table 12 - Key Economic Assumptions

Parameter	Assumption	Basis
Exchange rate (USD/AUD)	0.67	Average of four analysts' long-term forecasts from Factset as at 30 April 2025
Discount rate (real, post-tax, %)	8.0%	As per OFS
Valuation date	June 2027	Target EPCM award date
Corporate tax rate (%)	30%	Current Australian corporate tax rate
Product pricing (USD/kg, real)	**Base Case** - LOM average NdPr: USD 130/kg Dy: USD 410/kg Tb: USD 1,410/kg **Adamas Case –** LOM average NdPr: USD 154/kg Dy: USD 500/kg Tb: USD 1,539/kg	**Base Case -** Blend of Project Blue and Adamas Intelligence forecasts as set out above **Adamas Case –** As set out in section 13.1.2

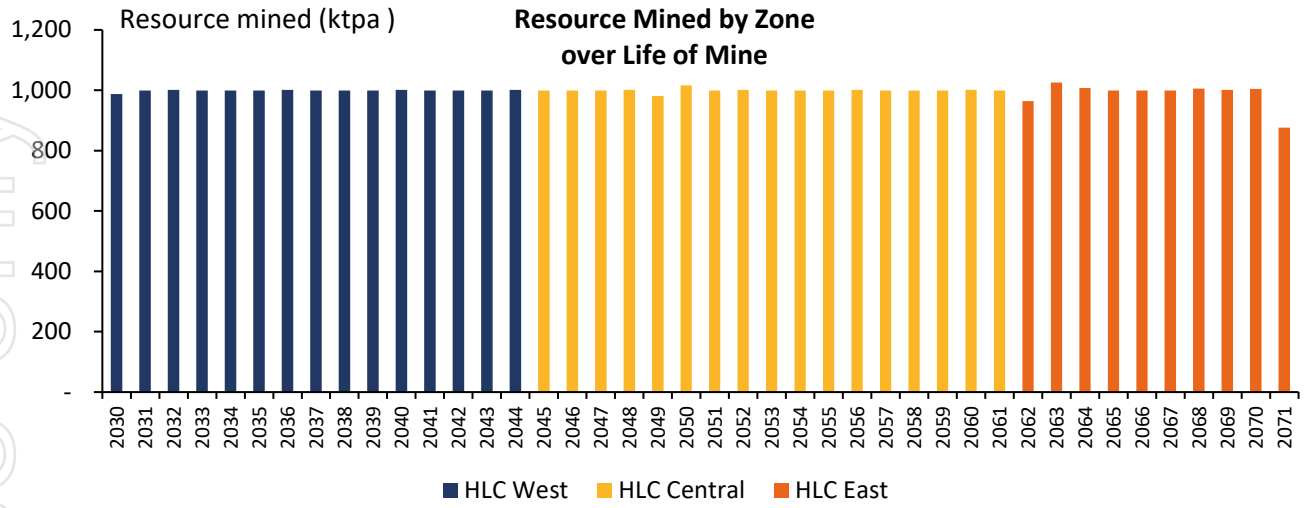
The reportable JORC 2012 compliant resource for the Dubbo Project, incorporating Measured, and Inferred Resources has been estimated at 75.2 Mt (42.81 Mt Measured and 32.37 Mt Inferred), as outlined in detail in Section 5 of this Scoping Study. The targeted mine plan for the Heap Leach Option envisages mining 42 Mt of that Measured resource at 1.0 Mtpa, resulting in a 42-year mine life based on the Measured Resource. The mine plan splits Dubbo into three zones, with recoveries based on the metallurgical testwork results from the drill holes located in each zone as set out in Section 6:

- West – mined for the first 15 years with recoveries based on those results reported for HCL-West.
- Central – mined for years 16-32 with recoveries based on those results reported for HCL-Central.
- East – mined for years 33-42 with recoveries based on those results reported for HCL-East.

This mine plan is illustrated in Figure 22 below:

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Figure 22 - Resource Mined by Zone Over Life of Mine



ASM may in the future evaluate the possibility of mining beyond this amount. ASM could consider whether additional mining could take place either through an expansion of the Dubbo Project processing capacity beyond 1.0 Mtpa during the mine life or through an extension of the mine life – or both. However, these remain aspirational statements and are not intended to be forecasts, as the Company does not yet have reasonable grounds to expect they will be achieved.

The Financial Model incorporates the following mining and cost assumptions set out in Table 13:

Table 13 - Financial Model Mining and Cost Assumptions

Parameter	Assumption			Basis
Product leach recoveries	**West** Nd: 79.9% Pr: 84.9% Dy: 37.3% Tb: 44.2%	**Central** Nd: 68.7% Pr: 74.9% Dy: 22.8% Tb: 36.1%	**East** Nd: 75.9% Pr: 82.7% Dy: 17.1% Tb: 27.1%	Based on recoveries as set out in Sections 6.4.1 to 6.4.3
Post-leach processing losses	5% of rare earths leached are precipitated (and therefore lost) in the impurity removal process			ASM estimate based on testwork
Ramp up	Product recoveries halved in year 1 95% target recoveries in year 2			ASM initial estimate
Capital cost (AUD, real)	AUD 740 m			See section 12.2.6
Capital cost timing	15% in H2 2027 45% in 2028 40% in 2029			ASM estimates
Sustaining capital cost (AUD, real)	AUD 7 million per annum			See section 12.2.4
Operating cost (AUD, real)	AUD 93 million per annum			See section 12.3.2
Critical Minerals Production Tax Incentive (CMPTI)	10% applied to eligible annual operating expenses over 2030-2039			As per CMPTI guidelines published 21 February 2025
NSW royalty	4%, ~70% of operating expense deductible, first 5 years deferred			NSW Royalty Rate for rare earth minerals
Tax depreciation	5% / 20-year useful life, diminishing value			

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The Heap Leach Option has been evaluated as an individual operation and not as part of a combined business together with the Korean Metals Plant in line with ASM's current mine to metal strategy. Potential benefits of the combined operation, for example offering customers stronger security of supply and potential enhanced pricing power, have not been included in the economic analysis.

