chalice

ASX Announcement

29 August 2023

# Gonneville Nickel-Copper-PGE Project Scoping Study

## Scoping Study outlines a new long-life, low-cost, low-carbon *green metals* mine in Western Australia with the potential to deliver strong financial returns and regional benefits, plus significant upside

## Highlights

- **Positive Scoping Study completed for the 100%-owned Gonneville Nickel-Copper-Platinum Group Element (PGE) Project in WA.**
- **Study outlines an executable, tier-1 scale development project in a world-class jurisdiction:**
  - Two open-pit cases modelled reflecting significant development optionality – with early underground options in parallel with open-pit mining to be investigated in future.
  - ~240Mt and ~440Mt open-pit resources processed (45-80% of the Gonneville Resource) for the 15Mtpa and 30Mtpa cases respectively, generating a tier-1 production profile:

| Case | 3E (Pd+Pt+Au) (kozpa) | Ni (ktpa) | Cu (ktpa) | Co (ktpa) | Modelled life (yrs) |
|---|---|---|---|---|---|
| **15Mtpa** | ~280 | ~9 | ~10 | ~0.8 | ~19 |
| **30Mtpa** | ~470 | ~16 | ~16 | ~1.4 | ~18 |

  - The Project is located on Chalice-owned farmland, ~70km north-east of Perth.
  - Proximity to Perth has significant operational advantages with access to a skilled workforce, established major infrastructure corridors and simple logistics.
- **Study highlights strong returns on investment and a competitive cost profile:**
  - Highly competitive 2nd quartile cash costs of US$160-230/oz 3E (after Ni-Cu-Co by-product credits) provides robust asset profitability through the commodity cycle.
  - Compelling returns generated over modelled life with a short ~2yr payback period:

| Case | Free cash (post tax) (A$Bn) | Pre-Prod CapEx (A$Bn) | $NPV_{6.5\%}$ (A$Bn) | IRR (%) | VIR (x) | Payback f/ COP (yrs) |
|---|---|---|---|---|---|---|
| **15Mtpa** | ~6.6 | ~1.6 | ~2.8 | ~26 | ~1.8 | ~2 |
| **30Mtpa** | ~9.9 | ~2.3 | ~4.2 | ~26 | ~1.8 | ~2 |

  - Indicative NPV ignores residual value beyond modelled life or any exploration upside and hence is not considered to reflect the full potential value of the asset.
  - Long-life, tier-1 scale production profile provides significant leverage to *green metals* which are in strong demand from global decarbonisation and urbanisation trends.
- **The Project is scoped to have world-class sustainability metrics:**
  - Low carbon intensity MHP product (~10-12 $tCO_2Eq$ / tNiEq) compared to nickel laterite mines (~30-60 $tCO_2Eq$ / tNiEq) making a strong case for a future *green premium* on products.

  - Biodiversity Strategy developed with the goal of science-based no net-loss of species or habitat diversity as a result of any mining operations.
  - ~A$18 billion contributed to the Gross State Product of Western Australia, with ~1,200 jobs during peak construction and ~500 jobs in operations, demonstrating the substantial long-term socio-economic benefits of the Project.
  - High level of engagement with Traditional Owners to date and significant opportunities for Indigenous participation in the Project.
- **Gonneville is a strategic *green metals* project in a western jurisdiction:**
  - The *green metals* to be produced at Gonneville are critical to new decarbonisation technologies including lithium-ion batteries, electric and hybrid vehicles, renewable energy and green hydrogen –production expected to be well-timed to address forecast shortages.
  - Project is strongly aligned to western government policy directives and helps address the critical minerals dominance of China, Russia, South Africa and Indonesia, making a strong case for:
    - A future effective *western premium* on products (through either longer-term offtake or higher realised pricing); and,
    - Targeted government support (grants, incentives or financing).
- **Significant upside and inherent development optionality to be investigated:**
  - ~90-200Mt of Resource (~540-1,100kt contained NiEq[1]) below the ultimate pit shells for modelled cases is not included in the Study – potential for open-pit or underground life extension according to prevailing economic conditions in ~2045.
  - Furthermore, recent high-grade intersections up to ~900m beyond the limit of the Resource demonstrate even further upside to the modelled cases:
    - 34m @ 7.0g/t 3E, 0.16% Ni, 0.63% Cu, 0.02% Co (2.9% NiEq) from 432m (JD377);
    - 54.2m @ 3.6g/t 3E, 0.21% Ni, 0.39% Cu, 0.02% Co (1.7% NiEq) from 1132.8m (JD369W3[2]).
  - Early high-grade underground development options (in parallel to open-pit mining) targeting high-grade zones from a depth of 400m to 1,100m+ will be investigated in the next phase of studies, with step-out drilling continuing.
  - Region hosts a largely unexplored mafic-ultramafic belt with significant exploration upside – the development of Gonneville has province-opening potential.
  - Capital investment staging, new processing technologies and flowsheet, marketing, mining and processing optimisations are planned during the Pre-Feasibility Study ("PFS").
- **Strategic partnering process for Gonneville ongoing, with strong inbound interest received from western automakers, battery manufacturers, trading houses and large miners.**
- **Positive Scoping Study allows the formal commencement of the PFS, which is targeted for completion in mid-2025**.
- **Formal referral of the Project to WA and Commonwealth Governments targeted for H1 2024 – this will commence the regulatory environmental approval process.**

Chalice Managing Director & CEO, Alex Dorsch, said: *"The Scoping Study highlights an outstanding opportunity to develop a modern, long-life, Western Australian critical metals mine which, because of its scale, longevity and the mix of valuable green metals it is scoped to produce, represents a unique opportunity in the sector.*

[1] Nickel Equivalent (%) = Ni(%) + 0.32xPd(g/t) + 0.21xPt(g/t) + 0.38xAu(g/t) + 0.83xCu(%) + 3.00xCo(%) - Ref Appendix A
[2] JD369W3 is the third wedged directional hole drilled from JD369, the parent drill hole.

*"Gonneville has the potential to deliver a large suite of metals which are essential to global decarbonisation and urbanisation. Without the development of new strategic projects such as this, the world is forecast to fall short of net-zero ambitions which rely on the rapid deployment of clean energy and electrification technologies.*

*"At the same time, Gonneville also helps address the dominance which Russia, China, South Africa and Indonesia currently have on the supply of these critical metals by becoming a new tier-1 scale independent producer in the western world.*

*"Importantly, the Study shows that we have the opportunity to do this while generating both exceptional financial returns for our shareholders and delivering social and economic benefits for the surrounding region, the State and the nation over decades.*

*"The Study also establishes Gonneville's world-class sustainability metrics, with a low carbon footprint and a development plan which is deliberately constrained to Chalice-owned farmland. Gonneville is scoped to become a modern mine that can co-exist with the local environment and our science-based Biodiversity Strategy, which is embedded from the outset ensures no net-loss of habitat or species.*

*"The Scoping Study provides an initial view of the exceptional potential of the Gonneville Project, including the optionality inherent within a large, shallow, polymetalic deposit. A range of enhancements, upside and development alternatives will be evaluated as part of the Pre-Feasibility Study which is already underway.*

*"This will include further investigation of the 15Mtpa Case and 30Mtpa Case, the potential for early underground mining, a full assessment of processing flowsheet alternatives and the range of final products that could be produced – including battery precursor products – as well as the Resource upside that we have continued to highlight through ongoing drilling and exploration.*

*"Gonneville is a world-class project and we are adopting a systematic, thorough and scientific approach to its evaluation and development. This means we will explore all avenues to maximise the value and optionality of the Resource for all of our stakeholders.*

*"It also means that we are absolutely committed to developing the project in a sustainable and responsible manner, with an industry best practice approach to environmental and cultural heritage management, and by ensuring long term positive impacts for local communities, because it is the right thing to do.*

*"I would like to take this opportunity to thank the project team who have developed this high-quality study. This is a great first step in the studies phase which showcases the potential of our world-class green metals project and maps out a clear pathway to advance it towards development."*

## Cautionary Statement

The Scoping Study referred to in this announcement has been undertaken for the purpose of initial evaluation of a potential development of the Gonneville Nickel-Copper-PGE Project ("Gonneville", the "Project" or the "Study") in the western wheatbelt region of Western Australia. It is a preliminary technical and economic study of the potential viability of the Project. The Scoping Study outcomes, production target and forecast financial information referred to in this announcement are based on low accuracy level, technical and economic assessments that are insufficient to support estimation of Ore Reserves. The Scoping Study inputs and assumptions have been assessed to have a level of accuracy of +/- 30%.

While each of the modifying factors contained in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code (2012)") were considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation work and appropriate studies are required before

Chalice Mining Limited (“Chalice” or “the Company”, ASX: CHN) will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

The Mineral Resources underpinning the production target in the Scoping Study have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). The Competent Person’s Statement is found in Appendix A of this announcement. The Company has concluded that it has reasonable grounds for disclosing a production target which includes an amount of Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured and/or Indicated Mineral Resources or that the production target itself will be realised.

For the 15Mtpa Case scenario (modelled LOM - 19 years), Inferred Resources comprise 14% of the production schedule over the modelled Life of Mine (LOM). For the 30Mtpa Case scenario (modelled LOM – 18 years), Inferred Resources comprise 37% of the production schedule over the modelled Life of Mine (LOM). Significantly, in both the 15Mtpa Case and 30Mtpa Case scenarios, the Inferred Mineral Resources do not play a prominent role in the initial mine plan. Throughout the first 15 years of production, the Inferred Mineral Resources constitute less than ~20% in both production schedules. Accordingly, Chalice has concluded that it is satisfied that the financial viability of both development cases modelled in the Scoping Study is not dependent on the inclusion of Inferred Resources early in the production schedule given an estimated payback period (from commencement of production) of ~2 years for the 15Mtpa Case and the 30Mtpa Case.

This announcement has been prepared in compliance with the JORC Code (2012) and the ASX Listing Rules. All material assumptions, including sufficient progression of all JORC Code (2012) modifying factors, on which the production target and forecast financial information are based have been disclosed in this announcement.

This announcement contains forward-looking statements. Generally, the words "expect", “potential”, "intend", "estimate", "will" and similar expressions identify forward-looking statements. By their very nature forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, to differ materially from those expressed or implied in any of our forward-looking statements, which are not guarantees of future performance. Statements in this announcement regarding Chalice’s business or proposed business, which are not historical facts, are forward-looking statements that involve risks and uncertainties, such as Mineral Resource estimates, market prices of nickel, copper, palladium, platinum, cobalt and gold, capital and operating costs, changes in project parameters as plans continue to be evaluated, continued availability of capital and financing and general economic, market or business conditions, and statements that describe Chalice’s future plans, objectives or goals, including words to the effect that Chalice or Chalice’s management expects a stated condition or result to occur.

Forward-looking statements are based on estimates and assumptions that, while considered reasonable by Chalice, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

Chalice has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this announcement. This includes the assumption that there is a reasonable basis to expect that it will be able to fund the development of the Project upon successful delivery of key development milestones when required. To achieve the range of outcomes indicated in the Scoping Study, it is estimated that pre-production funding of approximately A$1.6Bn for the 15Mtpa Case and A$2.3Bn for the 30Mtpa Case may be required. There is no certainty that Chalice will be able to source that amount of funding when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Chalice's shares. It is also possible that Chalice could pursue other value realisation strategies such as a sale, partial sale or joint venture of the Project. This could materially reduce Chalice's proportionate ownership of the Project. Other detailed reasons for these conclusions are outlined throughout this announcement (including the Project Funding Sources and Strategy, Risks, and Key Opportunities sections of this announcement).

## Introduction

Chalice Mining Limited ("Chalice" or "the Company", ASX: CHN) is pleased to report positive results from the Gonneville Project Scoping Study ("Gonneville", the "Project" or the "Study"). The Gonneville Project is 100%-owned and is located on Chalice-owned farmland (the "Project Area"), ~70km north-east of Perth in Western Australia (Figure 1).

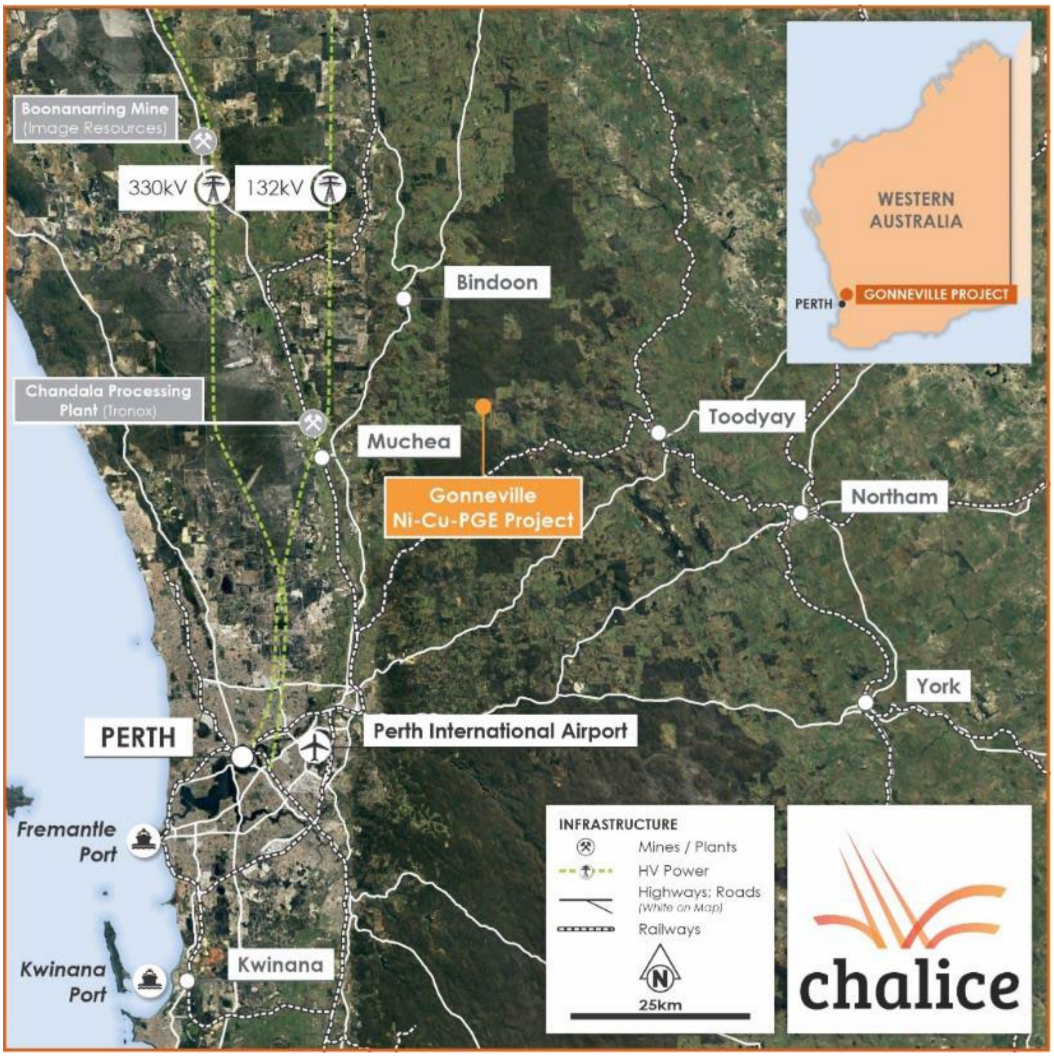


**Figure 1. Gonneville Project location.**

In March 2023, Chalice announced an updated Mineral Resource Estimate ("Resource") for Gonneville of 560Mt @ 0.54% NiEq or 1.7g/t PdEq, for a contained 16Moz of 3E PGE, 860kt Ni, 520kt Cu and 83kt Co (refer to Table 3 and 4 and ASX Announcement on 28 March 2023).

In late 2021, Chalice commenced studies to assess the viability of a future mine development at Gonneville. The Study has focused on the assessment of two initial development cases for the

Resource which will be further advanced along with other potential cases in the next study phase – the Pre-Feasibility Study ("PFS").

The Study is based on the Gonneville Resource only and does not include extensions to mineralised zones which have already been defined through step-out drilling. The Resource underpinning the production targets in the Study has been prepared by a Competent Person in accordance with the requirements of the JORC Code (2012).

## Study approach

Given the inherent optionality of the large, shallow, polymetallic Gonneville Resource, the studies to date have investigated a broad range of development options including open-pit / underground mining, selective mining / bulk mining and concentration only / midstream enrichment flowsheets. Not all of these cases are presented in this Study but will be further considered in the PFS.

The Study outcomes presented are from two modelled development cases which will be progressed into the PFS:

- **15Mtpa Case**: Open-pit mining, with 2Mtpa oxide processing throughput for four years in parallel with a first stage sulphide development with 7.5Mtpa throughput for six years, followed by a second stage sulphide expansion to 15Mtpa throughput for a further 13 years. This case is based on a mine design and cut-off using lower long-term prices; and,
- **30Mtpa Case**: Open-pit mining, with 2Mtpa oxide processing throughput for four years in parallel with a first stage sulphide development with 15Mtpa throughput for six years, followed by a second stage sulphide expansion to 30Mtpa throughput for a further 12 years. This case is based on a mine design and cut-off using higher long-term prices.

The two development cases have largely similar assumptions with the key differences being their mining and processing throughput rate (mine and process plant scale) and economic cut-off, driven primarily by commodity price assumptions. Financial outcomes of both cases are presented using the same long-term commodity price forecast from AME Group.

In addition, given known extensions of mineralisation well beyond the pit limit, Chalice is continuing study work on potential early underground development options including a potential transition to an underground caving operation according to the economic and practical limits of open-pit mining.

As part of the PFS, the preferred development case, which may include elements of the 15 or 30Mtpa cases or new elements such as underground mining, will be selected. That preferred case will then be progressed into a Feasibility Study ("FS"), where optimisation work will also be undertaken.

Chalice is also currently running a formal strategic partnering process and, as such, the scope of future studies may be influenced by input from one or more strategic partners. Chalice is continuing a study approach which maximises retained optionality to reflect this.

## Development overview

The Gonneville Resource starts at surface and hence conventional open-pit truck-shovel mining methods are considered in the initial phase of operations. Preliminary, unoptimised mine schedules have been generated which assume a level of stockpiling and rehandling to optimise grade to the process plant.

The Resource includes a mix of free-dig oxide mineralisation as well as transitional/hypogene sulphide mineralisation, which are processed using two different processing flowsheets (Figure 2). The oxide Resource is processed using resin-in-pulp leaching to produce a PGE-Au doré which is assumed to be sold to precious metal refineries.

The sulphide Resource is processed using an enrichment flowsheet, which includes crushing and grinding followed by sulphide flotation to produce two concentrates: a copper-palladium-platinum-gold concentrate ("Cu-PGE-Au concentrate") and a bulk nickel-iron-cobalt-palladium-platinum concentrate ("Ni-Fe-Co-PGE concentrate").

The Cu-PGE-Au concentrate is assumed to be sold directly to international copper smelters, where offtake terms are expected to be highly favourable based on initial discussions to date.

The Ni-Fe-Co-PGE concentrate is assumed to be processed further using a hydrometallurgical enrichment process, to produce:

- A nickel-cobalt mixed hydroxide precipitate ("Ni-Co MHP"), which is expected to be in strong demand and is assumed to be sold directly to lithium-ion battery pre-cursor Cathode Active Material ("pCAM") refineries;
- A precipitate of copper sulphide for blending with the Cu-PGE-Au concentrate (and sale to copper smelters); and,
- A PGE-Au doré.

A leaching circuit processes the sulphide flotation tails (as well as the oxide Resource) to produce a PGE-Au doré.

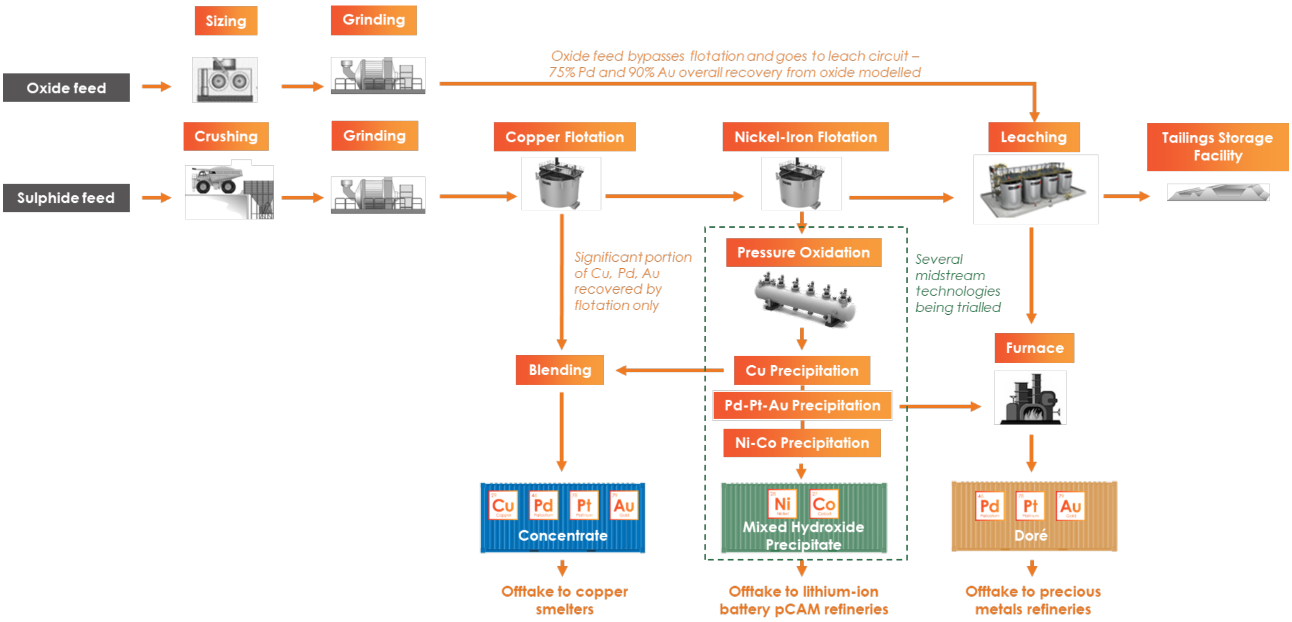


**Figure 2. Gonneville Scoping Study Processing Flowsheet (simplified).**

It is assumed that only nickel, copper, cobalt, palladium, platinum and gold will be payable in the offtake products. However, the Deposit does contain minor amounts of rhodium, iridium and silver and the recovery and potential payability of these metals will be further investigated in the PFS.

Mining and processing facilities on site will be supported by new power and water infrastructure. The mine is assumed to be connected to the WA South West Interconnected System (SWIS) electricity network to source power. The WA Government is targeting the retirement of state-owned coal power stations by 2030 and an 80% reduction in emissions from 2021 levels. Process water is assumed to be supplied via pipeline. Several process water options are under assessment including via Water Corporation sources.

Both road and rail logistics options are under consideration, with containerised products assumed to be exported via the Port of Fremantle. The construction workforce is assumed to be largely drive-in, drive-out with consideration of temporary accommodation on site, while the operations workforce is assumed to be largely locally based.

## Key modelled outcomes and metrics

The Study has outlined an outstanding opportunity to create a new long-life, low-cost, low-carbon *green metals* mine in Western Australia, with significant upside to be investigated in the next stage of studies. Both Study cases have tier-1 modelled metal production profiles (unoptimised):

- **15Mtpa Case**: ~280koz 3E, 9kt Ni, 10kt Cu, 0.8kt Co avg annual production over 19 years.
- **30Mtpa Case**: ~470koz 3E, 16kt Ni, 16kt Cu, 1.4kt Co avg annual production over 18 years.

Both cases incorporate a staged development approach, which reduces overall execution risk and allows for the efficient deployment of capital. Importantly, given the scale and nature of the Gonneville Resource, the ability to expand the scale of the operation and drop the cut-off grade in future years is retained, providing exceptional optionality and leverage to future metal prices.

**The outcomes and high-level sensitivity analysis presented are unoptimised and reflect an industry standard scoping level of maturity, and therefore should be considered indicative only.**

A summary of the physical and financial metrics of the two Scoping Study cases are shown in Table 1 below.

**Table 1. Gonneville Project Scoping Study key metrics.**

| Metric | Unit | 15Mtpa Case | 30Mtpa Case |
|---|---|---|---|
| **Mining Physicals (modelled)** | | | |
| Total material mined | Mt | 680 | 1,300 |
| Total material movement (LOM avg) | Mtpa | 42 | 66 |
| Strip ratio (LOM avg) | x | 1.8 | 1.8 |
| **Processing Physicals** | | | |
| Total tonnage processed | Mt | 240 | 440 |
| « Measured | % | 1 | 1 |
| « Indicated | % | 85 | 62 |
| « Inferred | % | 14 | 37 |
| 3E (Pd+Pt+Au) grade (LOM avg) | g/t | 0.95 | 0.85 |
| Nickel grade (LOM avg) | % | 0.16 | 0.16 |
| Copper grade (LOM avg) | % | 0.11 | 0.09 |
| Cobalt grade (LOM avg) | % | 0.017 | 0.016 |
| Oxide processing throughput | Mtpa | 2 | 2 |
| Oxide modelled life | Years | 4 | 4 |
| Sulphide processing throughput | Mtpa | 7.5-15 | 15-30 |
| Sulphide modelled life | Years | 19 | 18 |
| Pd recovery (LOM avg) | % | 78 | 77 |
| Pt recovery (LOM avg) | % | 45 | 43 |
| Au recovery (LOM avg) | % | 66 | 66 |
| Ni recovery (LOM avg) | % | 43 | 41 |
| Cu recovery (LOM avg) | % | 80 | 76 |
| Co recovery (LOM avg) | % | 42 | 40 |
| Produced 3E (LOM avg) | kozpa | 280 | 470 |
| Produced nickel (LOM avg) | ktpa | 9 | 16 |

| Metric | Unit | 15Mtpa Case | 30Mtpa Case |
|---|---|---|---|
| Produced copper (LOM avg) | ktpa | 10 | 16 |
| Produced cobalt (LOM avg) | ktpa | 0.80 | 1.40 |
| **Costs (LOM avg)** | | | |
| « Mine site cash costs | US$/oz 3E | 1,300 | 1,400 |
| « Transport & Selling costs | US$/oz 3E | 63 | 61 |
| « By-product credits (Ni, Cu, Co) | US$/oz 3E | (1,200) | (1,300) |
| Total cash costs | US$/oz 3E | 160 | 230 |
| All-in Sustaining Costs (AISC) | US$/oz 3E | 360 | 440 |
| **Financial** | | | |
| Revenue (LOM avg annual) | A$Mpa | 1,300 (US$840) | 2,100 (US$1,400) |
| Revenue (LOM cumulative) | A$M | 24,000 (US$16,000) | 39,000 (US$26,000) |
| EBITDA (LOM avg annual) | A$Mpa | 670 (US$450) | 1,100 (US$730) |
| Free cashflow (post-tax, 1st 4yrs avg)[1] | A$Mpa | 630 (US$420) | 840 (US$560) |
| Free cashflow (post-tax, LOM avg)[2] | A$Mpa | 440 (US$300) | 690 (US$460) |
| Cumulative free cash (post-tax) | A$M | 6,600 (US$4,400) | 9,900 (US$6,600) |
| $NPV_{6.5\%}$ (post-tax) | A$M | ~2,800 (~US$1,900) | ~4,200 (~US$2,800) |
| IRR (post-tax) | % | ~26 | ~26 |
| Payback period (from COP) | Years | ~1.9 | ~2.0 |
| **Socio-economic impact** | | | |
| Increase to Gross State Product (WA) | A$M | ~18,000 | |
| Increase in real wages (WA) | % | ~0.9% | |
| Construction jobs (FTE peak) | No. | ~1,200 | |
| Operation jobs (FTE avg) | No. | ~500 | |

Note: all numbers are rounded to two significant figures.
[1] First 4 years of production chosen prior to expansion CapEx in year 5.
[2] Free cashflow LOM avg is calculated over the modelled production life only and excludes Pre-Production CapEx.

