



# NiWest Pre-Feasibility Study Delivers Outstanding Results

GME Resources Limited (**GME or the Company**) (ASX:GME) is pleased to announce the completion of the Pre-Feasibility Study (**PFS**) on its 100%-owned NiWest Nickel-Cobalt Project in Western Australia (**NiWest or NiWest Project**). The NiWest PFS has confirmed the technical and financial robustness of a long-life operation directly producing high-purity nickel and cobalt sulphate products to be delivered into the forecast rapid growth of lithium-ion battery raw material markets.

## Base project parameters

- Maiden NiWest Ore Reserve estimate of 64.9Mt at 0.91% Ni and 0.06% Co (for 592kt contained nickel and 38kt contained cobalt). Conventional open pit mining at a low projected strip ratio of 2.0:1.
- Head grades average 1.05% Ni and 0.07% Co for the first 15 years. Opportunity to extend high-grade profile through potential conversion of Inferred Resources and/or inclusion of other deposits.
- Selected processing route of heap leaching followed by highly efficient Direct Solvent Extraction (DSX) to produce low-cost nickel and cobalt sulphate products.
- Initial 27-year operating life at a nameplate processing capacity of 2.4Mtpa. Projected steady-state nickel and cobalt recoveries of 79% and 85% respectively.
- Total production of 456kt nickel (in nickel sulphate) and 31.4kt cobalt (in cobalt sulphate). Average annual production of 19.2kt nickel and 1.4kt cobalt over the first 15 years.
- Project construction period of 24 months from Final Investment Decision (FID). Forecast commissioning and plant ramp-up phase of approximately 20 months.

## Key economic assumptions and outcomes

- Life-of-mine price estimates of US\$8.00/lb nickel (includes US\$0.75/lb sulphate premium) and US\$25/lb cobalt (zero sulphate premium). A\$/US\$ assumption of 0.75.
- Ungeared post-tax NPV<sub>8%</sub> of A\$791M and internal rate of return (IRR) of 16.2% (equivalent pre-tax values of A\$1,390M and 21.2%, respectively). Payback period (pre-tax) of 4.4 years.
- Average cash unit operating cost (post royalties and cobalt credits) of US\$3.24/lb contained nickel (US\$3.00/lb for the first 15 years).
- Forecast pre-production capital expenditure of A\$966M, representing a globally attractive pre-production capital intensity of sub-US\$20 per pound of average annual nickel production.
- Projected free cashflow (post all capital expenditure and tax) of A\$3,342M.

## Next steps

- GME intends to undertake a wider and more advanced period of engagement with potential strategic partner/offtake parties prior to commencing a Definitive Feasibility Study (DFS) on the NiWest Project. This process is targeted at a comprehensive and robust assessment of the broad range of potential ownership, development and funding structures currently available to GME and the NiWest Project.
- Concurrent activities during this period include delineation of planned DFS scope and workstreams, deeper end-market evolution analysis, assessment of value engineering opportunities delivered via the PFS and the commencement of critical-path environmental study work.

GME's Managing Director, Jamie Sullivan, said: "Through its recently completed PFS, GME has made outstanding progress in delineating an attractive development pathway for the NiWest Nickel-Cobalt Project."

"The PFS has confirmed the technical and financial merits of the development of a stand-alone processing facility to treat the NiWest deposits. The chosen processing route for NiWest adopts commercially proven, lower-risk, lower-capital intensity heap leaching, coupled with highly efficient Direct Solvent Extraction. The elevated technical and economic risks associated with High Pressure Acid Leaching and Atmospheric Leaching have been consciously avoided. The net result is forecast low-cost production of high-purity nickel and cobalt sulphates.

"The maiden NiWest Ore Reserve, which is based solely on the Eucalyptus, Hapi and Mt Kilkenny deposits, delivers plus-1% nickel and approximately 0.07% cobalt ore to the plant for the first 18 years. A substantial opportunity exists to extend this high-grade feed profile through the potential conversion of Inferred material and/or inclusion of up to four other deposits into the project schedule.

"Over an initial operating life of approximately 27 years the NiWest Project is expected to produce 456kt of nickel and over 31kt of cobalt at a forecast net cash operating cost of around US\$3.20/lb.

"The projected Class 1 nickel supply/demand deficit and the rapidly growing demand for nickel and cobalt sulphate products from the Electric Vehicle Li-ion battery market creates an attractive environment for GME to pursue the development of, and value realisation from, the NiWest Project.

"Importantly GME will now utilise the PFS to undertake an intensive period of engagement with potential strategic partners and offtake parties for the NiWest Project. Alongside that we will be working up the proposed scope for a Definitive Feasibility Study, assessing a range of additional value engineering opportunities and commencing select critical path activities, including baseline environmental study work."



JAMIE SULLIVAN

MANAGING DIRECTOR

2 August 2018

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<b>About GME</b> – GME Resources Limited is an ASX listed (GME) exploration and development company with nickel, cobalt and gold interests in Western Australia. GME's principal asset is its 100% owned NiWest (nickel – cobalt) Project situated adjacent to Glencore's Murrin Murrin Operations. The Company has completed a Pre-Feasibility Study which has confirmed the technical and economic viability of a heap leach and direct solvent extraction operation at one of the largest undeveloped nickel/cobalt deposits in Australia.  More information is available on GME's website at <a href="http://www.gmeresources.com.au">www.gmeresources.com.au</a>		

## Competent Person Statements

*The information in this report that relates to Mineral Resources is based on information compiled by Mr David Reid. Mr Reid is a Principal Geologist with Golder Associates and member of The Australasian Institute of Mining and Metallurgy. Mr Reid has sufficient experience, which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Mineral Resources and Ore Reserves. Mr Reid consents to the inclusion in this announcement of the matters based on information provided by him in the form and context in which it appears.*

*The information in this announcement that relates to Ore Reserves is based on, and fairly represents, information and supporting documentation prepared by Mr Atish Kumar, Member of the Australasian Institute of Mining and Metallurgy. Mr Kumar is a full-time employee of Perth Mining Consultants and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Ore Reserves. Mr Kumar consents to the inclusion in this announcement of the matters based on information provided by him in the form and context in which it appears.*

*The information in this announcement that relates to Lateritic Nickel and Cobalt Processing / Engineering and related operating and capital cost estimates is based on information reviewed by Mr David Readett (B.E. Met Eng., FAusIMM, CP (Met)). Mr Readett is an independent consulting engineer working through a Company known as MWorx Pty Ltd. Mr Readett is a Chartered Professional Metallurgical Engineer and has 25 years of relevant experience in this area of work. Mr Readett consents to the inclusion in this announcement of the matters based on information provided by him and in the form and context in which it appears.*

## Previously Reported Information

*This announcement refers to the following previously reported information:*

- *Mineral Resources in the announcement dated 21 February 2017 and titled “NiWest Nickel-Cobalt Project Mineral Resources Update (JORC 2012).*

*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 pertaining to the Murrin North, Waite Kauri, Mertondale and Wanbanna deposits, and that all related material assumptions and technical parameters have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings pertaining to the Murrin North, Waite Kauri, Mertondale and Wanbanna deposits are presented have not materially modified from the original market announcement.*

## ASX Chapter 5 Compliance and PFS Cautionary Statement

*The Company has concluded that it has a reasonable basis for providing the forward looking statements and forecast financial information included in this announcement. The detailed reasons for that conclusion are outlined throughout this announcement and all material assumptions including the JORC modifying factors, upon which the forecast financial information is based are disclosed in this announcement. This announcement has been prepared in accordance with JORC Code 2012 and the ASX Listing Rules.*

*The actual results could differ materially from a conclusion, forecast or projection in the forward-looking information. Certain modifying factors were applied in drawing a conclusion or making a forecast or projection as reflected in the forward looking and cautionary statements.*

*The NiWest Project is in the PFS phase and although reasonable care has been taken to ensure that the facts are accurate and/or that the opinions expressed are fair and reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness. Actual results and development of projects may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors. A key conclusion of the PFS, which is based on forward looking statements, is that the NiWest Project is considered to have positive economic potential.*

*A Probable Ore Reserve classified under JORC 2012 Guidelines was used for the PFS and all relevant details are set out in this announcement.*

*The Company believes it has a reasonable basis to expect to be able to fund and further develop the NiWest Project. However, there is no certainty that the Company can raise funding when required.*

## **Forward Looking and Cautionary Statements**

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

*Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current exploration activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of nickel and cobalt and other metals; possible variations of ore grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the mining industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities. This list is not exhaustive of the factors that may affect or forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.*

*Statements regarding plans with respect to the Company’s mineral properties may contain forward-looking statements in relation to future matters that can only be made where the Company has a reasonable basis for making those statements. Competent Person Statements regarding plans with respect to the Company’s mineral properties are forward looking statements. There can be no assurance that the Company’s plans for development of its mineral properties will proceed as expected. There can be no assurance that the Company will be able to confirm the presence of mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of the Company’s mineral properties.*



# NiWest Nickel / Cobalt Project Pre-Feasibility Study Overview August 2018



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# Executive Summary

The NiWest PFS has confirmed the technical and financial robustness of a long-life operation directly producing high-purity nickel and cobalt sulphate products to be delivered into the forecast rapid growth of lithium-ion battery raw material markets.

The PFS presents a stand-alone development pathway for the NiWest Project that incorporates detailed consideration of:

- The results from the metallurgical test work and engineering conducted on the NiWest Project by GME over the past five years;
- A review of the various studies conducted by other nickel-cobalt laterite industry participants and the history of underperforming/failed High Pressure Acid Leach (HPAL) laterite nickel developments over the past 20 years; and
- A review of the nickel and cobalt supply/demand outlooks, including the emerging battery raw materials demand from the EV market.

The selected processing route for the PFS involves heap leaching of NiWest ores followed by Pregnant Leach Solution (PLS) neutralisation, Direct Solvent Extraction (DSX) and product crystallisation to produce nickel sulphate hexahydrate ( $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ ) and cobalt sulphate heptahydrate ( $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$ ).

It is noteworthy that successful heap leaching of similar ores has previously been undertaken, at a commercial scale, at the nearby Murrin Murrin Operations. The choice of DSX, validated by extensive prior metallurgical test work, also presents a highly efficient and cost effective pathway to directly produce the nickel and cobalt products specifically sought-after by the high-growth EV battery manufacturing market.

The chosen flowsheet and end product strategy is, in GME's opinion, the most attractive processing and refining approach after taking into account NiWest's specific ore characteristics combined with the technical and operating risks, relative capital intensity and final product value of various flowsheet and end product alternatives.

The PFS has been completed to an overall accuracy of +/- 30%.

## Key Parameters and Economic Outcomes

**Table 1** outlines the key physical parameters of the NiWest PFS.

**Table 1: Key Physical Parameters**

Physical Parameters	Unit	First 15 years	Total
Construction and Ramp-up			
Construction period (incl. 6 months mining)	months	na	24
Heap pad and plant ramp-up phase	months	na	20
Mining			
Mining activities	years	15	20
Ore mined	Mt	54.0	64.9
Waste mined	Mt	115.2	132.9
Strip ratio	waste : ore	2.1	2.0
Processing			
Ore processed	Mt	36.0	64.9
Processing life	years	15.0	27.1
Nickel head grade	% Ni	1.05	0.91
Cobalt head grade	% Co	0.071	0.058
Steady-state nickel recovery	%	79	79
Steady-state cobalt recovery	%	85	85
Contained nickel produced	kt	288	456
Nickel sulphate produced (99.95% purity)	kt	1,290	2,044
Contained cobalt produced	kt	21.0	31.4
Cobalt sulphate produced (>99.9% purity)	kt	99.9	149.9

The PFS projects a 27-year production life at nameplate ore throughput of 2.4Mtpa resulting in total production of 456kt nickel (in nickel sulphate) and 31.4kt cobalt (in cobalt sulphate). Forecast steady-state nickel and cobalt recoveries are 79% and 85% respectively. Average annual production over the first 15 years is expected to be 19.2ktpa nickel and 1.4ktpa cobalt.

**Table 2** outlines the key financial outcomes of the NiWest PFS.

All projected returns are based on life-of-mine price estimates of US\$8.00/lb nickel (includes a US\$0.75/lb sulphate premium) and US\$25/lb cobalt (zero sulphate premium). The A\$/US\$ exchange rate assumption is 0.75.

Estimated post-tax NPV<sub>8%</sub> is A\$791M and post-tax internal rate of return (IRR) is 16.2%. The equivalent pre-tax values are A\$1,390M and 21.2%, respectively. Forecast payback period (pre-tax) is 4.4 years.

Projected net free cashflow (post all capital expenditure and tax) is A\$3,342M and peaks on an annual basis at approximately A\$250M in Years 7 and 8.