13.4. Evaluation

Based on the Financial Model with the key input parameters as described above, the key outputs of the Financial Model are summarised in Table 14 for each of the Base Case pricing and the Adamas Case pricing:

Table 14 - Key Outputs from Financial Modelling

Key financial forecasts (AUD Millions)	Base Case pricing	Adamas Case pricing
Gross revenue over life of mine	10,669	12,620
Total undiscounted pre-tax free cash flow	5,472	7,345
Average annual free cash flow (years 3-15)	145	184
Average annual free cash flow (LOM)	108	139
NdPr unit cost (average years 3-15) (USD/kg, real)[1]	39	39
NdPr unit cost (LOM) (USD/kg, real)[1]	47	47
Pre-tax project IRR (%)	18.3%	22.9%
Post-tax project IRR (%)	14.8%	18.4%
Pre-tax NPV (AUD m)	967	1,468
Post-tax NPV (AUD m)	570	921
Payback period (years)	5.8	4.3

Note: 1. C1 operating cost allocated to NdPr on revenue basis

The Base case and Adamas case assume product pricing set out in Table 12. The Dubbo Project is forecast to break even (i.e. post-tax NPV = $0) at an NdPr price of USD 87/kg, Tb price of USD 1,160/kg and Dy price of USD 258/kg.

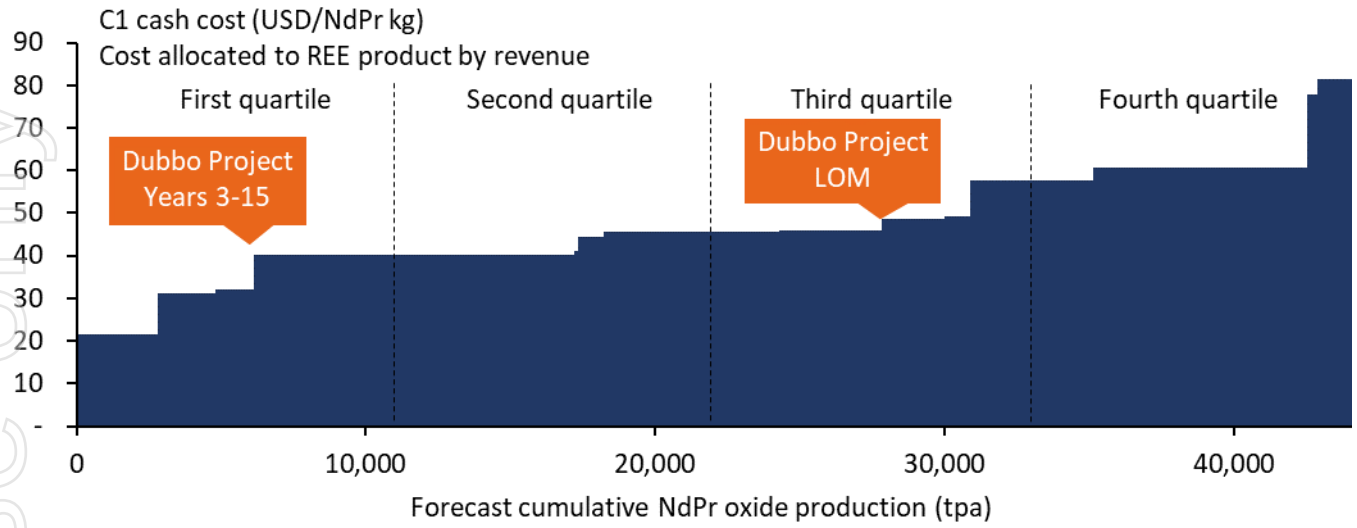
NdPr C1 unit costs are expected to be USD 39/NdPr kg over years 3-15 of the Dubbo Project and USD 47/NdPr kg over LOM on the basis of:

- NdPr revenue comprising 76% of year 3-15 revenue under Base Case pricing assumptions (79% over LOM due to lower Dy and Tb recoveries);
- USD / AUD exchange rate of 0.67;
- The operating cost estimate set out in section 12.3.2, with CMPTI credits applied over years 1-10 of production, and excluding NSW royalties and depreciation and amortisation; and
- Average 1,157 tpa NdPr production during years 3-15 (1,037 tpa over LOM).

This places the Dubbo Project competitively within the first quartile of the ex-China 2032 cost curve based on analysis by Project Blue for years 3-15, and within the third quartile over LOM as illustrated in Figure 22 below:

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Figure 23 – NdPr C1 unit cost curve (2032), ex-China



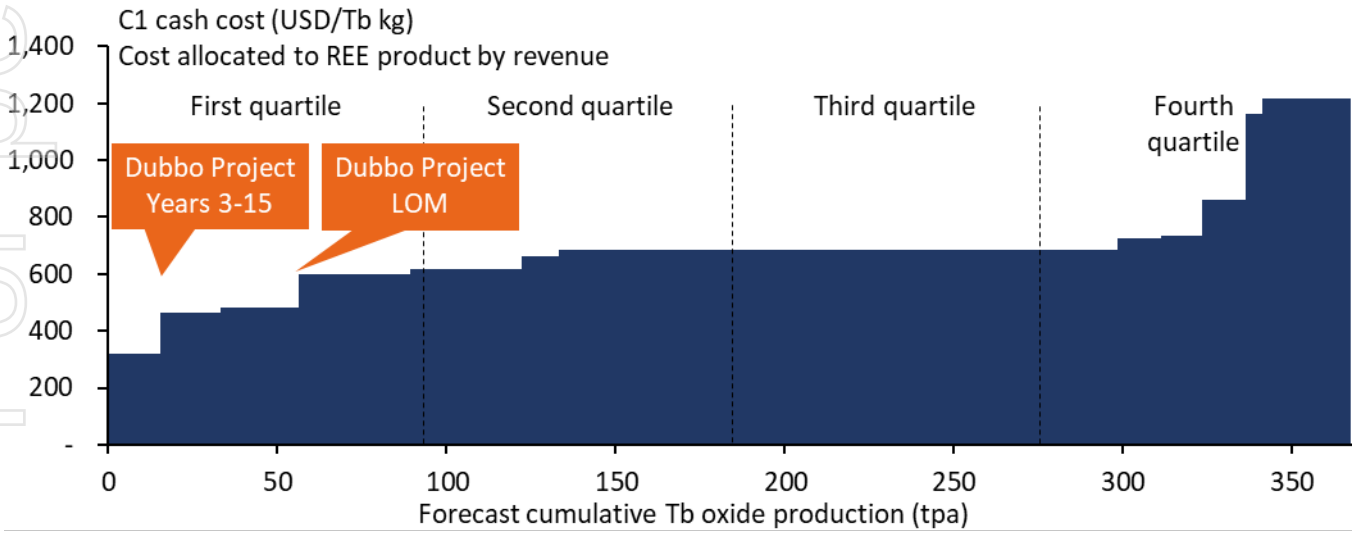
Source: Project Blue ex-China forecast production and C1 costs allocated to products by revenue for year 2032, Q2 2025. ASM reported costs for years 3-15 and LOM for Dubbo Project