The competitiveness of the Project has been assessed against PGE industry peers. It is noted that Russian and South African mines are responsible for >80% of 4E (Pd+Pt+Au+Rh) production (based on 2022 production). These countries have significant political, financial and operational challenges and the potential for supply disruptions from these countries is considered significant.

Norilsk Nickel (Russia) occupies the entirety of the first quartile and has negative cash costs due to their high level of Ni-Cu-Co by-product credits. Most South African PGE mines have very limited base metal by-product credits and typically involve very deep, narrow underground mining with relatively high operating costs and significant development/sustaining costs.

In recent years, a significant portion of South African PGE mine revenues has been derived from highly elevated rhodium prices, which have reduced from a peak of ~US$29,000/oz in 2021 to current levels around ~US$4,000/oz. As such, South African PGE mines were receiving a significantly higher basket price, which has insulated them against cost escalation until recently.

Gonneville is modelled to be 2nd quartile on the current 4E PGE industry cost curve, and the lowest cost producer of PGEs in the western world, based on 2022 total cash costs and base metal by-product credits (Figure 3).

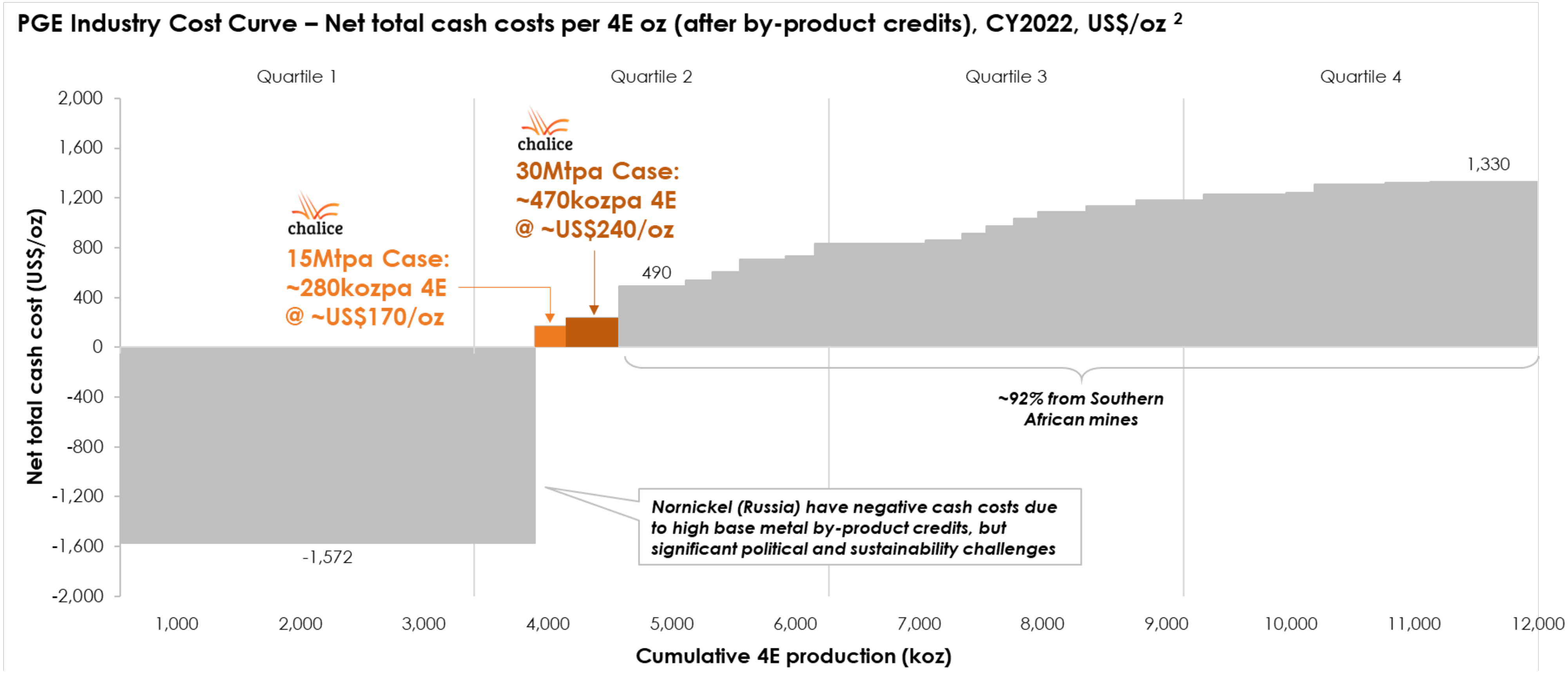


**Figure 3. 2022 PGE industry cost curve and indicative Gonneville positioning[3].**

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[3] Source: 2022 SFA (Oxford) Ltd collated costs and revenues used for 4E cost curve data. Note: 4E cost curve positioning assumes average 2022 by-product prices of: Copper US$10,105/t, Nickel US$25,000/t, Gold US$1,830/oz. AME forecast Cobalt prices of US$46,407/t have been assumed given not disclosed in SFA data. Above cash costs differ slightly to that presented in Table 1 given the difference in commodity prices assumed for by-products calculation.

This attractive position on the cost curve highlights a robust and competitive asset, irrespective of scale, that is modelled to be profitable through the commodity cycle.

Both cases have similar cost metrics and position on the cost curve, with the 15Mtpa Case having slightly lower costs due to its higher-grade feed profile. The next best peer in the industry has cash costs of ~US$490/oz, over double the Gonneville 30Mtpa Case.

## Key modelling assumptions

The Study was based on the following macro-economic and financial assumptions (Table 2). Chalice has concluded that it has a reasonable basis for using these assumptions and providing the forecast financial information and production targets included in this announcement.

Long-term commodity price forecasts (from 2029 until 2040) were sourced from AME Group ("AME"), a leading independent, global research house that specialises in modelling structural changes within the resources sector. Chalice has assumed that price forecasts from 2041 until the end of the modelled life of each case are a flat price based on the last forecast AME price in 2040. AME provided the detailed supply, demand and price models which were used as the basis for Study price forecasts. Forecasts from AME were sourced in July 2023.

Nickel, copper, cobalt, palladium and platinum are considered *green metals*, as they are essential for the production of decarbonisation technologies such as lithium-ion batteries, electric vehicles, hybrid vehicles, large-scale energy storage solutions, wind power, solar power and green hydrogen.

It is forecast that, in order to successfully meet the goals of the Paris Agreement, the production of a number of these metals will need to increase roughly four-fold relative to current production levels[4]. Despite wide acknowledgement of this increased forecast demand, there is a declining number of discoveries being made and new mines being developed.

The vast majority of western governments also recognise these metals as *critical minerals*[5] as not only are they essential to these technologies, but there is also potential for significant supply disruptions. Indonesia, Russia and South Africa dominate the production of nickel, palladium and platinum, and are forecast to increase their supply dominance over time, making these metals especially critical. This gives rise to the potential for a *western premium* price for metals sourced from western jurisdictions.

In addition, driven by the need to comply with emissions targets and to satisfy increasing sustainability standards, end-users such as battery manufacturers are searching for reliable, sustainable sources of battery metals like nickel and cobalt. This gives rise to the potential for a *green premium* price for metals that are sourced from mines with high sustainability standards and low carbon intensity.

No *western* or *green premium* has been assumed in the Study, however given the Project's location and forecast sustainability metrics, Chalice believes there to be reasonable grounds to consider there to be the potential for effective price premiums from offtakers in the future driven by the enactment of transformative laws such as the Inflation Reduction Act in the United States.

The physical, technical, marketing and cost assumptions for the Study are assessed to have a level of accuracy of +/- 30%, in line with industry standard scoping level accuracy (Table 2). All currencies are in Australian Dollars (A$) and all figures are in real 2023 terms, unless specified.

The Project is modelled unleveraged in 100% terms. Net Present Value ("NPV") and Internal Rate of Return ("IRR") are modelled from the assumed Final Investment Decision ("FID") date and ignore any residual value beyond modelled life or any exploration upside – hence they are not considered to be representative of the full value of the asset.

[4] Source: 2022 International Energy Agency, *'The Role of Critical Minerals in Clean Energy Transition'*
[5] Source: 2023 Australian Government: Department of Industry, Science and Resources, *'Australia's Critical Minerals List'*

All costs prior to reaching an FID are not included in the pre-production capital expenditure ("CapEx") estimate. The capital payback period is assumed to be measured from the commencement of production ("COP").

The weighted average cost of capital ("WACC") has been determined taking into consideration the likely methods of project financing, the Project's location, risk profile and product mix.

**Table 2. Gonneville Project Scoping Study key assumptions.**

| Key assumption | Unit | 15Mtpa Case | 30Mtpa Case |
|---|---|---|---|
| **AME Commodity prices (LOM avg)[6]** | | | |
| Ni | US$/t | 24,000 | |
| Cu | US$/t | 11,000 | |
| Co | US$/t | 46,000 | |
| Pd | US$/oz | 2,000 | |
| Pt | US$/oz | 1,000 | |
| Au | US$/oz | 1,900 | |
| **Financial** | | | |
| WACC (real) | % | 6.5 | |
| Exchange rate | A$/US$ | 0.67 | |
| **Offtake terms (LOM avg)** | | | |
| Ni payability (in Ni-Co MHP) | % LME[1] | 90 | |
| Co payability (in Ni-Co MHP) | % LME | 90 | |
| Cu payability (in Cu conc) | % LME | 96.5 | |
| Pd payability (in Cu conc) | % LBMA[2] | 96 | |
| Pt payability (in Cu conc) | % LBMA | 92 | |
| Au payability (in Cu conc) | % LBMA | 97 | |
| Pd-Pt-Au payability (in doré) | % LBMA | 100 | |
| **CapEx estimates** | | | |
| « Mining | A$M | 41 | 43 |
| « Sulphide Flotation Plant | A$M | 450 | 750 |
| « Hydrometallurgical Plant (Ni-Co MHP) | A$M | 190 | 280 |
| « Leach Plant (oxide & flotation tails) | A$M | 150 | 200 |
| « Non-Process Infrastructure | A$M | 370 | 410 |
| « Indirects and contingency | A$M | 380 | 600 |
| Total FID to Production CapEx | A$M | 1,600 | 2,300 |
| Sustaining CapEx (LOM avg) | A$Mpa | 43 | 81 |
| **OpEx estimates (LOM avg)** | | | |
| « Mining | A$/t mined | 4.3 | 3.8 |
| « Processing | A$/t proc | 27.8 | 27.5 |
| « G&A | A$/t proc | 1.6 | 1.2 |

[6] AME commodity prices are rounded to two significant figures and are used for the purposes of financial modelling. Commodity prices used in the open pit optimization are different and can be found in the Mining section.

| Key assumption | Unit | 15Mtpa Case | 30Mtpa Case |
|---|---|---|---|
| « Transport & Selling | A$/t proc | 3.5 | 3.1 |
| Total OpEx | A$/t proc | 44.9 | 42.4 |
| **Taxation** | | | |
| Cu royalty rate | % | 5.0 | |
| Ni-Co-Pd-Pt-Au royalty rate | % | 2.5 | |
| Corporate tax rate | % | 30 | |
| Estimated tax losses available at COP | A$M | 670 | |
| **Schedule** | | | |
| FID | date | Late 2026 | |
| COP | date | Early 2029 | |

Note: all numbers are rounded to two significant figures.
[1] London Metal Exchange
[2] London Bullion Market Association

## Sustainable development and operations

Chalice recognises the need to develop the Gonneville Project sustainably and responsibly, with an industry best practice approach to environmental and cultural heritage management, and by ensuring long term positive impacts for local communities.

Sustainability highlights of the Project include:

- **Social and economic benefits:** Substantial, long term socio-economic benefits with the addition of ~A$18 billion to the Gross State Product of Western Australia, ~1,200 peak jobs during construction and ~500 jobs during operations.
- **Strong environment stewardship:** The Project is located on Chalice-owned farmland, which has been subject to extensive agricultural activities, and does not extend into the Julimar State Forest, located to the north of the Project Area. The Project will have negligible impact on the State Forest.
    - **Greenhouse gas emissions and climate change:** The Project is positioned to be one of the lowest carbon sources of nickel for the lithium-ion battery industry. A low carbon intensity MHP product is forecast (~10-12 $tCO_2Eq$ / tNiEq), compared to nickel laterite mines (~30-60 $tCO_2Eq$ / tNiEq) making a strong case for a *green premium* on Gonneville products.
    - **Biodiversity Strategy and offsets:** Chalice has developed the Gonneville Biodiversity Strategy which sets a goal of science-based no net-loss of species or habitat diversity as a result of the Project. The Biodiversity Strategy also aims to meet State and Commonwealth regulatory expectations for environmental offsets, with on-the-ground restoration work commenced to support fauna habitats and connect remnant areas of vegetation on Chalice farmland.
- **Native title, heritage and Traditional Owner participation:** High level of engagement with Traditional Owners to date and high Indigenous workforce participation targeted. ~70 Traditional Owners have been involved in exploration activities at the Project since 2021.
- **Community and stakeholder engagement**: First Local Voices Community Survey completed for the Gonneville Project in mid-2023, to better understand the surrounding community needs and priorities, with results informing Chalice's stakeholder engagement approach and future decision making.
- **Community investment:** Since the Gonneville discovery in 2020, Chalice has contributed ~$230,000 through our Community Investment Program and a further ~$3 million in expenditure with local businesses for goods and services. There was an additional spend of ~$5 million by direct Chalice contractors.

- **Work to support key regulatory approvals well progressed**: Extensive work has been undertaken by Chalice to develop environmental baselines and define the programme of environmental surveys and studies required to support formal environmental assessment ahead of FID.

## Key opportunities

While the Study has outlined a robust, economically attractive initial open-pit mine in both the 15Mtpa Case and 30Mtpa Case throughput scenarios, there are significant opportunities to potentially improve the financial metrics and reduce development risk. These include, but are not limited to, the following:

- **Resource growth:** Sulphide mineralisation is known to extend ~900m below the current Resource. This presents significant upside in terms of open pit extensions beyond the modelled life and/or future underground development beyond the open-pit limit.
- **Regional exploration success:** While the current Gonneville Resource is already very large, it is interpreted to cover just ~7% of the overall Julimar Complex strike length, with exploration activities ongoing over the remaining ~28km of strike length by Chalice. As such, the region is considered highly prospective for further orthomagmatic Ni-Cu-PGE discoveries. New high-grade near-mine discoveries could add considerable value through processing mining feed at a Gonneville processing facility.
- **Mining:** Opportunity exists to develop early underground mining to target higher-grade feed early in the mine life (from within the current Resource or beyond), which could materially improve project economics.
- **Processing:** Improved metallurgical performance and economics through enhancements to the processing flowsheet, the adoption and retrofitting of new processing technologies, investigation of additional downstream processing to improve payability and negotiating offtake to future Western Australian downstream processing facilities will all be further evaluated in the PFS. Historically, large-scale polymetallic sulphide deposits such as Norilsk, Jinchuan and Sudbury have typically warranted vertically integrated upstream (concentration) and downstream (hydrometallurgical / pyrometallurgical / refining) processing facilities to be constructed.
- **Commercial:** Gonneville's metals could attract a *green or western premium* in the market as part of future offtake negotiations. The demand for these critical metals is attracting end-user and downstream players to invest in upstream mines or processing facilities, which could also provide attractive funding and strategic partnering options for the Project.

## Next steps

Chalice intends to assess the two Scoping Study development cases in the PFS, and potentially others – such as underground mining options – with the aim of determining the preferred case to take into a FS, which maximises value and optionality and minimises risk.

Based on the positive results of the Study, the Company will commence the regulatory approvals process in H1 2024 and the PFS, which has commenced in Q3 2023, is targeted for completion in mid-2025 (Figure 4).

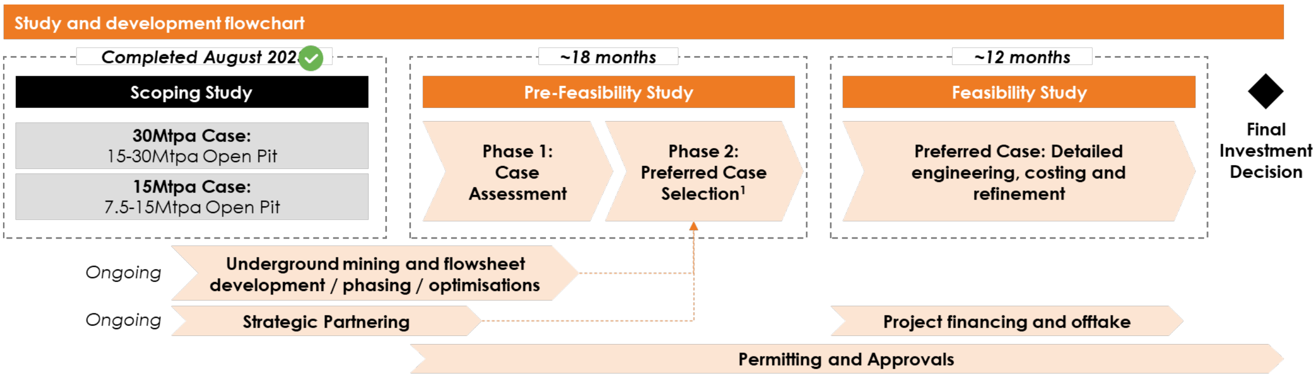


**Figure 4. Gonneville Project study and pre-development flowchart (simplified).**

The Project will require the completion of a PFS prior to the estimation of Ore Reserves and a FS to provide confidence in an economic development case and to inform a Final Investment Decision ("FID"). The Chalice Board of Directors has approved a budget of approximately A$50 million for the Gonneville Project to progress the next stage of studies (PFS) and for ongoing exploration.

## Study team

Chalice utilised a specialist internal study team throughout the Gonneville Scoping Study, with the support of several independent specialist consultants who Chalice would like to thank for their contribution. The following parties provided input into the study scopes:

| | |
|---|---|
| « Study management | Chalice |
| « Geology | Chalice |
| « Resource modelling | Cube Consulting |
| « Geotechnical | Dempers & Seymour |
| « Mining engineering | AMC Consultants |
| « Metallurgy | Auralia Metallurgy, ALS |
| « Process engineering | Ausenco |
| « Tailings storage | Klohn Crippen Berger |
| « Power supply | Western Power |
| « Waste Characterization | Graeme Campbell & Associates |
| « Water supply | Water Corporation |
| « Environmental | Biologic, Syrinx Environmental, Glevan Consulting, Perspektiv |
| « Heritage and native title | Dortch Cuthbert, Garwood Consulting |
| « Social and community | Voconiq, WSP Golder, ACIL Allen |
| « Risk, health and safety | Chalice |
| « Commodity price forecasting | AME Group |
| « Reviewers | Snowden Optiro |

Authorised for release by the Board.

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August 2023

# SCOPING STUDY

Gonneville Ni-Cu-PGE Project

## Project location, ownership and history

The 100%-owned Gonneville Nickel-Copper-Platinum Group Element ("PGE") Project ("Gonneville" or the "Project") is located on Chalice-owned farmland, ~70km north-east of Perth in Western Australia (Figure 5).

The Project is favourably located, with excellent road, rail, deep water port, high-voltage power and telecommunications infrastructure nearby, plus access to a significant highly skilled, local and 'drive-in, drive-out' ("DIDO") mining workforce in the Perth surrounds.

Western Australia is ranked number 2 by the Fraser Institute Annual Survey of Mining Companies 2022 Investment Attractiveness Index. The jurisdiction has a strong, stable regulatory framework and has a long history of large sustainable mines across numerous commodities.

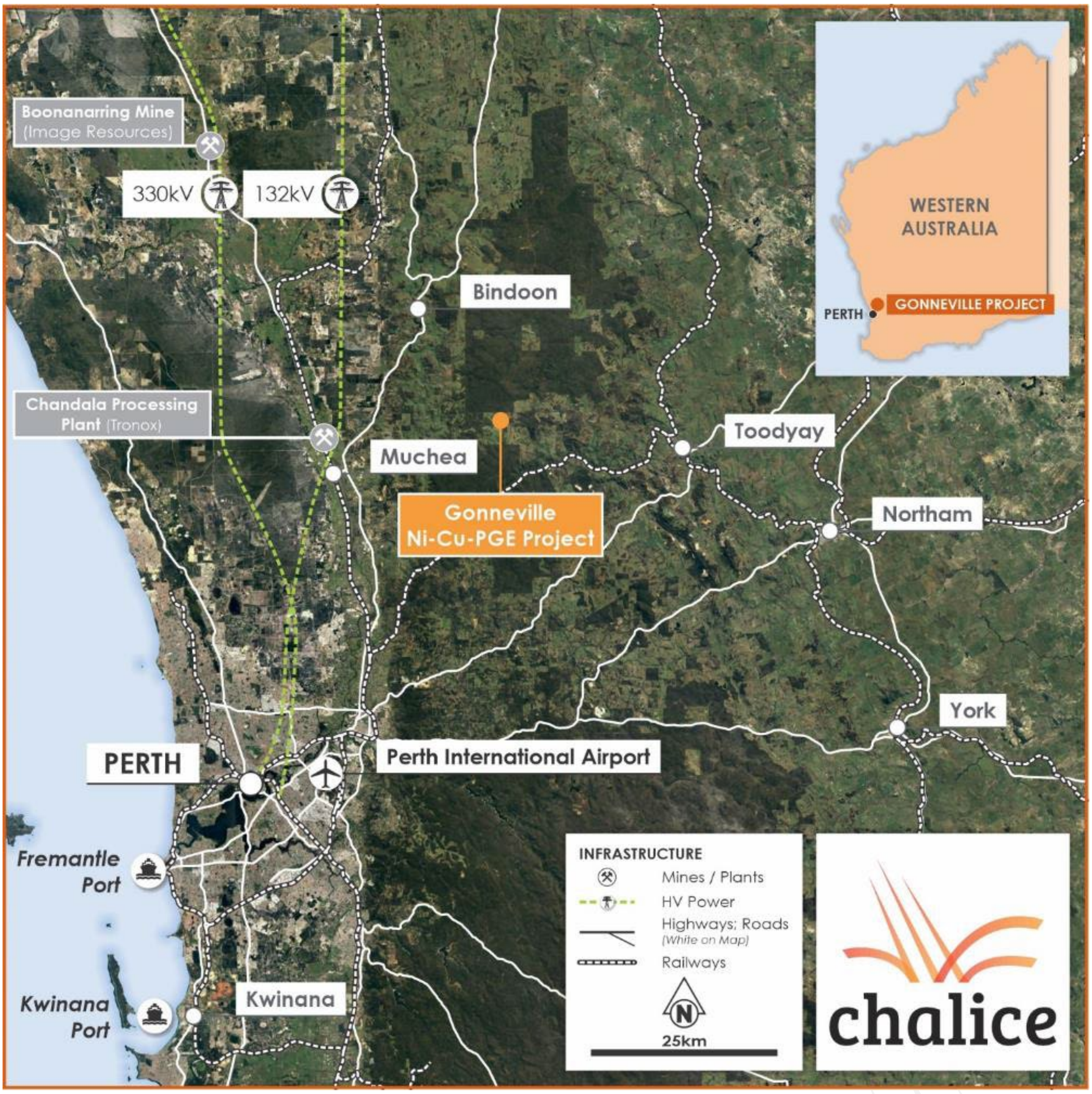



Figure 5: Gonneville Project location.

The Project is centred on the Gonneville Deposit (the "Deposit") – a significant greenfield orthomagmatic sulphide discovery by Chalice's geologists in early 2020.

The Gonneville Deposit hosts a rare mix of critical *green metals* required for urbanisation and decarbonisation, including nickel, copper, cobalt, palladium and platinum. Large-scale deposits like Gonneville are very rare and have high strategic value. Current production of these metals is dominated by Russia and South Africa.

The Gonneville Deposit is located on Chalice-owned farmland and the Company is now aiming to develop it into a modern *green metals* mine, with world-class sustainability metrics.

Chalice's freehold farmland covers an area of ~26km$^2$ and was acquired by the Company between 2020 and 2023. The Deposit is located on two granted Exploration Licences (E70/5118 and E70/5119) which give Chalice the exclusive right to apply for a Mining Licence. The two licences were originally staked by Chalice in 2018 and are 100%-owned.

## Geology and mineralisation

Gonneville is the first major PGE-rich orthomagmatic sulphide discovery in Australia. As such, its discovery has had significant implications for the resources industry in WA and the geological understanding of the Yilgarn Craton.

The Gonneville Deposit is located at the southern end of a newly recognised >30km long Mafic-Ultramafic Intrusive Complex (the "Julimar Complex"). Its ultimate lateral and depth extent is yet to be determined.

The mafic-ultramafic intrusive belt is prospective for magmatic sulphide mineralisation and has a rare chonolith-like geometry, which is similar to other major mafic-ultramafic orthomagmatic systems worldwide that host some of the world's largest nickel-copper+/-PGE deposits, including Norilsk-Talnakh and Jinchuan[7].

While Gonneville is one of the largest recent nickel-copper-PGE sulphide discoveries worldwide, and the largest PGE discovery in Australian history, the vast majority of the >30km long Julimar Complex remains unexplored.

The Deposit is located within a ~1.9km x 0.9km x 0.8km section of the Julimar Complex, known as the Gonneville Intrusion, which has a north-north-east strike, a maximum thickness of approximately 650m, and a 45° dip to the west-north-west.

The Gonneville Intrusion is composed predominantly of serpentinised olivine peridotite / harzburgite (serpentine-magnetite-amphibole-chromite) with lesser intervals of pyroxenite (amphibole-chlorite), gabbro and leucogabbro (clinozoisite-amphibole) divided into a series of eight litho-geochemical domains based on geological logging and detailed litho-geochemistry modelling. The eight domains represent internal magma differentiation within a multi-phase, fractionating ultramafic intrusion. The litho-chronological domains broadly parallel the strike and dip of the Gonneville Intrusion.

All intrusive rock-types are replaced by metamorphic mineral assemblages although texturally the rock-types are mostly well preserved at the macro-scale to allow the usage of igneous terminology. Detailed mineralogical studies have been undertaken across a wide suite of rock-types to assist with rock-type classification and geological descriptions.

The Gonneville Intrusion is bounded to the west (Hanging wall) by felsic gneiss/metasediment and to the east (Footwall) by a succession comprising metasediments (sulphidic pelite) and amphibolite of uncertain protolith. The Gonneville Intrusion and surrounding country rocks have been subject to heterogenous deformation which is manifest by localised ductile shear zones and brittle faults and intruded by granitoid sills/dykes which broadly parallels the dip and strike orientation of the

[7] Barnes et al. 2016

Gonneville Intrusion. A series of sub-vertical, north-east to north-west striking dolerite dykes cross-cut the entire geological succession. Both the granite intrusion(s) and dolerite dykes are un-mineralised.