**Table 2: Key Financial Outcomes**

Financial Outcomes	Unit	Total
Price Inputs		
Realised contained nickel price (in sulphate)	US\$/lb	8.00
Realised contained cobalt price (in sulphate)	US\$/lb	25.00
A\$/US\$ exchange rate	US\$	0.75
Valuation, Returns and Key Ratios		
NPV <sub>8%</sub> (pre-tax, ungeared)	A\$M	1,390
NPV <sub>8%</sub> (post-tax, ungeared)	A\$M	791
IRR (pre-tax, ungeared, real basis)	%	21.2
IRR (post-tax, ungeared, real basis)	%	16.2
Payback period (pre-tax)	Years	4.4
Pre-production capital intensity	US\$/lb pa capacity	19.5
NPV <sub>8%</sub> (pre-tax) / Pre-production capex	ratio	1.4
Project life / Payback (pre-tax)	ratio	6.1
Cashflow Summary		
Nickel sulphate revenue	A\$M	10,730
Cobalt sulphate revenue	A\$M	2,309
<b>Total revenue</b>	<b>A\$M</b>	<b>13,039</b>
Site operating costs	A\$M	-5,859
Product distribution costs	A\$M	-369
Royalties – State and private	A\$M	-429
<b>Project operating surplus</b>	<b>A\$M</b>	<b>6,381</b>
Pre-production capital expenditure	A\$M	-966
LOM sustaining capital expenditure	A\$M	-582
<b>Project free cashflow (pre-tax)</b>	<b>A\$M</b>	<b>4,833</b>
Tax paid	A\$M	-1,490
<b>Project net cashflow (post-tax)</b>	<b>A\$M</b>	<b>3,342</b>
Unit Cash Operating Costs		
Net operating costs (post Co credits)	A\$/lb cont Ni	4.32
Net operating costs (post Co credits)	US\$/lb cont Ni	3.24
Net operating costs - first 15 years	US\$/lb cont Ni	3.00
All-in-sustaining cost (AISC)	US\$/lb cont Ni	3.68
All-in-sustaining cost (AISC) - first 15 yrs	US\$/lb cont Ni	3.48

*Note: Throughout this report all dollar figures are expressed in Australian Dollars (AUD or A\$) and all tonne references are to dry metric tonnes, unless otherwise noted.*

The average life of mine cash unit operating cost (post royalties and cobalt credits) is US\$3.24/lb contained nickel (US\$3.00/lb for the first 15 years). All-in sustaining cost (AISC), inclusive of all sustaining capital expenditure, is US\$3.68/lb contained nickel (US\$3.48/lb for the first 15 years).



## Geology and Mineral Resource

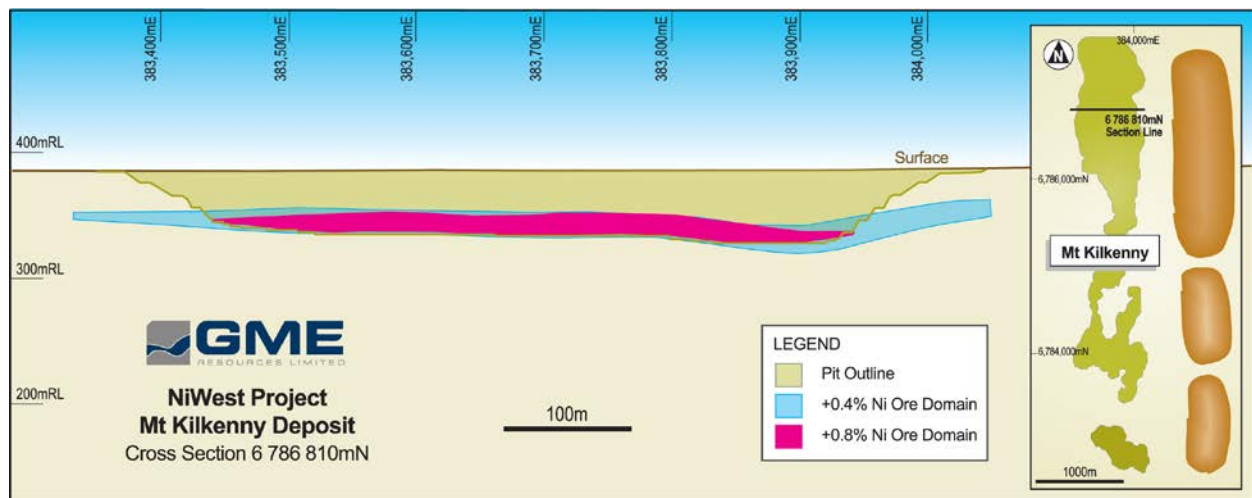
The Ni-Co mineralisation within the Murrin Domain has formed as supergene, blanket-style deposits from in-situ, lateritic weathering of serpentinised, olivine-rich peridotites.

The typical regolith/nickel laterite profile from surface within the Murrin district is comprised of:

- A thin veneer of **ferricrete, siliceous capping or colluvium cover** (the Mt Kilkenny deposit is an exception with up to 35 metres of colluvium at its northern end).
- **Ferruginous Zone** – Dominated by iron rich clays, high-grade Ni (i.e. 0.8 to 4.5% Ni) and Co in lower portions of this zone; Co associated with localized manganese oxide occurrences.
- **Smectite Zone** – Dominant clay is Nontronite (i.e. Smectite Group); high-grade Ni ore is typically hosted within the upper portions.
- **Saprolite Zone** – Dominant clay is saponite with localised magnesite and silica clumps; generally hosts low to moderate Ni laterite grades.
- **Saprock** – Weathered bedrock with less than 20% clay; laterite Ni grades generally <0.4%.

Mineralisation is laterally extensive, up to several kilometres long and 750 metres wide, with typical thicknesses of 5 to 30 metres. Localised thicknesses of up to 60 metres tapering at depth have been delineated (refer to **Figure 1**).

**Figure 1: Mt Kilkenny Cross-Section**



The updated Mineral Resource estimate for the NiWest Project is 85.2Mt at 1.03% Ni and 0.065% cobalt (0.8% Ni cut-off, refer **Table 3**).

**Table 3: Mineral Resource Estimate for NiWest Project at 0.8% Ni Cut-off Grade**

JORC Classification	Tonnes (M)	Ni Grade (%)	Co Grade (%)	Ni Metal (kt)	Co Metal (kt)
Measured	15.2	1.08	0.064	165	9.8
Indicated	50.4	1.04	0.068	527	34.5
Inferred	19.5	0.95	0.057	186	11.0
Total*	85.2	1.03	0.065	878	55.4

\*Columns may not total exactly due to rounding errors. Tonnages are reported as dry tonnage

The update follows a review of the geological models of the three deposits incorporated in the PFS, namely Mt Kilkenny, Eucalyptus and Hepi, with the objective of refining the domaining of the nickel and cobalt mineralisation. The Mertondale, Murrin North, Waite Kauri and Wanbanna models remain unchanged from those released to the ASX on 21 February 2017.

The updated Mineral Resource estimate for solely those deposits that are the subject of the PFS (Mt Kilkenny, Eucalyptus and Hepi) is 67.0Mt at 1.04% Ni and 0.065% cobalt (0.8% Ni cut-off, refer **Table 4**).

**Table 4: Mineral Resource Estimates for Mt Kilkenny, Eucalyptus and Hepi at 0.8% Ni Cut-off**

Deposit	JORC Classification	Tonnes (M)	Ni Grade (%)	Co Grade (%)	Ni Metal (kt)	Co Metal (kt)
Mt Kilkenny	Measured	8.8	1.11	0.063	98	5.6
	Indicated	12.7	1.09	0.079	138	10.0
	Inferred	4.5	0.98	0.051	44	2.3
	Sub-total*	26.0	1.08	0.069	279	17.9
Eucalyptus	Indicated	23.7	1.04	0.064	247	15.3
	Inferred	12.8	0.95	0.056	121	7.1
	Sub-total*	36.5	1.01	0.061	368	22.4
Hepi	Measured	1.6	1.20	0.078	19	1.2
	Indicated	1.5	1.01	0.073	15	1.1
	Inferred	1.5	0.95	0.074	14	1.1
	Sub-total*	4.5	1.06	0.075	48	3.4
Total	Measured	10.4	1.12	0.066	117	6.8
	Indicated	37.9	1.05	0.070	400	26.4
	Inferred	18.7	0.96	0.056	178	10.4
	<b>Total*</b>	<b>67.0</b>	<b>1.04</b>	<b>0.065</b>	<b>695</b>	<b>43.6</b>

\*Columns may not total exactly due to rounding errors. Tonnages are reported as dry tonnage

At a 0.8% Ni grade cut-off approximately 74% of the contained nickel in the PFS Mineral Resource estimate is classified in the Measured and Indicated categories.

### Ore Reserve and Mine Scheduling

The Maiden Ore Reserve estimate for the NiWest Project is 64.9Mt at 0.91% Ni and 0.06% Co (for 592kt contained nickel and 38kt contained cobalt). This is based on a 0.5% Ni cut-off grade (refer **Table 5**).

**Table 5: NiWest Project Ore Reserve Estimate (at 0.5% Ni Cut-off Grade)**

Orebody	JORC Classification	Tonnes (M)	Ni Grade (%)	Co Grade (%)
Mt Kilkenny	Probable	27.9	0.96	0.06
Eucalyptus	Probable	32.2	0.87	0.05
Hepi	Probable	4.7	0.91	0.06
<b>Total*</b>	<b>Probable</b>	<b>64.9</b>	<b>0.91</b>	<b>0.06</b>

\*Columns may not total exactly due to rounding errors. Tonnages are reported as dry tonnage

The NiWest Ore Reserve estimate includes a high grade (>0.8% Ni cut-off) component of 41.2Mt at 1.06% Ni and 0.07% Co (refer to **Table 14**). Mining and processing/refining of this high-grade component predominantly occurs during the first 15 years of NiWest operating life.

Commencement of mining activities is scheduled approximately six months prior to first heap stacking operations (commencement of processing). Mining is expected to be via conventional truck and shovel operations that are almost entirely free dig with only ferruginous capping requiring drilling and blasting.

Approximately 65Mt of ore and 133Mt of waste material is scheduled to be mined over a mining activity life of approximately 20 years (refer **Figure 2**). The life-of-mine average strip ratio is 2.0. Annual material movement is approximately 15Mtpa in Years 1-6, before dropping to around 8Mtpa for much of the remainder of mining operations.

Figure 2: Consolidated Mining Schedule

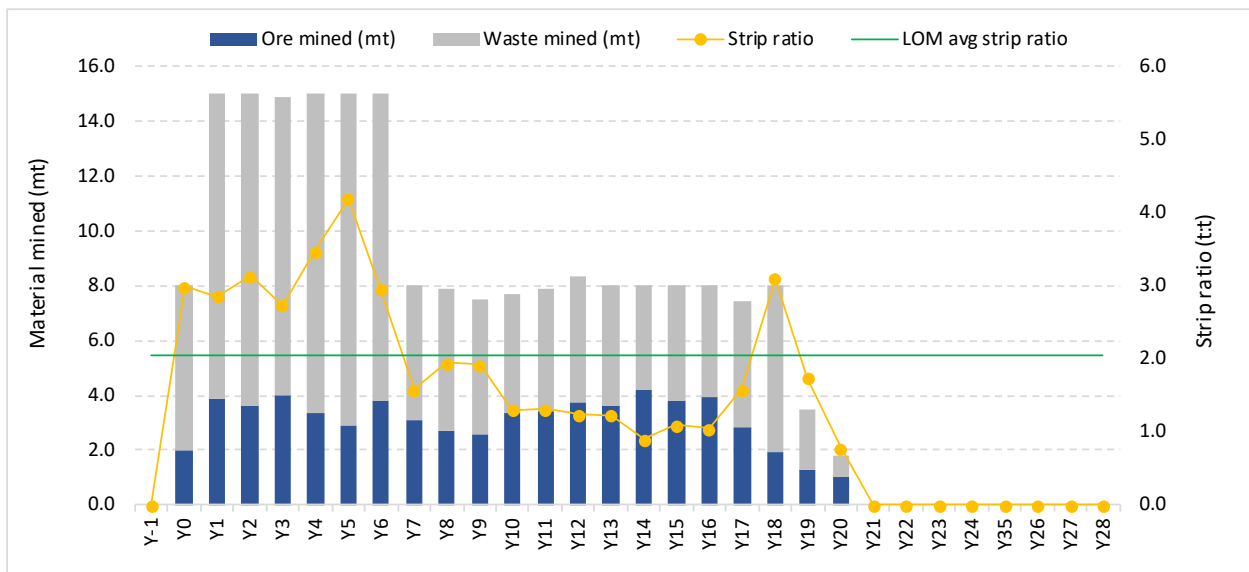
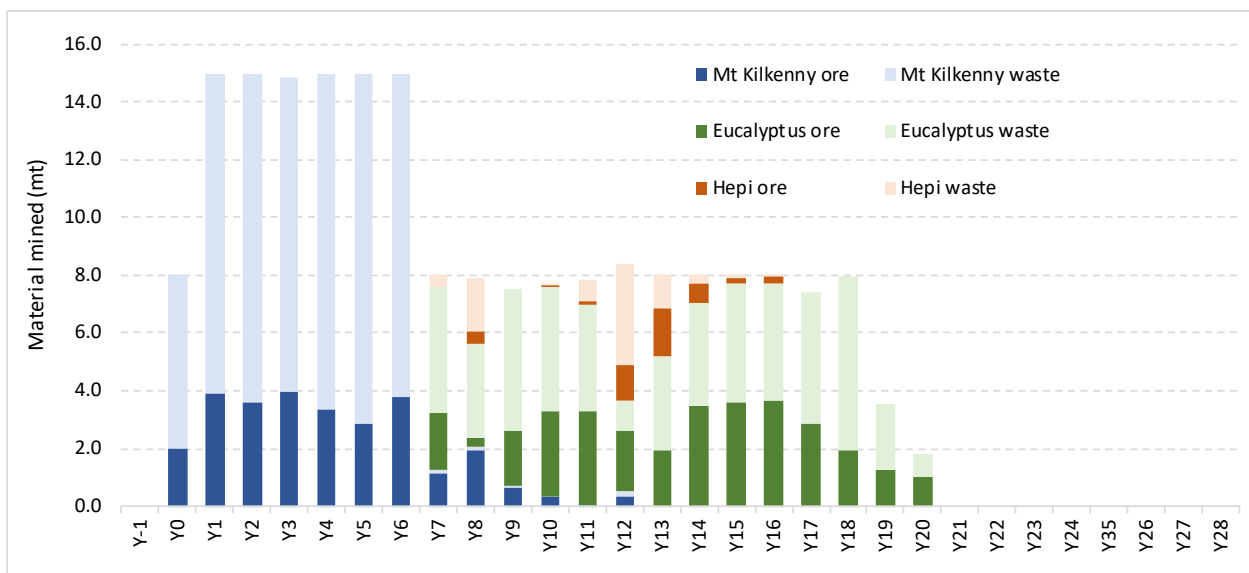


Figure 3 depicts ore and waste mining activity by deposit. Mining is initially focussed solely on the Mt Kilkenny deposit, which is predominantly mined out over the first six years. Mining of the Eucalyptus and Hepi orebodies commences from Year 7 with these ores being trucked approximately 40km and 22km, respectively, to the Mt Kilkenny plant site.