The forecast Tb and Dy unit costs calculated using the same methodology as NdPr unit costs are set out in Table 15 below. The Dubbo Project is again expected to be very competitively positioned in the first quartile of the ex-China cost curve for both Tb and Dy as set out in Figures 23 and 24:

Table 15 - Forecast Tb and Dy unit costs

	Years 3-15	LOM
Tb % revenue	9.5%	8.9%
Tb USD / Tb kg unit cost	421	506
Dy % revenue	14.9%	11.9%
Dy USD / Dy kg unit cost	122	147

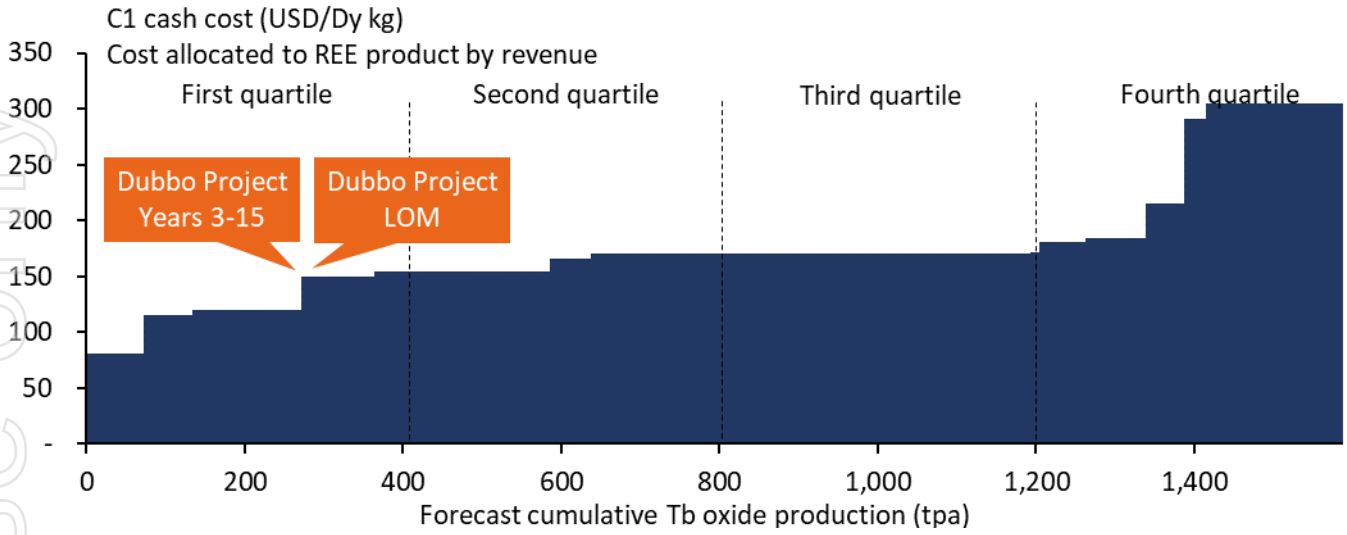
Figure 2423 - Tb C1 unit cost curve (2032), ex-China



Source: Project Blue ex-China forecast production and C1 costs allocated to products by revenue for year 2032, Q2 2025. ASM reported costs for years 3-15 and LOM for the Dubbo Project.

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Figure 2524 - Dy C1 unit cost curve (2032), ex-China



Source: Project Blue ex-China forecast production and C1 costs allocated to products by revenue for year 2032, Q2 2025. ASM reported costs for years 3-15 and LOM for the Dubbo Project.

The cost curves presented in this Scoping Study have been independently prepared by Project Blue and are based on their proprietary estimates of macroeconomic factors such as exchange rates and energy costs, production volumes and costs across the rare earths industry. These cost curves do not reflect actual or stated production volumes or costs for any specific project. These curves are underpinned by material assumptions made by Project Blue including the following for Australian projects:

- USD/AUD FX rate 2025+: 0.67;
- Electricity: US$0.20/KwH; and
- Diesel: US$1.08/Litre.

They also rely on other assumptions and data inputs that are not publicly available. ASM's position on the cost curve is based on the material assumptions disclosed in this Scoping Study. The cost curves are provided for illustrative purposes only, and investors are cautioned against relying on them in isolation when making investment decisions.

13.5. Alternative scenarios and sensitivities

13.5.1. Potential improvements in financial forecasts

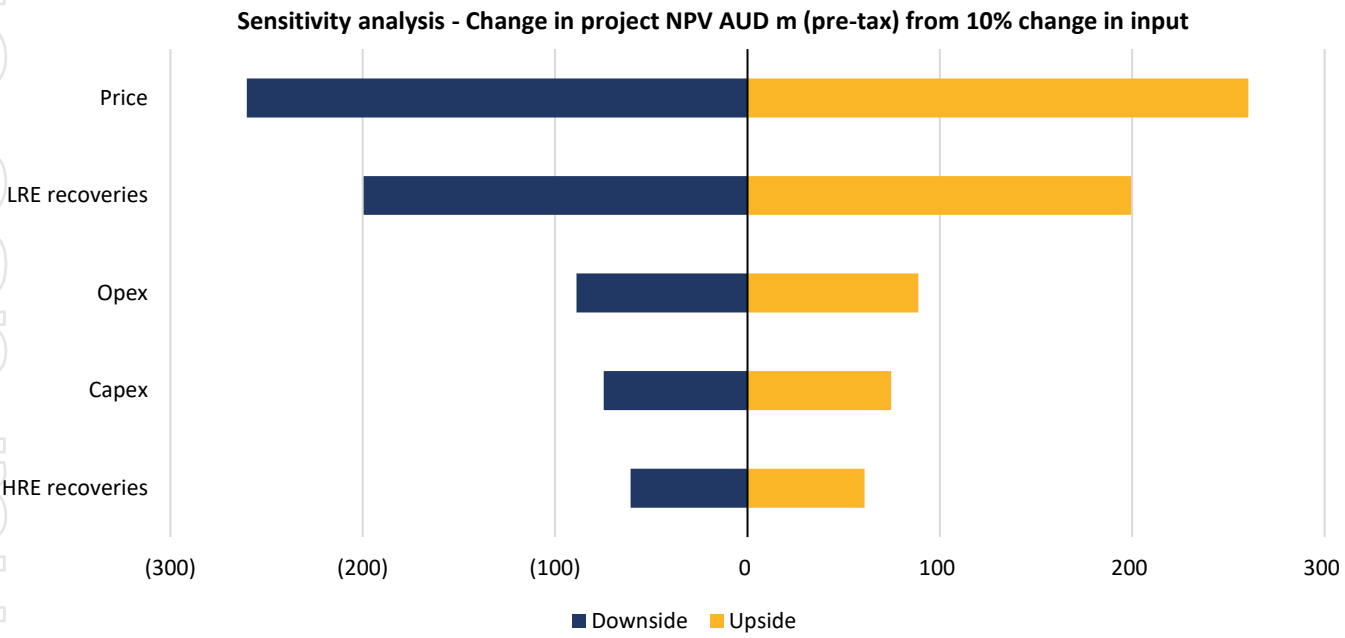
The Financial Model assumes processing losses of 5%. ASM has grounds to believe there is potential for these losses to improve due to further flowsheet optimisation to be conducted in H2 2025. A substantial program of engineering and metallurgical work is underway to support ongoing optimisation efforts. This includes initiatives aimed at enhancing recoveries and reducing both capital and operating costs, and includes work such as column leach testing, flowsheet validation and optimisation in collaboration with ANSTO, and the evaluation of alternative leaching and neutralisation strategies. In addition to the column testwork, a further round of bottle roll tests is currently being planned to evaluate the deeper zones of the deposit. A similar compositing method will be employed as for the Phase B Program, targeting the drill core sample from RL360 mL down to RL330 mL (the Phase B Program tested sample from surface to RL360 mL).