Primary Ni-Cu-PGE sulphide mineralisation occurs principally within the ultramafic domains of the Gonneville Intrusion and to a lesser extent in gabbro subunits. Mineralisation occurs as a series of sub-parallel sulphide-rich zones (>20% sulphides), typically 5m to 40m wide, that occur within broader intervals (100m to 150m wide) of weakly disseminated sulphides.

The orientation of the higher-grade mineralised sulphide zones suggests an association with the litho-chronological domains within the intrusion. Although the ratio between the primary sulphide phases changes between, and within, the sulphide-rich and sulphide-poor zones, sulphide mineralisation consists of a consistent assemblage of pyrrhotite-pentlandite-chalcopyrite +/- pyrite. Sulphide content and metal grade are well correlated, with higher sulphide concentration corresponding to higher metal content.

## Mineral Resources

Chalice engaged Cube Consulting (Cube) to prepare an updated Mineral Resource Estimate (Resource) for the Gonneville Deposit in Q1 2023 (MRE3), following the maiden Resource in late 2021. The Resource has been reported in accordance with the JORC Code (2012) (refer to ASX announcement dated 28 March 2023).

The Project has a tier-1 scale, largely pit-constrained Measured, Indicated and Inferred Mineral Resource of 560Mt @ 0.88g/t 3E (Pd+Pt+Au), 0.16% Ni, 0.09% Cu, 0.015% Co (~0.54% NiEq[8] or ~1.7g/t PdEq[9]), reported above a 0.35% nickel equivalent cut-off grade in-pit and above a 0.40% nickel equivalent cut-off grade underground.

The Resource contains 16Moz 3E, 860kt Ni, 520kt Cu and 83kt Co (~3.0Mt NiEq or ~30Moz PdEq) (Table 3).

There is a higher-grade sulphide component of the Resource (>0.6% NiEq cut-off) of 120Mt @ 1.6g/t 3E, 0.20% Ni, 0.18% Cu, 0.017% Co (~0.9% NiEq or ~2.7g/t PdEq) containing 5.8Moz 3E, 230kt Ni, 210kt Cu, 20kt Co (~1.0Mt NiEq or ~10Moz PdEq) (Table 4).

The robust nature of the Resource is demonstrated by the grade-tonnage curve (Figure 8), which highlights the significant quantity of pit-constrained sulphide mineralisation at higher cut-off grades. Note that the grade-tonnage curve for the Resource includes material classified as Inferred, where data is insufficient to allow the geological grade and continuity to be confidently interpreted. Note also that the grade-tonnage curve excludes oxide and underground resource domains.

The significant higher-grade component of the Resource provides excellent optionality as shown in outcomes from the 15Mtpa Case and 30Mtpa Case. The pit constrained sulphide mineralisation is reported at two different cut-off grades to highlight the scale and development optionality the Resource affords.

The Resource remains open beyond a depth of ~800m at the southern end, and open beyond a depth of ~600m at the northern end. Upside from resource growth and additional deposit discoveries are detailed in the section - Opportunities and upside.

---

[8] NiEq = nickel equivalent = Ni(%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%) – Ref Appendix A

[9] PdEq = palladium equivalent = Pd(g/t) + 0.67x Pt(g/t) + 1.17x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%)

Table 3. Gonneville Mineral Resource Estimate (JORC Code 2012), 28 March 2023.

| Domain | Cut-off Grade | Category | Mass | Grade | | | | | | | | Contained Metal | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (Mt) | Pd (g/t) | Pt (g/t) | Au (g/t) | Ni (%) | Cu (%) | Co (%) | NiEq (%) | PdEq (g/t) | Pd (Moz) | Pt (Moz) | Au (Moz) | Ni (kt) | Cu (kt) | Co (kt) | NiEq (kt) | PdEq (Moz) |
| **Oxide** | 0.9g/t Pd | Measured | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Indicated | 7.3 | 1.9 | - | 0.06 | - | - | - | - | 2.0 | 0.45 | - | 0.01 | - | - | - | - | 0.47 |
| | | Inferred | 0.2 | 1.9 | - | 0.07 | - | - | - | - | 2.0 | 0.01 | - | 0.00 | - | - | - | - | 0.02 |
| | | **Subtotal** | **7.5** | **1.9** | **-** | **0.06** | **-** | **-** | **-** | **-** | **2.0** | **0.47** | **-** | **0.01** | **-** | **-** | **-** | **-** | **0.49** |
| **Sulphide (Transitional)** | 0.35% NiEq | Measured | 0.38 | 0.82 | 0.17 | 0.03 | 0.19 | 0.17 | 0.020 | 0.70 | 2.2 | 0.01 | - | - | 0.72 | 0.63 | 0.07 | 2.7 | 0.03 |
| | | Indicated | 14 | 0.66 | 0.15 | 0.03 | 0.16 | 0.10 | 0.018 | 0.54 | 1.7 | 0.30 | 0.07 | 0.01 | 22 | 14 | 2.5 | 77 | 0.77 |
| | | Inferred | 0.27 | 0.60 | 0.16 | 0.03 | 0.15 | 0.12 | 0.015 | 0.54 | 1.7 | 0.01 | - | - | 0.42 | 0.32 | 0.04 | 1.5 | 0.01 |
| | | **Subtotal** | **15** | **0.66** | **0.15** | **0.03** | **0.16** | **0.10** | **0.018** | **0.55** | **1.7** | **0.31** | **0.07** | **0.01** | **23** | **15** | **2.6** | **81** | **0.81** |
| **Sulphide (Fresh)** | 0.35% NiEq | Measured | 2.3 | 1.1 | 0.26 | 0.03 | 0.24 | 0.18 | 0.019 | 0.87 | 2.7 | 0.08 | 0.02 | - | 5.4 | 4.2 | 0.43 | 20 | 0.20 |
| | | Indicated | 280 | 0.67 | 0.15 | 0.03 | 0.16 | 0.09 | 0.015 | 0.53 | 1.7 | 6.0 | 1.3 | 0.23 | 440 | 260 | 43 | 1500 | 15 |
| | | Inferred | 200 | 0.67 | 0.15 | 0.03 | 0.15 | 0.09 | 0.015 | 0.53 | 1.6 | 4.4 | 0.96 | 0.16 | 310 | 180 | 29 | 1100 | 11 |
| | | **Subtotal** | **480** | **0.67** | **0.15** | **0.03** | **0.16** | **0.09** | **0.015** | **0.53** | **1.7** | **10** | **2.3** | **0.39** | **750** | **440** | **72** | **2600** | **26** |
| **Underground** | 0.40% NiEq | Measured | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Indicated | 1.7 | 0.75 | 0.21 | 0.06 | 0.14 | 0.08 | 0.013 | 0.55 | 1.7 | 0.04 | 0.01 | - | 2.4 | 1.4 | 0.23 | 9.5 | 0.10 |
| | | Inferred | 52 | 0.78 | 0.17 | 0.03 | 0.16 | 0.11 | 0.015 | 0.59 | 1.8 | 1.3 | 0.28 | 0.05 | 83 | 56 | 7.7 | 310 | 3.1 |
| | | **Subtotal** | **54** | **0.78** | **0.17** | **0.03** | **0.16** | **0.11** | **0.015** | **0.59** | **1.8** | **1.3** | **0.29** | **0.06** | **86** | **57** | **7.9** | **320** | **3.2** |
| **All** | | Measured | 2.7 | 1.1 | 0.24 | 0.03 | 0.23 | 0.18 | 0.019 | 0.85 | 2.6 | 0.09 | 0.02 | - | 6.2 | 4.9 | 0.51 | 23 | 0.23 |
| | | Indicated | 300 | 0.70 | 0.15 | 0.03 | 0.16 | 0.09 | 0.015 | 0.54 | 1.7 | 6.8 | 1.4 | 0.26 | 460 | 280 | 45 | 1600 | 16 |
| | | Inferred | 250 | 0.70 | 0.15 | 0.03 | 0.15 | 0.09 | 0.015 | 0.54 | 1.7 | 5.7 | 1.2 | 0.22 | 390 | 230 | 37 | 1400 | 14 |
| | | **Total** | **560** | **0.70** | **0.15** | **0.03** | **0.16** | **0.09** | **0.015** | **0.54** | **1.7** | **13** | **2.7** | **0.48** | **860** | **520** | **83** | **3000** | **30** |

Note some numerical differences may occur due to rounding to 2 significant figures.
PdEq oxide (Palladium Equivalent g/t) = Pd (g/t) + 1.27x Au (g/t)
NiEq sulphide (Nickel Equivalent %) = Ni (%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%)
PdEq sulphide (Palladium Equivalent g/t) = Pd (g/t) + 0.67x Pt(g/t) + 1.17 x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%)
Underground resources are outside the pit above a 0.40% NiEq cut off grade based on sub-level caving mining method
Includes drill holes drilled up to and including 11 December 2022

Table 4: Higher-grade sulphide component of Gonneville Resource (in pit and underground), 28 March 2023.

| Domain | Cut-off Grade | Category | Mass | Grade | | | | | | | | Contained Metal | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (Mt) | Pd (g/t) | Pt (g/t) | Au (g/t) | Ni (%) | Cu (%) | Co (%) | NiEq (%) | PdEq (g/t) | Pd (Moz) | Pt (Moz) | Au (Moz) | Ni (kt) | Cu (kt) | Co (kt) | NiEq (kt) | PdEq (Moz) |
| **High-grade Sulphide (Transitional)** | 0.6% NiEq | Measured | 0.17 | 1.2 | 0.24 | 0.05 | 0.24 | 0.25 | 0.023 | 0.97 | 3.0 | 0.01 | - | - | 0.41 | 0.43 | 0.04 | 1.7 | 0.02 |
| | | Indicated | 3.4 | 1.1 | 0.21 | 0.04 | 0.20 | 0.16 | 0.020 | 0.79 | 2.5 | 0.12 | 0.02 | - | 6.6 | 5.3 | 0.69 | 27 | 0.27 |
| | | Inferred | 0.07 | 0.84 | 0.18 | 0.03 | 0.22 | 0.26 | 0.019 | 0.81 | 2.5 | - | - | - | 0.16 | 0.18 | 0.01 | 0.57 | 0.01 |
| | | **Subtotal** | **3.6** | **1.1** | **0.21** | **0.04** | **0.20** | **0.16** | **0.021** | **0.80** | **2.5** | **0.12** | **0.02** | **-** | **7.2** | **5.9** | **0.74** | **29** | **0.29** |
| **High-grade Sulphide (Fresh)** | 0.6% NiEq | Measured | 0.88 | 2.2 | 0.47 | 0.05 | 0.39 | 0.35 | 0.027 | 1.6 | 4.9 | 0.06 | 0.01 | - | 3.4 | 3.1 | 0.24 | 14 | 0.14 |
| | | Indicated | 58 | 1.2 | 0.26 | 0.06 | 0.20 | 0.18 | 0.018 | 0.87 | 2.7 | 2.3 | 0.48 | 0.11 | 120 | 100 | 10 | 500 | 5.1 |
| | | Inferred | 40 | 1.3 | 0.26 | 0.06 | 0.19 | 0.18 | 0.017 | 0.87 | 2.7 | 1.6 | 0.33 | 0.08 | 75 | 73 | 6.6 | 340 | 3.5 |
| | | **Subtotal** | **98** | **1.2** | **0.26** | **0.06** | **0.20** | **0.18** | **0.017** | **0.88** | **2.7** | **3.9** | **0.82** | **0.19** | **200** | **180** | **17** | **860** | **8.7** |
| **Underground** | 0.6% NiEq | Measured | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | Indicated | 0.4 | 1.2 | 0.36 | 0.12 | 0.14 | 0.11 | 0.014 | 0.78 | 2.5 | 0.02 | - | - | 0.61 | 0.46 | 0.06 | 3.3 | 0.03 |
| | | Inferred | 13 | 1.4 | 0.27 | 0.06 | 0.20 | 0.20 | 0.017 | 0.93 | 2.9 | 0.58 | 0.12 | 0.03 | 26 | 26 | 2.2 | 120 | 1.2 |
| | | **Subtotal** | **14** | **1.4** | **0.28** | **0.06** | **0.20** | **0.19** | **0.017** | **0.93** | **2.9** | **0.60** | **0.12** | **0.03** | **27** | **26** | **2.3** | **130** | **1.3** |
| **All** | | Measured | 1.1 | 2.0 | 0.43 | 0.05 | 0.37 | 0.33 | 0.026 | 1.5 | 4.6 | 0.07 | 0.01 | - | 3.8 | 3.5 | 0.28 | 15 | 0.15 |
| | | Indicated | 62 | 1.2 | 0.25 | 0.06 | 0.20 | 0.18 | 0.018 | 0.87 | 2.7 | 2.4 | 0.50 | 0.11 | 130 | 110 | 11 | 530 | 5.4 |
| | | Inferred | 53 | 1.3 | 0.26 | 0.06 | 0.19 | 0.19 | 0.017 | 0.89 | 2.8 | 2.2 | 0.45 | 0.11 | 100 | 99 | 8.8 | 470 | 4.7 |
| | | **Total** | **120** | **1.3** | **0.26** | **0.06** | **0.20** | **0.18** | **0.017** | **0.88** | **2.7** | **4.7** | **0.97** | **0.22** | **230** | **210** | **20** | **1000** | **10** |

Note some numerical differences may occur due to rounding to 2 significant figures.
This higher-grade component is contained within the reported global Mineral Resource
PdEq oxide (Palladium Equivalent g/t) = Pd (g/t) + 1.27x Au (g/t)
NiEq sulphide (Nickel Equivalent %) = Ni (%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%)
PdEq sulphide (Palladium Equivalent g/t) = Pd (g/t) + 0.67x Pt(g/t) + 1.17 x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%)
Underground resources are outside the pit above a 0.40% NiEq cut off grade based on sub-level caving mining method
Includes drill holes drilled up to and including 11 December 2022

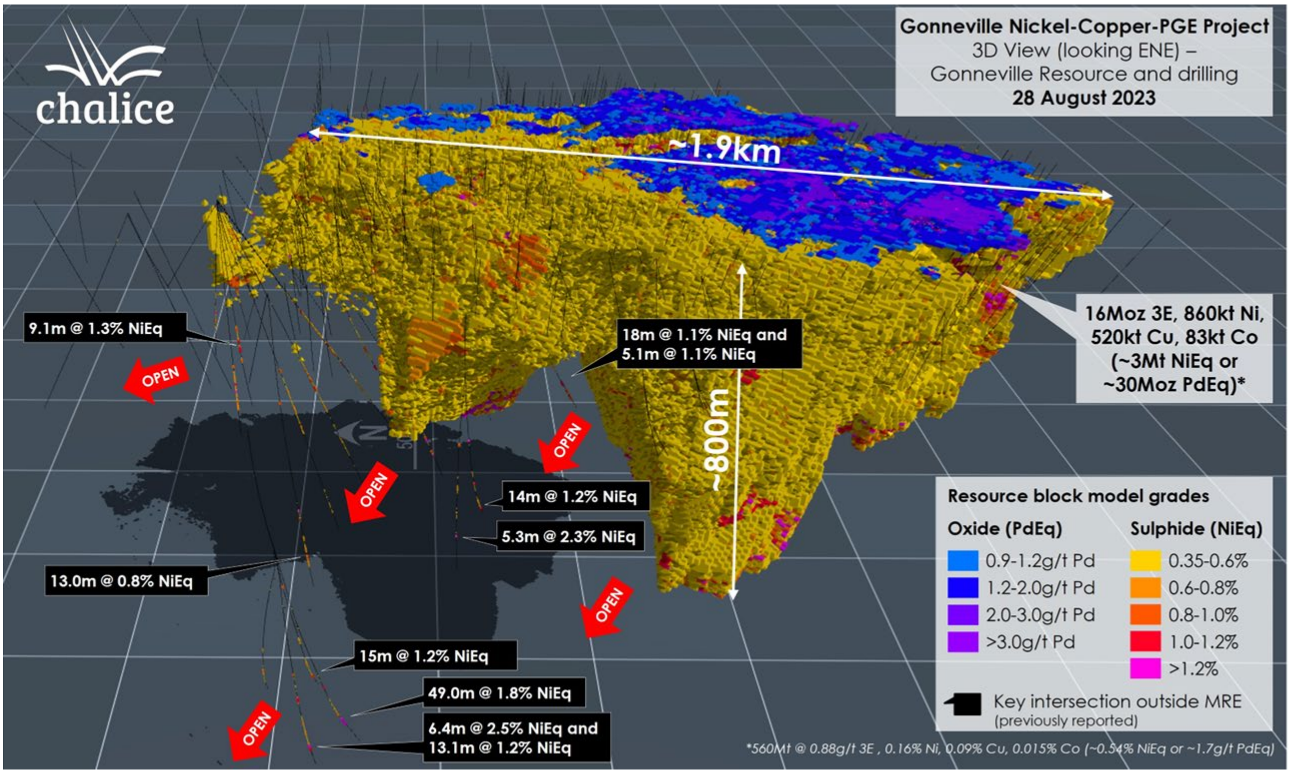



**Figure 6. 3D view (looking ENE) of Gonneville block model (all domains) and Resource pit shell.**

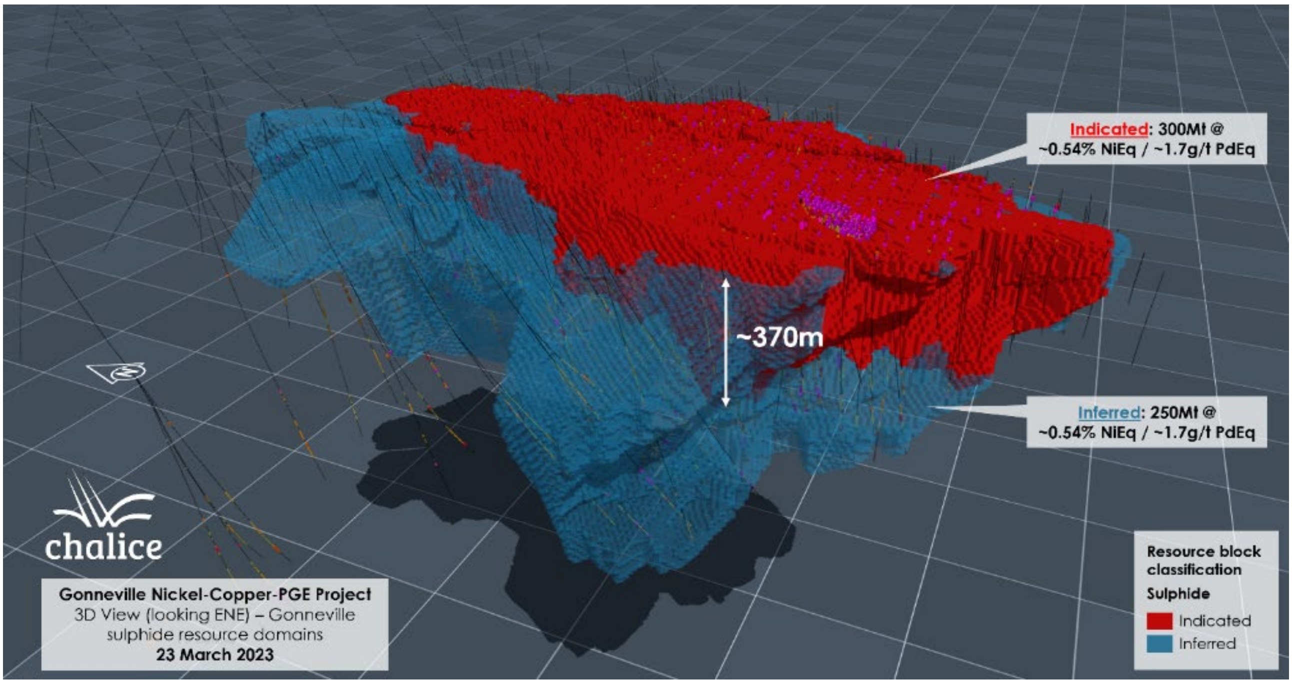



**Figure 7. 3D view (looking NE) of Gonneville Indicated and Inferred category blocks (sulphide domains only).**

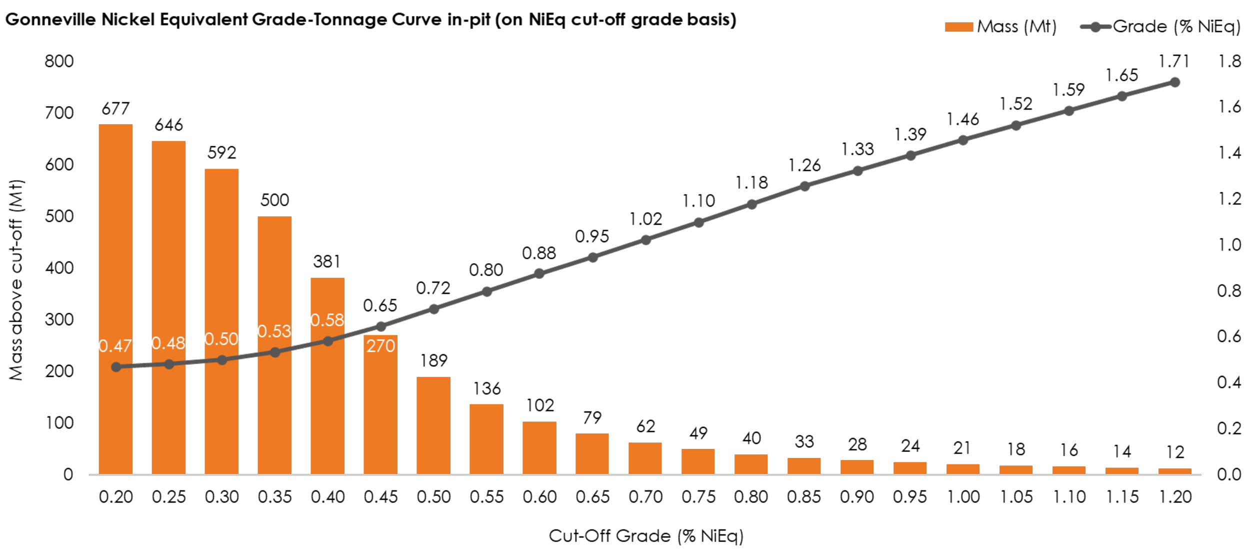



**Figure 8. Gonneville NiEq grade-tonnage curve for pit-constrained sulphide mineralisation on a NiEq cut-off grade basis.**

## Mining

AMC Consultants (AMC) were engaged to conduct a high-level analysis of open pit mining for the Study. This analysis encompassed the evaluation of various processing options across a range of throughput scenarios. The Study was based on a conventional open-pit mining approach only, involving drilling, blasting, loading and hauling. The initial workforce is expected to comprise contractors, transitioning to an owner-operator workforce in the later stages of operation.

The Resource starts near the surface at the southern pit boundary, making conventional open-pit truck-shovel mining methods the initial consideration. The Resource encompasses a blend of oxide, transitional, and hypogene sulphide mineralisation. No unclassified mineralisation outside of the current Resource was included in modelling.

High-level mining optimisations were run on a normalised, re-blocked Resource model (refer to ASX Announcement on 28 March 2023), in which blocks were diluted, converted into quantities of payable concentrates and a Net Smelter Return ("NSR") assigned to each block, according to:

- Recovery algorithms (described in the Metallurgy and processing section);
- Payability algorithms (described in the Product marketing and offtake strategy section); and,
- Metal price assumptions (Table 5).

**Table 5. Mine design long term metal price assumptions.**

| Mine plan price deck | 15Mtpa Case | 30Mtpa Case |
|---|---|---|
| Ni (US$/t) | 19,000 | 21,500 |
| Cu (US$/t) | 8,800 | 9,000 |
| Co (US$/t) | 35,000 | 55,000 |
| Pd (US$/oz) | 1,100 | 1,600 |
| Pt (US$/oz) | 1,300 | 1,100 |
| Au (US$/oz) | 1,900 | 1,800 |

These prices influence mine design and economic cut-off and are based on Chalice's understanding of the supply curve for each metal and the assumptions underlying Russian and South African reported Mineral Reserves.

It is noted that there is a high degree of cost inflation across the mining industry and significant uncertainty around demand forecasts, particularly in relation to decarbonisation and western critical minerals / supply chain policies. In addition, the mine design price assumption is lower than Chalice's long-term price forecasts to reflect the cyclical nature of commodity prices, ensuring profitability of the mine through-the-cycle. As a result, Chalice has adopted a more conservative 15Mtpa Case as well as a 30Mtpa Case.

Blocks were categorised for processing or stockpiling or waste according to their NSR versus cost of extraction, processing and selling.

The re-blocked model accounted for industry standard 'ore loss' and dilution. In addition, a 1m skin zone has been added around the dolerite dykes, and material in this zone has been considered as 'ore loss' for all material types during the optimisation process.

Open pit planning and scheduling was undertaken on the Resource to determine an appropriate scale for the operation. Preliminary, unoptimised mine schedules have been generated which assume a level of stockpiling and rehandling to optimise grade to the process plant.

The Study considered two mining and processing throughput cases for design according to the commodity prices in Table 5, and a modelled annual production schedule was completed for each.

The first case ("15Mtpa Case") is based on a processing throughput of 7.5Mtpa ramping up to 15Mtpa from Year 6. The second case ("30Mtpa Case") is based on a processing throughput of 15Mtpa ramping up to 30Mtpa from Year 6.

## Geotechnical

Open pit geotechnical investigations sufficient to inform a Scoping Study were undertaken by geotechnical consultants Dempers and Seymour. In general, the rock mass is classified as 'Fair' to 'Good' with further investigation planned in the PFS study phase including an assessment of underground geotechnical conditions.

For the Study, a 3D Mining Rock Mass model was constructed based on photo-logging of 7,000 metres of drill core which had been calibrated to actual geotechnical logging of 719m of selected diamond drill holes. A total of six rock mass units were considered – and various parameters recorded as shown in Table 6, including rock strength, joint condition, fracture frequency, rock mass rating (RMR) and mining rock mass rating (MRMR).

**Table 6. Summary rock mass characteristics.**

| Rock Unit | Rock Strength | Joint Condition | Fracture Freq. | RMR | MRMR |
|---|---|---|---|---|---|
| **Oxide** | 1MPa – 5MPa | Smooth and undulating with soft sheared fine infill | >40 frac/m Spacing 0.03m | 8 – 14 Average 13 | 6 – 11 Average 10 |
| **Transition** | 25MPa – 50MPa | Smooth and undulating with soft sheared medium infill | 5.8 frac/m Spacing 0.17m | 20 – 43 Average 31 | 16 – 35 Average 25 |
| **Dolerite** | 100MPa – 130MPa | Rough and planar with non-softening fine infill | 2.2 frac/m Spacing 0.45m | 48 – 62 Average 53 | 39 – 50 Average 43 |
| **Ultramafic** | 50MPa – 100MPa | Rough and planar with soft sheared fine to medium infill | 2.2 frac/m Spacing 0.45m | 45 – 60 Average 50 | 36 – 48 Average 40 |
| **Sediment** | 100MPa – 130MPa | Smooth and undulating with soft sheared fine to medium infill | 1.2 frac/m Spacing 0.83m | 53 – 68 Average 58 | 43 – 55 Average 47 |
| **Granite** | 100MPa – 130MPa | Smooth and planar with soft sheared fine or non softening medium infill | 1.75 frac/m Spacing 0.57m | 50 – 65 Average 56 | 40 – 52 Average 45 |

The fresh rock units are classified as Class III – fair to good rock, with RMR values ranging from 50-58. Upper transitional rock and oxide ore were classified as Class IV or V respectively (poor to very poor).