Figure 3: Mining Activity by Deposit



Lower grade ore mined in the earlier years is stockpiled and subsequently reclaimed for treatment in the latter years of NiWest processing life.

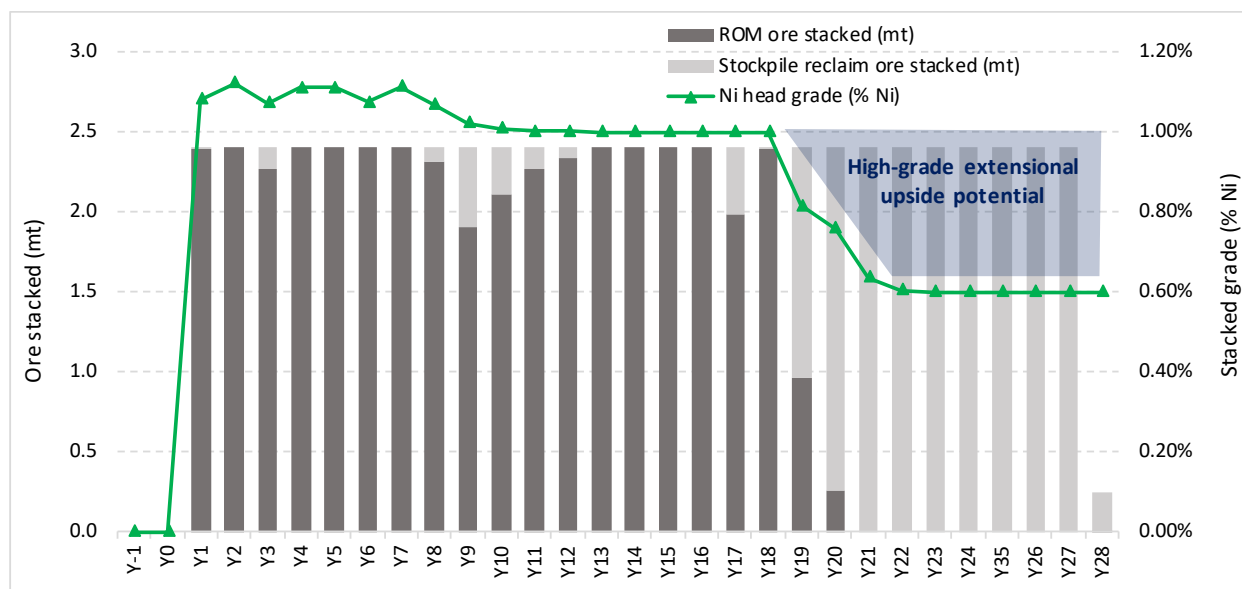
### Metallurgy and Processing

The processing route selected for the NiWest Project is heap leaching followed by neutralisation, impurity removal and highly efficient Direct Solvent Extraction (DSX) and crystallisation to produce nickel and cobalt sulphate products.

The heap leach design is a function of previous column test work on NiWest ore combined with the learnings from all publicly available data in relation to the successful heap leach operations previously conducted at the nearby Murrin Murrin Operations. Projected leach recoveries (81% nickel and 87% cobalt) and residence time (210 days) were optimised by the decision to adopt 2 metre heap heights. Forecast average sulphuric acid consumption is 470kg per tonne of NiWest ore through the full process (with 450kg per tonne attributable to the heap leaching operations).

As a function of the accelerated mining profile and stockpiling of lower grade ore in earlier years, stacked nickel head grade is forecast to be maintained above 1.0% Ni (with cobalt averaging almost 0.07%) for the first 18 years of heap leach operations (refer **Figure 4**).

**Figure 4: Heap Leaching Schedule**



Pregnant Leach Solution (PLS) drawn-off the heap operations is processed through a series of hydrometallurgical steps involving PLS neutralisation, impurity removal, DSX and product crystallisation.

All steps in the proposed hydrometallurgical flowsheet were successfully tested as part of the GME metallurgical test work program conducted over the past 18 months (see resultant product in **Figure 5**). Further work is planned during the early stages of the DFS to confirm the hydrometallurgical flowsheet and subsequently undertake further continuous pilot testing and detailed engineering.

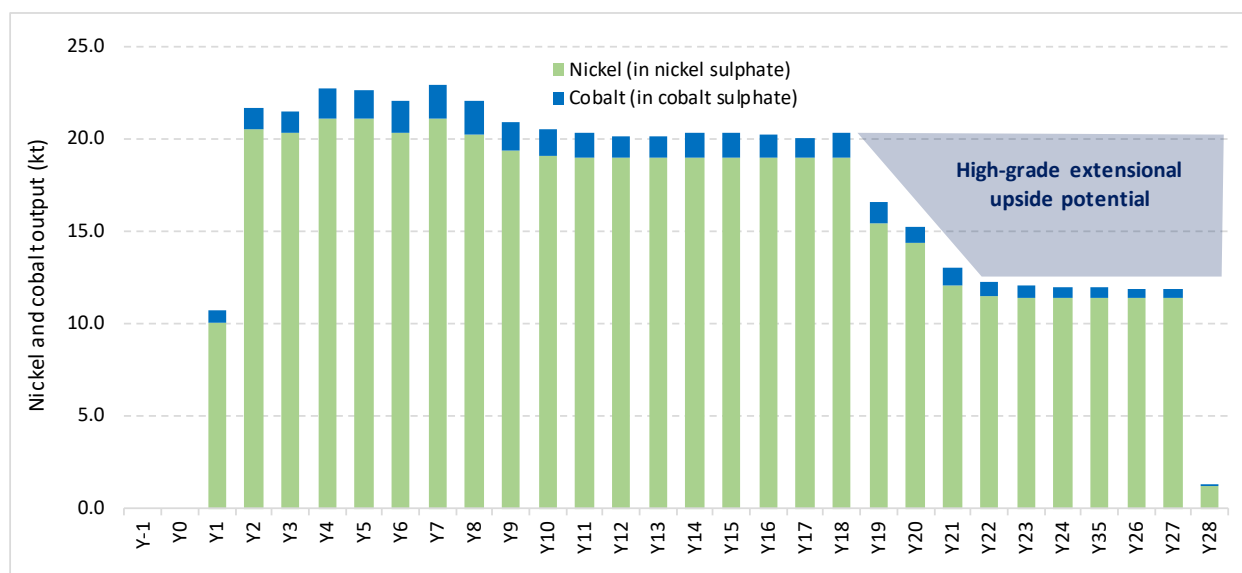
**Figure 5: Nickel sulphate produced from NiWest ore through GME's metallurgical test work program**



Projected overall recoveries of nickel and cobalt (inclusive of 2% refinery losses) are 79% and 85%, respectively.

Forecast nickel and cobalt production from the NiWest Project is shown in **Figure 6**. Nickel output averages 19.2ktpa and cobalt output averages 1.4ktpa for the first 15 years (equating to approximately 86ktpa nickel sulphate hexahydrate and 6.7ktpa cobalt sulphate heptahydrate).

**Figure 6: Refined nickel and cobalt production (contained in sulphates)**



There is also clear opportunity to extend the high-grade feed profile and/or overall operating life at NiWest through potential conversion of Inferred Resources (within the Mt Kilkenny, Eucalyptus and Hepi deposits) and/or inclusion of other known deposits (Mertondale, Murrin North, Wanbanna, Waite Kauri) not currently incorporated in the PFS.

### Infrastructure and Logistics

The project area is well supported with primary infrastructure and has a 20-year history of nickel and cobalt mining operations at the nearby Murrin Murrin Operation.

The regional rail infrastructure extends to the Malcolm siding near Leonora. The Murrin Murrin Operation has been serviced from the siding for the past two decades. An existing commercial airstrip located at Leonora is planned to be utilised to transport fly-in, fly-out personnel to and from the operation.

Major imported consumables, including sulphur, are expected to be shipped via the Esperance Port facility and then trucked to site via existing sealed and unsealed roads. Final saleable nickel and cobalt sulphate products are expected to be trucked to Esperance and then shipped to various customers globally.

Sulphuric acid demand requirements for NiWest are planned to be met by a single-train, 3,300tpd sulphur-burning acid plant. The acid plant will be fitted with a heat recovery system to allow for recovery of excess heat to generate power (via steam turbines) and steam.

All requisite site power and steam demand is expected to be met by the acid plant operation, which is expected to generate approximately 21MW. Standby diesel generators will supply power during emergency periods and acid plant start-up/outage situations.

The NiWest operation is expected to require approximately 6GL of water per annum at nameplate operating capacity. Water supplies are planned to be provided by a combination of dewatering of the Mt Kilkenny deposit, local extraction around the Mt Kilkenny orebody (for which a 2GL extraction licence already exists) and a network of groundwater bores located approximately 15km west of the Mt Kilkenny deposit.

### Environmental and Social Impact Assessment

GME has a longstanding history of engaging proactively and constructively with local stakeholders. Heritage and ethnographic surveys were conducted in 2007 in conjunction with representatives from the Wongatha people. Agreement was reached with the Wongatha people regarding the relocation of 'scatter' sites. No native title claims have been lodged over the NiWest Project licence area.

A considerable body of work has been carried out over an extended period in support of environmental approvals and permitting requirements for the NiWest Project. GME recently engaged environmental consultants, Sustainability Pty Ltd, to conduct a review of the past work and investigations, and determine the environmental baseline studies required in order to obtain approval to develop the NiWest Project. A detailed program, schedule and budget has been compiled and included in the future project schedule.

### Operating Cost Estimate

A breakdown of the operating cost estimate for the NiWest Project is outlined in **Table 6**.

Mining costs include satellite haulage from the Eucalyptus and Hepi deposits, ROM pad and stockpile rehandling costs and waste dump and pit rehabilitation costs. All mining activities are planned to be via contract mining arrangements.

Processing cost is heavily driven by sulphuric acid, and therefore sulphur consumption and delivered cost (55-60% of total processing cost). Other major reagent costs include calcrete, magnesia and caustic soda. In total, variable cost elements (being predominantly reagents) account for over 80% of forecast processing costs.

General and administrative costs include all management/administrative/HSE/general labour costs and other general expenses.

Product distribution costs includes packing in 1 tonne bulka-bags, trucking to Esperance, export through the Esperance Port facility and sea freight to North Asia CFR. Royalties comprise Western Australian State government royalties on nickel and cobalt production plus other private royalties.

**Table 6: Operating Cost Summary**

Item	A\$/t ore processed	A\$/t Ni produced	A\$/lb Ni produced	Proportion of Total (%)
Mining	21.2	3,026	1.37	21
Processing	63.1	9,000	4.08	62
General and admin	5.8	825	0.37	6
Product distribution	5.7	809	0.37	6
Royalties	6.6	943	0.43	6
<b>Total*</b>	<b>102.4</b>	<b>14,601</b>	<b>6.62</b>	<b>100%</b>

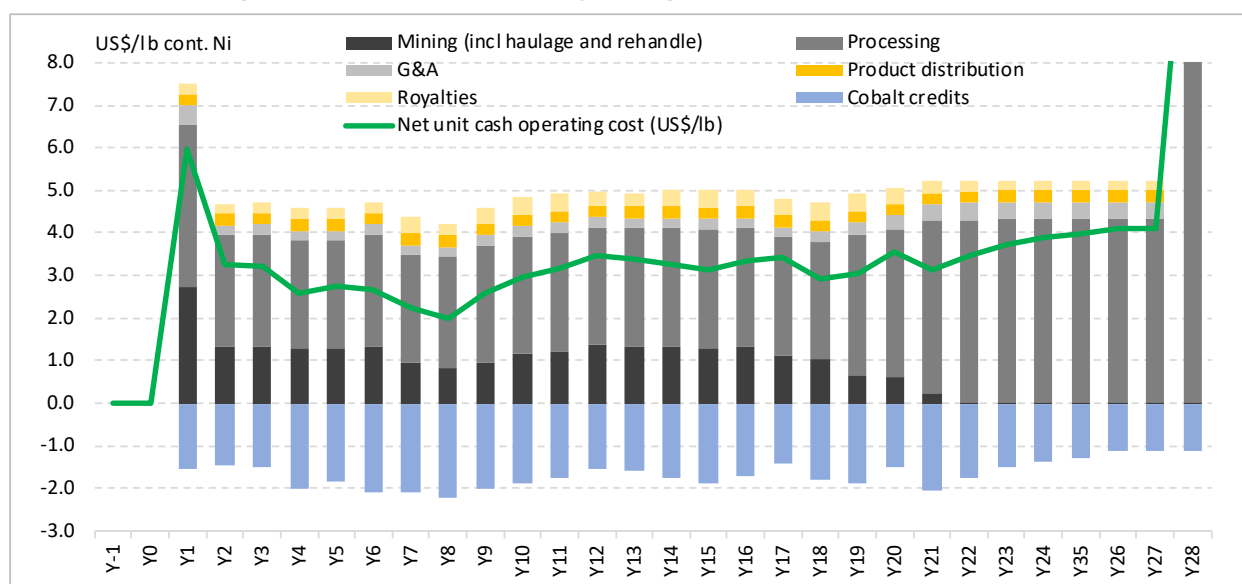
*\*Columns may not total exactly due to rounding errors*

On a life-of mine basis, mining costs (including haulage and ROM/stockpile rehandle) account for approximately 21% of total operating costs (inclusive of royalties). The equivalent proportion for processing costs is approximately 62%. G&A costs, product distribution costs and royalties each account for approximately 5-6%, respectively.