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13.5.2. Sensitivity to key assumptions

Figure 26 outlines the change in pre-tax NPV from the Financial Model based on 10% changes to key inputs – revenue (product pricing), light rare earth recoveries, annual operating expenses, capital cost and heavy rare earth recoveries. The analysis is based on the case presented in, i.e. assuming Base Case pricing and 42-year mine life

Figure 25 - Sensitivity Analysis



As expected, the Financial Model NPV is most sensitive to long term product pricing assumptions (revenue).

14. Next steps

14.1. Developing the Heap Leach Option

The Scoping Study and financial analysis has identified the potential for a staged implementation of the Dubbo Project with a rare earth first phase that is forecast to be deliverable, fundable and to potentially provide strong financial returns. On this basis, ASM intends to progress the Dubbo Project Heap Leach Option to a Pre-Feasibility Study (**PFS**).

The PFS will aim to:

- be informed by future metallurgical test work that aims to improve recoveries and consider potential changes to the flowsheet, e.g. acid selection and usage amounts;
- provide further refinement and definition to the capital cost estimate, moving from a current class 5 estimate (in accordance with AACE 47R-11 guidelines) to a class 4 estimate, including potential opportunities to reduce capex, e.g. trade-off studies;
- further refine the operating cost estimate on the basis of improvements to recoveries, the flowsheet, the mining plan and capex; and
- provide detailed financial analysis and risk management steps to enable progression of project financing.

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Accordingly, the next steps ASM aims to undertake over the next 6 to 9 months are:

- Further metallurgical test work, including further drilling and column testing, to refine recoveries and inform potential flowsheet improvements.
- Develop a JORC Ore Reserve estimate that will underpin the mine life and product recoveries for the Heap Leach Option.
- Produce separated rare earth oxides using the selected flowsheet at the Dubbo Project pilot plant in conjunction with ANSTO.
- Engage engineering firms to complete studies of the separation technology and residue storage facilities – discussions on firm selection are well advanced.
- Deliver a PFS that will form the basis of future FEED and investment decisions.

Most of the above activities are eligible for support under the AUD 5 million grant awarded by the Australian Federal Government on 15 October 2024 under its International Partnerships in Critical Minerals Program.

ASM is targeting completion of the PFS in Q1 2026, which will further define the technical and economic viability of the Heap Leach Option and inform the decision on whether to proceed. If the option is deemed viable, ASM will target the following key milestones:

- Commencement of FEED – estimated 14-month duration;
- Final Investment Decision (**FID**) – to follow completion of FEED, subject to obtaining funding, outcomes and approvals; and
- Construction Phase – 30 months, pending FID and detailed project planning.

14.2. Long-term Dubbo Project development

Development of the Heap Leach Option will be an important step in realising the full potential of the Dubbo Project in line with the vision set out in the OFS. The Heap Leach Option provides the opportunity to develop the Dubbo Project in phases with an initial stage focused on producing rare earths. This focus also accelerates the funding, offtakes and ramp up of the Dubbo Project relative to the OFS scenario.

The infrastructure constructed and cash flow generated during an initial phase enabled by the Heap Leach Option is aimed to assist in funding and development of the full Dubbo Project, which could potentially recover the other minerals in the deposit and stockpile. There also remains strong support from potential customers and governments for the additional critical minerals that will be produced, and capability at the Korean Metals Plants to vertically integrate and process these minerals into metals.

15. Material risks

This section provides an overview of some of the key risks relating to the development of the Heap Leach Option which may affect the future operating and financial performance of ASM and the value of ASM Shares. The risks set out below do not constitute an exhaustive list of all risks involved with the development of the Heap Leach Option. The selection of risks in this Scoping Study is based on both the probability of the risk occurring and the impact of the risk if it did occur, based on the knowledge of ASM's Directors as at the date of this Scoping Study.

15.1. Supply Chain Risk

ASM's ability to successfully develop and commercialise the Dubbo Project is subject to supply chain risk.

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ASM will depend on suppliers of materials, services, equipment and infrastructure to develop and commercialise the Dubbo Project. Failure of significant components of this supply chain due to strategic factors such as business failure or serious operational factors could have a material adverse effect on the development and commercialisation of the Dubbo Project.

15.2. Counterparty Risk

ASM's ability to successfully develop and commercialise the Dubbo Project is subject to counterparty risk.

ASM has executed conditional agreements in relation to FEED services with Bechtel Mining and Metals, Inc.

ASM may enter into other agreements with the above or other contractors to develop the Dubbo Project. The development of the Dubbo Project will depend on the performance of the counterparties under the various agreements ASM has entered into or will enter into.

If the Dubbo Project is successfully developed, ASM may enter into agreements with counterparties to commercialise the Dubbo Project (including offtake agreements). There is a risk that counterparties do not take their obligated quantities of product or seek to renegotiate the price or quantity of product.

In addition, there are risks that:

- counterparties may suffer from insolvency, financial or managerial failure, capacity constraints, mobilisation issues, plant, equipment and staff shortages, labour disputes or any other reason that leads them to default in the performance of their obligations;
- ASM will not be able to find replacement counterparties on acceptable terms in the event that counterparties do not perform as ASM expects;
- agreements with counterparties are terminated in accordance with their terms; and
- legal disputes may arise between ASM and counterparties, and ASM may not be able to seek legal redress that it could expect under Australian law against a particular defaulting counterparty.