A total of six geotechnical domains were defined – four western domains and two eastern domains. Both the MRMR and the GSI classification systems were used to develop inputs for the mining rock mass model.

An overall slope angle ("OSA"), inter-ramp angle ("IRA") and bench face angles ("BFA") were then calculated for pit optimisation using Whittle software. The range of angles modelled are shown below in Table 7.

**Table 7: Geotechnical slope estimation ranges by ore type.**

| Ore Type | IRA Range (°) | BFA Range (°) | OSA Range (°) |
|---|---|---|---|
| Oxide ore | 35 | 55 | 32 – 35 |
| Transition sulphide | 40 – 45 | 60 | 35 – 38 |
| Fresh sulphide | 46 – 55 | 60 – 70 | 38 - 46 |

## Open pit mine design and scheduling

The 15Mtpa Case mining plan assumes conventional open-pit mining using 360t class excavators loading 225t capacity trucks on 5m flitch heights and blasting on a 10m bench height, with a selective mining unit ("SMU") of 5m x 10m x 5m.

The 30Mtpa Case mining plan assumes conventional open-pit mining using 550t class excavators loading 225t capacity trucks on 5m flitch heights and blasting on a 10m bench height, with a SMU of 5m x 10m x 5m.

The pit stages are shown in Figure 9 and Figure 10 for the 15Mtpa Case, and Figure 11 and Figure 12 for the 30Mtpa Case. The final pit dimensions are 1.7km x 1.2km x 0.46km for the 15Mtpa Case and 1.9km x 1.5km x 0.6 km for the 30Mtpa Case. The pit shells are constrained at the northern end to Chalice-owned farmland.

Recent drilling has demonstrated that mineralisation extends well beyond both modelled pit shells, however the Study has not considered this. Step-out and resource definition drilling continues at the Project.

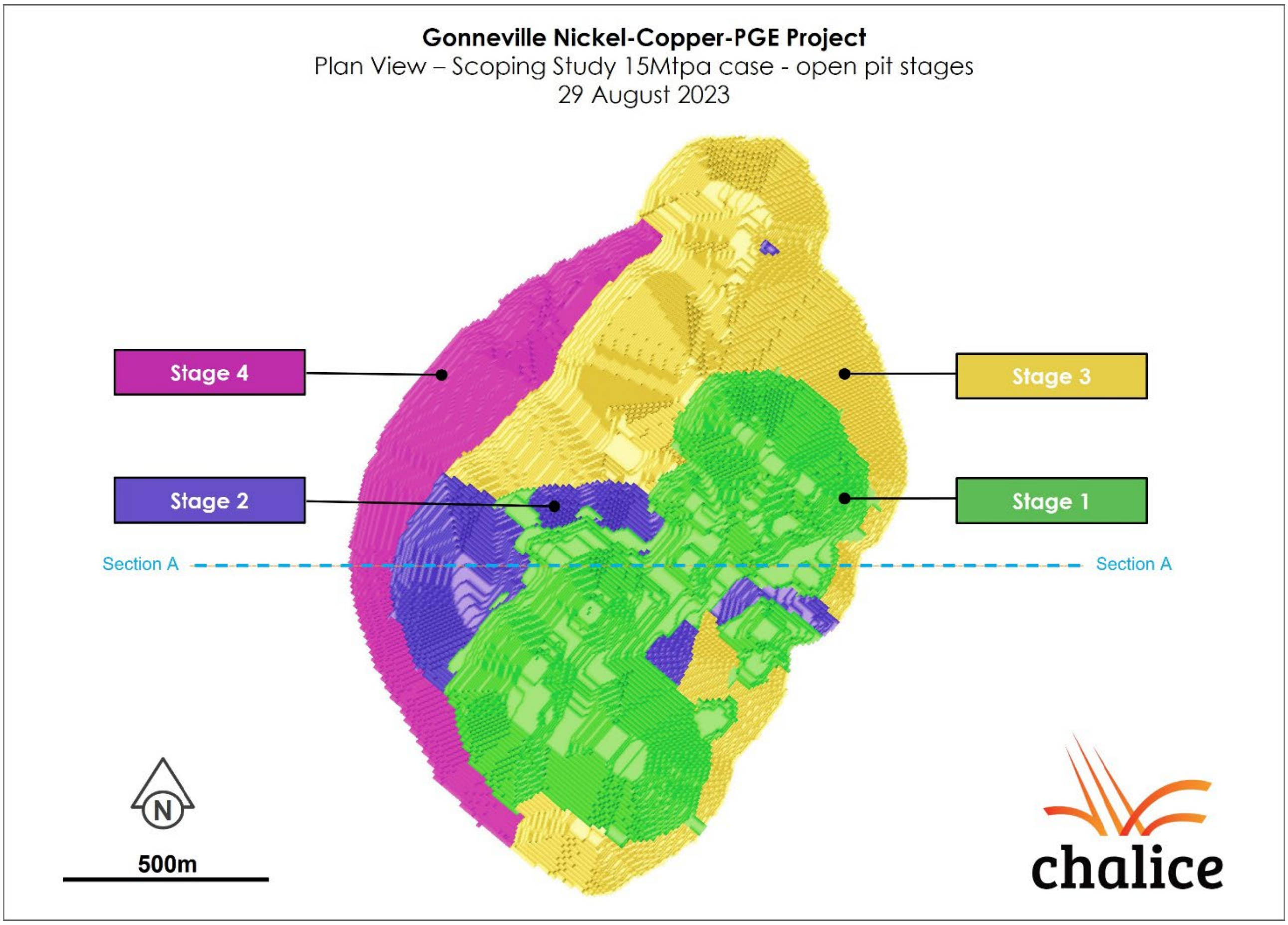



Figure 9. Open pit mine stages – Plan view of the 15Mtpa Case.

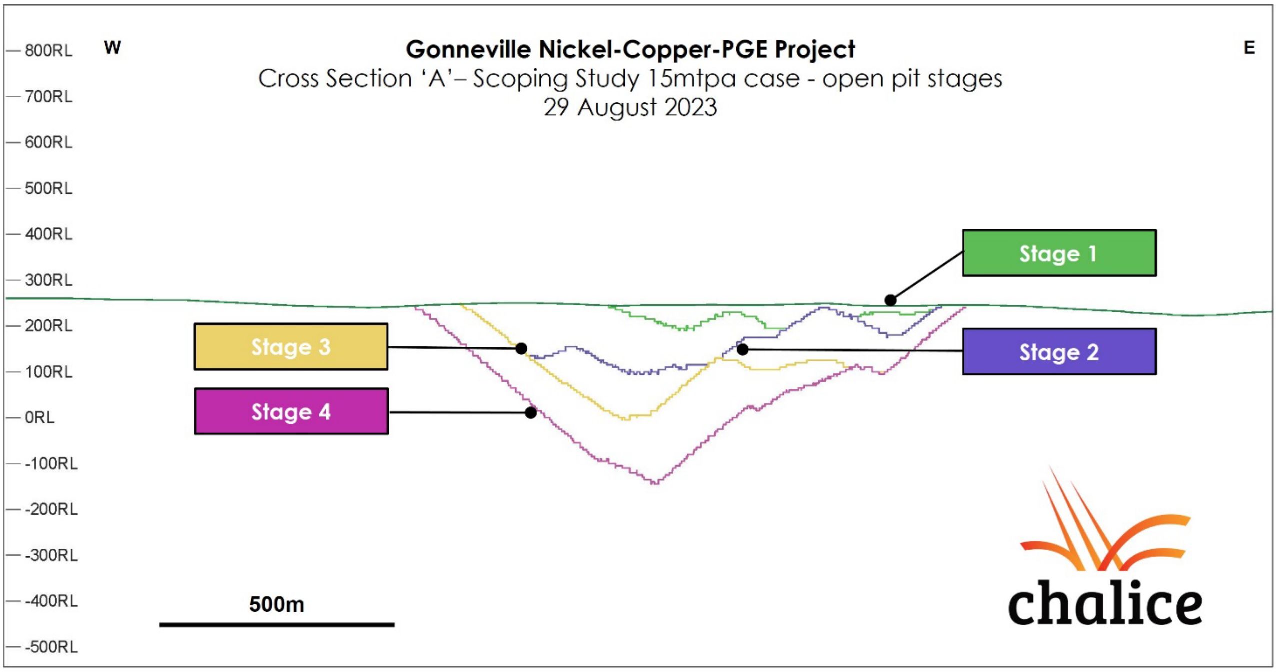



Figure 10. Open pit mine stages – Cross Section view of the 15Mtpa Case.

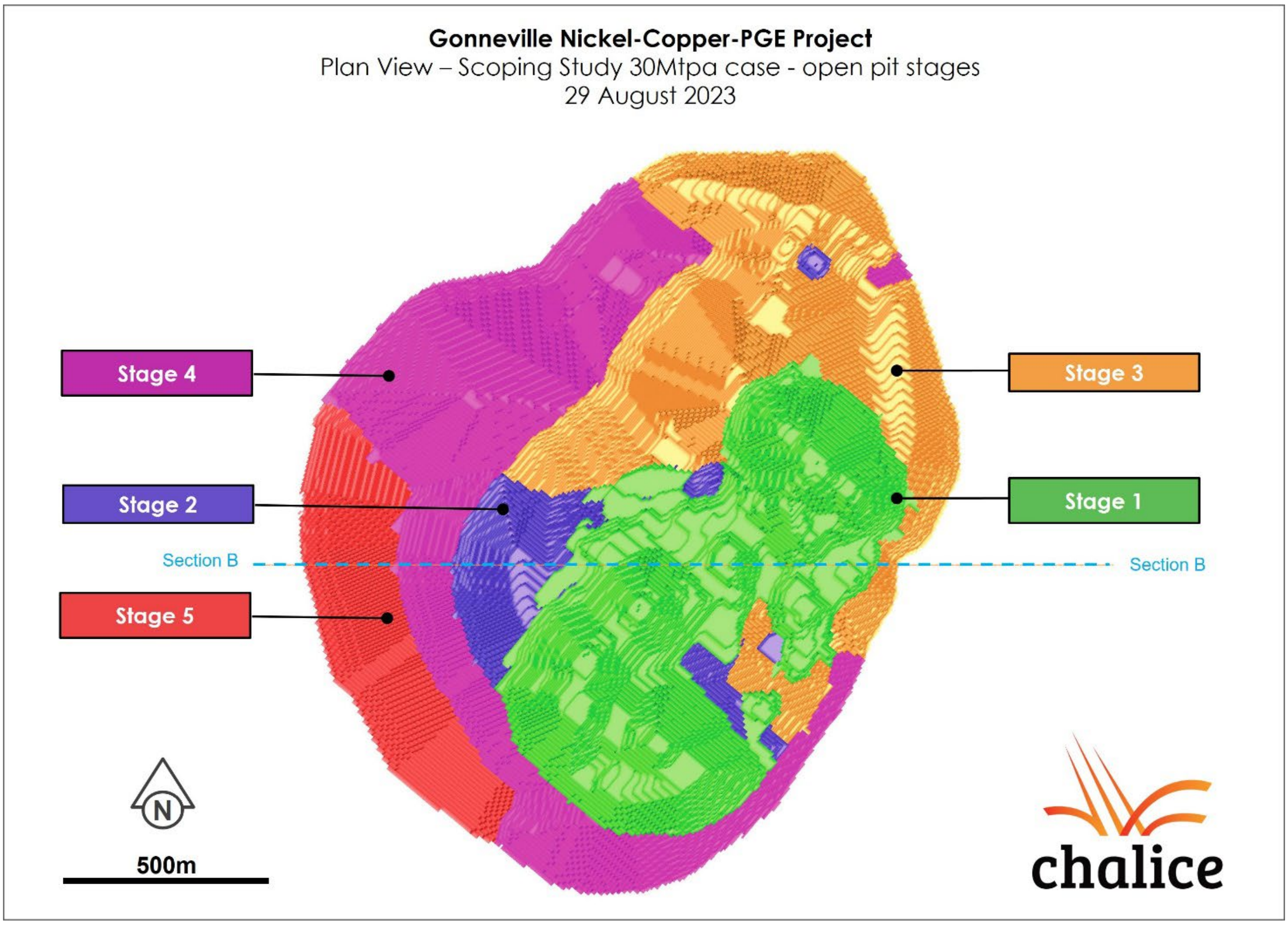



Figure 11. Open pit mine stages – Plan view of the 30Mtpa Case.

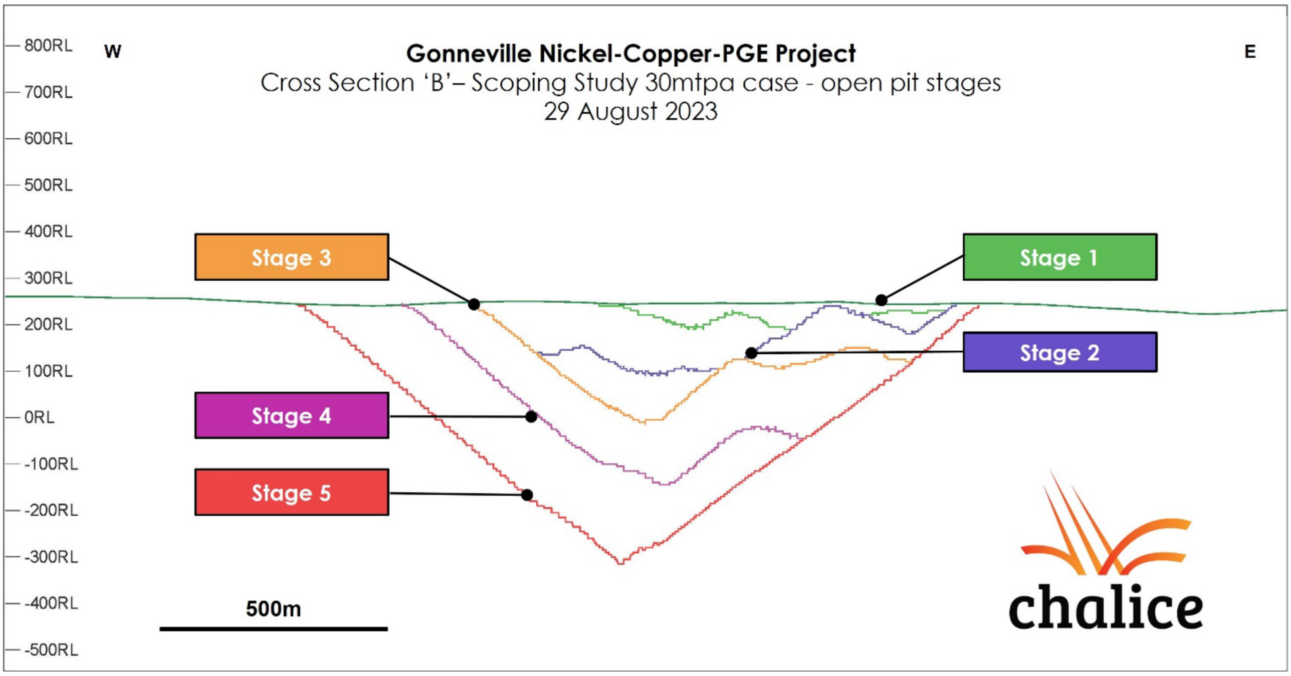



Figure 12. Open pit mine stages – Cross Section view of the 30Mtpa Case.

For the 15Mtpa Case a total of 99.5% of material in the production schedule for the first six years (Phase 1 of 7.5Mtpa, before expansion to 15Mtpa) is in the Measured and Indicated Resource classification category (Figure 13).

For the 30Mtpa Case a total of 97% of material in the production schedule for the first six years (Phase 1 of 15Mtpa, before expansion to 30Mtpa) is in the Measured and Indicated Resource classification category (Figure 14).

The cumulative proportion of Measured and Indicated Resources remains above ~80% until year 15 in both cases, well after the expected payback period for both Phase 1 and the assumed expansions.

Over the 19-year project life for the 15Mtpa Case and 18 year project life for the 30Mtpa Case, the Project is modelled to mine ~680Mt and 1,300Mt of total material respectively, process ~240Mt and ~440Mt and have an average modelled strip ratio of ~1.8 (Figure 13 and Figure 14).

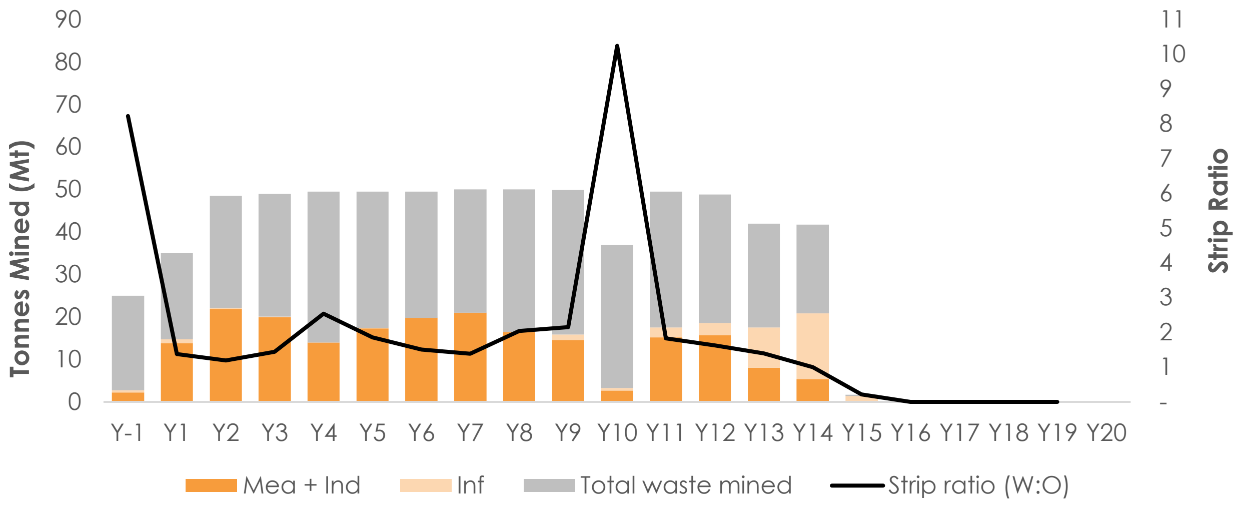



**Figure 13. Annual mining schedules for the 15Mtpa Case.**

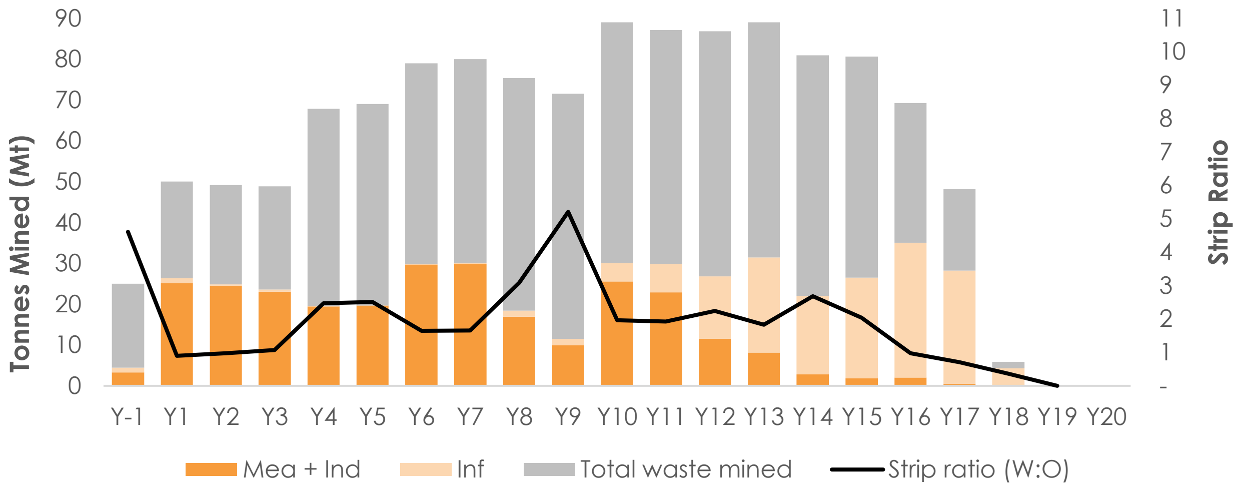



**Figure 14. Annual mining schedules for the 30Mtpa Case.**

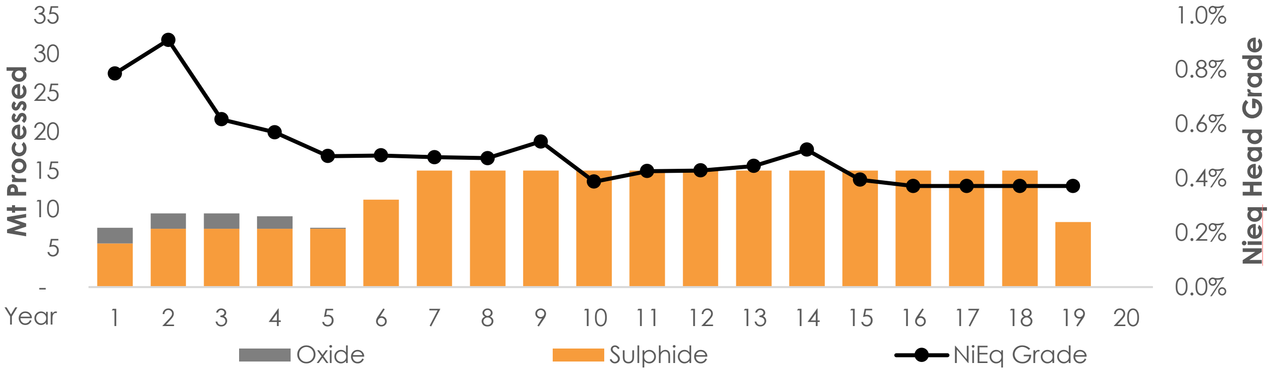



**Figure 15. Process plant feed schedules by category and feed grade for the 15Mtpa Case.**

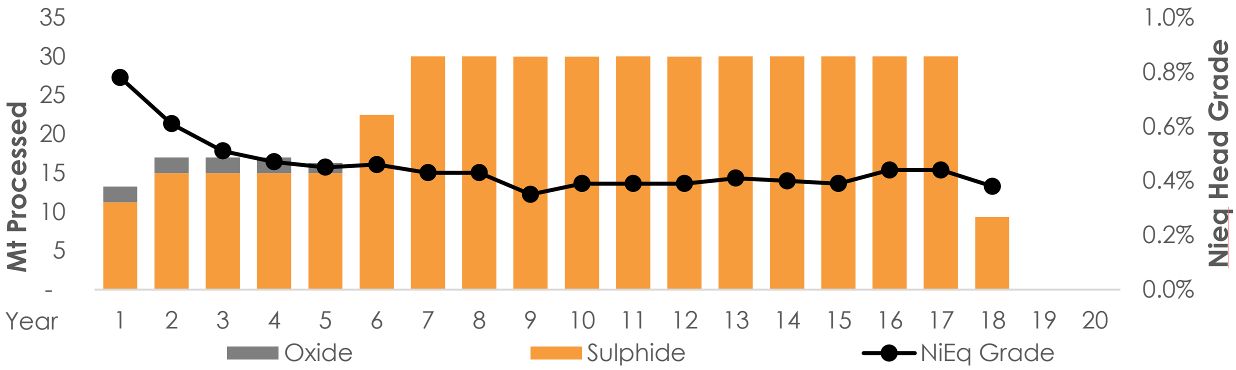



**Figure 16. Process plant feed schedules by category and feed grade for the 30Mtpa Case.**

Contract mining is assumed for the first six years of mine life, after which there is a transition to an owner-operator model. The scope of works for the mine services contractor include:

- Mobilisation of mine equipment and personnel;
- Mine services area establishment;
- Mine development including clearing, grubbing, topsoil removal and haul road construction;
- Drilling and blasting;
- Loading and hauling;
- Ore rehandling; and,
- Ancillary activities that support primary mining activities.

Mining contractors would be required to prioritise local employment, consistent with Chalice's approach. An allowance has been made in the CapEx and OpEx estimates for the contract to owner-mining transition.

The oxide Resource lends itself to mostly free excavation. Waste landform designs were created based on the required waste capacity from the pit stages, movement of the material was allocated to the closest waste landform from the pit ramp exit. The footprint of the waste landforms are within Chalice-owned farmland.

All mining equipment, haulage fleet and auxiliary fleet are assumed in the Study to be diesel powered. Studies into automation, electrification and other trade-offs will be evaluated in the PFS.

# Metallurgy and processing

## Approach and methodology

Mineralogy and metallurgical investigations / test work have continued in parallel to the exploration activities, with metallurgical composite samples sourced as the Resource was defined. To date, over 25 sulphide composites and five oxide composites have been tested.

Metallurgical test work to date has focussed on:

- Understanding the comminution and flotation responses of the sulphide mineralisation, targeting recovery of nickel, copper, cobalt, palladium, platinum and gold into saleable or intermediate concentrates.
- Understanding leaching response on the sulphide flotation tail to enhance palladium and gold recoveries.
- Understanding leaching response on the oxide mineralisation to recover palladium and gold only.

From this work, initial metal recovery algorithms (recovery vs head grade) have been developed for both the mineralisation types, as well as selection of grind size and preliminary process flowsheet.

Limited test work has been undertaken on hydrometallurgical processing of the flotation nickel concentrate, however production of bulk concentrate samples for testing using a variety of hydrometallurgical process options has recently been completed and additional work is planned in late 2023 and 2024 as part of the PFS.

The planned PFS metallurgical test work programme will incorporate additional samples to ensure representivity of the samples and composites across the Resource defined to date. The programme has a particular focus on metallurgical variability of low-grade samples and composites, and also aims to improve understanding of metallurgical domains within the resource.

## Mineralogy

Mineralogical studies, using QEMSCAN, XRD and LA-ICPMS, have been undertaken on most composites and the results used to drive the direction of the flotation programmes. The six payable metals (Ni, Cu, Co, Pd, Pt, Au) in the Deposit are hosted in a variety of minerals. Table 8 below summarises the mineral species and deportment from investigations to date.

**Table 8: Summary of mineral species and deportment from investigations to date**

| Metal | Mineral host and deportment results from composites analysed |
|---|---|
| Nickel | Pentlandite & violarite (45-60%), other sulphides (20-30%) – non-sulphide nickel ranges from 5-25% |
| Copper | Chalcopyrite (>90%) |
| Cobalt | Solid solution in nickel minerals |
| Palladium | >95% as palladium minerals (e.g. kotulskite) |
| Platinum | Sperrylite or native platinum |
| Gold | Unknown |

Most of the copper and nickel sulphides are liberated at moderate-fine sizes (53 to 75 microns) and liberation of precious metals can be improved by further grinding.

A significant amount of the recovered precious metals (3E) report to the copper concentrate. The remaining precious metals and the cobalt are recovered with the nickel and iron sulphide minerals hence warranting hydrometallurgical processing investigations to maximise recovery.

Non-sulphide gangue mineralisation can be heavily serpentinised in a similar manner to several other nickel sulphide projects in Western Australia and flowsheet development has therefore been informed by the learnings from those projects, in particular relating to the presence of some fibrous material in the open pit.