Forecast net unit cash costs (post cobalt credits) average US\$3.24/lb over the life-of-mine (see **Figure 7**). Accelerated mining and processing of higher grade ore in earlier years delivers an equivalent figure of US\$3.00/lb for the first 15 years of processing life (including ramp-up).



**Figure 7: Forecast Unit Cash Operating Costs (US\$/lb contained nickel)**



### Capital Expenditure Estimate

The pre-production capital expenditure estimate for the Project is A\$966M. A summary of the pre-production capital estimate for the proposed mining, processing and on-site refining is provided in **Table 7**.

**Table 7: Pre-Production Capital Expenditure Estimate Summary**

Category	Breakdown	Cost (A\$M)
Direct Costs	Crushing and Heap Leaching	138.0
	Processing	193.7
	Utilities and Reagents (including acid plant)	312.9
	General Infrastructure	42.3
Total Direct Costs		686.8
Indirect Costs	EPCM	72.7
	Owners	9.7
	Other Indirects	76.8
Total Indirect Costs		159.3
Contingency	17.5% of Total Direct Costs	120.2
<b>Total</b>		<b>966.3</b>

Total pre-production capital cost is based on the direct cost of mechanical equipment delivered and installed at site. The cost of the mechanical equipment is based on the mine plan, process flow diagrams, mass balance flows, design criteria and equipment list. The major capital items relate to the acid plant, heap leaching, evaporation pond and main process plant. Budget prices for approximately 75% of equipment items were obtained from vendors.

The estimate has been based on an Engineering Procurement and Construction Management (EPCM) basis. Indirect costs have been allocated including EPCM, owner's costs, and other indirects (mobilisation/demobilisation, heavy cranes, commissioning, operations readiness and first-fills).

**Life-of-mine sustaining capital expenditure** is estimated at A\$582M. This comprises projected general annual sustaining expenditure in addition to specific items such as in-pit residue storage preparations, additional evaporation ponds, acid plant maintenance, satellite haul road construction and mine closure preparations. Total estimated sustaining capital expenditure equates to approximately A\$21.5M or 2.2% of the total pre-production capital estimate on an average annual basis.

## Product Specification, Pricing and Marketing

GME is targeting production of premium, high-purity nickel and cobalt products from the NiWest Project to directly supply the rapidly growing lithium-ion battery market.

Heap leach and DSX flowsheet configuration adopted in the PFS purposefully provides flexibility to tailor final nickel and cobalt products to the specific requirements of Li-ion battery manufacturers. The pilot plant testing conducted to date has confirmed that the various nickel and cobalt products can be produced to the requisite quality.

The PFS is based on producing nickel and cobalt in sulphate forms, namely nickel sulphate hexahydrate ( $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ ) and cobalt sulphate heptahydrate ( $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$ ). The targeted content of nickel and cobalt metal in the sulphate form is extremely high purity at approximately 99.95% and >99.9% by mass, respectively.

The nickel and cobalt price assumptions utilised in the PFS are based on a review of:

- The outlook for nickel and cobalt demand and supply;
- The consensus LME nickel and cobalt pricing forecasts by market analysts; and
- The historical and forecast premium for nickel and cobalt sulphate products.

A life of mine average (real) nickel price of US\$8.00/lb has been assumed based on a consensus long term forecast London Metal Exchange (LME) price range of US\$7.00-7.50/lb and a forecast average US\$0.75/lb premium for the planned sulphate form of the contained nickel product.

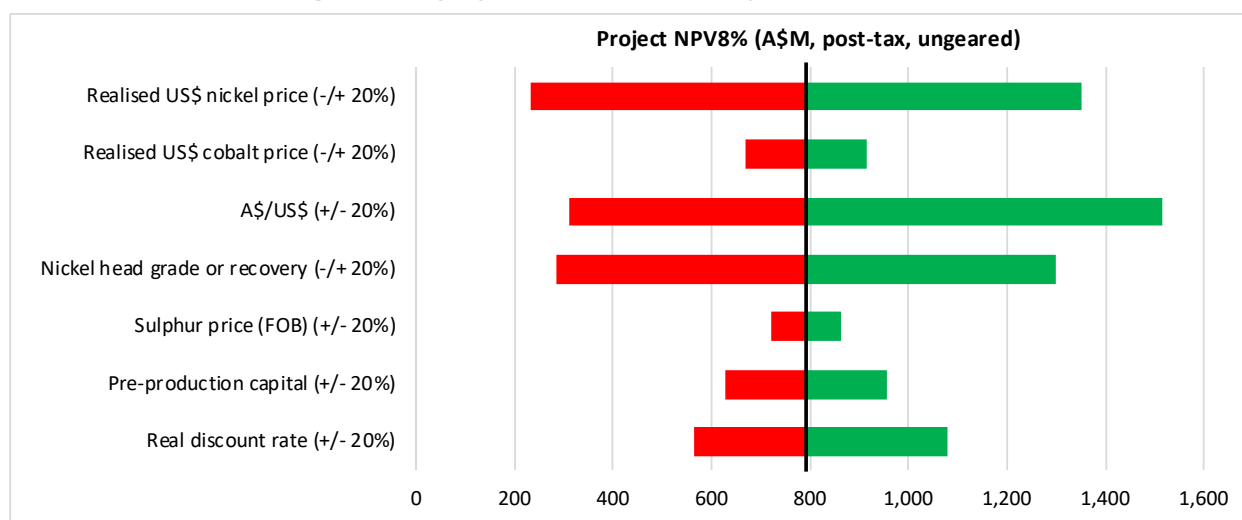
A life of mine average (real) cobalt price of US\$25/lb has been assumed based on a consensus long term forecast London Metal Bulletin (LMB) price range of US\$22-28/lb. No premium has been assumed for the planned sulphate form of the contained cobalt product.

Under these price assumptions, nickel sulphate sales comprise approximately 82% of forecast total NiWest Project revenue, with the remaining 18% being cobalt sulphate sales. On an annual forecast basis the proportion of revenue composed of nickel sulphate sales ranges between 78% and 88%.

## Financial Sensitivity

Projected financial returns from the NiWest Project are most sensitive to realised US\$ nickel price, the A\$/US\$ exchange rate and nickel grade/recovery (refer **Figure 8**).

**Figure 8: Key Input Sensitivities for Project NPV (Post-Tax)**



A 20% increase in the realised US\$ nickel price (from US\$8.00/lb to US\$9.60/lb) increases post-tax NPV to A\$1,351M and post-tax IRR to 21.0%. A corresponding decrease in the US\$ nickel price assumption (to US\$6.40/lb) decreases post-tax NPV to A\$231M and post-tax IRR to 10.6%.



## Project Funding

GME has formed the view that there is a reasonable basis to believe that requisite future funding for development of the NiWest Project will be available when required. There are a number of grounds on which this reasonable basis is established:

- a) There is currently a significant trend of downstream operators in the Electric Vehicle (EV) and Lithium Ion Battery (LiB) sectors looking to secure long term supply of consistently high quality, sustainable and non-conflict nickel and cobalt (in particular) battery raw materials. GME has held preliminary discussions with respect to possible offtake and project funding/ownership with several potential strategic partners. These include international mining companies, trading houses, and battery and automotive manufacturers capable of providing 100% of the financing required to develop the NiWest Project.
- b) The technical and financial parameters detailed in the NiWest Project PFS are highly robust and economically attractive. The NiWest Project is ideally located in a first world country and within the highly established and low-risk mining jurisdiction of Western Australia. Release of these PFS fundamentals also now provides a platform for GME to advance discussions with potential strategic partners, off-takers, debt providers and equity investors.
- c) GME is debt free and owns 100% of the NiWest Project. The Company has an uncomplicated, clean corporate and capital structure. Finally, 100% of the forecast nickel and cobalt sulphate production from the NiWest Project remains uncommitted. These are all factors expected to be highly attractive to potential strategic investors, offtake partners and conventional equity investors. These factors also deliver considerable flexibility in engagement with potential debt or quasi-debt providers.
- d) The GME Board and management team is highly experienced in the broader resources industry. They have played leading roles previously in the exploration and development of several large and diverse mining projects in Australia and Africa. In this regard, key GME personnel have a demonstrated track record of success in identifying, acquiring, defining, funding, developing and operating quality mineral assets of significant scale.
- e) Funding for NiWest Project pre-production and initial working capital is not expected to be required until close to or post completion of a Definitive Feasibility Study (DFS) on the Project. Finalisation of a DFS on the NiWest Project is not expected before the September 2020 quarter. The majority of market analysts/commentators globally forecast demand for high quality nickel and cobalt battery raw materials, and in particular Class 1 nickel product prices, to continue to increase from their current levels over the intervening period.

## Key Risks

The following key risks have been identified as part of the broader PFS risk assessment process:

- Nickel sulphate market – future product specification, demand and price dynamics
- Heap leaching performance – actual nickel recovery and acid consumption level
- DSX performance – commercial scale operation and product specifications
- Sulphur price – the key reagent and operating cost component
- Calcrete price – second-largest operating cost component
- Development funding – future availability and cost

A key aspect of PFS risk assessment and mitigation has been review of the large-scale Murrin Murrin Operations approximately 20km northwest of the NiWest Mt Kilkenny deposit.

Murrin Murrin was commissioned in 1998 and has produced effectively continuously over the subsequent 20 years. It also operated a commercial heap leach operation from 2006 until 2012 extracting nickel and cobalt in solution from scats and run-of-mine laterite ore. The Murrin Murrin and NiWest orebodies are located in the same regional and local geology.

GME has logically and to the extent possible drawn on publicly available information on Murrin Murrin to complement the geological, mining, metallurgical and engineering studies it has conducted prior to and during

the PFS process. This comparative is particularly beneficial to GME in that it provides empirical data to compare with the results of the various specialist studies conducted as part of the PFS.

## Value Engineering Opportunities

The PFS has identified a number of value engineering opportunities that have the potential to improve NiWest project economics significantly.

These opportunities will be assessed in more detail over coming months and include:

1. **Inferred Resources (within the Mt Kilkenny, Eucalyptus and Hepi deposits) and other known deposits (Mertondale, Murrin North, Wanbanna, Waite Kauri) not considered in the PFS:** Potential further drilling and incorporation to extend initial high-grade feed life and/or overall operating life.
2. **Heap leaching optimisation:** Reduce evaporation losses, reduce acid consumption, reduce size of acid plant, reduce heap leach pad footprint, reduce DSX volumetric flow.
3. **By-product options:** Other leached minerals which could be recovered and bolster revenue whilst also reducing waste volume (scandium, manganese incl. battery precursor potential, magnesium sulphate).
4. **Acid plant cost:** Lower cost sourcing and delivery arrangements.
5. **Ore feed schedule:** Dynamic optimisation and flexing of mine and process scheduling across acid consumption, and nickel and cobalt recovery.
6. **Cobalt sulphate flowsheet:** Alternate lower capital and operating cost options available.

## Next Steps

Prior to commencing a Definitive Feasibility Study (DFS) on the NiWest Project, GME intends to undertake wider and more intensive period of engagement with potential strategic partner/offtake parties. This process will build on preliminary discussions already held and is targeted at a comprehensive and robust assessment of the broad range of potential ownership, development and funding structures available to GME and the NiWest Project.

Concurrent activities to be undertaken during this period include:

- Delineation of planned DFS scope and workstreams;
- Deep end-market evolution analysis;
- Assessment of value engineering opportunities delivered via the PFS; and
- Commencement of critical-path environmental study work.