Any of the above may materially and adversely affect the development and commercialisation of the Dubbo Project, causing a material adverse impact on ASM's operations, financial performance and financial position.

15.3. Metallurgical Process Risk

Rare earth and critical mineral recoveries are dependent on the metallurgical process that is required to liberate economic minerals and produce a saleable product and by nature contain elements of significant risk such as:

- identifying a metallurgical process through test work to produce a saleable metal;
- developing an economic process route to produce a metal; and
- any changes in mineralogy in the deposit, which can result in inconsistent metal recovery.

These factors may affect the goals of development and commercialisation of the Dubbo Project which could adversely impact financial performance and financial position.

15.4. Access to services and infrastructure

The development and commercialization of the Dubbo Project requires (and will require in the future) consistent access to:

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- required services and products (such as power, water and chemical products to process the critical minerals); and
- access to port, road and rail infrastructure to transport consumables, equipment, ore or concentrate between its operations and to customers.

Delays in the supply, or increase in the costs, of the required services and products could have a material adverse effect on ASM's business. Any event that restricts access to road and rail infrastructure (or any other infrastructure, or difficulties with obtaining required permits and approvals) may delay or prevent the sale of products to ASM's customers which could adversely impact ASM's operations, financial performance and financial position.

15.5. Commodity prices

ASM's future prospects and the financial forecasts for the Dubbo Project will be influenced by the prices obtained for the rare earth and critical mineral products produced and targeted in ASM's development and exploration programs. Prices for rare earth and critical mineral products are volatile, fluctuate and are impacted by factors including the relationship between global supply and demand for minerals, forward selling by producers, costs of production, geopolitical factors (including trade tensions) and general global economic conditions.

Prices for rare earth and critical mineral products are also affected by changing consumer trends (see 'Changing consumer trends' risk factor below).

These factors may have an adverse effect on ASM's production and exploration activities and any subsequent development and production activities, as well as its ability to fund its future activities.

15.6. Legislative changes

ASM is subject to various laws and regulations in Australia including, but not limited to, mining, prospecting, development, permit and licence requirements, industrial relations, taxation, environment, land use, royalties, water, native title and cultural heritage, occupational health and safety and the COVID 19 pandemic. Changes in any of these or other laws or government policies (including, but not limited to, monetary policies) in Australia or internationally may impact ASM's operations, financial performance and financial position.

15.7. Changing consumer trends

Critical minerals technology and consumer trends are evolving rapidly. Products to be produced from the Dubbo Project include rare earth oxides that are used in a variety of applications including, defence, electric vehicles and consumer electronics and critical minerals technology.

Prices for those rare earth oxides experience considerable variance. Prices for rare earth oxides fell over the 2023 and 2024 calendar years but rose during the 2025 calendar year (compared from 2024). In recent months there are signs that conditions in the electronic vehicles market are further improving.

However, if there is:

- changing demand for the applications for which critical minerals may be used and/or the advancement of alternative technologies for use in such applications and which do not require the use of critical minerals or a lesser quantity of critical minerals; and/or

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- changes in the sentiment or conditions in the countries and sectors in which ASM and its business / commercial partners sell or intend to sell their products,

the conditions in relation to the Dubbo Project may change rapidly, create revenue uncertainty and adversely impact on ASM's financial performance and growth.

15.8. Funding

The development of the Dubbo Project, including progression beyond the Scoping Study phase, is subject to securing appropriate funding. While the Scoping Study demonstrates a potentially viable development pathway, it does not guarantee that financing will be available on acceptable terms or within required timeframes. ASM will need to raise capital to fund further technical studies, permitting, and construction activities.

There is a risk that market conditions, investor appetite, or changes in macroeconomic factors may impact the Company's ability to secure the necessary funding. The Company will continue to explore a range of funding options, including equity, debt, strategic partnerships, and government support, to mitigate this risk. However, no assurances can be made that appropriate equity, debt or other forms of funding (including by way of government grants and funding (see 'Accessing government funding' risk factor below)), if and when needed, will be available on terms favourable to ASM or at all. If required funding is not available, including because appropriate commercial terms cannot be negotiated, this may have a material adverse impact on ASM, its overall business strategy, plans to develop and commercialise the Dubbo Project and the price of its shares.

15.9. Accessing government funding

From time to time, ASM has made (and may continue to make) strategic financing decisions based on availability of government funding in jurisdictions relevant to its operations and products. No forecast is made of the extent to which any government funding may be available to ASM (and there is a risk that no such funding will be received).

For example:

- Export Finance Australia **(EFA**) has provided a non-binding letter of support, subject to a number of conditions such as securing offtake commitments for metal products, execution of a lump sum turnkey fixed date contract and finalising the Dubbo Project's funding plan (refer to ASM's announcement "Export Finance Australia issues letter of support for the Dubbo Project" dated 28 June 2021);

- the Export-Import Bank of the United States (**USEXIM**) has provided a non-binding and conditional letter of interest (**LoI**) to ASM regarding the provision of a debt funding package of up to US$600 million (A$923 million) for the construction and execution phase of the rare earths and critical minerals Dubbo Project. US EXIM's support is linked to the potential US content (equipment, goods and services) to be supplied in the construction phase of the Dubbo Project and the key strategic role the Dubbo Project can play in the critical minerals supply chain. The LoI is subject to completion of due diligence by US EXIM and ASM obtaining all necessary approvals for the Dubbo Project (refer to ASM's announcement "ASM receives US$600M (A$923M) Letter of Interest from USEXIM" dated 21 March 2024);

- USEXIM has also provided a non-binding and conditional LoI to ASM regarding the provision of a debt funding package of up to US$31.85 million (A$50.5 million) for Dubbo Project procurement under the US Engineering Multiplier Program (**EMP**) on the condition that a US service provider is engaged. To seek to access this funding, ASM's subsidiary Australian Strategic Materials (Holdings) Pty Ltd has executed an

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agreement with Bechtel in relation to FEED services (refer to ASM's announcement "Bechtel contract to support ASM with engineering at the Dubbo Project" dated 25 March 2024); and

- Export Development Canada (**EDC**) has provided a non-binding and conditional LoI to ASM indicating support for EDC to provide a direct lending debt funding package of up to A$400 million for the construction and execution phase of the Dubbo Project, conditional on equipment and services supply from Canadian companies for the execution phase of the Dubbo Project (refer to ASM's announcement "Growing North American support builds momentum for Dubbo Project funding process" dated 26 April 2024 and ASM's announcement "Extension of Letter of Interest from Export Development Canada" dated 1 April 2025).