## Process flowsheet design

Several processing flowsheets have been investigated, with the aim of maximising metallurgical recoveries and metal payabilities whilst minimising costs and risk. Given the large scale of the Resource and unique characteristics of the Project site, flowsheet optimisation will continue through the subsequent study phases, with additional flowsheet steps and capital investment being assessed according to value added (by increased recovery or decreased cost) and risk.

Utilising insights from mineralogy investigations and initial flotation testwork programs, the flowsheet components considered to date include:

- **Comminution:** Crushing/grinding using staged crushing and up to three stages of grinding mills;
- **Selective Cu-Ni flotation**: Conventional sulphide sequential flotation into separate Cu (+PGE-Au) and Ni (+Co-PGE) smelter-grade concentrates for offtake;
- **Bulk Ni-Cu-PGE flotation**: Conventional sulphide flotation into a single PGE (+Ni-Cu-Co) or Ni (+Cu-Co-PGE) smelter-grade concentrate for offtake and/or selective regrinding and flotation of the bulk concentrate into separate Cu (+PGE-Au) and Ni (+Co-PGE) smelter-grade concentrates for offtake;
- **Nickel concentrate enrichment**: Conventional sulphide sequential flotation into a Cu (+PGE-Au) smelter-grade concentrate for offtake, plus bulk flotation of a Ni-Fe-Co-PGE concentrate for processing in a hydrometallurgical concentrate enrichment process to produce a Ni-Co Mixed Hydroxide Precipitate product for offtake, along with Cu sulphide for blending into the Cu smelter-grade concentrate and a PGE-Au doré for offtake;
- **Flotation tailings leaching**: Leaching of the flotation tailings to enhance recovery of palladium and gold after the flotation stages.
- **Oxide leaching:** Leaching of the oxide mineralisation which overlays the sulphide mineralisation, to recover palladium and gold. The potential exists to combine the oxide and flotation tailings and treat them in the same leaching circuit, or to process these streams separately.

Conventional sulphide sequential flotation into copper and nickel concentrates is common in the industry, whilst hydrometallurgical concentrate enrichment is less common but is likely to become more widespread in coming years. Adding a leaching circuit to leach flotation tails to recover precious metals not recovered to flotation is commonplace in gold and copper-gold processing operations in WA.

Historically, large-scale polymetallic sulphide deposits such as Norilsk, Jinchuan and Sudbury have typically warranted vertically integrated upstream (concentration) and downstream (hydrometallurgical / pyrometallurgical / refining) processing facilities to be constructed. The potential for additional downstream processing at Gonneville (or at another location) will be investigated as part of future studies.

Due to the unique PGE-rich nature of the Deposit, the proposed process flowsheet (for 15Mtpa and 30Mtpa Cases) includes sequential flotation, nickel concentrate enrichment as well as oxide/flotation tails leaching (Figure 17).

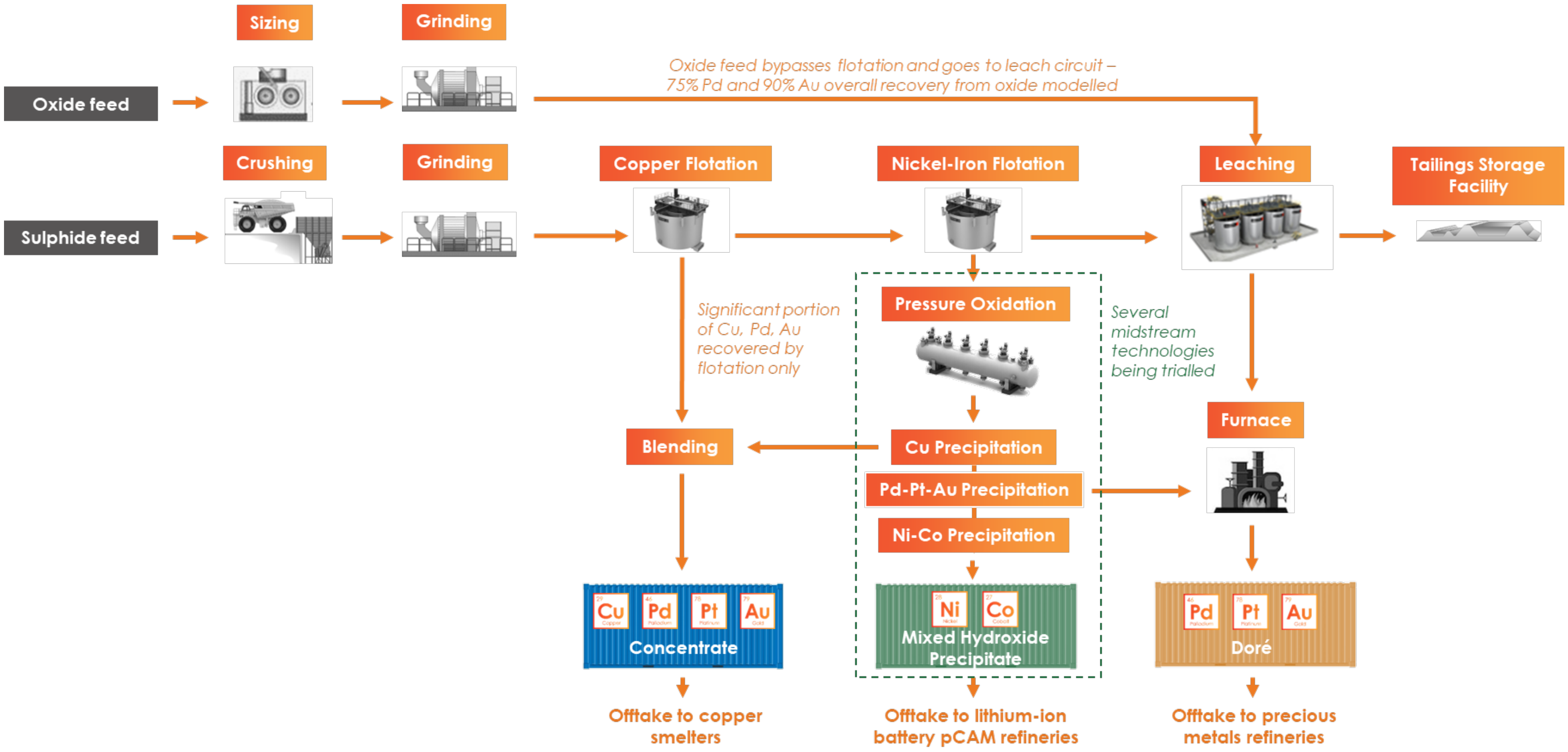



**Figure 17: Gonneville Scoping Study Processing Flowsheet (simplified).**

There remains potential to optimise the flowsheet and stage the construction and associated capital investment on processing steps according to the feed grade profile – which could be achieved through additional upgrading and offtake of intermediate flotation products. These optimisations and staging will be considered further in the PFS.

The test programme has indicated that use of desliming will be required for highly serpentinised domains that contain some fibrous material, which will be managed using well established guidelines[10]. This is common practice and has been successfully implemented at large-scale nickel sulphide operations such as Mt Keith (owned by BHP) for many years. Further testing will be conducted during the PFS to investigate the design of a desliming circuit and understand which metallurgical domains will require treatment.

### Oxide comminution and leaching

Oxide testwork has been carried out on more than five different composites at several laboratories. The oxide Resource, which starts at surface, has a high clay content and will require relatively minor crushing and grinding. Limited grind optimisation work indicates a typical primary grind size of $P_{80}$ 75 microns.

Options such as gravity concentration, sizing, magnetic separation and flotation have all been trialled without success and hence the work has focussed on oxidative leaching. Typically, the palladium and gold leach well but the other metals are not recovered to the same degree. Leaching systems trialled to date include conventional precious metal technologies such as cyanide leaching as well as newer technologies such as Glycine.

This work has investigated a range of conditions including grind size, temperature, carbon-in-leach ("CIL") / resin-in-pulp ("RIP"), viscosity and reagent concentration. A key focus has been on minimising reagent consumption through recycling as well as minimising environmental concerns.

The Study assumes use of carbon or resins to recover the PGEs and Au and then, also, to recover and recycle reagents. Testwork to date indicates that resins can recover 96% of the PGE-Au and reagents in the tailings. Additional reagent destruction would be included to eliminate virtually all reagents prior to reaching the Tailings Storage Facility ("TSF").

In testwork to date, palladium extraction is typically 70-80% and gold extraction is typically ~90%.

### Sulphide comminution

Detailed comminution testing has been undertaken on most of the sulphide composites. The results suggest that the host rocks are highly competent and very hard, but the serpentinisation mitigates these parameters resulting in lower power consumption than for less serpentinised ores and low wear characteristics (abrasion).

The results show that the samples may be characterised as:

- Extreme levels of competence (A x b < 25) (>95$^{th}$ percentile in JKTech database);
- High to very high hardness (BBWi of 25 kWh/t); and
- Low abrasion, similar to most serpentine ores.

The comminution flowsheet includes two stages of crushers and three stages of milling (SAG mill, Ball mill and vertical tower mills). High intensity grinding mills are used for re-grind of both copper and nickel rougher scalper products.

[10] Management of fibrous minerals in Western Australian mining operations Second Edition https://www.dmp.wa.gov.au/Documents/Safety/MSH_G_ManagementOfFibrousMineralsInWaMiningOperations.pdf

### Sulphide flotation concentration

To date, over 300 batch flotation tests and ~30 locked cycle flotation tests have been used to develop flotation flowsheets and recovery algorithms for use in the mine planning process; over 25 separate composites representing a range of mineralisation types and grades have been tested. These have explored a variety of flowsheet options and conditions such as reagent additions, pH control and grind size.

The results indicate that production of a valuable Cu-PGE-Au concentrate indicatively grading >20% Cu and 100-150g/t 3E is readily achieved even at low copper grades. This is expected to be a highly marketable concentrate for sale to international copper smelters (refer to Product marketing and offtake strategy section).

Use of a selective flotation approach to recover nickel to a marketable concentrate is readily achieved from the moderate to higher grade samples, but whilst acceptable grades can still be achieved at lower grades, the recovery is lower and is more variable.

Work is currently exploring the production of a bulk Ni-Fe-Co-PGE concentrate from lower grade ores for treatment using a hydrometallurgical process using technologies such as Pressure Oxidation (POx) to produce intermediate products such as a Mixed Hydroxide Precipitate (MHP). This is also examining the potential to maximise recovery from marginal Cu & Ni grades through production of a mixed Cu-Ni-Fe-Co-PGE concentrate.

Data indicates that this approach can improve recoveries and can produce viable feedstocks for POx and has been used as the base case assumption for the Scoping Study. Over the course of the PFS, programmes will be undertaken to explore opportunities to improve recovery and the types of mineralisation that can be viably treated. These will also investigate approaches to de-risk the hydrometallurgical approach, such as staged development and/or partnering with technology providers.

### Hydrometallurgical concentration

The flowsheet for both the 15Mtpa Case and 30Mtpa Case in the Study includes a Pressure oxidation (POx) stage on the Ni-Fe-Co-PGE intermediate concentrate. Pressure oxidation is a process whereby oxygen is injected into an autoclave (pressure vessel) along with the concentrate to produce an autogenous reaction that heats the material and liberates the valuable metals into solution.

Several POx technologies (e.g. Platsol, Lifezone Metals, CESL, Activox) have been developed for different mining applications, with the main variations being the autoclave operating conditions and the options for recovery of metals from the autoclave discharge. These recovery options include a range of products from LME grade final product to intermediaries such as sulphide and/or mixed hydroxide precipitates.

The Study uses the results from preliminary laboratory testing of Ni-Fe-Co-PGE concentrate samples from Gonneville by two separate processing technology providers using a range of POx conditions and with different recovery options following POx. The results received from this testwork demonstrated base metal and PGE extractions from blends of both Cu-PGE-Au and Ni-Fe-Co-PGE concentrate samples at over 95%. However, due to limited testing to date, a more conservative view has been applied to the recovery inputs for the Study.

Flowsheet design for the hydrometallurgical work has assumed that the process will initially be designed to produce intermediate grade products (Cu-PGE-Au concentrate and Ni-Co MHP) to potentially reduce risk and initial capital costs. Future studies may investigate further upgrading of these products.

More extensive testing during the next phase of studies will examine the flowsheet options for the bulk Ni-Fe-Co-PGE concentrate. Options include existing technologies such as those mentioned above, as well as emerging technologies such as glycine leaching. Studies will also examine approaches to de-risk the use of new technology through a staged development approach.

### Flotation tails leaching

Flotation tails leaching is at a relatively early stage of development compared to the sulphide flotation and oxide leaching work. To date, only RIP leaching has been evaluated, although work on glycine leaching is planned for the next phase of studies.

The work to date has largely explored the impact of grade, grind size, temperature, reagent addition and viscosity. An advantage seen in early testing of leaching is that it appears to allow a coarser primary grind size.

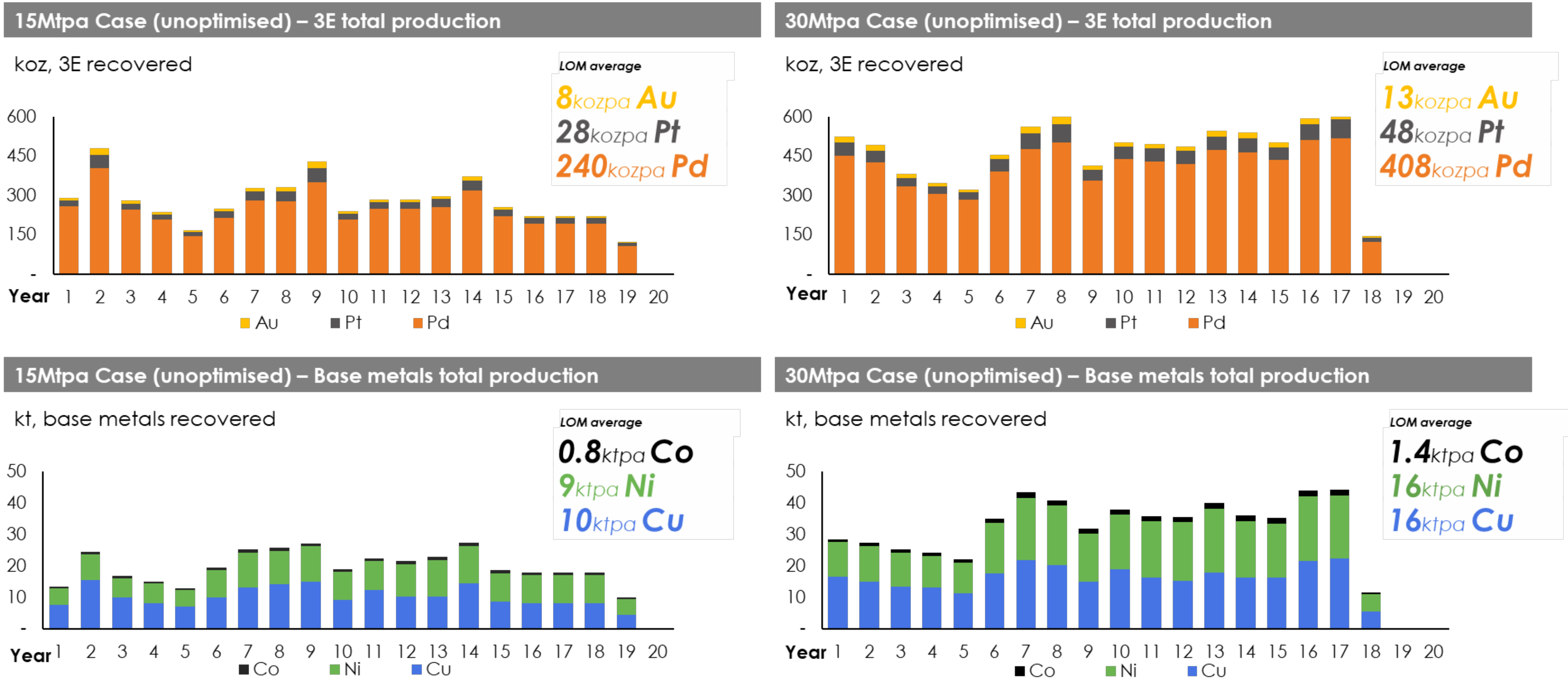
Recovery of palladium is indicated in testing to date to be up to 70%, although this varies with grade and Resource domain and as such 50% is assumed in the Study.

The Study indicates that processing of the flotation tails is only profitable at palladium prices exceeding ~US$1,450/oz (all else equal), however given the leach circuit is required to process the oxide Resource, other factors need to be considered. As such further work is required in the next phase of studies to refine the recovery and cost assumptions of leaching and therefore determine the timing of the flotation tails leach plant construction and processing.

### Processing outputs

The Project is modelled to process 7.5 – 15 Mtpa of feed through the comminution and flotation circuit for the 15Mtpa Case and 15 – 30Mtpa for the 30Mtpa Case, whilst the hydrometallurgical circuit feed is modelled at 5% of the feed rates above.

This is modelled to produce an average of ~50ktpa of dry Cu-PGE-Au concentrate and 30ktpa of dry Ni-Co MHP over 19 years for the 15Mtpa Case, and ~80ktpa of dry Cu-PGE-Au concentrate and ~ 40ktpa of dry Ni-Co MHP over 18 years for the 30Mtpa Case (Figure 18).




Note: LOM average production per commodity taken as the weighted average over the years of operations, excluding partial years.

**Figure 18. Annual metal production profiles.**

Metallurgical recoveries modelled for the different processing stages are based on the testwork completed to date. Flotation recovery data to date has been used to generate a grade vs recovery algorithm for all metals into concentrate, which is applied to each diluted block. A lower cut-off grade of 0.10% Ni was applied to the Ni-Fe-Co-PGE intermediate concentrate to reflect hydrometallurgical constraints.

A fixed recovery is assumed for hydrometallurgical and leaching process stages due to limited flowsheet design and testwork to date (Table 9).

**Table 9. Metallurgical recoveries modelled for 15Mtpa and 30Mtpa Cases.**

| | | Unit process metallurgical recovery | | | Overall metallurgical recovery | |
|---|---|---|---|---|---|---|
| Domain | Metal | Flotation (to Cu-PGE-Au conc or to Ni-Fe-Co-PGE conc)* % | Hydromet (to Cu conc / MHP / doré) % | Leach (to doré) % | 15Mtpa case LOM avg % | 30Mtpa case LOM avg % |
| **Oxide** | Palladium | - | - | 75 | 75 | 75 |
| | Gold | - | - | 90 | 90 | 90 |
| **Sulphide** | Palladium | 45-90 | 93 | 50 | 78 | 77 |
| | Platinum | 32-90 | 93 | - | 45 | 43 |
| | Gold | 60-70 | 93 | - | 66 | 66 |
| | Nickel | 40-90 | 92 | - | 43 | 41 |
| | Copper | 60-95 | 97 | - | 80 | 76 |
| | Cobalt | 40-90 | 92 | - | 42 | 40 |

* The flotation recovery range specified reflects the range of recovery for each Resource block (i.e. in higher grade blocks the flotation metal recoveries are significantly higher than in low grade blocks). The range stated reflects the range of recoveries informed by algorithms.

The transitional material (in Sulphide domain) is assumed to have 50% of the flotation process recovery of fresh sulphide material, hence is typically at the lower end of the flotation recovery range.

## Product marketing and offtake strategy

The sequential copper flotation, nickel concentrate enrichment and leaching process flowsheet is expected to produce:

- A copper-palladium-platinum-gold concentrate, indicatively grading ~21% Cu and ~100-150g/t 3E for offtake to an international copper smelter;
- A nickel-cobalt mixed hydroxide precipitate ("MHP"), using flotation and POx, indicatively grading ~40-50% Ni and 4-5% Co for offtake to an international lithium-ion battery precursor cathode active material (pCAM) refinery; and
- A palladium-platinum-gold doré for offtake to a precious metal refinery.

The Gonneville Project is strongly aligned to western government policy directives and directly addresses the critical minerals dominance of China, Russia, South Africa and Indonesia. As such, there is a strong case for a future effective *western premium* on products (through either longer-term offtake or higher realised pricing relative to other non-western offtakes).

No offtake agreements have been signed for the Project and as such products are 100% uncommitted.

### Cu-PGE-Au concentrate

The Cu-PGE-Au concentrate is assessed as commercially attractive to a range of copper smelters. There are more than 30 copper smelters worldwide that purchase concentrate feed on the open market. Six copper smelter/refinery complexes have been identified by Chalice through early marketing investigations in Asia, Europe and North America with an established PGE refinery (required given the high PGE content within the concentrate).

These complexes typically treat PGE bearing copper concentrates along with secondary materials (such as auto catalysts) and produce a high value PGE product, typically a palladium/platinum sponge.

It is expected that this group of specialist copper smelter/refineries will be most attracted to the Gonneville concentrate as they already have the necessary downstream PGE refining capacity in place and off-take arrangements with end-product customers. Assays to date reflect a very clean copper smelter concentrate, with low levels of deleterious elements.

**Table 10: Gonneville Cu-PGE-Au concentrate specifications.**

| Metal | Unit | Assayed range |
|---|---|---|
| Copper | % | 18-25 |
| Nickel | % | 0.1-1.5 |
| Palladium | ppm | 100-160 |
| Platinum | ppm | 5-17 |
| Cobalt | % | - |
| Gold | ppm | 2-8 |
| Silver | ppm | 15-25 |
| Sulphur | % | 20-30 |

Early-stage discussions with potential customers and indicative terms provided have formed the basis of the offtake assumptions for the concentrate. The indicative payability terms quoted by parties were uniformly high and given the low deleterious elements within the concentrate specification, no penalties are envisaged. Further testwork and refinement of the specification will continue during the next phase of studies.

It is noted that offtake terms have not yet been negotiated with any party, however there is a high level of competition in the copper smelting market for high-value concentrates.

**Table 11: Offtake assumptions for each metal in the Cu-PGE-Au concentrate.**

| Metal | Payability | Treatment Charge | Refining Charge (PGE-Au) | Refining Charge (Cu) |
|---|---|---|---|---|
| | % | US$/dmt conc | US$/oz | US$/t |
| **Palladium** | 96% | 80 | 25 | |
| **Platinum** | 92% | | 25 | |
| **Gold** | 97% | | 5 | |
| **Copper** | 96.5% | | | 176 |

## Nickel-Cobalt Mixed Hydroxide Precipitate (MHP)

Nickel-Cobalt MHP is an intermediate nickel product which is becoming the preferred feedstock into the lithium-ion battery and electric vehicle market, whereby MHP is typically processed into nickel sulphate ($NiSO_4$) before incorporation into Li-ion battery cathode active material.

Global MHP production capacity is expected to increase significantly this decade, with major investment currently underway to build new projects to supply the EV battery value chain. However, most of this growth is expected to come from laterite ores using high pressure acid leaching (HPAL) hydrometallurgical projects in Indonesia, with investment driven by Chinese-owned nickel and battery materials groups.

MHP produced from the Project is expected to be particularly attractive to participants in the battery value chain given its long life, lower carbon footprint (compared to smelting of nickel concentrate or HPAL of laterite nickel sources), strong ESG credentials and its location in a favourable jurisdiction.

There has been increasing inbound interest in relation to potential production of MHP from Gonneville given the trend of regionalisation of supply chains (e.g. the US Inflation Reduction Act). Discussion with industry participants suggests that a future price premium for intermediate nickel products sourced from Australia is possible for these reasons, however no *western* or *green* premium is assumed within the Study.

MHP is typically priced based on the nickel and cobalt content within the product as a payability, most commonly with reference to the LME cash settled nickel price. Historically, MHP nickel payabilities have averaged just under 80% of the LME price which reflects the cost to refine MHP into nickel metal, nickel recoveries plus a smelter's margin.

Metal payables over the last 18 months have been extremely volatile on the back of erratic LME nickel and nickel sulphate pricing. Given this volatility, Chinese market participants have been exploring pricing MHP outright by applying processing fee deductions against the Shanghai Metals Market battery grade nickel sulphates market given MHP's emergence as the feedstock of choice for EV battery cathodes and volatility in the LME market.

Adoption of an alternative pricing method by some Chinese participants is creating some uncertainty in the market with different pricing implied depending on the method used. The market broadly expects the two pricing mechanisms to converge but this may take time given the opacity of MHP pricing given most MHP is sold under contracts with only a small portion sold on the spot market[11].

The Study has assumed Gonneville Nickel-Cobalt MHP payabilities of 90% on a long-term basis. This considers the higher-grade nickel in this product produced at Gonneville relative to other mines. Nickel content of the MHP has been modelled at ~40-50% nickel, when compared to MHP from lateritic nickel deposits, that typically grade ~20-25% nickel.

The Study has not considered further processing to a high purity nickel sulphate product, however given shifting market dynamics, further evaluation is warranted as part of future studies.

### PGE-Au doré

The PGE-Au doré is a standard precious metal product that can be refined at a number of precious metal refineries. As such for the purpose of the Scoping Study a refining charge consistent with the Cu-PGE-Au concentrate is assumed.

## Infrastructure and services

The Project is located ~70km from Perth, the capital city of Western Australia with a population of ~2.1 million people. As such, there is significant existing infrastructure in the region, which is expected to be beneficial to the economics of the Project. Whilst the Study includes some of the benefits of being located close to existing infrastructure, there remain numerous opportunities to improve cost efficiencies in future studies.

### Workforce

The Study assumes a largely local workforce for operations and a largely drive-in / drive-out (DIDO) workforce for construction. A typical Western Australian fly-in, fly-out workforce and the associated air transport infrastructure / costs is not required for construction or operations for the Project, due to proximity to the Perth metropolitan area and availability of a large skilled workforce. As such the Study assumes that there will be no permanent village and that the majority of operations personnel will reside locally.

[11] Source: Fastmarkets

## Transport and Logistics

Preliminary land transport studies have confirmed that both road and rail options are viable for the transport of materials and concentrates to and from site. Hybrid options combining both rail and trucking of concentrates and inbound logistics to site are assumed in the Study.

The Study assumes that the Cu-PGE-Au concentrate and the Ni-Co MHP products are packed into standard 20ft containers at the mine site and then transported ~110km from site to the port of Fremantle either by truck, rail or combination thereof, where the containers would then be shipped by sea to customers in Asia. It is noted that potential domestic processing facilities could be considered in future which would reduce transportation costs. The PGE-Au doré is assumed to be transported securely to a precious metal refinery.

## Power

Given the proximity to the existing electricity grid, power is assumed to be supplied from the Western Power South West Interconnected System ("SWIS") grid.

The Study assumes a new 132kV line is built, to be connected to the Muchea substation, ~22km west of the Project. Construction of a new substation has been assumed at the Project Area.

Grid power is cost competitive compared to other power supply options, and the Study has assumed an effective price based on the 2022 average wholesale electricity price in Western Australia, plus a transmission allowance. The Project's ratio of renewable/non-renewable energy consumption will also increase as the SWIS transitions and decarbonises (the WA Government is targeting the retirement of state-owned coal power stations by 2030 and an 80% reduction in emissions compared to 2021 levels).

## Water

There is no existing piped water infrastructure at the Project. Several potential water sources have been investigated to date, however at this stage the Project does not intend to draw process water from local ground water sources and will likely procure water from other sources.

Water demand for processing is estimated at approximately 0.6kL per tonne processed. It should be noted that there are several processing operations globally which achieve significantly lower water use, and the opportunity to reduce water consumption will be investigated in future studies.