**Figure 9** outlines the indicative progression schedule for the NiWest Project following release of the PFS.

**Figure 9: Indicative Project Development Schedule**

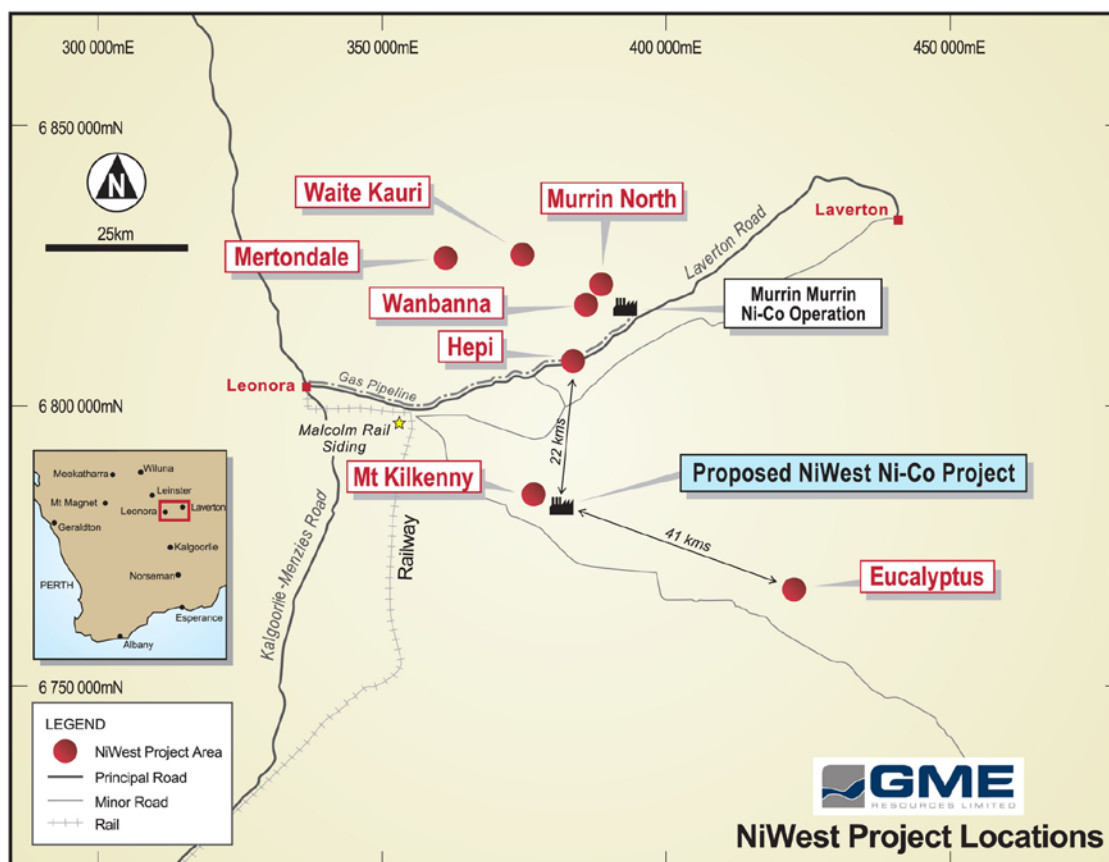


The forecast Project construction period is 24 months from Final Investment Decision (FID), which is indicatively forecast at 30 months from PFS release. The forecast commissioning and plant ramp-up phase extends for approximately 20 months from completion of Project construction.

# Introduction

The NiWest Nickel-Cobalt Project is located adjacent to Glencore's Murrin Murrin Operation in the North Eastern Goldfields of Western Australia. The project is situated in a semi-arid region that is well serviced with existing infrastructure such as rail, arterial bitumen roads and nearby established mining towns.

**Figure 10: NiWest Project Location**



Past feasibility work has focussed on examining various processing routes, including high pressure acid leach (HPAL), atmospheric leach (AL) and heap leaching (HL). Recent significant advances in heap leaching, notably at the large copper projects in South America, have led to a resurgence in the evaluation of heap leaching in pursuit of a low technical risk and competitive capital intensity alternative to the more risky and capital intensive HPAL and AL options. Nickel majors Vale and BHP have investigated heap leaching and Glencore successfully operated a full scale heap leach at Murrin Murrin for several years. Technical evaluation and metallurgical test work on the NiWest Project has also more recently focussed on developing a simple, cost effective and flexible flowsheet to deliver high-purity nickel and cobalt products to service the rapidly growing Electric Vehicle (EV) battery minerals market.

To that end, GME engaged Prudentia Process Consulting to undertake a PFS between July 2017 and July 2018 based on a dynamic on/off heap leach, PLS neutralisation and DSX flowsheet.

## Regional Nickel Cobalt Operations

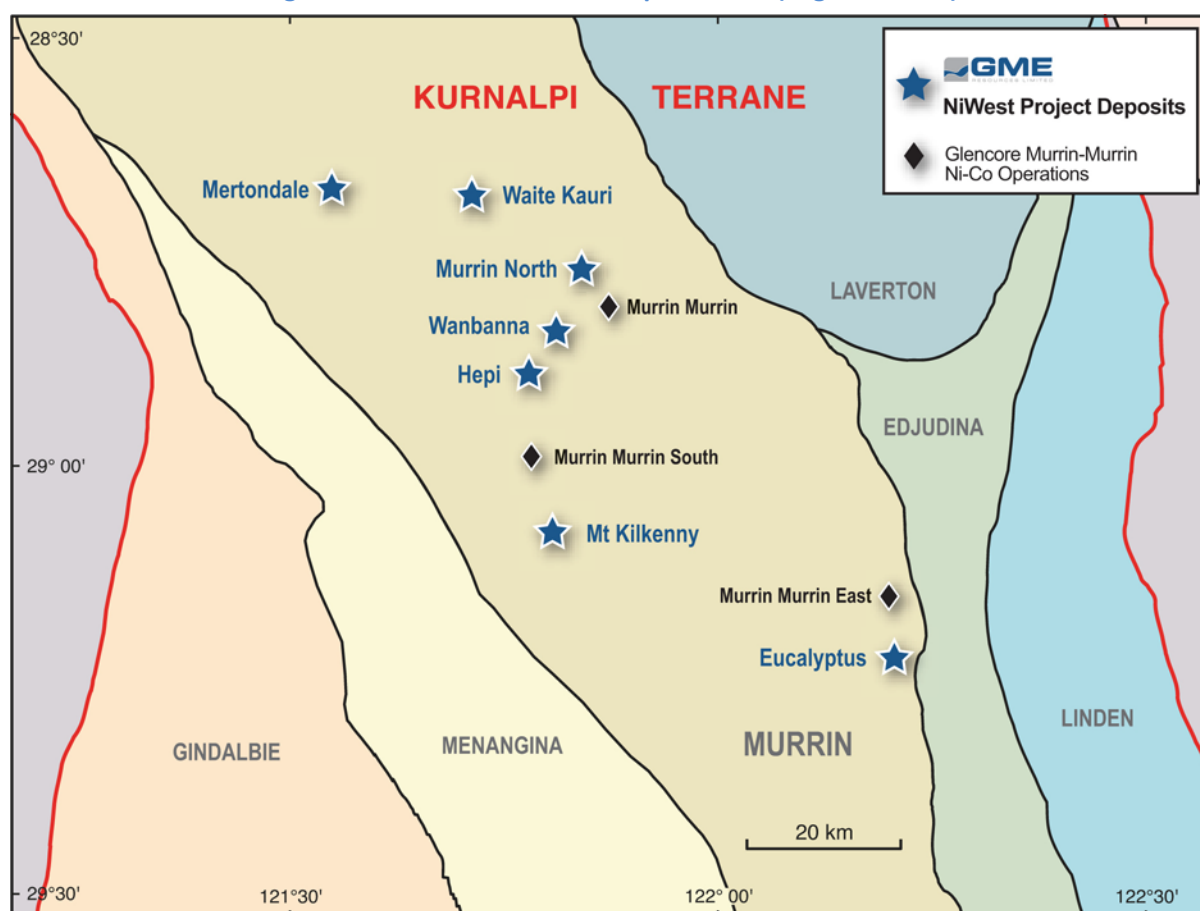
The Murrin Murrin and NiWest orebodies are located in the same regional and local geology and hence GME has to the extent possible, drawn on publicly available information on the Murrin Murrin Operation to complement the metallurgical and engineering studies conducted. This experience is particularly beneficial to GME in that it provides empirical data to compare with the results of the various geological, mining and metallurgical studies conducted as part of the PFS. Murrin Murrin was commissioned in 1998 and has in the subsequent 20 years produced up to approximately 45,000 tonnes of nickel and 2,000 tonnes of cobalt annually. It also operated a heap leach process facility from 2006 until 2012.

# Geology and Mineral Resource

## Regional and Local Geology

NiWest's Nickel-Cobalt Projects lie within the Murrin Domain of the Kurnalpi Terrane which is part of the Eastern Goldfields Superterrane, Yilgarn Craton of Western Australia. NiWest's Ni-Co deposits and Glencore's Murrin Murrin Ni-Co operations (MMO) are all hosted within the Murrin Domain. These deposits are hosted either within ultramafic rock units of the Murrin Murrin Formation or their unassigned rock unit equivalence. The Murrin Murrin Formation consists of komatiitic basalts associated with layered mafic-ultramafic olivine cumulates (i.e. Peridotites) and felsic volcanoclastic rocks

Figure 11: Eastern Goldfields Superterrane (Yilgarn Craton)



After Groenewald and Others (GSWA Record 2006/11)

The Ni-Co mineralisation within the Murrin Domain has formed as supergene, blanket-style deposits from in-situ, lateritic weathering of serpentinised, olivine-rich peridotites. Mineralisation is laterally extensive, up to several kilometres long and 750 metres wide with typical thicknesses of 5 to 30 metres. Localised thicknesses of up to 60 metres tapering at depth have been delineated. The typical regolith/nickel laterite profile within the Murrin district from surface is comprised of:

- A thin veneer of **ferricrete, siliceous capping or colluvium Cover**. Mt Kilkeny deposit is an exception with up to 35 metres of colluvium at its northern end.
- **Ferruginous Zone** – Dominated by iron rich clays, high-grade Ni (i.e. 0.8 to 4.5% Ni) and Co in lower portions of this zone. Co associated with localized manganese oxide occurrences.
- **Smectite Zone** – Dominant clay is Nontronite (i.e. Smectite Group), high-grade Ni ore is typically hosted within the upper portions.
- **Saprolite Zone** – Dominant clay is saponite with localized magnesite & silica clumps. Generally hosts low to moderate Ni laterite grades.
- **Saprocks** – Weathered bedrock with less than 20% clay. Laterite Ni grades generally <0.4%.

## Resource Modelling

GME engaged the services of Golder Associates to update the Mineral Resource estimates for the Mt Kilkenny, Eucalyptus and Hepi deposits. These resource updates:

- Are based on the same drilling data as the previous models (ASX release 21 Feb 2017),
- Incorporated recommendations from previous studies including generation of a 3D geology model of the deposit regolith and proto bedrock,
- Refined local grade trends through the use of unfolding techniques constrained within each regolith domain, and
- Applied improved low and high-grade domains for nickel and independent domains for cobalt leading to improved accuracy in geometry and grade estimates.

Geological models were produced from surface mapping, aeromagnetic survey images and drill hole data. Leapfrog software was used to generate 3D interpretation of lithology units, regolith profile and mineralised domains for nickel and cobalt.

Ordinary Kriging was used to estimate nickel, cobalt and other elements into the block models using Golder proprietary software. Nickel and cobalt were estimated independently using separate domain boundaries. Multiple pass estimates with varying search sizes were applied to account for the variable drill spacing over the deposits.

Tonnage estimates were based on an assumed bulk density of 1.25 t/m<sup>3</sup>. No bulk density measurements have been taken and the value is based on values used in nearby operations (Murrin Murrin) and is typical for saprolitic laterite material in the Leonora Region.

The previous resource estimates (refer ASX release 21 February 2017) used Uniform Conditioning (UC) to estimate the recoverable resource based on a selective mining scenario. This methodology was selected to address the overestimation of low-grade mineralisation and underestimation of high-grade mineralisation in prior models. Changes in the domaining in the updated models has addressed this issue and obviated the need to apply UC to the ordinary kriged models.

## Mineral Resource Estimate - NiWest Project

The updated NiWest Mineral Resource Estimate is 85.2 million tonnes at 1.03% Ni and 0.065% cobalt (0.8% Ni cut-off). Refer to **Table 8**.

**Table 8: Mineral Resource Estimate for NiWest Project at 0.8% Ni Cut-off Grade**

JORC Classification	Tonnes (million)	Nickel Grade (%)	Cobalt Grade (%)	Nickel Metal (kt)	Cobalt Metal (kt)
Measured	15.2	1.08	0.064	165	9.8
Indicated	50.4	1.04	0.068	527	34.5
Inferred	19.5	0.95	0.057	186	11.0
<b>Total*</b>	<b>85.2</b>	<b>1.03</b>	<b>0.065</b>	<b>878</b>	<b>55.4</b>

*\*Columns may not total exactly due to rounding errors. Tonnages are reported as dry tonnage*

The update follows a review of the geological models of the three deposits incorporated in the PFS, namely Eucalyptus, Hepi and Mt Kilkenny, with the objective of refining the domaining of the nickel and cobalt mineralisation. The Mertondale, Murrin North, Waite Kauri and Wanbanna models remain unchanged from that released to the ASX on 21 February 2017.

The summary of the NiWest Mineral Resource Estimate at a 0.8% Ni cut-off is presented in **Table 9**.