The above potential funding packages do not relate to funding for the continuation of the PFS.

ASM is continuing discussions with export credit agencies from jurisdictions including Australia, US, Korea, Canada and the EU. These discussions are subject to internal decision-making processes and there is no assurance that support or funding will be secured.

These funding approval processes may be protracted due to internal government decision-making processes and may be disrupted due to comments and participation of any rights of stakeholders, including the public, non-government organisations and anti-mining groups, in relation to any proposed funding, grant, approval and support for ASM. Additionally, the indications of funding support which ASM has received to date from EFA, USEXIM and EDC are non-binding and subject to conditions and approvals and there is no assurance that such funding will become unconditional, be legally agreed and be committed. While ASM is focused on continuing to build relationships with key government stakeholders, there can be no assurance that its existing relationships will continue to be maintained or that new ones will be successfully formed.

In addition, any contemporary government funding framework that ASM relies on may be complex and subject to change, including as a result of changes in government or government policy, changes in community expectations, and the intervention of courts and tribunals. There is no guarantee that any government funding framework that is currently considered to be feasible or favourable will continue to be so in the future.

15.10. Regulatory approvals

ASM requires government regulatory approvals for its operations. As outlined in this Scoping Study ASM will need to apply for a renewal of its mining lease and likely a modification to its NSW State Significant Development consent to be granted the necessary new approvals to proceed with the Dubbo Project as contemplated by this study.

Failure to manage environmental risks and impacts from climate change may impact ASM's ability to secure development approvals, permits or licenses and increase legal exposures, adversely impacting on financial performance and growth, as well as our ability to operate.

The impact of actions, including delays and inactions, by state and federal governments may affect ASM's activities including such matters as access to lands and infrastructure, compliance with environmental regulations, production and exploration activities. This may from time to time affect timing and scope of work to be undertaken.

There is a risk that ASM may not be able to obtain the required regulatory approvals to support its strategic activities at the Dubbo Project within the anticipated timeframe or at all. Delays or denials in obtaining these approvals could significantly impact the relevant project's timeline and overall feasibility.

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No guarantee can be given that all necessary permits, authorisations, agreements or licences currently granted to ASM will be complied with or renewed as required or that where further permits, authorisations, agreements or licences are required, that they will be provided to ASM by government bodies

15.11. Environment

The Dubbo Project is subject to the environmental laws and regulations of Australia (including statutory rehabilitation obligations that ASM will need to comply with in the future and which may be material). As with most exploration projects and mining operations, ASM's activities (and proposed future activities) are expected to have an impact on the environment or cause exposure to hazardous materials, particularly if advanced exploration or mine development proceed.

While ASM proposes to comply with applicable laws and regulations and conduct its programs in a responsible manner with regard to the environment, there is the risk that ASM may incur liability for any unforeseen breaches of these laws and regulations.

ASM is unable to predict the effect of additional environmental laws and regulations which may be enforced or adopted in the future, including whether any such laws or regulations would materially increase ASM's cost of doing business or affect its operations. There can be no assurances that new environmental laws, regulations or stricter enforcement policies, once implemented, will not oblige ASM to incur significant expenses and undertake significant investments which could have a material adverse effect on ASM's business, financial condition and performance.

There is no guarantee ASM will not be subject to claims due to environmental damage arising out of current or former activities at sites that ASM owns or operates. ASM may also become subject to liability for pollution or other hazards against which it has not insured or cannot insure, including those in respect of past activities for which it was not responsible. These could have an adverse effect on ASM's Share price

15.12. Reliance on key personnel

ASM is a development company and will be dependent on its directors, managers and consultants to implement its business strategy. A number of factors, including:

- the departure of senior management, or directors, of ASM or a failure to attract or retain suitably qualified key employees; and
- a shortage of appropriately skilled talent (due to the emerging skill market for critical minerals specialists, and growing competition for such specialists),

could adversely affect ASM's business strategy, reputation, financial performance current exploration, development and production operations and its future growth plans.

15.13. Exploration risks

Exploration is a high-risk activity that requires large amounts of expenditure over extended periods of time. ASM's exploration activities will also be subject to all the hazards and risks normally encountered in the exploration of minerals, including climatic conditions, hazards of operating vehicles and plant, risks associated with operating in remote areas and other similar considerations. Conclusions drawn during exploration and development are subject to the uncertainties associated with all sampling techniques and to the risk of incorrect interpretation of geological, geochemical, geophysical, drilling and other data.

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In the future, ASM may be required to secure and maintain additional title for exploration and mining tenements necessary for the conduct of its exploration activities. There is no guarantee additional exploration or mining tenements will be granted. In addition, exploration on ASM's existing exploration and mining tenements may be unsuccessful, resulting in a reduction of value of those tenements, diminution in the cash reserves of ASM and possible relinquishment of the exploration and mining tenements.

The exploration costs of ASM are based on certain assumptions with respect to the method and timing of exploration. By their nature, these estimates and assumptions are subject to significant uncertainties and, accordingly, the actual costs may materially differ from these estimates and assumptions. Accordingly, no assurance can be given that the cost estimates and the underlying assumptions will be realised in practice, which may materially and adversely affect the economic viability of the Dubbo Project.

15.14. Mineral Resource and Ore Reserve Estimates

Mineral Resource and Ore Reserve estimates are expressions of judgement based on knowledge, experience, resource modelling and industry practice. Estimates, which were valid when originally calculated, may alter when new information or techniques become available. In addition, by their very nature, Mineral Resource and Ore Reserve estimates are imprecise and depend to some extent on interpretations, which may prove to be inaccurate. As further information becomes available through additional fieldwork and analysis, the Mineral Resource and Ore Reserve estimates may change. Should ASM encounter mineralisation or geological formations different from those predicted by past drilling, sampling and interpretations, Mineral Resource estimates may need to be altered in a way that could adversely affect ASM's operations or result in the inability to satisfy production and economic objectives of the Dubbo Project.

There is no guarantee Mineral Resources can be converted to Ore Reserves, or that material included in ASM's Ore Reserves estimates will be successfully produced.

There is no guarantee that ASM's exploration activities will result in the discovery of new material, or reclassification of material previously discovered, to be included in Mineral Resource and Ore Reserve estimates.

In addition, changes in factors outside of ASM's control, such as adverse changes to long term forecasts of commodity prices, may result in an adverse change to ASM Mineral Resource and Ore Reserve estimates.