An appropriate solution is expected to be co-designed with the Water Corporation of Western Australia during the next phase of studies, with the potential for common use and regional benefits. The Study has assumed a capital allowance for a nominal pipeline length of ~50km between the water supply source and site, as well as pumping and associated infrastructure.

## Waste management

The Study assumes a near-mine downstream tailings storage solution on existing Chalice farmland for which an indicative design and earthworks volumes have been determined. This initial Tailings Storage Facility ("TSF") has capacity to accommodate the 15Mtpa Case modelled life and the majority of the 30Mtpa Case modelled life. It is designed to be compliant with the Global Industry Standard on Tailings Management (GISTM).

Tailings characterisation studies have been undertaken with initial results showing the tailings to be classified as medium plasticity sandy/silt clay, with a hydraulic conductivity of the settled tailings to be in the range of $10^{-8}$ m/s to $10^{-9}$ m/s. Tailings will have a settled density of around 2.9t/$m^3$.

Tailings geochemistry tests on high grade samples suggest that any potential ARD is likely to be mitigated through buffering by the gangue mineralisation and/or the use of sub-aqueous disposal.

Further work in the PFS will continue design of the facility as well as looking at other technical opportunities including dry-stacking.

Waste rock characterisation completed to date suggests a low risk of acid rock drainage ("ARD") generation due to low sulphide content in the waste rock. Additional work is contemplated for the PFS, including further characterisation tests of both sulphide and oxide ores, and including studies addressing dust generation and control, on both waste rock stockpiles and in the TSF to manage any environmental and occupational health and safety aspects.

# Costs and financial analysis

## Capital expenditure (CapEx) estimate

The Study considers a 15Mtpa Case with initial CapEx for a 7.5Mtpa processing throughput and expansion CapEx in year 6 to increase throughput to 15Mtpa. The 30Mtpa Case includes initial CapEx for a 15Mtpa processing throughput and expansion CapEx in year 6 to increase throughput to 30Mtpa.

Both cases include CapEx for a hydrometallurgical plant and leaching plant, scaled to the concentration plant input capacity. The economics of additional processing options beyond concentration are dependent largely on prevailing commodity prices and as such, there is optionality in phasing of this capital investment over time. This will be considered further in the PFS.

The Study largely utilises the cost build-up methodology from external consultants, with adjustments made according to throughput rate. The estimate base date is first quarter of calendar year 2022 (Q1 CY2022). Escalation beyond that date has been included for this Study at 5% between Q1, 2022 and Q1, 2023. Costs incurred prior to a financial investment decision are treated as sunk costs and are not included CapEx estimates.

The Study CapEx estimate is assessed to have an accuracy of +/- 30%. A contingency allowance varying between 10% and 30% of the sum of the direct and indirect costs has been applied to this Study, dependent on area.

**Table 12: Pre-Production CapEx estimate summary.**

| Description | 15Mtpa Case A$M | 30Mtpa Case A$M |
|---|---|---|
| Sulphide flotation plant | 450 | 750 |
| Mining | 41 | 43 |
| Non-process infrastructure (water, power, tailings, etc) | 370 | 410 |
| **Subtotal** | **860** | **1,200** |
| Leach plant | 150 | 200 |
| Hydrometallurgical plant | 190 | 280 |
| **Direct total** | **1,200** | **1,700** |
| Construction indirect costs | 200 | 310 |
| Contingency | 180 | 290 |
| **Grand total** | **1,600** | **2,300** |

Note: all numbers are rounded to two significant figures.

Expansion CapEx was assumed to be ~A$1.1Bn for the 15Mtpa Case and ~A$1.9Bn for the 30Mtpa Case, which was based on the pre-production CapEx estimate with an assumed reduction due to it being a replication of the initial built processing module only.

Sustaining CapEx was assumed for a staged tailings storage facility construction. An allowance for sustaining CapEx for the processing plant and non-process infrastructure was assumed from mine years 6 and beyond at a rate of A$11m per annum for the 15Mtpa Case and A$16m per annum for 30Mtpa Case.

Table 13: LOM Sustaining CapEx estimate summary.

| Description | 15Mtpa Case A$M | 30Mtpa Case A$M |
|---|---|---|
| Tailings storage | 370 | 710 |
| Processing plant and NPI | 150 | 210 |
| Mining fleet | 300 | 540 |
| **Total** | **820** | **1,460** |

Note: all numbers are rounded to two significant figures.

## Operating expenditure (OpEx) estimate

The Study OpEx estimate is assessed to have an accuracy of +/- 30%, as above for the CapEx estimate.

The OpEx is presented in terms of average unit rates per tonne of oxide processed and per tonne of sulphide processed over the modelled life for the 15Mtpa Case and 30Mtpa Case. Processing OpEx is split into various sub-areas of the process plant to reflect the optionality and potential staging of processes (Table 14).

Table 14: OpEx estimate summary.

| Type | Description | 15Mtpa Case LOM avg A$/t proc. | 30Mtpa Case LOM avg A$/t proc. |
|---|---|---|---|
| **Oxide** | Mining | 4.30 | 3.70 |
| | Processing (at 2Mtpa) | 35.50 | 35.50 |
| | General and administration | 1.60 | 1.20 |
| | **Total Oxide OpEx** | **41.40** | **40.40** |
| **Sulphide** | Mining | 12.30 | 10.70 |
| | Processing: | | |
| | « Sulphide comminution and flotation | 14.20 | 14.10 |
| | « Ni hydrometallurgical treatment | 4.20 | 4.10 |
| | « Flotation tails leach | 9.10 | 9.20 |
| | **Total processing** | **27.50** | **27.40** |
| | General and administration | 1.60 | 1.20 |
| | Transport and selling | 3.50 | 3.10 |
| | **Total Sulphide OpEx** | **44.9** | **42.4** |

Contractor mining is assumed for years 1-6 before a transition to owner mining – cost allowances for this transition have been made and an appropriate contractor margin included.

Mining costs incurred prior to production have been treated as pre-production CapEx. Mining costs incurred after commencement of production (except for fleet) are treated as OpEx. Owner-mining costs include the purchase and maintenance of equipment fleet and are treated as sustaining capital.

## Financial outcomes

Financial outcomes from the modelled 15Mtpa Case and 30Mtpa Case shows a short payback period of ~2 years for both cases as well as strong free cash flow (post tax) generation.

The diversified revenue mix from a suite of metals whose historical prices are relatively uncorrelated is considered a significant advantage for the Project. Combined with low cash costs of US$160 and

US$230 per US$/oz 3E (after Ni-Cu-Co by-product credits), the metrics highlight a robust project with the ability to withstand commodity price cycles over the long term.

**Table 15: Financial outcomes summary.**

| Metric | Unit | 15Mtpa Case | 30Mtpa Case |
|---|---|---|---|
| **Costs (LOM avg)** | | | |
| « Mine site cash costs | US$/oz 3E | 1,300 | 1,400 |
| « Transport & Selling costs | US$/oz 3E | 63 | 61 |
| « By-product credits (Ni, Cu, Co) | US$/oz 3E | (1,200) | (1,300) |
| Total cash costs | US$/oz 3E | 160 | 230 |
| All-in Sustaining Costs (AISC) | US$/oz 3E | 360 | 440 |
| **Financial** | | | |
| Revenue (LOM avg annual) | A$Mpa | 1,300 (US$840) | 2,100 (US$1,400) |
| Revenue (LOM cumulative) | A$M | 24,000 (US$16,000) | 39,000 (US$26,000) |
| EBITDA (LOM avg annual) | A$Mpa | 670 (US$450) | 1,100 (US$730) |
| Free cashflow (post-tax, 1st 4yrs avg)[1] | A$Mpa | 630 (US$420) | 840 (US$560) |
| Free cashflow (post-tax, LOM avg)[2] | A$Mpa | 440 (US$300) | 690 (US$460) |
| Cumulative free cash (post-tax) | A$M | 6,600 (US$4,400) | 9,900 (US$6,600) |
| $NPV_{6.5\%}$ (post-tax) | A$M | ~2,800 (~US$1,900) | ~4,200 (~US$2,800) |
| IRR (post-tax) | % | ~26 | ~26 |
| Payback period (from COP) | Years | ~1.9 | ~2.0 |

Note: all numbers are rounded to two significant figures.
[1] First 4 years of production chosen prior to expansion CapEx in year 5.
[2] Free cashflow LOM avg is calculated over the modelled production life only and excludes Pre-Production CapEx.

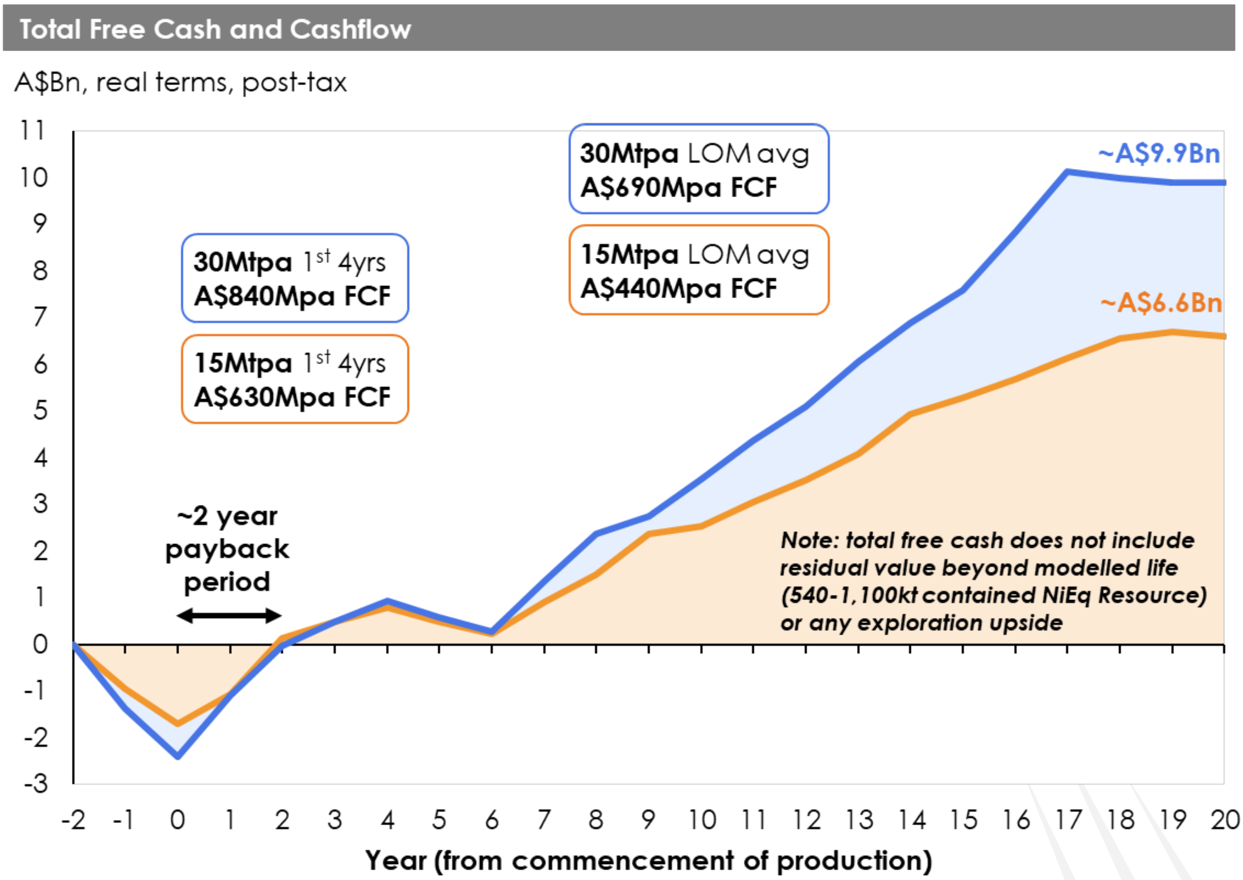



**Figure 19. Free cash (post tax) generation from modelled 15Mtpa and 30Mtpa cases.**

The competitiveness of the Project has been assessed against PGE industry peers. It is noted that Russian and South African mines are responsible for >80% of 4E (Pd+Pt+Au+Rh) production (based on 2022 production). These countries have significant political, financial, and operational challenges and the potential for supply disruptions from these countries is considered significant.

Norilsk Nickel (Russia) occupies the entirety of the first quartile and has negative cash costs due to their high level of Ni-Cu-Co by-product credits. Most South African PGE mines have very limited base metal by-product credits and typically involve very deep, narrow underground mining with high operating costs and development/sustaining costs.

In recent years, a significant portion of their revenues has been derived from highly elevated rhodium prices, which have reduced from a peak of ~US$29,000/oz in 2021 to current levels around US$4,000/oz. This meant South African mines were receiving a significantly higher basket price, which has insulated them against cost escalation until recently.

Gonneville is modelled to be 2nd quartile on the current 4E PGE industry cost curve (also the lowest cost producer of PGEs in the western world), based on 2022 total cash costs and base metal by-product credits (Figure 20). This highlights a robust and competitive asset, irrespective of scale, that is modelled to be profitable through the commodity cycle.

Both cases have similar cost metrics and position on the cost curve, with the 15Mtpa Case having slightly lower costs due to its higher-grade feed profile. The next best peer in the industry has cash costs of ~US$490/oz, over double the Gonneville 30Mtpa Case.

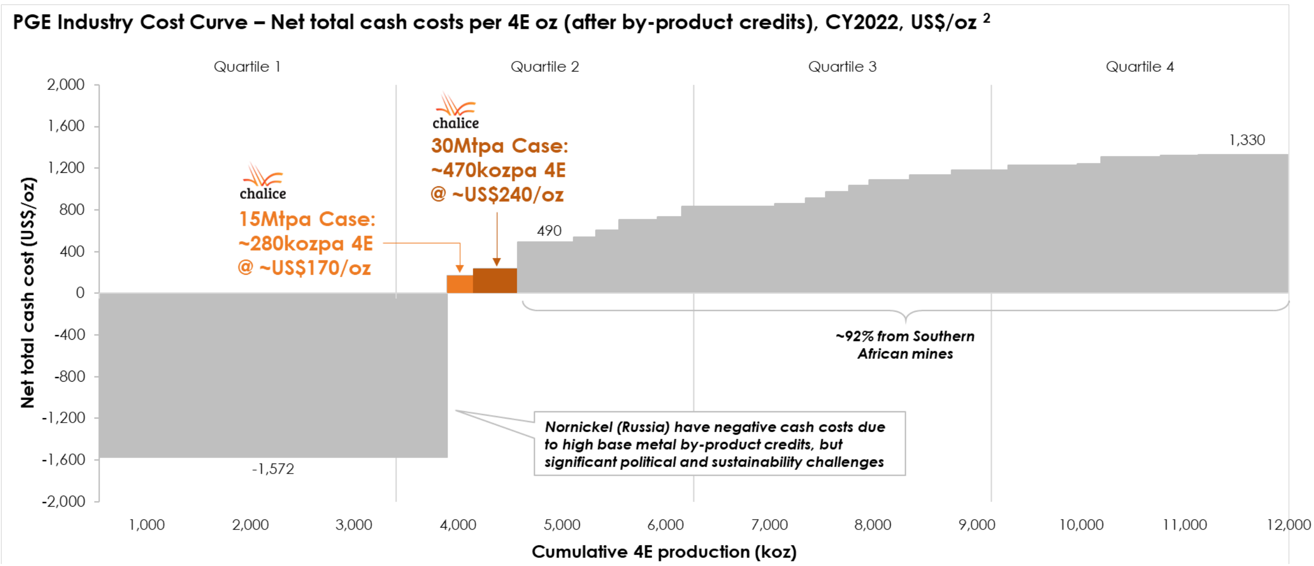



**Figure 20. 2022 PGE industry cost curve and indicative Gonneville positioning[12].**

[12] Source: 2022 SFA (Oxford) Ltd collated costs and revenues used for 4E cost curve data. Note: 4E cost curve positioning assumes average 2022 by-product prices of: Copper US$10,105/t, Nickel US$25,000/t, Gold US$1,830/oz. AME forecast Cobalt prices of US$46,407/t have been assumed given not disclosed in SFA data. Above cash costs will differ to that presented in Table 14 given the difference in commodity prices assumed for by-products calculation.

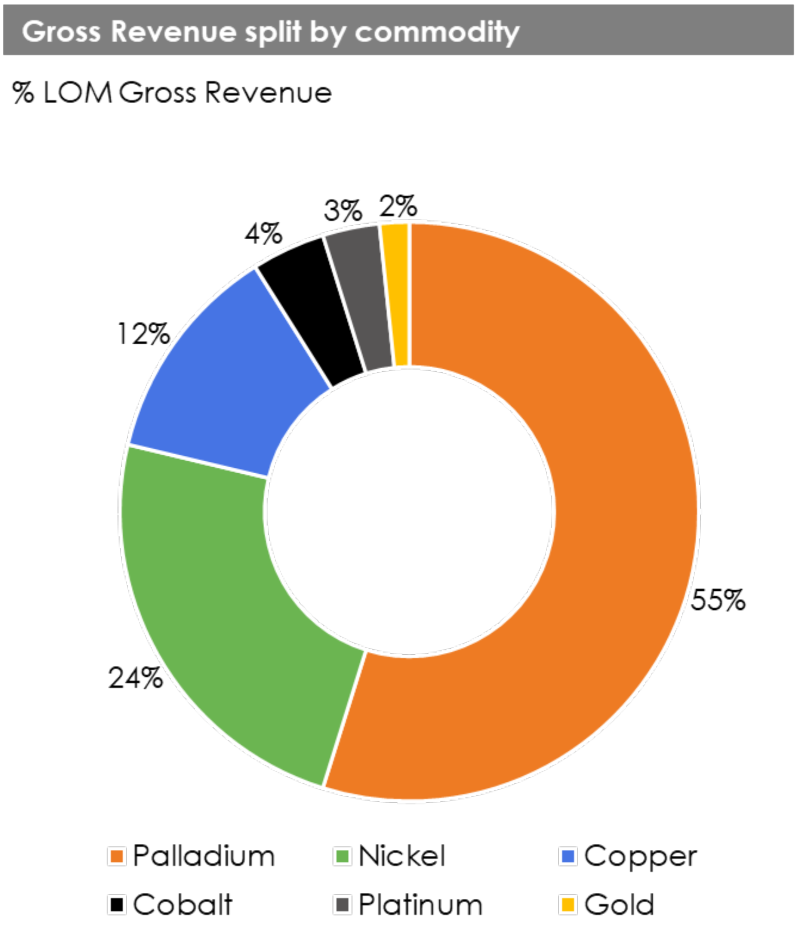



Figure 21. Gross Revenue split by commodity (LOM avg).

## Key modelling assumptions

Table 16: Key assumptions

| Key assumption | Unit | 15Mtpa Case | 30Mtpa Case |
|---|---|---|---|
| **AME Commodity prices (LOM avg)[13]** | | | |
| Ni | US$/t | 24,000 | |
| Cu | US$/t | 11,000 | |
| Co | US$/t | 46,000 | |
| Pd | US$/oz | 2,000 | |
| Pt | US$/oz | 1,000 | |
| Au | US$/oz | 1,900 | |
| **Financial** | | | |
| WACC (real) | % | 6.5 | |
| Exchange rate | A$/US$ | 0.67 | |
| **Offtake terms (LOM avg)** | | | |
| Ni payability (in Ni-Co MHP) | % LME[1] | 90 | |
| Co payability (in Ni-Co MHP) | % LME | 90 | |

[13] AME commodity prices are rounded to two significant figures and are used for the purposes of financial modelling. Commodity prices used in the open pit optimization are different and can be found in the Mining section.

| Key assumption | Unit | 15Mtpa Case | 30Mtpa Case |
|---|---|---|---|
| Cu payability (in Cu conc) | % LME | 96.5 | |
| Pd payability (in Cu conc) | % LBMA[2] | 96 | |
| Pt payability (in Cu conc) | % LBMA | 92 | |
| Au payability (in Cu conc) | % LBMA | 97 | |
| Pd-Pt-Au payability (in doré) | % LBMA | 100 | |
| **CapEx estimates** | | | |
| « Mining | A$M | 41 | 43 |
| « Sulphide Flotation Plant | A$M | 450 | 750 |
| « Hydrometallurgical Plant (Ni-Co MHP) | A$M | 190 | 280 |
| « Leach Plant (oxide & flotation tails) | A$M | 150 | 200 |
| « Non-Process Infrastructure | A$M | 370 | 410 |
| « Indirects and contingency | A$M | 380 | 600 |
| Total FID to Production CapEx | A$M | 1,600 | 2,300 |
| Sustaining CapEx (LOM avg) | A$Mpa | 43 | 81 |
| **OpEx estimates (LOM avg)** | | | |
| « Mining | A$/t mined | 4.3 | 3.8 |
| « Processing | A$/t proc | 27.8 | 27.5 |
| « G&A | A$/t proc | 1.6 | 1.2 |
| « Transport & Selling | A$/t proc | 3.5 | 3.1 |
| Total OpEx | A$/t proc | 44.9 | 42.4 |
| **Taxation** | | | |
| Cu royalty rate | % | 5.0 | |
| Ni-Co-Pd-Pt-Au royalty rate | % | 2.5 | |
| Corporate tax rate | % | 30 | |
| Estimated tax losses available at COP | A$M | 670 | |
| **Schedule** | | | |
| FID | date | Late 2026 | |
| COP | date | Early 2029 | |

Note all figures are rounded to two significant figures.

1. London Metal Exchange
2. London Bullion Market Association

## Sensitivity analysis

The Study has investigated two potential development cases with a range of plant throughput sizes from 7.5Mtpa to 30Mtpa and a process flowsheet which has been developed with the aim of maximising metal recoveries and metal payabilities whilst minimising costs and risk as much as possible.

There remains considerable flexibility to further evaluate the scale, mining methods and flowsheet options in the PFS. The flowsheet design allows for initially selecting a lower capital process route in a lower commodity price environment with the option of adding additional processing stages (such as tailings leach plant and hydrometallurgical plant) in a staged manner to take advantage of higher future commodity prices.

Both cases have been prepared based on current long-term forecast commodity price and macro assumptions (which may change prior to FID). For the purposes of the sensitivity analysis on foreign exchange rates below, it is assumed 50% of CapEx and 25% of OpEx are incurred in US dollars.

**Study NPV Sensitivity Analysis (A$Bn, post-tax, 6.5% WACC)**

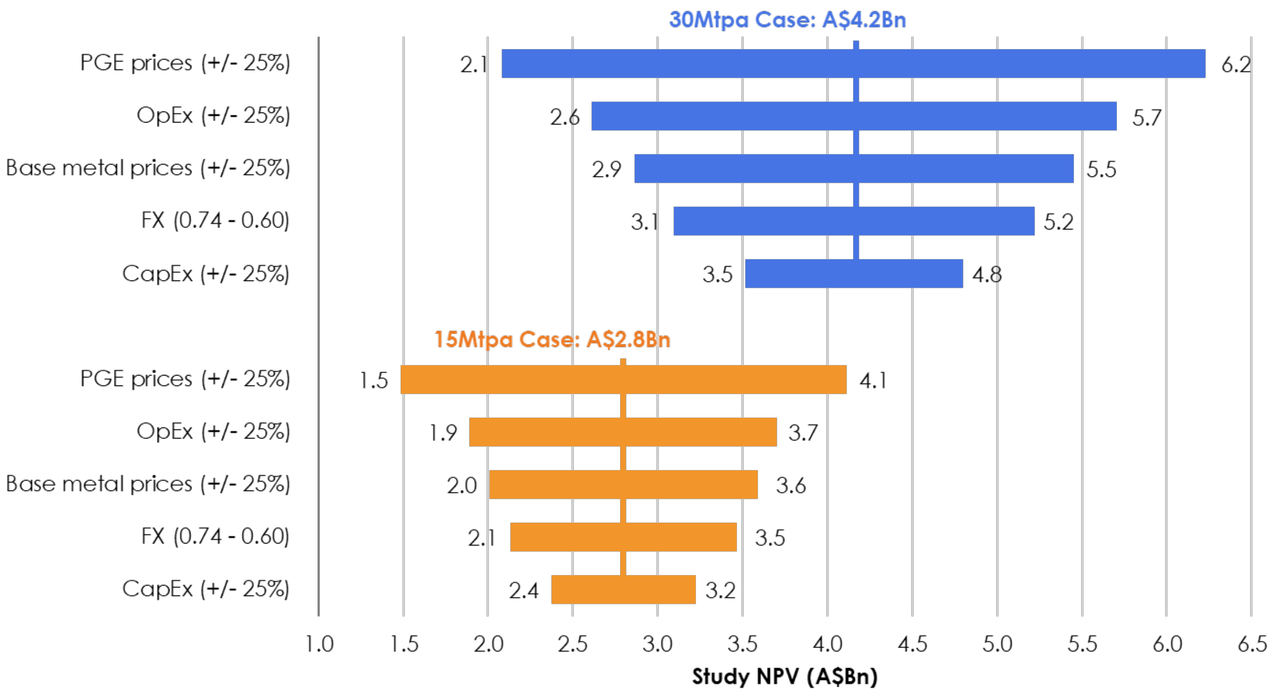



**Figure 22. Study NPV Sensitivity Analysis – 15Mtpa Case and 30Mtpa Case**

## Project funding sources and strategy

Given the technical and economic attractiveness of the Study, Chalice has reasonable grounds to believe the Project could be financed via a combination of debt and equity. To achieve the range of outcomes indicated in the Study, ~A$1.6-2.3 billion of capital is required prior to reaching production.

At this stage of the Project, no formal discussions have yet commenced with potential financiers. However, consistent with typical project development financing, Chalice expects debt could potentially be secured from a range of sources including Australian banks, international banks, the high yield bond market, resource credit funds, export credit agencies, Government agencies, or in conjunction with product sales or offtake agreements.

As publicly announced, a formal strategic partnering process has also commenced whereby alternative funding options, including undertaking a corporate transaction, a joint venture partnership, a partial asset sale and/or offtake pre-payment, could be undertaken if it maximises shareholder value over the long term.

Given the early stage of the Project, there is no certainty that Chalice will be able to source funding as and when required. It is also possible that required funding may only be available on terms that may be dilutive to or otherwise affect the value of Chalice's existing shares.

Chalice has formed the view that there is a reasonable basis to believe that requisite future funding for development of the Project will be available when required based on the following:

- Chalice has a market capitalisation of approximately A$2 billion and a strong track record of raising equity funding for the advancement of the Project. ~A$320 million has been raised from equity capital markets since the discovery of the Gonneville Deposit in 2020.

- Demand for critical *green metals* needed for decarbonisation is expected to be strong and funding for quality resource projects delivering production of these metals is likely to be available. The Project has the potential to become a rare, large-scale, low-carbon, low-cost *green metals* mine in a western jurisdiction which is expected to attract a range of financiers and partners.
- The Project is in Western Australia, one of the world's best mining jurisdictions with a stable political and regulatory environment. This is highly attractive for financiers and partners due to the low levels of sovereign, legal, operational and financial risk.
- Economic viability at this early stage of the Project, in a range of scenarios, has been demonstrated by strong free cashflow and a short capital investment payback period of ~2 years as outlined in the Study.
- The Australian government has signalled its intent to provide significant funding (either through government grants or loans) for resource industry projects and related infrastructure projects seeking to secure supply chains that are dominated by non-western production sources.

## Development timeline

Chalice intends to assess the two Scoping Study development cases in the PFS, and potentially others – such as underground mining options – with the aim of determining the preferred case to take into a FS, which maximises value and optionality and minimises risk.