**Table 9: Mineral Resource Estimate for NiWest Project at 0.8% Ni Cut-off Grade**

Deposit	Tonnes (million)	Nickel Grade (%)	Cobalt Grade (%)	Nickel Metal (kt)	Cobalt Metal (kt)
Eucalyptus <sup>1</sup>	36.5	1.01	0.061	368	22.4
Hepi <sup>1</sup>	4.5	1.06	0.075	48	3.4
Mt Kilkenny <sup>1</sup>	26.0	1.08	0.069	279	17.9
Mertondale <sup>2</sup>	1.9	0.98	0.07	18	1.3
Murrin North <sup>2</sup>	3.7	0.97	0.062	35	2.3
Waite Kauri <sup>2</sup>	1.8	0.98	0.054	18	1.0
Wanbanna <sup>2</sup>	10.8	1.03	0.066	111	7.2
<b>Total*</b>	<b>85.2</b>	<b>1.03</b>	<b>0.065</b>	<b>878</b>	<b>55.4</b>

\*Columns may not total exactly due to rounding errors. Tonnages are reported as dry tonnage

Note 1: ASX release 2 August 2018

Note 2: ASX release 21 February 2017

#### PFS – Eucalyptus / Hepi / Mt Kilkenny

The NiWest PFS is based on the Mt Kilkenny, Eucalyptus and Hepi deposits only. The updated Mineral Resource Estimate for these areas is 67 million tonnes at 1.04% Ni and 0.065% Co (0.8% Ni cut-off). Refer to **Table 10**.

**Table 10: Mineral Resource Estimates for Mt Kilkenny, Eucalyptus and Hepi at 0.8% Ni Cut-off**

Deposit	JORC Classification	Tonnes (million)	Ni Grade (%)	Co Grade (%)	Ni Metal (kt)	Co Metal (kt)
Mt Kilkenny	Measured	8.8	1.11	0.063	98	5.6
	Indicated	12.7	1.09	0.079	138	10.0
	Inferred	4.5	0.98	0.051	44	2.3
	Sub-total*	26.0	1.08	0.069	279	17.9
Eucalyptus	Indicated	23.7	1.04	0.064	247	15.3
	Inferred	12.8	0.95	0.056	121	7.1
	Sub-total*	36.5	1.01	0.061	368	22.4
	Measured	1.6	1.20	0.078	19	1.2
Hepi	Indicated	1.5	1.01	0.073	15	1.1
	Inferred	1.5	0.95	0.074	14	1.1
	Sub-total*	4.5	1.06	0.075	48	3.4
	Measured	10.4	1.12	0.066	117	6.8
Total	Indicated	37.9	1.05	0.070	400	26.4
	Inferred	18.7	0.96	0.056	178	10.4
	Sub-total*	67.0	1.04	0.065	695	43.6
	<b>Total*</b>	<b>67.0</b>	<b>1.04</b>	<b>0.065</b>	<b>695</b>	<b>43.6</b>

\*Columns may not total exactly due to rounding errors. Tonnages are reported as dry tonnage

At a 0.8% Ni grade cut-off, approximately 74% of the contained metal in the PFS Mineral Resource Estimate is classified in the Measured and Indicated categories. Typical mineralisation occurs between surface and 50 metres depth as a sub horizontal layer, 5 to 30 metres in thickness and 100 to 400 metres wide.

Mineral Resource classification considered a number of factors including quality of the input data, geological interpretation and the grade continuity. Estimation resource classification was assessed based primarily on the estimation pass and drill hole spacing of higher confidence drilling. Measured classification was applied to areas where there were reasonably continuous zones of blocks estimated in the first pass. This was typically in the area covered by 50m × 50m spaced drilling. Indicated classification was applied to the second pass estimation and is generally the area covered by 50m × 100m spaced drilling.

A comparison of the updated Mt Kilkenny Resource Estimate and the previous estimate (February 2017) are presented in **Table 11**. At 0.8% Ni cut off, the 2018 model predicts lower tonnages but at higher grade. At 1.0% Ni cut-off grade, the 2018 model predicts a higher tonnages at similar or higher grade than the 2017 model. Overall, the Mt Kilkenny Resource Estimate (August 2018) predicts 7-8% more Ni and Co metal at a 0.8% Ni cut-off, and 15-23% more Ni and Co metal at a 1.0% Ni cut-off.



**Table 11: Comparison of Mt Kilkenny Mineral Resource Estimate at 0.8% Ni Cut-off Grade**

	JORC Classification	Cut-off (Ni ppm)	Feb <sup>1</sup> 2017	Aug <sup>2</sup> 2018	Absolute Variance (2018-2017)	% Variance (2018/2017)
Tonnage (Mt)	Measured	8,000	19.8	8.8	-11.0	45
	Indicated		2.9	12.7	9.8	442
	Inferred		1.6	4.5	2.9	288
	TOTAL*		24.2	26.0	1.7	107
Nickel Metal (kt)	Measured	8,000	216.3	98.0	-118.3	45
	Indicated		29.2	137.6	108.4	471
	Inferred		15.2	43.6	28.4	287
	TOTAL*		260.8	279.2	18.5	107
Cobalt Metal (kt)	Measured	8,000	13.9	5.6	-8.3	40
	Indicated		1.7	10.0	8.3	589
	Inferred		0.8	2.3	1.5	282
	TOTAL*		16.5	17.9	1.4	108
Tonnage (Mt)	Measured	10,000	11.0	5.7	-5.3	52
	Indicated		1.2	7.8	6.5	628
	Inferred		0.5	1.7	1.2	330
	TOTAL*		12.7	15.2	2.5	120
Nickel Metal (kt)	Measured	10,000	137.4	69.6	-67.8	51
	Indicated		14.8	93.3	78.5	630
	Inferred		6.1	19.4	13.3	317
	TOTAL*		158.3	182.3	24.0	115
Cobalt Metal (kt)	Measured	10,000	9.0	4.1	-4.9	46
	Indicated		0.8	7.3	6.5	910
	Inferred		0.3	1.1	0.7	318
	TOTAL*		10.1	12.4	2.3	123

\*Columns may not total exactly due to rounding errors. Tonnages are reported as dry tonnage

Note<sup>1</sup>: ASX release dated 21 February 2017

Note<sup>2</sup>: ASX release dated 2 August 2018

## Ore Reserve & Mine Planning

### Overview

GME engaged Perth Mining Consultants to complete a mining study based on the Eucalyptus, Hepi and Mt Kilkenny deposits. Conventional open pit mining is proposed for these near surface deposits. Each of the deposits have a number of pits with maximum depth of approximately 80m. These pits enable low strip ratio mining and are predominantly free digging with only ferruginous capping requiring drilling and blasting.

Mining is assumed to be done by a contractor who will be responsible for the open pit operations. Mining is planned to be done utilising conventional 136t rigid body trucks and 12m<sup>3</sup> excavators along with a fleet of auxiliary equipment. Ore will be delivered directly to the crusher or stockpiled depending on ore presentation and grade requirements with the objective of optimising both the plant feed and the mine operating costs. Mining cost inputs were sourced from a mining contractor. The owner mining costs for mine management and technical services were derived from first principles. The contractor and owner cost assumptions were benchmarked with similar operations.

### Pit Optimisation

Pit optimisations using Whittle software, were carried out on each of the three deposits to define the ultimate pits. A range of pit shells were generated for varying revenue factors. Due to the flat nature of the pit-by-pit NPV graph, revenue factor 1.0 shells were selected for the final pits. **Table 12** summarises the key pit optimisation. Pit optimisations were carried out for Measured and Indicated category resources with separate scenarios inclusive of Inferred material to test pit sensitivity. As the PFS progressed, specific parameters such



as mining costs, processing recoveries and metal prices were further refined. The final parameters utilised are detailed in the relevant respective sections of this report.

**Table 12: Pit Optimisation Parameters**

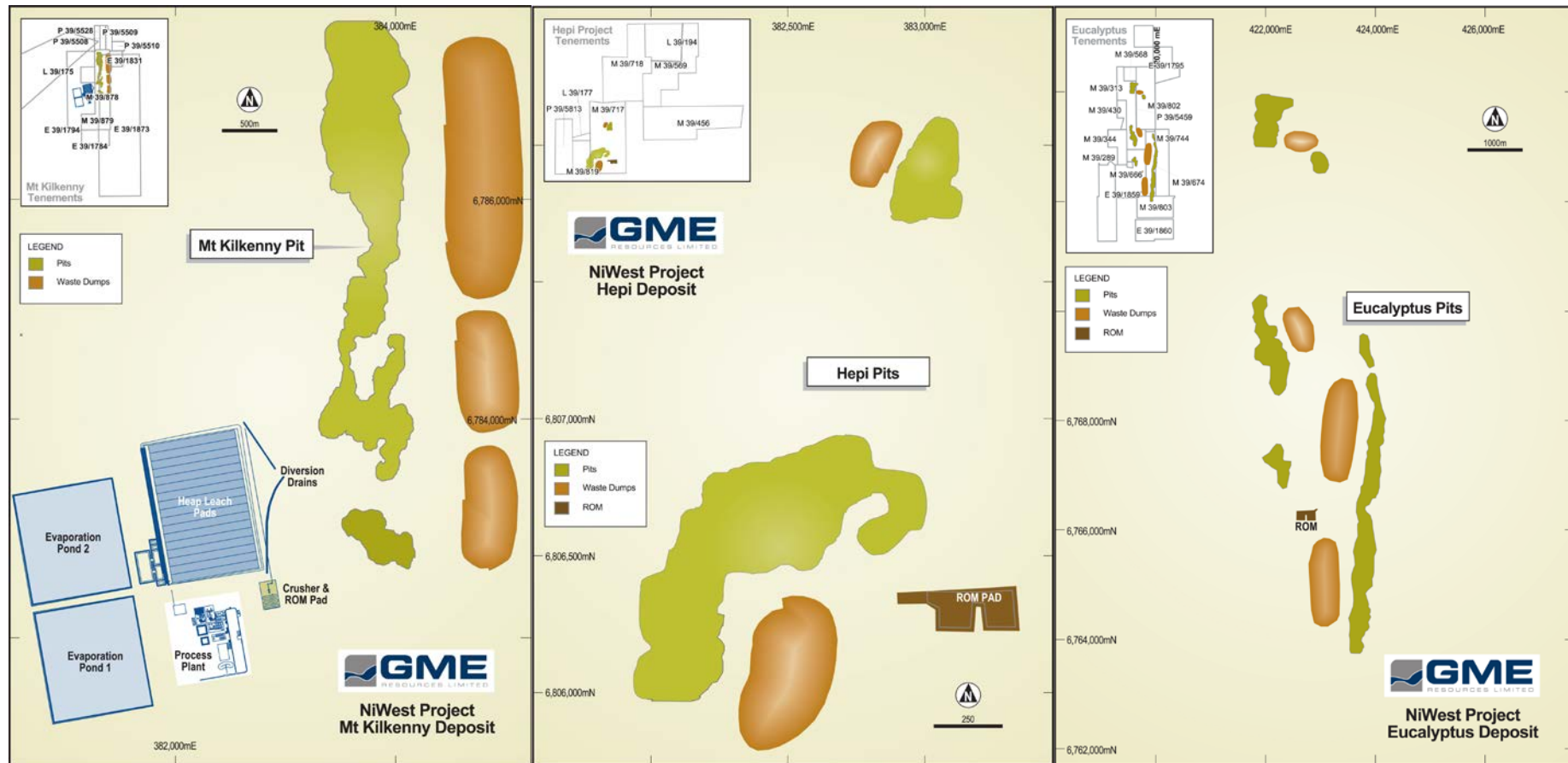
Parameter	Unit	Value
Nickel Price	USD/lb	7.50
Cobalt Price	USD/lb	20.00
Exchange Rate	AUD/USD	0.75
Costs		
Base mining cost	US\$/dmt	2.78
Incremental cost/2m bench	US\$/dmt	0.015
G&A	US\$/dmt	7.50
Processing	US\$/dmt	48.00
Ore Haulage		
Mt. Kilkenny to Mt Kilkenny ROM Pad	US\$/dmt ore	0.50
Eucalyptus to Mt Kilkenny ROM Pad	US\$/dmt ore	4.50
Hepi to Mt Kilkenny ROM Pad	US\$/dmt ore	2.78
Process Recoveries		
Nickel <sup>1</sup>	%	81
Cobalt <sup>2</sup>	%	81
Geotechnical Inter Ramp Angle for Pit Optimisation	Degrees	45
Processing Rate	Mtpa	2.4

*Note<sup>1</sup> – 81% recovery for Ni > 0.6%. For Ni<0.6%, residual Ni tail grade of 0.1% is maintained.*

*Note<sup>2</sup> – 81% recovery for Cobalt > 0.6%. For Ni<0.6, residual Co tail grade of 0.07% is maintained.*

The ultimate pit designs including ramps were completed using the domain specific geotechnical parameters presented in **Appendix C**. The pits with large lateral extents were staged for scheduling purposes with minimum mining width of 25m. Pit ramps were designed at 25m wide and a 1:10 gradient. The final pit designs, dumps and stockpiles are shown in **Figure 12**.

Figure 12: Simplified Processing Plant, Pit & Waste Dump Layouts



Mine life of 20 years and processing life of 27 years is achieved at 2.4Mtpa of heap leaching capacity. Stockpiled ore is processed once the ex-pit mining ceases.