Accordingly, the actual resources and reserves may materially differ from these estimates and assumptions and no assurances can be given that the Mineral Resource and Ore Reserve estimates and the underlying assumptions will be realised. This could result in alterations to development and mining/extraction plans which may in turn affect ASM's operations and ultimately ASM's financial performance and the value of ASM shares.

15.15. Title and tenure

Interests in mining tenements in Australia are governed by state legislation and are evidenced by the granting of leases or licences. Currently, ASM wholly owns all mining tenements required to operate and develop the Dubbo Project. Renewal of titles is made by way of application to the relevant government department. There is no guarantee that a renewal will be automatically granted other than in accordance with the applicable state or territory mining legislation. In addition, the relevant department may impose conditions on any renewal, including relinquishment of ground.

Each lease or licence is for a specific term and carries with it annual expenditure and reporting conditions as well as other conditions requiring compliance. Consequently, ASM could lose title to, or its interest in, its tenements if

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licence conditions are not met or if expenditure commitments are not met. There is no guarantee that any applications for exemption from compliance with conditions will be granted. The tenement(s) may be subject to additional conditions, penalties, objections or forfeiture applications in the future. Alternatively, applications, transfers, conversions or renewals may be refused or may not be approved with favourable terms. Any of these events could have a materially adverse effect on ASM's prospects and the value of its assets.

15.16. Native title, Aboriginal heritage and land claims

It is possible that, in relation to tenements in which ASM has an interest or may acquire such an interest, there may be areas over which legitimate native title rights exist, or which are subject to native title claims made under the Native Title Act 1993 (Cth) or Aboriginal land claims made under the Aboriginal Land Rights Act 1983 (NSW), or surface rights holders exist. In such circumstances, the ability of ASM to gain access to the tenements (through obtaining consent of any relevant traditional owner, body, group or landowner) or progress from the exploration phase to the development and mining phases of the operation, may be adversely affected. ASM's mineral titles may also be subject to access by third parties including, but not limited to, the areas' traditional owners which may lead to ASM entering into compensation arrangements or other agreements with traditional owners (including statutory rights to compensation under the Native Title Act).

It is possible that areas containing sacred sites or sites of significance to Aboriginal people in accordance with their tradition that are protected under the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth) exist on ASM's mining tenements. As a result, land within the tenements may be subject to restrictions on exploration, mining or other uses and/or significant approval hurdles may apply. There is a risk that ASM's operations require engagement and/or agreement with affected Aboriginal people, which may increase the timeframe and cost of commercialising the Dubbo Project.

15.17. Economic factors

Changes to general economic conditions, such as consumer spending, supply and demand for rare earth products, inflation, interest rates, foreign exchange rates, new legislation, national and international political circumstances (such as war, terrorist acts and industrial disruption) may have an adverse impact on ASM's operating and financial performance and financial position, such as its ability to obtain project financing funding in a timely manner or on terms acceptable to it.

In response to changing economic conditions, ASM may dispose of operations, projects and investments at below market value. ASM may miss certain opportunities. Increasing demand for rare earths and critical minerals may make acquisitions of operations and projects challenging. There may be geopolitical restraints on the jurisdictions and counterparties ASM works in and with.

15.18. Competition

ASM faces competition in its business and there is no guarantee ASM can compete effectively with the competition. To the extent that there are new entrants or changes in strategy by existing competitors, ASM may lose market share with consequent adverse effects upon operating and financial performance. Some of ASM's current competitors are larger than ASM and have greater financial and other resources than ASM and, as a result, may be in a better position to compete for future business opportunities and may also benefit from greater economies of scale and operating efficiencies such that their operating costs are lower. ASM's ability to enter into contracts for the supply of products at profitable prices may be adversely affected by the introduction of new suppliers and any

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increase in competition in the global critical materials market, either of which could increase the global supply of these products and thereby potentially lower the prices.

15.19. Cyber risk

Cyber security attacks and breaches are a growing risk category. ASM faces risks including unauthorised access or loss of data, malicious attacks, ransom demands, service outages, malfunction, network failures, maintenance issues, outages, wilful or accidental or mistaken use or data entry, theft or misuse, acts of vandalism, hacking, sabotage, viruses and spear phishing. Those events could lead to reputational damage, financial damage (from litigation and/or regulatory penalties and interruption of revenue making activities). ASM may also collect personal or sensitive information from individuals in connection with the conduct of its operations, both from individuals in Australia and overseas which may be affected by those risk events.

The risks outlined above are also applicable to circumstances where there are otherwise information technology and systems outages or loss of data whether via system failure, power source, third party hosting failures or other adverse events.

15.20. Recent and potential tariffs and export restrictions imposed internationally

There has been considerable market volatility and speculation following the announcement of US international trade tariffs, the response by China to impose increased export restrictions on a range of medium and heavy rare earth elements, as well as their oxides, metals, alloys and magnets and the subsequent trade deal negotiations. It is possible that the United States Government will make significant changes to its international trade policy including imposing further tariffs on certain imported goods and prohibiting certain imports into the United States, and that other countries may respond leading to a decline in global trade relations. Current and potential tariffs and restrictions could have a significant impact on ASM's business, particularly on the importation of certain equipment manufactured in other countries or the sourcing of raw materials for its metals facilities.

As at the date of this Scoping Study, tariffs have not had a material negative impact on ASM's business, but increased tariffs or trade restrictions implemented by the United States or other countries in connection with a global trade war could have a material adverse effect on ASM's operations.

Uncertainty or a decline in current global economic conditions and further escalation of trade tensions between the United States and its trading partners, especially Canada, the European Union and China, could result in a global economic slowdown and long-term changes to global trade, including retaliatory trade restrictions which may have an adverse effect on ASM's operations.

15.21. Occupational health and safety

Exploration, construction and production activities may expose ASM's staff and contractors to potentially dangerous working environments. Occupational health and safety legislation and regulations differ in each jurisdiction. If any of ASM's employees or contractors suffers injury, illness or death, compensation payments or fines may be payable and such circumstances could result in the loss of a licence or permit required to carry on the business. Such an incident may also have an adverse effect on ASM's business and reputation. Accordingly, any liabilities for workplace accidents could also have a material adverse impact on ASM's financial performance and/or position. In addition, it is not possible to anticipate the effect on ASM's business of any changes to workplace health and safety legislation or directions necessitated by concern for the health of the workforce. Such changes may also have an adverse impact on ASM's financial performance and/or financial position.

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15.22. Insurance

ASM's business is subject to a number of risks and the materialisation of any of these risks could result in damage to property, personal injury or death, environmental damage, delays in development, monetary losses and possible legal liability (including for indirect or consequential losses suffered by third parties). ASM intends to limit its exposure to such risks by contractually limiting its liability and insuring its business activities and operations in accordance with industry practice.