Based on the positive results of the Study, the Company will commence the regulatory approvals process in H1 2024 and the PFS, which has commenced in Q3 2023, is targeted for completion in mid-2025.

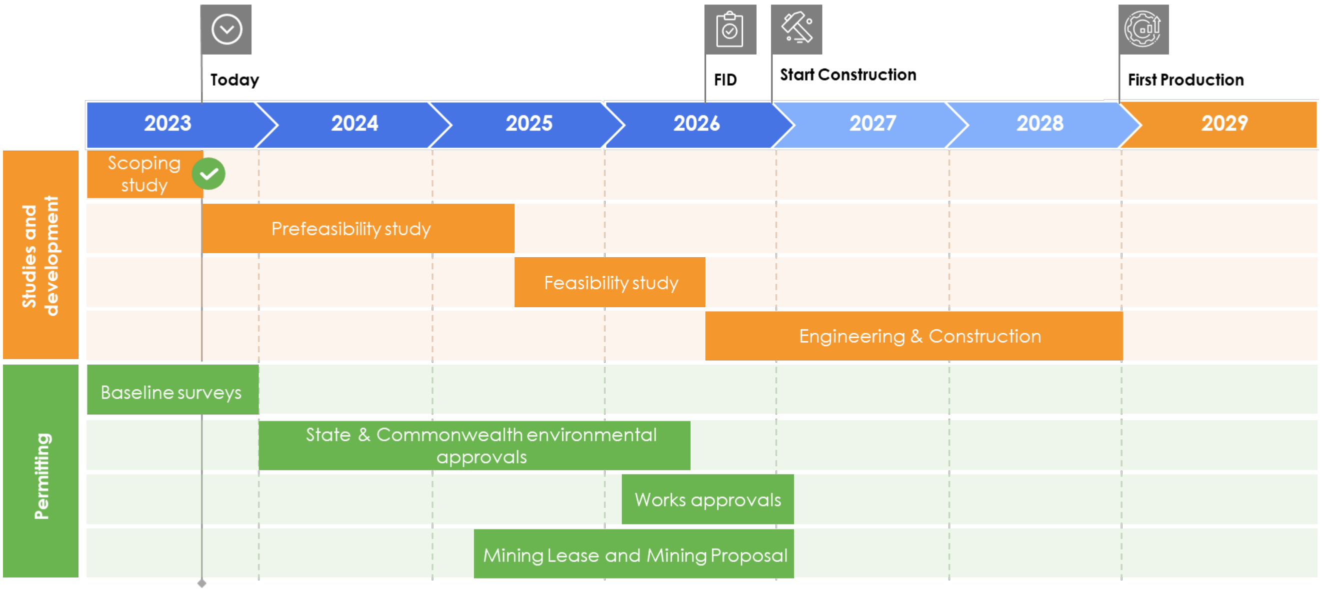



**Figure 23: Gonneville Project indicative study and development schedule.**

## Regulatory approvals

Chalice owns the freehold title over the Project Area, which extends over ~26km². The Project Area is subject to exploration tenure granted under the *WA Mining Act 1978*, comprising Exploration Licences E70/5118, E70/5119 and E70/5353.

To progress the Project, it is intended that portions of this exploration tenure coinciding with freehold title areas will ultimately be converted to Mining Lease(s). The area applied for under a Mining Lease will encompass the Gonneville mine footprint and all associated processing and waste storage facilities.

The Project will require approvals under the *WA Environmental Protection Act 1986*, *WA Mining Act 1978*, and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.

Extensive work has been undertaken by Chalice to develop environmental baselines and define the programme of environmental surveys and studies required to support formal environmental assessment during the study phase of the Project. This program of work has considered key environmental factors such as flora and vegetation, terrestrial and aquatic fauna, and surface and groundwater across the Project Area. All surveys meet WA Environmental Protection Authority (EPA) and Commonwealth government technical guidelines for environmental impact assessment.

Over 50% of the Chalice owned freehold title area has historically been cleared for agricultural cropping and grazing. Remaining areas of remnant vegetation have typically been disturbed by historical grazing activities but are in various levels of condition.

Early establishment of environmental baselines enables for integration of environmental considerations and effective application of the mitigation hierarchy into the engineering design process and assists in streamlining approvals processes.

Formal referral of Project to State and Commonwealth governments to commence regulatory environmental approvals processes is targeted for H1 2024. It is anticipated that environmental assessment and approvals will be progressed in parallel with the study phases of the Project. Timelines are based on other recent greenfield developments in Western Australia, however not all steps in the approvals process are subject to statutory timeframes and could vary to those anticipated.

## Sustainable development and operations

Chalice recognises the need to develop the Project sustainably and responsibly, with an industry best practice approach to environmental and cultural heritage management, and by ensuring long term positive impacts for local communities.

### Social and economic benefits

ACIL Allen conducted an economic impact assessment (EIA) in August 2023, based on project assumptions provided by Chalice. The EIA estimates the impact of developing the Gonneville Resource on the economies of Western Australia and Australia. ACIL Allen have assumed a 15Mtpa plant with production over twenty-four years (including construction), using assumptions which are broadly in line with those used in the Scoping Study.

The Gonneville Project is expected to directly create around 1,200 jobs during peak construction and around 500 jobs per year in operation. These jobs will be particularly attractive given their proximity to Perth and the lifestyle values of the surrounding region.

Modelling by ACIL Allen shows that the Gonneville Project will add more than A$18 billion to Western Australia's Gross State Product and more than A$20 billion to Australia's GDP over its modelled life. The Project is expected to significantly contribute to higher living standards in Western Australia, driving a ~0.98% increase in real wages.

### Strong environmental stewardship

Strong environmental stewardship is a guiding sustainability pillar for our Company, and Chalice has a unique opportunity at Gonneville to demonstrate this.

Recognising the sensitivities of the area, Chalice has deliberately constrained the Project to Chalice-owned farmland. The development of a potential mine at Gonneville will be designed to have negligible impact on the Julimar State Forest, located to the north of the Project. Access to the Julimar State Forest remains open to the community.

#### Biodiversity strategy and offsets

Chalice has developed a Biodiversity Strategy for the Project that seeks to deliver on two key biodiversity goals:

- To ensure a science-based no net loss of species or habitat diversity as a result of any mining operations at Gonneville; and,
- To strive towards a net positive legacy for significant species and the local community.

The Biodiversity Strategy also aims to meet State and Commonwealth regulatory expectations for environmental offsets.

The Strategy and goals will be delivered through on-the-ground restoration projects that increase habitat availability and connect remnant areas of habitat in the vicinity of the Project that are currently fragmented. Implementation of the Strategy will begin in the next phase of the Project with a site for a pilot restoration project already identified adjacent to the Julimar State Forest.

The pilot restoration project will test different restoration techniques, develop success measures, evaluate performance and inform large-scale restoration efforts. Chalice has signed a memorandum of understanding with the Western Australian Biodiversity Science Institute (WABSI) to collaborate on the delivery of the Biodiversity Strategy and associated restoration projects.

## Greenhouse gas emissions and climate change

The Project is positioned to be one of the lowest carbon nickel projects once in production (on a tonne of $CO_2$ equivalent per tonne of Ni equivalent basis), due to Gonneville's nickel sulphide mineralogy and projected WA grid renewable penetration.

An initial forecast of the carbon intensity of Gonneville, estimates that the Project would benchmark favourably compared to other projects and operations globally (Figure 24). The carbon intensity of producing Mixed Hydroxide Precipitate is estimated to be 10-12 $tCO_2Eq$ / tNiEq, with a nickel concentrate product resulting in a carbon intensity of approximately 8-10 $tCO_2Eq$ / tNiEq.

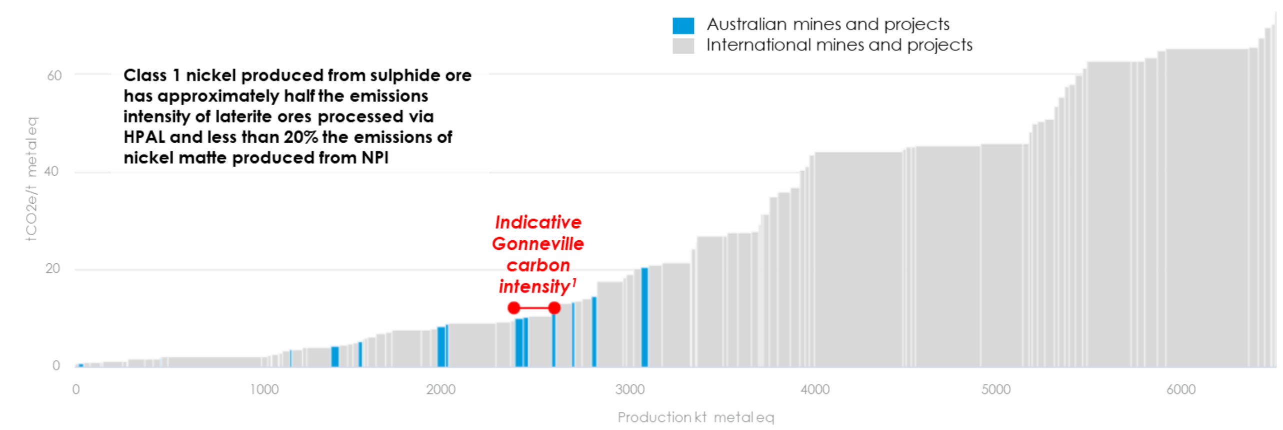
This assessment followed the life-cycle analysis ("LCA") methodology, included Scope 1 and 2 emissions, and assumed electricity used for processing is sourced from the SWIS grid. The assessment used an emissions factor of 0.41 $kgCO_2Eq/kWh$ (2030) for SWIS emissions[14] [15]. This factor is conservative as it correlates to a 25% reduction in emissions by 2030 (compared to 2022-21 levels) whereas the WA Government is targeting at least a 40% reduction in emissions primarily due to the retirement of state-owned coal power stations by 2030 (projected emission factor of 0.26 $kgCO_2Eq/kWh$)[16].

14 Source: https://www.westernpower.com.au/community/news-opinion/emissions-intensity-what-it-means-for-our-sustainable-future/?utm_source=linkedin&utm_medium=organic&utm_campaign=news&utm_content=image-renewable

15 Source 2: https://www.wa.gov.au/government/announcements/state-owned-coal-power-stations-be-retired-2030-move-towards-renewable-energy

16 Source: https://www.wa.gov.au/government/announcements/state-owned-coal-power-stations-be-retired-2030-move-towards-renewable-energy

**2030 Scope 1 & 2 site emissions ($tCo_2e/t$ NiEq), cumulative NiEq production (x-axis, kt)**




2030 Nickel carbon intensity curve by CRU Nickel Emissions Analysis Tool (as forecasted in 2023).
2030 Gonneville carbon intensity indication by Perspektiv (as forecasted in 2023).
[1]Does not indicate Gonneville's expected nickel production.

**Figure 24. Preliminary assessment of Gonneville nickel carbon intensity position.**

The electricity requirement associated with processing would be the most carbon intensive stage of operations and is likely to further reduce beyond the current assessment as the SWIS grid moves toward increased renewable energy sources.

In the PFS, the carbon emissions from a mine development will be assessed in further detail using LCA methods. Low carbon technologies such as on-site renewable energy sources, low-emissions vehicle fleets, and tailings carbon capture have not been considered as yet but will be evaluated as part of future studies.

In addition, Chalice is assessing the impacts on a future operation from climate change and has adopted the Taskforce for Climate Change Disclosures framework to assess the potential risks and necessary adaptation measures.

## Native title, heritage, and Traditional Owner participation

The Project is located within the South West Native Title Settlement area of Western Australia (the "Settlement"). The Settlement resolves native title in the southwest of Western Australia through the establishment of six Indigenous Land Use Agreements ("ILUAs") between Noongar people and the Western Australian Government. As a result of the Settlement, grant of mining tenure for the Project will not be subject to the requirements of the *Native Title Act 1993*.

The Project Area sits within the Whadjuk ILUA area. As per the cultural heritage management framework under the Settlement, Chalice entered into an Aboriginal heritage agreement with the Whadjuk People Agreement Group in the form of a Noongar Standard Heritage Agreement in 2018. Chalice has been engaging and working with Traditional Owner representatives since mid-2021 to establish strong, collaborative relationships and understand cultural values in the Project Area. To date, Chalice has engaged over 70 Traditional Owners in this work.

No archaeological sites or heritage places have been identified to date and initial cultural heritage surveys and due diligence in the Project Area indicate that there is low potential for intact archaeological sites due to historical agricultural land use. There is one registered Aboriginal site, the Avon River, located 3.5km to the east of the Project Area. This site includes tributaries to the Avon River, such as Julimar Brook. The site boundaries are located outside the Project Area. Further archaeological and ethnographic surveys will be undertaken with Whadjuk Traditional Owners early in the PFS.

Chalice will continue to engage with Whadjuk to strengthen relationships, build capability and capacity and increase participation in the Project as it develops.

## Community and stakeholder engagement

Since the discovery in 2020, Chalice has actively and transparently engaged with local communities to keep people informed about the Project, to build relationships and better understand issues most relevant to the community. This has included landowners, local community groups and representatives, local shires, local businesses and government in the Chittering, Toodyay, Goomalling and Northam local government areas.

Chalice has adopted a community framework that supports community development and investment through local economic development as well as direct community investment (Figure 24).

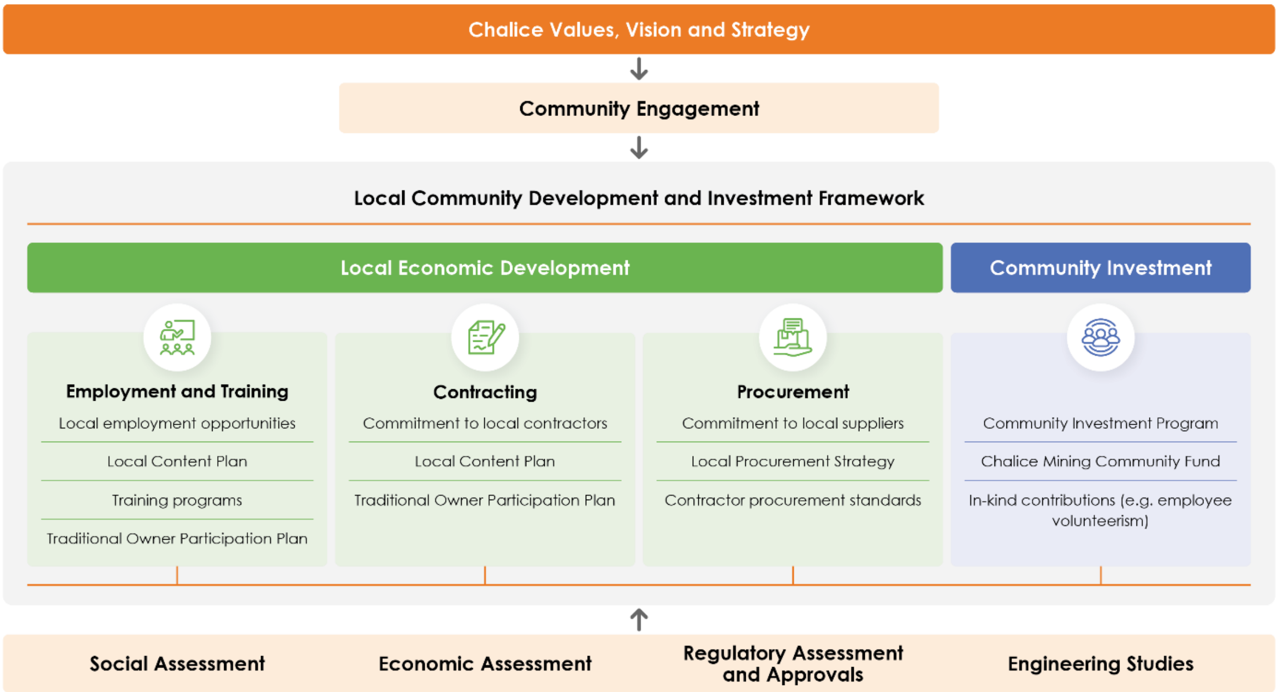



**Figure 25. Chalice Community Engagement Framework.**

Communication and direct engagement have occurred through direct meetings and briefings, site visits, participation in community events, quarterly community newsletters, monthly advertising in three local newspapers, and distribution of project information sheets. Chalice also opened an office in Toodyay in 2022 to better service community enquires about the Project through direct engagement with Chalice staff.

Chalice has engaged Voconiq to conduct an independent three-year community survey program called Local Voices. The Local Voices program is based on research developed over a decade by Australia's national research agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

The first Local Voices survey was launched in March 2023, providing a baseline understanding of community sentiment toward the Project across the Toodyay, Chittering, Goomalling and Northam local government areas. A large number of the respondents to the survey see the Project providing significant economic opportunity for local communities, including job creation and investment in local infrastructure.

The majority of respondents also support a potential mine development on Chalice owned farmland. Key issues for the community are potential impacts to biodiversity and local water resources, noise levels and impacts to local roads.

Results from Local Voices will inform Chalice's ongoing community engagement and investment programs and will be an important input to social impact assessment and environmental approval processes through the next stages of the Project.

Chalice will continue an increased program of communication and engagement during the next phase of the Project. Chalice understands that there is a need to communicate development, construction and operations options (including multiple alternatives where applicable) as soon as possible, for local community members to stay informed, provide feedback and consider impacts.

### Community investment

Chalice has established a Community Investment Program, which provides sponsorship opportunities to support education, community, environmental and sporting initiatives. These contributions have been carefully considered to make sure the benefit is broad and results in an immediate return for the local community.

The areas of community investment align directly with Chalice's core focus areas:

- Education – initiatives that advance and improve regional educational opportunities;
- Environment – initiatives that protect and rehabilitate the environment;
- Community Connection – supporting local opportunities, events and groups to strengthen the community connection within the region.

Since discovery of the Gonneville Deposit in 2020, Chalice has contributed ~A$230,000 through our Community Investment Program and a further ~A$3 million in expenditure with local businesses for goods and services. There was an estimated additional spend of ~A$5 million by direct Chalice contractors. On top of the financial investment into the local economy, Chalice has actively sought where possible to employ locally, with up to 22% of the total field staff based in the local shires surrounding Gonneville.

In addition to existing community investment, Chalice has agreed to provide additional funding to local communities through a Community Fund once the Project reaches commercial production. The principles behind this fund will be determined in conjunction with local shires and benefits will be directed to the local communities in the vicinity of the Project. The Fund will aim to create lasting benefits for the local community, which are determined in consultation with the community.

## Opportunities and upside

### Resource growth

Ongoing exploration activities at the Project are focusing on wide-spaced step-out and resource definition drilling. The Deposit remains open and is poorly tested beyond a depth of ~600m. Drilling aims to assess the potential for large-scale, high-grade sulphide zones at depth, which could potentially add material value to the Project through underground mining (in parallel with open-pit mining or at the end of the open-pit mining phase).

Step-out drilling on a ~160-320m spacing is currently testing the depth extent of the Deposit well beyond the limit of the current Resource and is expected to continue for the foreseeable future, subject to results. This very wide-spaced drilling is targeting the host Gonneville Intrusion at depths between 400m to 1,200m based on interpreted geology from 2D seismic surveys and previous drilling.

Recent results from holes drilled as part of this program at the Northern part of the deposit have returned wide zones of high-grade mineralisation up to 900m down-plunge of the current Resource, continuing to demonstrate the potential for underground mining beyond the current open pit resource (Figure 26 and Figure 27).

Early underground options are not incorporated in the Study, providing a material opportunity to improve project economics in future.

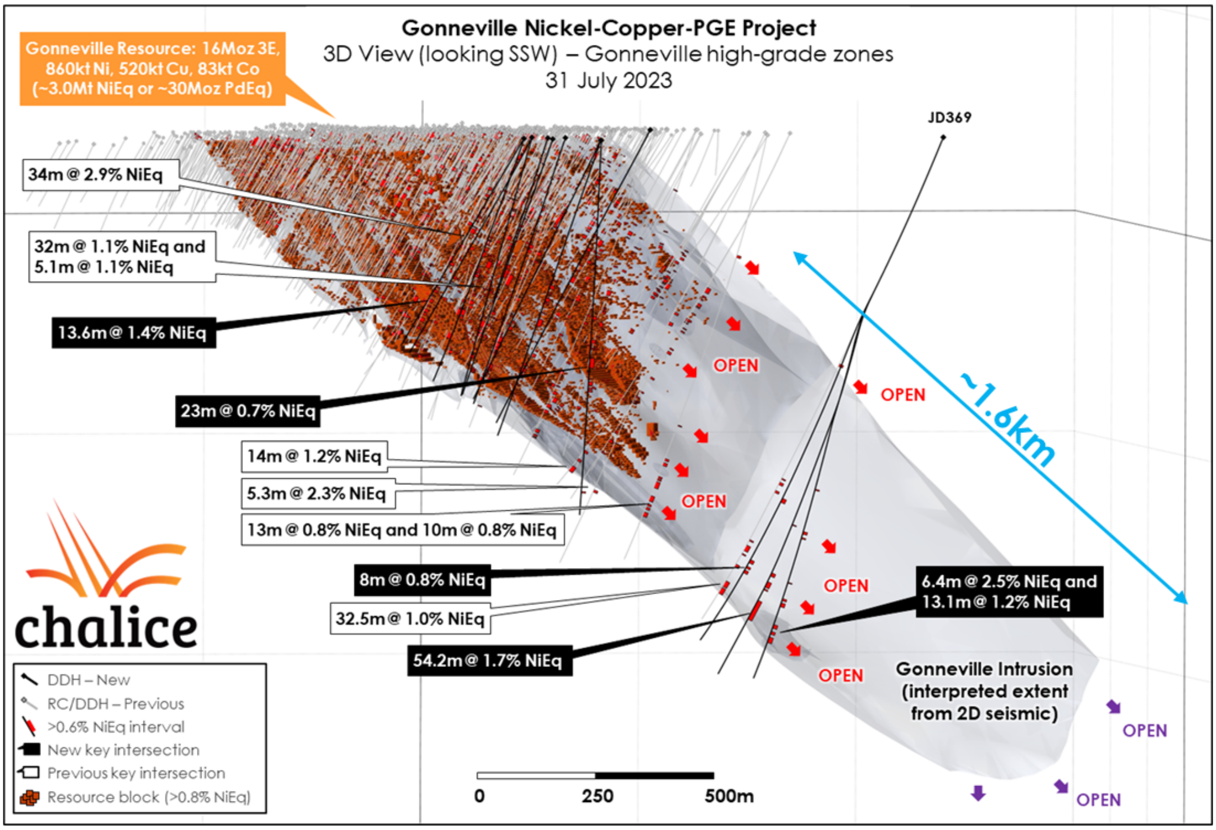



Figure 26. 3D view (looking SSW) of Gonneville Intrusion, >0.8% NiEq Resource blocks and drilling.

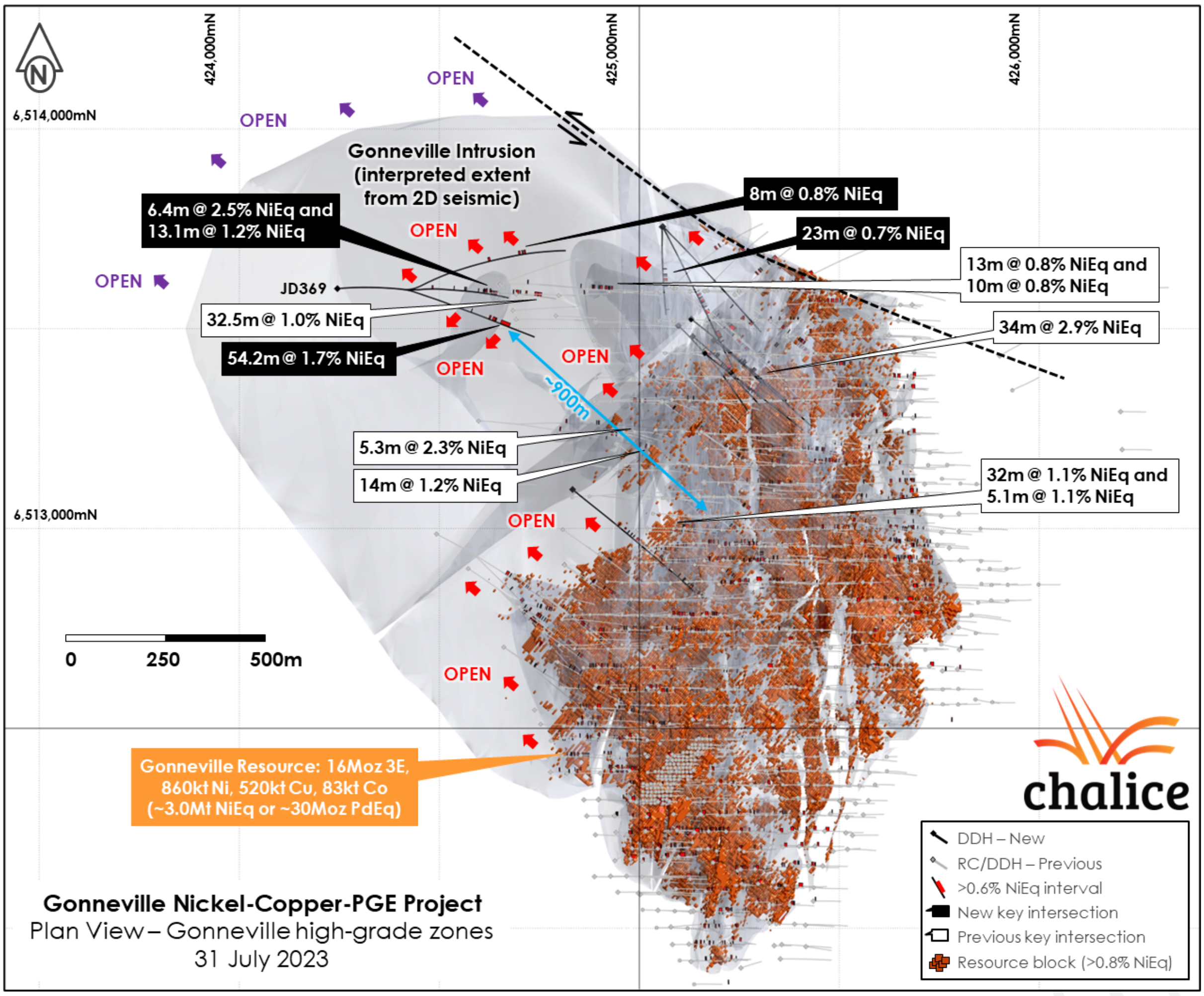



Figure 27. Plan View of Gonneville Intrusion, >0.8% NiEq Resource blocks and drilling.

## Mining

The Study has been constrained to a conventional open-pit mining method only within Chalice owned farmland, as this is considered the likely starting point to extract shallow Resources. Assessment of potential underground mining approaches will be undertaken in future studies.

~90-200Mt of Resource (~540-1,100kt contained NiEq, reported at a >0.40% NiEq cut-off grade) remains unmodelled below the ultimate pit shells for the modelled 15Mtpa and 30Mtpa cases respectively (Figure 28). This material is not modelled within the Study, however there is potential for additional open-pit or underground mining beyond the modelled life according to prevailing economic conditions in ~2045.