Mine schedule optimising software was used to determine the mining sequence of the deposits and pit stages to achieve the target production ore tonnes and grade. The crusher and heap leach facilities are planned to be located at Mt Kilkenny.

A number of scenarios were evaluated with the objective of delivering 2.4Mtpa of ore to the crusher and maximising grade for as long as possible. High grade ore is either directly fed to the crusher or delivered to the ROM pad. Low-grade ore mined during the early years of mine life will be blended in small quantities and mostly stockpiled for processing at the end of mine life after depletion of high grade. The mine schedules were generated only for the Measured and Indicated components of the resources. All Inferred material has been classified as non-crusher feed and has been stockpiled (but treated as waste for strip ratio presentation purposes).

The mining models were flagged with nickel grade bins with the following nomenclature:

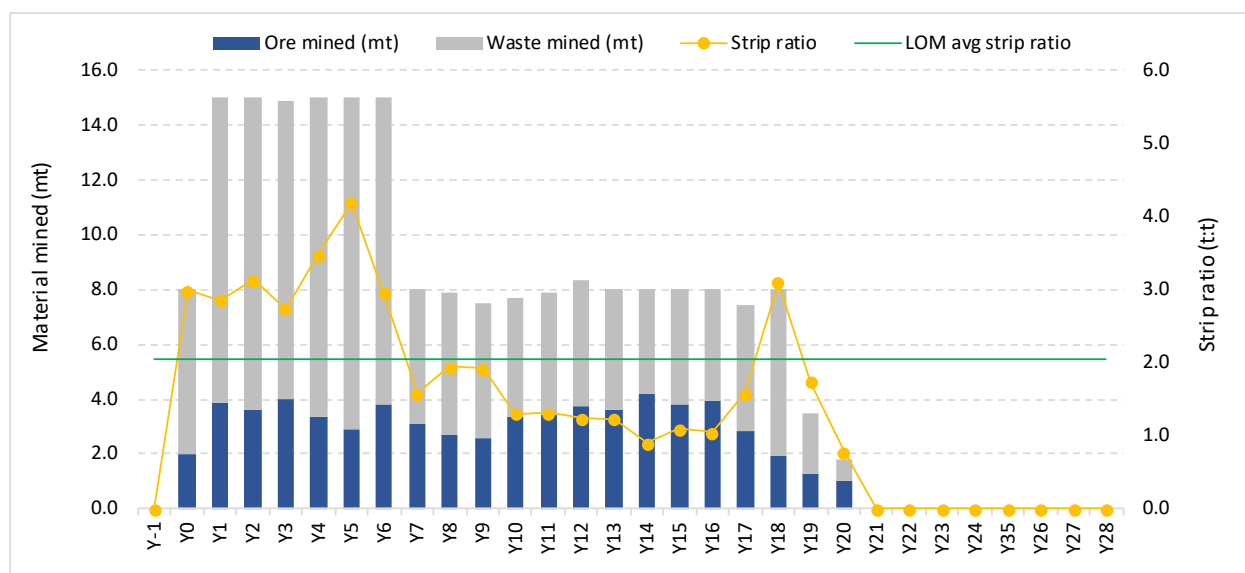
**Table 13: Material Classification**

Grade Bin (%Ni)	Code	Description
>0.8	hg	High grade crusher feed
0.7-0.8	lg3	Low-grade crusher feed
0.6-0.7	lg2	Low-grade crusher feed
0.5-0.6	lg1	Low-grade potential crusher feed if grade blend is achieved
0.4-0.5	ltlg	Long term low-grade – stockpiled and not allowed to be processed.
<0.4	Waste	Waste Dump

A mining grade target of 0.6% nickel was assumed in the mine scheduler. The scheduler then determined what ore would be direct feed, stockpiled or reclaimed.

Approximately 65Mt of ore and 133Mt of waste material is scheduled to be mined over a mining activity life of approximately 20 years (refer **Figure 13**). The life-of-mine average strip ratio is 2.0. Annual material movement is approximately 15Mtpa in Years 1-6, before dropping to around 8Mtpa for much of the remainder of mining operations.

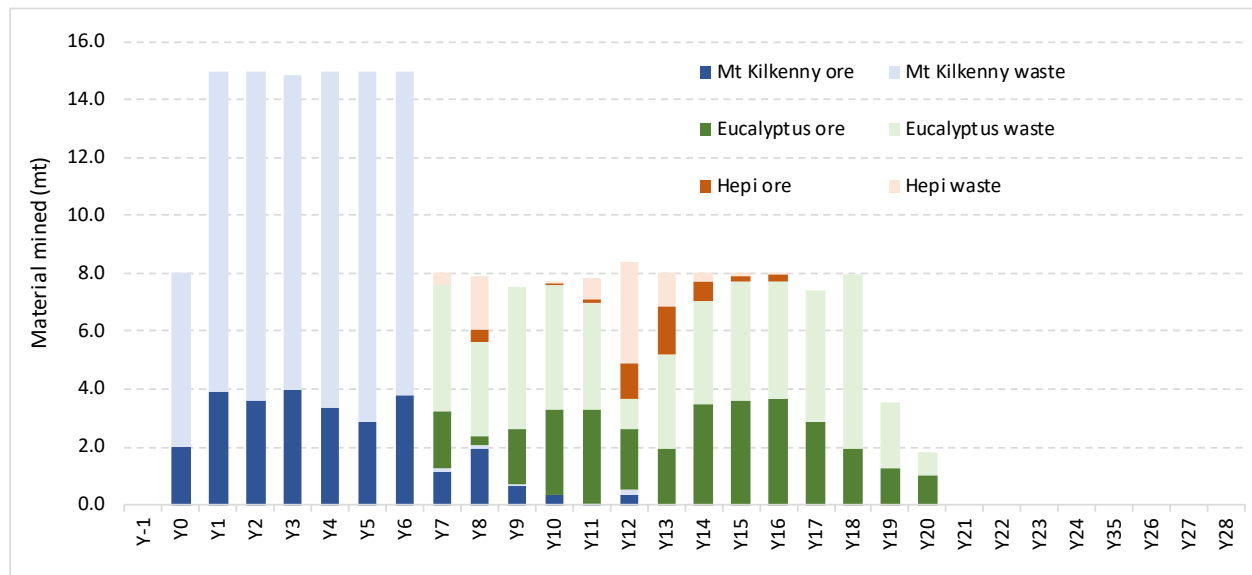
**Figure 13: Consolidated Mining Schedule**



Mining during the first 7 years of production is focused solely on the Mt Kilkenny pits (refer Figure 14), followed by the Eucalyptus and Hepi deposits. Ore from Eucalyptus and Hepi will be road hauled (40km and

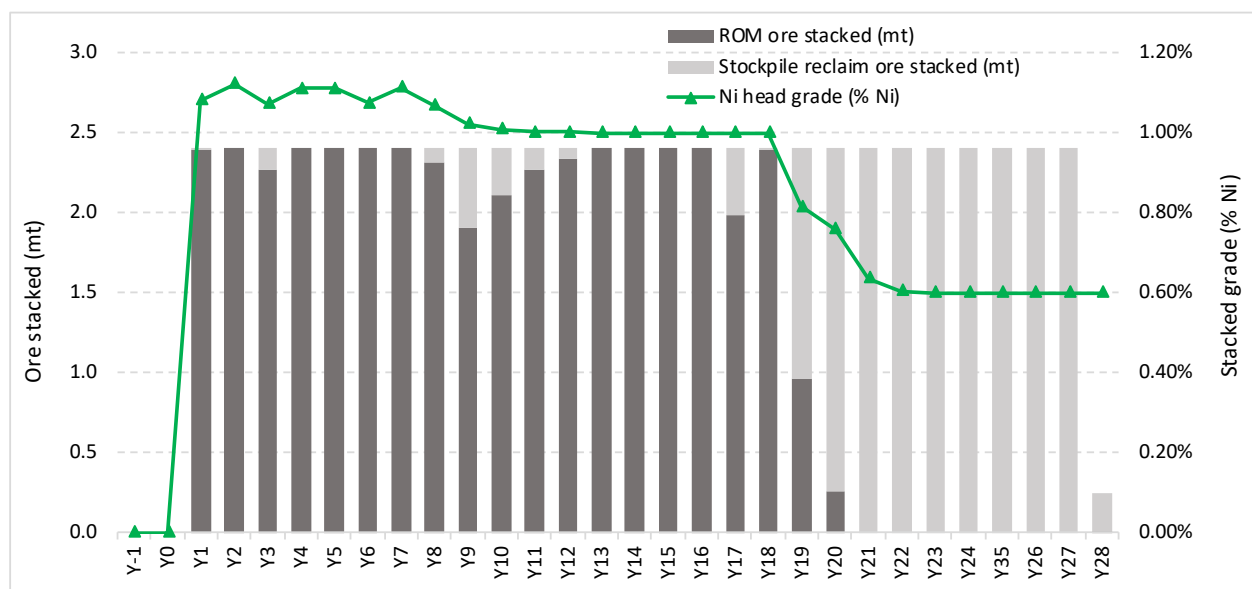
22km respectively) to the crusher at Mt Kilkenny. A maximum mining rate of approximately 15Mtpa is required during the first 6 years. Mining is planned to commence six months prior to stacking of the heap leach pads.

**Figure 14: Mining Activity by Deposit**



As a function of the accelerated mining and stockpiling of lower grade ore in earlier years, the stacked nickel head grade is forecast to be maintained above 1.0% Ni (with cobalt averaging almost 0.07%) for the first 18 years of heap leach operations (refer **Figure 15**).

**Figure 15: Crusher Feed Schedule**



**Table 14** shows the schedule output for high and low-grade ore. The Inferred material present within the Measured and Indicated pit is also shown. The Inferred material was scheduled as stockpile material but not included in the crusher feed schedule.

**Table 14: Schedule Output by Ore Type**

Material Type	Item	Unit	Value
High Grade Ore (Ni>0.8%)	Processed Tonnes	Mt dry	41.2
	Nickel Grade	%	1.06
	Cobalt Grade	%	0.07
Low-grade Ore (Ni>0.5%)	Processed Tonnes	Mt dry	23.7
	Nickel Grade	%	0.60
	Cobalt Grade	%	0.04
<b>Total Ore (Ni&gt;0.5%)</b>	<b>Processed Tonnes</b>	<b>Mt dry</b>	<b>64.9</b>
	<b>Nickel Grade</b>	<b>%</b>	<b>0.91</b>
	<b>Cobalt Grade</b>	<b>%</b>	<b>0.06</b>
Inferred Material (Ni>0.5%)	Non-Processed Tonnes	Mt dry	2.6
	Nickel Grade	%	0.82
	Cobalt Grade	%	0.05
Waste (ex Inferred material) Mine Life Processing Life		Mt dry	130.5
		years	20
		years	27

### Ore Reserve Estimate

The basis for the Ore Reserve estimate is the PFS Mineral Resource estimate and Mt Kilkenny, Eucalyptus and Hepi resource block models prepared by Golder Associates during 2018. Mining models for each of the three deposits were created to allow for conversion factors for dilution and ore loss. A dilution study was carried out on a bench by bench basis for all the deposits. This process included regularisation of the block model to 20m x 20m x 2m blocks to remove sub-blocks in z-dimension and identifying edge blocks for potential ore blocks based on 0.5% nickel cut-off grade. Once the edge blocks were flagged, a dilution skin of 1.5m was applied to the edge blocks with grades from adjacent diluting blocks. This process resulted in an average dilution of 3%. Ore loss of 5% was applied. Mining is planned to be done in 2m flitches.

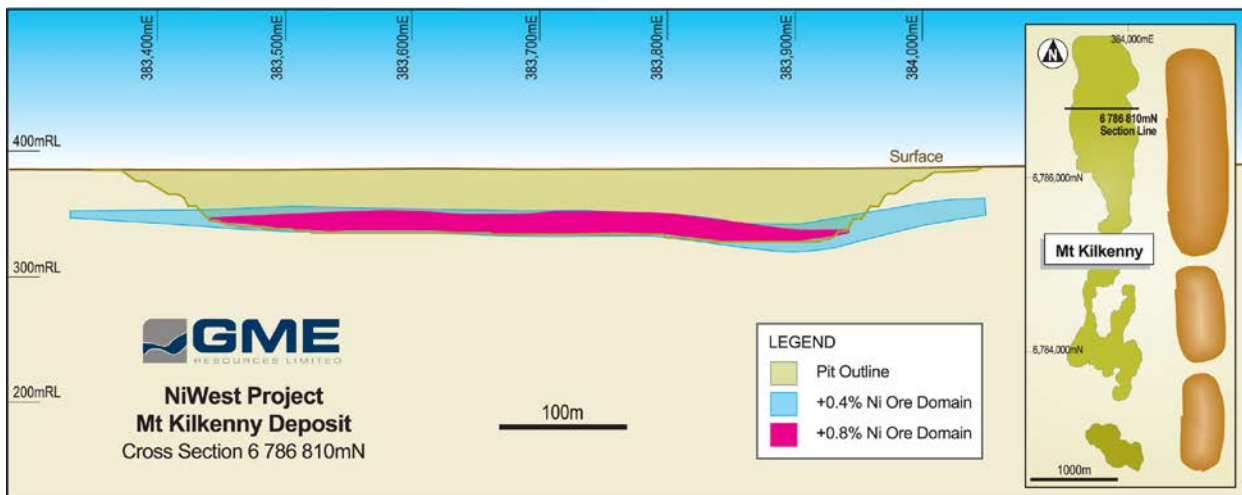
The Ore Reserves are reported after applying the conversion factors and economic testing of mining schedules using the financial model which incorporates all operating and capital costs. Whilst the Mineral Resources in the Mt Kilkenny and Hepi deposits have some resources in the Measured category, this was not taken into consideration in classifying all of the ore reserve in the probable category. The rationale for this is the PFS level of certainty with respect to the pit slope geotechnical parameters, pit dewatering and field scale testing of heap leach recoveries for GME specific ores.