However, in certain circumstances, ASM's insurance may not be available or of a nature or level to provide adequate insurance to cover all liability. The occurrence of an event that is not covered or fully covered by insurance may cause substantial delays to the Dubbo Project (or other ASM Group activities) and/or require significant capital outlays, which could have a material adverse effect on the business, financial condition and results of ASM. In addition, there is a risk that an insurer defaults in the payment of a legitimate claim by ASM.

Further, any increase in the cost of insurance policies; any change in the availability of insurance policies or in the terms, conditions or exclusions on which those policies are offered or renewed; or any inability to claim, or recover against ASM's insurance policies, including as a result of the current uncertain macroeconomic environment, could have a material adverse effect on ASM's business, financial condition and financial results.

15.23. Litigation

ASM is exposed to possible litigation risks such as native title claims, tenure disputes, environmental claims, occupational health and safety claims and employee claims. Further, ASM may be involved in disputes with other parties in the future which may result in litigation. Any such claim or dispute if proven, may impact adversely on ASM's operations, financial performance and financial position. Currently, ASM has no material litigation on foot.

15.24. Force majeure

ASM's current and future projects, financial performance and licence to operate may be adversely affected by risks outside the control of ASM, including labour unrest, civil disorder, war, subversive activities or sabotage, fires, floods, pandemics (i.e. COVID-19), explosions or other catastrophes, epidemics or quarantine restrictions or changes in law and/or government policy (including the imposition of tariffs or export/import restrictions).

15.25. Climate change

The impacts of climate change may affect ASM's operations and the markets in which ASM may sell its products through regulatory changes aimed at reducing the impact of, or addressing climate change, including reducing or limiting carbon emissions, technological advances and other market or economic responses (including increased capital and operating costs, including increased costs of inputs and raw materials).

Climate change may also result in more extreme weather events and physical impacts on ASM due to the energy intensive nature of ASM's proposed operations, and ASM's reliance on either fossil fuels or favourable weather events for generating energy for its proposed mining and processing activities.

15.26. International conflicts

The current Russian-Ukraine, Hamas-Israel and Iran-Israel conflicts and other geopolitical tensions are impacting global economies and financial markets. As the conflicts are ongoing and volatile, the nature and extent of the future effects of these conflicts, and any escalation or spread of these conflicts or the development of other

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conflicts, on ASM is uncertain. In the short to medium term, ASM's operations, financial performance and financial position may be adversely affected by the economic uncertainty caused by these international conflicts. The Company is monitoring the situation closely and considers the impact of the international conflicts to be, at this stage, limited. However, the situation is continually evolving and the consequences are therefore inevitably uncertain.

15.27. Unknown risks

Additional risks and uncertainties not currently known to ASM may also have a material adverse effect on ASM's financial and operational performance. The information set out in this Scoping Study regarding the key operational and investment risks does not purport to be, nor should it be considered as representing, an exhaustive list of the risks faced by ASM.

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Definitions

Term	Definition
AACE	Association for the Advancement of Cost Engineering
Adamas Case	Means the financial evaluation based on pricing exclusively from Adamas Intelligence.
Alkane	Alkane Resources Limited
ANSTO	Australian Nuclear Science and Technology Organisation
ASM	Australian Strategic Materials Limited
ASMH	Australian Strategic Materials (Holdings) Ltd
ASX	Australian Stock Exchange
AUD	Australian dollar
Base Case	Means the financial evaluation based on a blended pricing forecast for rare earth oxides, derived from independent market research firms Project Blue and Adamas Intelligence
C1	Net direct cash costs, including mining, processing and mine site administration and general expenses
CMPTI	Critical Minerals Production Tax Incentive
DRA	DRA Pacific Pty Ltd
Dy	Dysprosium
EBITDA	Earnings before interest, tax, depreciation and amortisation
ECA	Export Credit Agency
EPCM	Engineering, Procurement and Construction Management
ESG	Environment Social Governance
FEED	Front-end Engineering Design
FID	Final Investment Decision
Financial Model	Means the internal financial model developed by ASM as described in Section 0
FTE	Full time employee
HCl	Hydrochloric acid
Heap Leach Option	The option to develop the Dubbo Project using a process flowsheet with a heap leach using HCl
HDPE	High density polyethylene
IRR	Internal rate of return
KwH	Kilowatt hour
LoI	Letter of Interest
LOM	Life of Mine
ML	Mining Lease

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Term	Definition
Mt	Million tonnes
Mtpa	Million metric tonnes per annum
Nd	Neodymium
NdFeB	Neodymium Iron Boron
NPV	Net present value
NSW	New South Wales
OFS	ASM's 2021 Optimisation Feasibility Study
PFS	Pre-feasibility study
PLS	Pregnant Leach Solution
Pr	Praseodymium
REE	rare earth elements
REOA	Rare Earth Option Assessment
RL	Relative level
ROM	Run-of-mine
Scoping Study	This Scoping Study presenting a high-level economic evaluation of the Heap Leach Option
Tb	Terbium
Tpa	Metric tonnes per annum
TZMI	TZ Minerals International Pty Ltd
USD	United States dollar
US EXIM	Export-Import Bank of the United States

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Appendix 1 – Toongi JORC Resources All Attributes

Table 6-15: Toongi JORC Resources All Attributes– December 2016

Attribute	Measured		Inferred		Total
Tonnage (Mt)	42.81		32.37		75.18
ZrO2 %	1.89		1.90		1.89
HfO2 %	0.04		0.04		0.04
Nb2O5 %	0.45		0.45		0.45
Ta2O5 %	0.03		0.03		0.03
Y2O3 %	0.14		0.14		0.14
Th ppm	462		442		453
U ppm	113		113		113
Nd2O3 %	0.11		0.11		0.11
Dy2O3 %	0.019		0.019		0.019
Er2O3 %	0.011		0.011		0.0.11
Eu2O3 %	0.001		0.001		0.001
Gd2O3 %	0.018		0.018		0.018
Ho2O3 %	0.004		0.004		0.004
Lu2O3 %	0.001		0.001		0.001
La2O3 %	0.17		0.17		0.17
CeO2 %	0.32		0.32		0.32
Pr6O11 %	0.034		0.035		0.035
Sm2O3 %	0.0215		0.0212		0.0214
Tb4O7 %	0.003		0.003		0.003
Tm2O3 %	0.0018		0.0018		0.0018
Yb2O3 %	0.0094		0.0095		0.0094

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