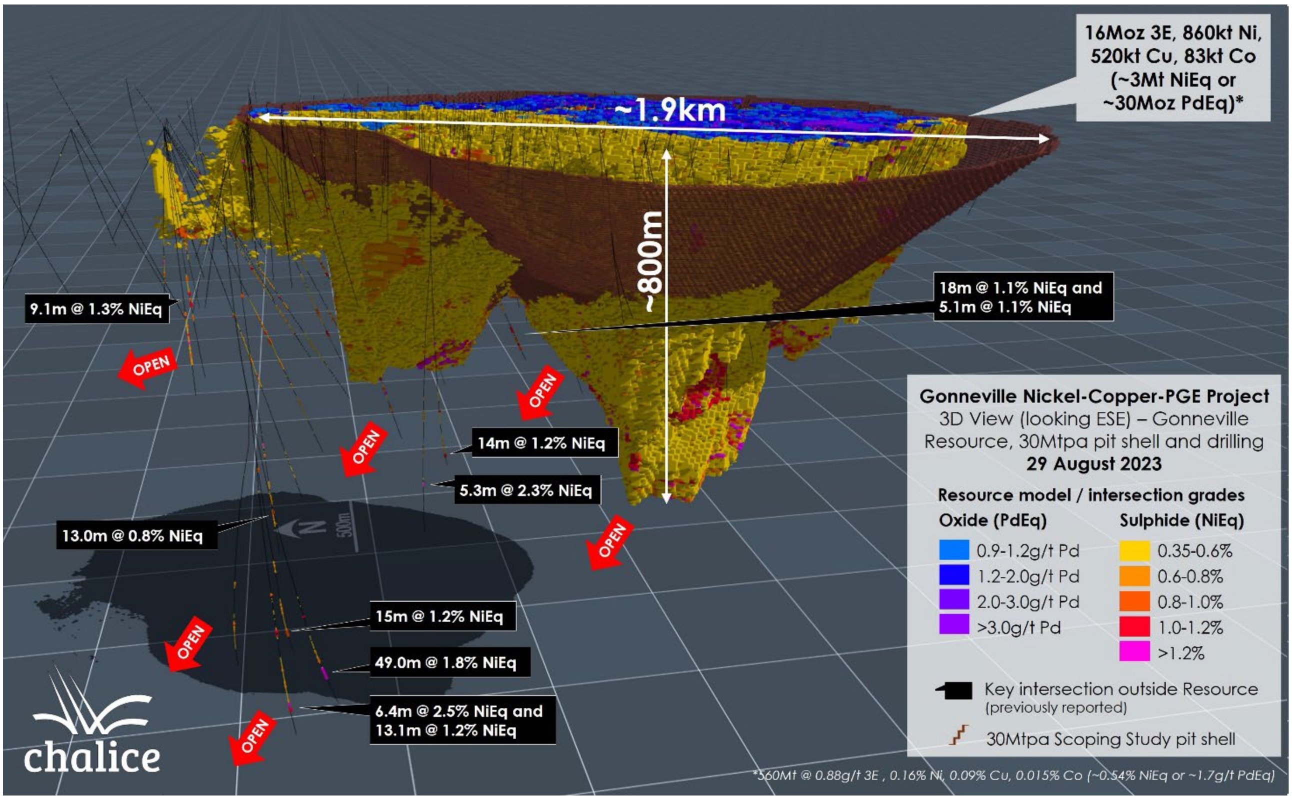



**Figure 28. 3D view (looking ESE) Gonneville Resource, 30Mtpa case pit shell and drilling.**

Other mining optimisations will be investigated in the next phase of studies, which include:

**Table 17. Mining opportunities and qualitative upside assessment.**

| Mining opportunity | Assessment of upside potential |
|---|---|
| Development of underground mining to recover Resources external to the currently modelled pit shells using bulk or selective mining methods (including block caving) | +++ |
| Adoption of in-pit crushing and/or trolley-assist technology to reduce mine fleet operating and sustaining capital costs and carbon emissions | ++ |
| Open-pit optimisations (pit phasing, value-based cut-off, de-bottlenecking, blending, stockpiling and product mix optimisation, etc) | ++ |
| Selective use of autonomous mining equipment (grade control drilling or haulage), to improve safety, and operating efficiency | + |
| Selective / higher-grade starter pit to optimise capital payback | + |

## Processing

The Study has assessed several processing flowsheets, with the aim of maximising metallurgical recoveries whilst minimising costs and risk. Given the large scale of the Resource and unique characteristics of the Project site, flowsheet design and optimisation will continue through the subsequent PFS study phase, with additional flowsheet steps and capital investment being assessed according to value added (by increased recovery, decreased cost or improved marketing terms).

The nature of metallurgical testwork and flowsheet design on new deposits with unique mineralogy is highly iterative, with a degree of 'trial and error' involved. There are several opportunities in processing currently under investigation as well as other areas to be evaluated in the next phase of studies, which include:

**Table 18. Processing opportunities and qualitative upside assessment.**

| Processing opportunity | Assessment of upside potential |
|---|---|
| Improved geo-metallurgical understanding and domaining of the deposit (spatially, mineralogically and metallurgically) potentially leading to improved recovery, concentrate quality or ore-sorting removal of low-value material ahead of processing | +++ |
| Enhanced metallurgical recoveries through flotation parameter optimisation, leaching optimisation, grind size optimisation (including staged grinding), and concentrate regrinding and grade optimisation | ++ |
| New technology such as tailings filtration / dry stacking to improve water recovery (cost) and minimise tailings storage volume | ++ |
| Further downstream processing of intermediate products by Chalice (or vertical integration) to capture additional product value | ++ |
| Potential application of High Pressure Grinding Rolls (HPGRs) to improve energy efficiency and reduce operating costs, and possibly lead to flotation and leaching recovery benefits | + |
| New processing technologies (improved flotation cells, new pressure oxidation equipment, novel reagents, automation/machine learning in processing etc) | + |

## Commercial

The Study commercial inputs and financial outcomes are considered preliminary and reflect current assumptions around long term market conditions. Given the strong demand forecast for decarbonisation technologies, lack of new discoveries / development projects and continued urbanisation of the world's population, there is considerable upside related to the tightening of these metal markets.

The next phase of studies will assess commercial and financial opportunities, which include:

**Table 19. Commercial opportunities and qualitative upside assessment.**

| Commercial opportunity | Assessment of upside potential |
|---|---|
| Higher long-term realised metals prices / offtake terms due to scarcity of supply, lack of new large-scale discoveries particularly in stable jurisdictions and strong demand driven by decarbonisation and urbanisation | +++ |
| Strategic partnering to enhance offtake terms, utilise proprietary processing technologies and/or provide low-cost project finance or capital investment | ++ |
| Premium offtake terms for products due to sustainability metrics, western jurisdiction and securing of supply chains (*green/western* premium) | ++ |
| Additional payable metals in concentrate which are known to exist in the Deposit in minor quantities (Rh, Ir, Os, Ag, Te) | ++ |
| Co-operation, funding or incentives from 3rd party sources (industry co-operatives, government grants / incentives, co-investment on infrastructure, etc) | ++ |
| Offtake of product to local 3rd party downstream processing facilities (reduced transportation costs) plus operational synergies | + |

## Risks

All mining projects have inherent risks that apply to across the industry, which are not described in full within this section. Risks specific to the Gonneville Project which have been identified to date include:

**Table 20. Gonneville Project risks and mitigations.**

| Category | Risk | Mitigations in place or envisaged |
|---|---|---|
| **Permitting and approvals** | Regulatory approval delays or operational constraints being enforced by industry regulators | « Multiple precedents for successful mine development in WA in similar geographies (Boddington, Greenbushes, Collie, etc)<br>« Initial mine referral to be submitted in 2024 with associated government and regulatory consultation |
| | Social licence impairment through adverse community reaction to dust, noise, waste management, groundwater impacts, road traffic, vegetation clearing, landform modification, loss of amenity or perception of impacts to proximal Forest or Nature Reserves | « Restriction of Project footprint to areas of Chalice owned title only<br>« Demonstration of significant, long term regional economic benefits from the Project<br>« Open, transparent and collaborative community consultation to date<br>« *Green metals* are required for decarbonisation and deposits are very rare in the western world<br>« Chalice is a socially responsible company and the Project has excellent sustainability metrics<br>« Environmental baseline studies and assessments<br>« Cultural heritage surveys and management plans |
| **Operational** | Site access restrictions or delays due to road width/weight limitations or other road/rail users | « Logistics planning around optimal routes and timings for material movements<br>« Design appropriate inventory levels on site to deal with temporary delays |
| | Supporting infrastructure constraints due to proximity to regional centres or metropolitan Perth, existing port, rail, road, power, water capacity constraints or unforeseen technical challenges | « Strong collaboration with government agencies including Water Corporation, Western Power and Fremantle Ports<br>« Potential for government support due to the significance of the Project for WA/Australia |
| | Chosen concentrate enrichment processing technology does not perform as designed, and negatively impacts cashflow and/or ramp-up. | « Substantial cashflow from saleable Cu-PGE concentrate produced from flotation only.<br>« Projects worldwide with similar mineralogy have been tested successfully with various concentrate enrichment technologies at pilot plant scale.<br>« Numerous operating pressure oxidation plants in the gold industry which process intermediate concentrates.<br>« Detailed testwork scheduled to be completed in 2024 (PFS), followed by piloting.<br>« A staged introduction of these technologies to minimise technology risk is to be investigated in the PFS. |
| | Hazardous materials and dust management result in unforeseen health and safety restrictions and increased processing costs | « The Project will review hazards identified in other operations with similar deposit mineralogy and adopt best practice operational safety procedures to minimise dust-related risks in mining and processing. |

| Category | Risk | Mitigations in place or envisaged |
|---|---|---|
| | | « Waste landforms and TSF management practices will also be developed according to results during testing in the PFS phase to minimise risk of any airborne contaminants that are identified.<br>« Environmental studies submitted for evaluation during the project permitting phase will identify and propose mitigations to address all identified hazardous material-related risks. |
| **Commercial** | Unfavourable offtake terms due to changes in downstream processing industry parameters or reduction in number of offtake facilities impact operating cash flow. | « Early engagement with potential offtakers and end-users is underway to ensure there is alignment on required product specifications prior to finalisation of the project flowsheet<br>« Several expressions of interest received to date from international copper smelters for offtake of Cu-PGE-Au concentrate, on attractive terms.<br>« Chalice is completing a strategic partnering process which includes potential offtakers<br>« The Project will produce a copper concentrate with significant PGE content that will make this concentrate attractive to potential offtakers, and should attract favourable offtake terms<br>« The project is actively considering downstream treatment of the nickel concentrate to produce a nickel-cobalt mixed hydroxide product or nickel sulphate that will attract premium offtake terms |
| | Metal price reduction negatively impacts economic viability of the Project | « Metals to be produced from Gonneville have historically had relatively uncorrelated prices and therefore this could provide some protection against unfavourable movements in multiple commodities at once<br>« The scarcity of metals found at Gonneville, particularly in the western world, means that commodity prices have historically increased in real terms over time. As deposits become more difficult to find and extract, commodity prices are expected to increase in real terms in the future. |

# Appendix A JORC Tables & Competent Persons Statement

## A-1 JORC Tables

The following information is reported as per Table 1 of the JORC Code (2012) in support of the metallurgical sampling and test work contained in this announcement which has not previously been reported by the Company. There are no new drilling results contained in this announcement and there is no update to the Mineral Resource Estimate dated, 28th March 2023.

## A-2 JORC Table 1 - Section 1: Sampling Techniques and Data

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| Sampling techniques | Nature and quality of sampling (eg. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. | « Diamond core was either quarter cored HQ core or half cored NQ2 core with samples taken over selective intervals ranging from 0.2m to 1.2m (typically 1.0m) and then composited to create a sample for metallurgical test work.<br>« Reverse Circulation (RC) drilling samples were collected as 1m samples from a rig mounted cone splitter and composited to create a sample for metallurgical test work. |
| | Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. | « Qualitative care taken when sampling diamond drill core to sample the same half of the drill core.<br>« For RC, two 1m assay samples were collected as a split from the rig cyclone using a cone splitter with the same split consistently sent to the laboratory for analysis. |
| | Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg. submarine nodules) may warrant disclosure of detailed information. | « Sample intervals for metallurgical testwork were selected on the basis of assay grades to produce a composite sample with an average grade appropriate for a given test. |
| Drilling techniques | Drill type (eg. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). | « A mixture of diamond drill core size used including NQ (47.6mm), HQ (63.5mm diameter) or PQ (85mm). Triple tube has been used from surface until competent bedrock and then standard tube thereafter.<br>« Core orientation is by an ACT Reflex (ACT II RD) tool.<br>« RC Drilling uses a face-sampling hammer drill bit with a diameter of 5.5 inches (140mm). |

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| Drill sample recovery | Method of recording and assessing core and chip sample recoveries and results assessed. | « Individual recoveries of diamond drill core samples were assessed quantitively by comparing measured core length with expected core length from drillers mark. Generally, core recovery was excellent in fresh rock and approaching 100%. Core recovery in oxide material is often poor due to sample washing out. Core recovery in the oxide zone averages 60%<br>« Individual recoveries for RC composite samples were recorded on a qualitative basis. Sample weights were observed to be slightly lower through transported cover whereas drilling through bedrock yielded samples with more consistent weights. Two separate studies were completed where all the sample was weighed and compared with the expected weight. These indicated that as with the diamond core, sample recovery in the oxide is moderate and good in the fresh rock |
| | Measures taken to maximise sample recovery and ensure representative nature of the samples. | « With diamond drilling triple tube coring in the oxide zone is undertaken to improve sample recovery. This results in better recoveries, but recovery is still only moderate to good.<br>« Diamond core samples were consistently taken from the same side of the core |
| | Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. | « There is no evidence of a sample recovery and grade relationship in unweathered material. |
| Logging | Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. | « All drill holes were logged geologically including, but not limited to; weathering, regolith, lithology, structure, texture, alteration and mineralisation. Logging was at an appropriate quantitative standard for infill drilling and resource estimation. |
| | Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. | « Logging is considered qualitative in nature.<br>« Diamond drill core is photographed wet before cutting. |
| | The total length and percentage of the relevant intersections logged. | « All holes were geologically logged in full. |
| Sub-sampling techniques and sample preparation | If core, whether cut or sawn and whether quarter, half or all core taken. | « Diamond core was either quarter cored HQ core or half cored NQ2 core with samples taken over selective intervals ranging from 0.2m to 1.2m (typically 1.0m).<br>« Samples collected for metallurgical test work were either whole core or half HQ core or ¾ PQ core. |
| | If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. | « RC assay samples were collected as two 1m splits from the rig cyclone via a cone splitter. The cone splitter was horizontal to ensure sample representivity. Wet or damp samples were noted in the sample logging sheet. A majority of samples were dry.<br>« For samples used for metallurgical test work, the bulk sample was collected from the |

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| | | cone splitter and sent to the metallurgical laboratory. |
| | For all sample types, the nature, quality and appropriateness of the sample preparation technique. | « Sample preparation is industry standard and comprises oven drying, jaw crushing and pulverising to -75 microns (80% pass). |
| | Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. | « Field duplicates were collected from diamond and RC drilling at an approximate ratio of one in twenty five.<br>« Diamond drill core and RC field duplicates collected as ¼ core.<br>« Samples intervals for metallurgical test work were selected on the basis of the weighted average assay grade for a given interval from samples which had already had QAQC procedures in place. No additional QAQC was completed on the metallurgical samples. |
| | Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. | « In the majority of cases the entire hole has been sampled and assayed.<br>« Duplicate sample results were compared with the original sample results and there is no bias observed in the data.<br>« Metallurgical sample intervals were selected to provide an average grade appropriate for the test work. Intervals were selected taking into account weathering, lithology, sulphide content, overall metal content and geographical location and hence are considered representative for Scoping Study level test work. |
| | Whether sample sizes are appropriate to the grain size of the material being sampled. | « Drill sample sizes are considered appropriate for the style of mineralisation sought and the nature of the drilling program. Metallurgical composite sample sizes were based on the requirement to provide sufficient sample for the test work. |
| Quality of assay data and laboratory tests | The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. | « Diamond drill core underwent sample preparation and geochemical analysis by ALS Perth. Au-Pt-Pd was analysed by 50g fire assay fusion with an ICP-AES finish (ALS Method code PGM-ICP24). A 34-element suite was analysed by ICP-MS following a four-acid digest (ALS method code ME-ICP61 including Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, Zn, Zr. Additional ore-grade analysis was performed as required for elements reporting out of range for Ni, Cr, Cu (ALS method code ME-OG-62) and Pd, Pt (ALS method code PGM-ICP27).<br>« These techniques are considered total digests. |
| | For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. | « Not applicable as no data from such tools or instruments are reported. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | Nature of quality control procedures adopted (eg. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established. | « Certified analytical standards and blanks were inserted at appropriate intervals for diamond core with an insertion rate of >5%. All QAQC samples display results within acceptable levels of accuracy and precision.<br>« Samples intervals for metallurgical testwork were selected on the basis of the weighted average assay grade for a given interval from samples which had already had QAQC procedures in place. No additional QAQC was completed on the metallurgical samples. |
| Verification of sampling and assaying | The verification of significant intersections by either independent or alternative company personnel. | « Not applicable as no drilling results have been reported. However, metallurgical results have been reviewed and checked by the supervising metallurgist. |
| | The use of twinned holes. | « Not applicable for metallurgical testwork samples. |
| | Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. | « Primary drill data was collected digitally using OCRIS software before being transferred to the master SQL database.<br>« All procedures including data collection, verification, uploading to the database etc are captured in detailed procedures and summarised in a single document. |
| | Discuss any adjustment to assay data | « No adjustments were made to the lab reported assay data. |
| Location of data points | Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. | « Drill hole collar locations are initially recorded by Chalice employees using a handheld GPS with a +/- 3m margin of error.<br>« RTK-DGPS collar pick-ups replace handheld GPS collar pick-ups and have +/-20 mm margin of error.<br>« Planned and final hole coordinates are compared after pick up to ensure that the original target has been tested. |
| | Specification of the grid system used. | « The grid system used for the location of all drill holes is GDA94 - MGA (Zone 50). |
| | Quality and adequacy of topographic control. | « RLs for reported holes were derived from RTK-DGPS pick-ups. |
| Data spacing and distribution | Data spacing for reporting of Exploration Results. | « Not applicable. No exploration results reported. |
| | Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. | « Not applicable. No drilling results reported and no Mineral Resource Estimate is being reported.<br>« Samples for metallurgical test work have been selected from holes throughout the deposit. |
| | Whether sample compositing has been applied. | « Metallurgical composite sample were selected to provide an average grade appropriate for a given metallurgical test. Intervals were selected taking into account weathering, lithology, sulphide content, overall metal content and geographical location. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| Orientation of data in relation to geological structure | Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. | « As the samples were chosen for metallurgical test work, hole orientation is not relevant although where samples from exploration RC and Diamond drill holes were used, the holes were typically oriented within 15° of orthogonal to the interpreted dip and strike of the known zone of mineralisation. |
| | If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. | « Not applicable as samples were selected to provide representative metallurgical samples. |
| Sample security | The measures taken to ensure sample security. | « Samples were collected in polyweave bags at the core cutting facility. The polyweave bags have five samples each and are cable tied.<br>« Filled bags were collected into palletised bulk bags at the field office and delivered directly from site to ALS laboratories in Balcatta, Perth by a Chalice contractor several times weekly.<br>« Metallurgical samples were sent directly to the metallurgical laboratory |
| Audits or reviews | The results of any audits or reviews of sampling techniques and data. | « Not applicable as sample intervals were selected based on appropriate average grade for the metallurgical test work based on assay data which had previously been reviewed |

## A-3 JORC Table 1 - Section 2: Reporting of Exploration Results

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| Mineral tenement and land tenure status | Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. | « E70/5119 partially overlaps ML1SA, a State Agreement covering Bauxite mineral rights only however, this does not cover the area under consideration in the Scoping Study.<br>« There are no known encumbrances other than the ones noted above. |
| | The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. | « The Scoping Study only includes mineralisation on Chalice owned private property. There are no known impediments to operating on the tenements where they cover private freehold land.<br>« The tenements are in good standing. |
| Exploration done by other parties | Acknowledgment and appraisal of exploration by other parties. | « There is no previous exploration at Gonneville and only limited exploration has been completed by other exploration parties in the vicinity of the targets identified by Chalice to date.<br>« Chalice has compiled historical records dating back to the early 1960's which indicate only three genuine explorers in the |

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| | | area, all primarily targeting Fe-Ti-V mineralisation.<br>« Over 1971<1972, Garrick Agnew Pty Ltd undertook reconnaissance surface sampling over prominent aeromagnetic anomalies in a search for 'Coates deposit style' vanadium mineralisation. Surface sampling methodology is not described in detail, nor were analytical methods specified, with samples analysed for V2O5, Ni, Cu, Cr, Pb and Zn, results of which are referred to in this announcement.<br>« Three diamond holes were completed by Bestbet Pty Ltd targeting Fe-Ti-V situated approximately 3km NE of JRC001.<br>« Bestbet Pty Ltd undertook 27 stream sediment samples within E70/5119. Elevated levels of palladium were noted in the coarse fraction (<5mm+2mm) are reported in this announcement. Finer fraction samples did not replicate the coarse fraction results.<br>« A local AMAG survey was flown in 1996 by Alcoa using 200m line spacing which has been used by Chalice for targeting purposes.<br>« An Alcoa and CRA JV completed seven diamond holes in the 1970s targeting a magnetic high to the north of E70/5119 and the east of E70/5351testing for vanadium (Boomer Hill). |
| Geology | Deposit type, geological setting and style of mineralisation. | « The target deposit type is an orthomagmatic Ni-Cu-PGE sulphide deposit, within the Yilgarn Craton. The style of sulphide mineralisation intersected consists of massive, matrix, stringer and disseminated sulphides typical of metamorphosed and structurally overprinted orthomagmatic Ni sulphide deposits. |
| Drill hole Information | A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:<br>Easting and northing of the drill hole collar<br>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar<br>Dip and azimuth of the hole<br>Down hole length and interception depth hole length. | « Not applicable. No exploration drilling results reported. |
| | If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. | « No material information has been excluded. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg. cutting of high grades) and cut-off grades are usually Material and should be stated. | « Not applicable. No exploration drilling results reported. |
| | Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. | « Not applicable. No exploration drilling results reported. |
| Data aggregation methods | The assumptions used for any reporting of metal equivalent values should be clearly stated. | « Metal equivalents have only been used to determine an appropriate cut-off grade for the Mineral Resource Estimate and have not been used for any economic analysis. Samples for metallurgical test work have been selected on the average grade of the potentially economic metals and not on a metal equivalent basis.<br>« Metal price assumptions used in the metal equivalent calculations are: US$1,800/oz Pd, US$1,200/oz Pt, US$1,800/oz Au, US$24,000/t Ni, US$10,500/t Cu, US$72,000/t Co.<br>« Metallurgical recovery assumptions used in the metal equivalent calculation for the oxide material are: Pd - 75%, Au - 90%.<br>« Hence for the oxide material PdEq (g/t) = Pd (g/t) + 1.27 x Au (g/t).<br>« Metallurgical recovery assumptions used in the metal equivalent calculation for the sulphide (fresh) material are: Pd - 60%, Pt - 60%, Au - 70%, Ni - 45%, Cu - 85%, Co - 45%.<br>« Hence for the sulphide material NiEq = Ni (%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%)and PdEq = Pd (g/t) + 0.67x Pt(g/t) + 1.17x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%).<br>« The volume of transitional material is small and considered unlikely to materially affect the overall metal equivalent calculation. |
| Relationship between mineralisation widths and intercept lengths | These relationships are particularly important in the reporting of Exploration Results.<br>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. | « Not applicable. No exploration drilling results reported. |
| | If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg. 'down hole length, true width not known'). | « Not applicable. No exploration drilling results reported. |
| Diagrams | Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should | « Not applicable. No exploration drilling results reported. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. | |
| Balanced reporting | Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. | « Not applicable. No exploration drilling results reported. |
| Other substantive exploration data | Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. | « Leaching of Oxide PGE is not currently practiced as operators have typically focussed on the sulphide components.<br>« Extensive oxide leaching tests have been carried out on five separate composites and a geo-metallurgical programme is planned during the PFS.<br>« Flotation tails leaching of PGEs is not currently practiced, however, it is commonplace in gold operations.<br>« Milling and flotation of material similar to Gonneville is commonly practiced in other operations using similar approaches to those proposed in this Scoping Study where produced concentrates are either sold commercially or treated in smelter-refinery complexes.<br>« A large number (>300) of laboratory flotation tests have been carried out on over 25 separate composites. A more detailed PFS geo-metallurgical programme is currently starting to explore metallurgical domaining and to extend the range of feed grades to adequately cover the lower grade components of the Resource.<br>« Hydrometallurgical treatment of flotation concentrates in other projects has been extensively tested at a pilot-scale but not commercially implemented to date, though this is expected to change prior to implementation of this Project.<br>« A pilot scale campaign was undertaken to produce bulk concentrate samples for research purposes. Survey results on the diamond core component of this work gave results which were in reasonable agreement with the expected results from the algorithms.<br>« Preliminary algorithms were developed for use in Scoping Study mine planning. These need to be extended to include the lower grade components of the Resource.<br>« Limited concentrate analysis suggests no significant levels of deleterious elements. |
| Further work | The nature and scale of planned further work (eg. tests for lateral Exts or depth Exts or large-scale step-out drilling). | « Further extensive metallurgical test work is planned as part of a PFS. This will include optimisation of conditions using composites and geo-metallurgical assessment using over 80 variability samples. In particular, this will target the lower grade disseminated component of the Resource. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | « More detailed testing of hydrometallurgical components of the proposed flowsheet is also planned. |
| | Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. | « Included in the body of the announcement. |

## A-4 Competent Persons Statement

### Metallurgy

The information in this announcement that relates to metallurgical test work results in relation to the Gonneville Project is based on, and fairly represents information and supporting documentation compiled by Mr Ian Ritchie, BScEng Phd, of Salarium Pty Ltd, a consultant to the Company. Mr Ritchie is a Competent Person, and a Member of the Australian Institute of Mining and Metallurgy. Mr Ritchie is a qualified metallurgist and has sufficient experience that is relevant to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Ritchie does not hold securities in Chalice Mining Limited. Mr Ritchie consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

### Exploration Results

The information in this announcement that relates to previously reported exploration results is extracted from the following ASX announcements:

- "Significant High-Grade PGE-Cu-Au Extensions at Julimar", 18 November 2020;
- "Major northern extension of Gonneville Intrusion confirmed", 19 October 2022;
- "Outstanding wide high-grade intersections north of Gonneville", 23 November 2022;
- "Gonneville Resource increases by approx. 50% to 3Mt NiEq", 28 March 2023;
- "Further early-stage exploration success north of Gonneville", 3 May 2023; and
- "New wide high-grade zones in ~900m step-out drill hole", 31 July 2023.

The above announcements are available to view on the Company's website at www.chalicemining.com. The Company confirms that it is not aware of any new information or data that materially affects the exploration results included in the relevant original market announcement. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the relevant original market announcement.

### Mineral Resources

The information in this announcement that relates to Mineral Resources has been extracted from the ASX announcement titled: "Gonneville Resource increases by approx. 50% to 3Mt NiEq", 28 March 2023. This announcement is available to view on the Company's website at chalicemining.com

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original announcement and that all material assumptions and technical parameters underpinning the estimates in the original release continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the relevant original market announcement.