**Table 15: Ore Reserve Estimate for NiWest Project at 0.5% Ni Cut-off Grade**

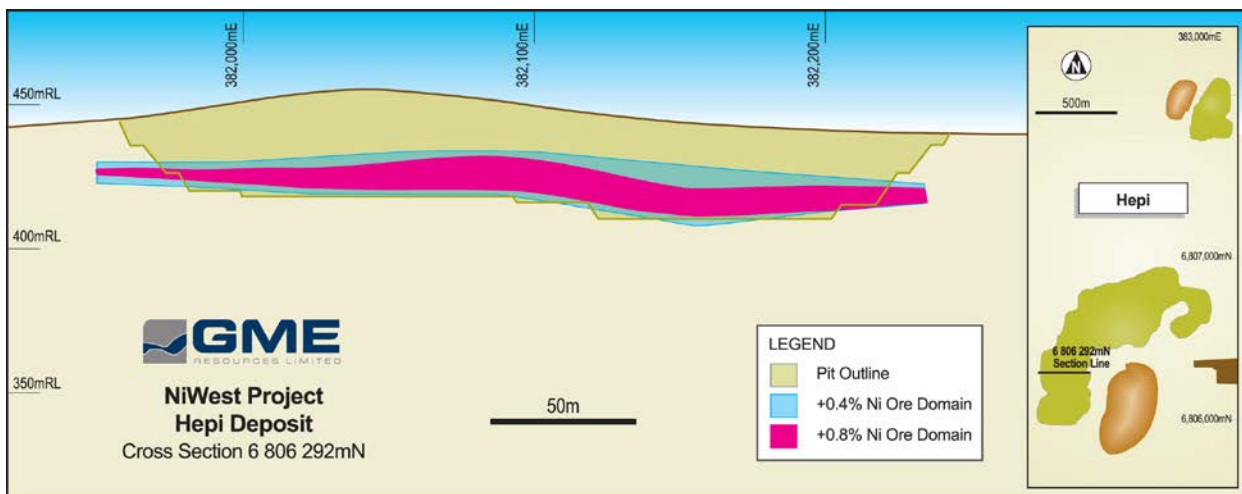
Orebody	JORC Classification	Tonnes (M)	Nickel Grade (%)	Cobalt Grade (%)
Eucalyptus	Probable	32.2	0.87	0.05
Hepi	Probable	4.7	0.91	0.06
Mt Kilkenny	Probable	27.9	0.96	0.06
Total	Probable	64.9	0.91	0.06

Typical cross-sections of the Mt Kilkenny, Hepi and Eucalyptus orebodies are presented in **Figures 16 to 18**. These highlight the shallow nature of the NiWest Project deposits.

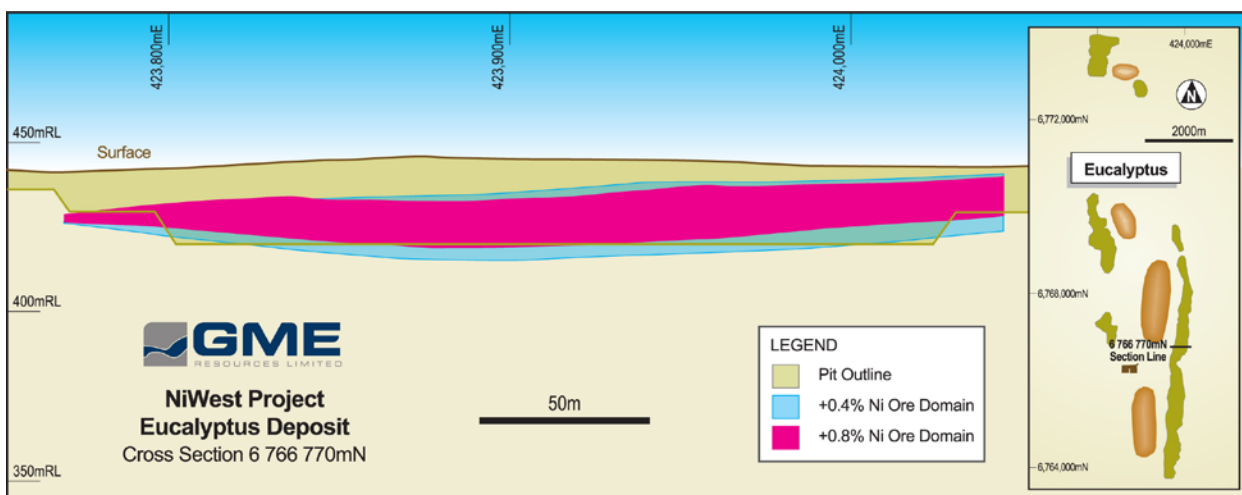
**Figure 16: Typical Cross-section of the Mt Kilkenny Pit and Orebody**



**Figure 17: Typical Cross-section of the Hepi Pit and Orebody**



**Figure 18: Typical Cross-section of the Eucalyptus Pit and Orebody**



# Metallurgy

GME Resources has completed the following metallurgical development work outlined below:

In **September 2006**, metallurgical column leach test work on Mt Kilkenny and Hepi sonic core samples was conducted at the SGS Lakefield Laboratory in Perth. The 4m column tests confirmed that both nickel and cobalt was readily leached and Heap Leaching was a viable process option.

In **2013**, following a review of previous technical studies, a metallurgical program to evaluate Direct Solvent Extraction (DSX) and Electrowinning (EW) was commenced. The program was aimed at the production of final high-purity saleable products along with simplification of the refining operations. The program comprised three stages:

- Additional confirmatory column leach tests to optimise Ni recovery and acid consumption, and generate PLS for DSX evaluation.
- Testing of the removal of impurities (Fe and Al) from the PLS via neutralisation prior to the DSX processing demonstrating that Fe and Al could be precipitated with minimal loss of nickel or cobalt.
- DSX batch tests indicated 90% (per stage) extraction of Ni and Co. Selectivity was excellent for Ca but poor for Al. This confirmed the potential to generate a purified and upgraded Ni solution suitable for electrowinning.

In **August 2014** a drilling program at the Mt Kilkenny and Hepi deposits provided between 5 and 6 tonnes of sample for further metallurgical testing at Hydromet Research Laboratories (HRL), HydroGeoSense (HGS) and Nagrom.

Bottle roll tests were conducted to determine ore variability with regard to Ni and Co dissolution and acid consumption. A 2.4 tonne bulk column was conducted, and it demonstrated the robust leaching characteristics of the NiWest laterite ore type with +80% Ni recoveries at an acid consumption of 400-500kg/t.

In **April 2016** agglomeration optimisation, geotechnical and hydrodynamic testing conducted at HGS determined that the NiWest ores have the potential to be stacked at heights of up to six metres whilst maintaining the permeability, hydrodynamic and geotechnical stability characteristics necessary to support a successful heap leach operation.

Small scale batch solution Neutralisation and Fe/Al Removal tests, utilising regionally sourced calcrete, achieved Fe and Al precipitation of 99% and 93% respectively with very low Ni and Co losses.

A number of SX circuit configurations were evaluated utilising different reagents. The review, including metallurgical computer modelling, indicated that two flowsheets provided similar desired technical and economic outcomes. GME elected to proceed with batch and sighter and continuous piloting test work on both.

In **September 2016** a review of the options for the further processing of the high-purity Ni and Co solutions generated from the DSX resulted in a decision to pursue the production of nickel /cobalt sulphates suitable for the Lithium-ion battery market, instead of producing nickel cathode through EW.

In **May 2017** a purpose-built Neutralisation, Fe/Al Removal continuous pilot plant was commissioned and operated for 10 days at the Nagrom Laboratory in Brisbane. The pilot plant results confirmed that at the design operating temperature of 40 °C all key process outcomes could be achieved utilising a single stage approach. Batch DSX tests on the neutralised PLS confirmed the chemical and physical compatibility with the proposed reagent systems.

In **July 2017** the DSX continuous pilot plant was operated for 7 days. The testing showed excellent physical separation characteristics between the neutralised PLS and organic reagent. The target nickel and cobalt extractions of >95% were achieved. Targets for the advanced electrolyte generated were also achieved with nickel purity of greater than 98%.

The final stage of the test work commenced in **August 2017** and focused on production of a range of pure nickel and cobalt products from the continuous pilot plant electrolyte streams. The test work confirmed that the proposed process DSX flowsheets can treat the NiWest neutralised PLS to generate pure Ni and Co electrolytes that can be tailored to the generation of multiple high purity nickel products, including nickel



sulphate, nickel cathode (metal) and nickel carbonate as well as cobalt sulphide, cobalt chloride and cobalt sulphate.

Finally, in **February 2018** GME commenced an additional optimisation column test work program. The 2m columns achieved Ni and Co recoveries of 85 to 87% Ni and 92 to 93 % Co and it is these favourable results that have been used to establish the final heap leach process design criteria adopted for the PFS.

### MMO and its Heap Leach History

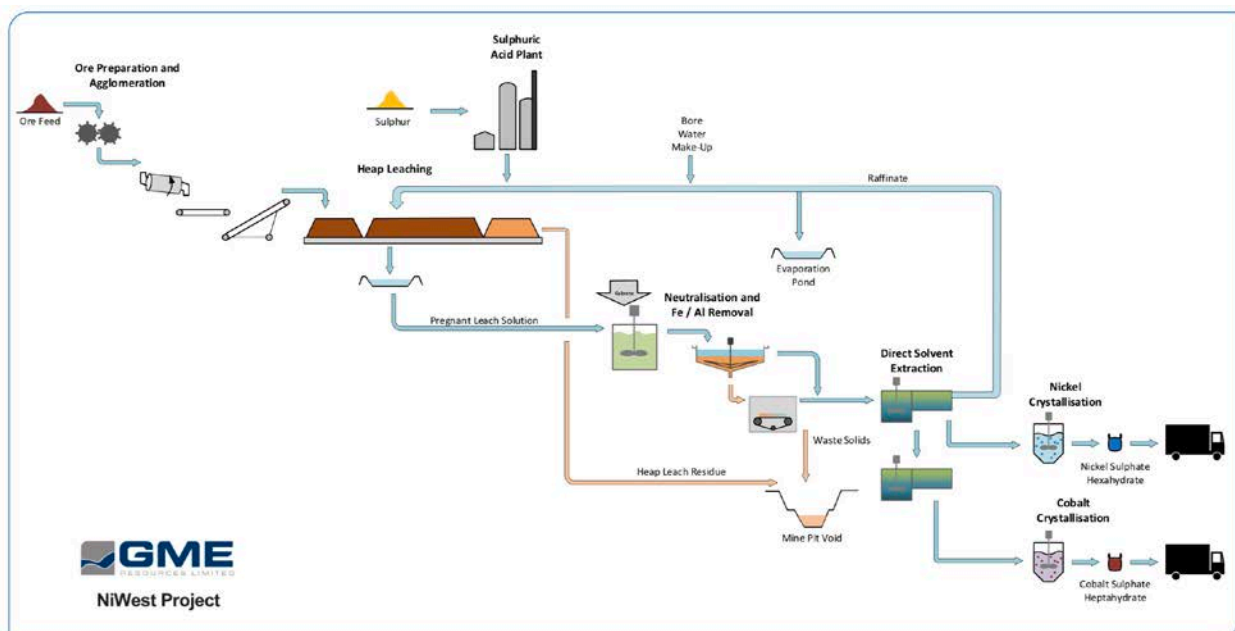
Murrin Murrin has operated its Ni laterite process facility in the NiWest Project region over the past two decades. A commercial scale Ni laterite heap leach facility was also operated from 2006 until 2012 leaching predominantly HPAL reject material (scats) but also crushed run of mine laterite ore. This provides significant confidence in the application of heap leaching to laterites in this region.

The Ni Laterite deposits present within the NiWest and Murrin Murrin resource portfolios are all within the Murrin Formation and are on a single continuum of Ni and Co enrichment through laterite development above outcropping komatiites. As such they have largely the same geochemical and mineralogical profiles.

## Mineral Processing and Refining

The proposed processing and refining flowsheet consists of the following 5 key stages (as presented in **Figure 19**):

**Figure 19: Simplified NiWest Process Flow Sheet**



### 1. Ore Preparation and Agglomeration

Ore preparation includes two stage crushing to minus 50mm followed by agglomeration with sulphuric acid. Agglomerated ore is then conveyed to the pad for stacking.

### 2. Heap Leaching

The dynamic on/off heap leach pad arrangement comprises a number of modules nominally 75m wide and 800m long. The ore will be placed in 2m lifts whilst the equipment sizing will enable stacking up to 4m high. Stacked ore will be leached in a three-stage counter-current leach system. The heap irrigation system will consist of surface drippers that will evenly distribute leach solution at the optimal rate. The sulphuric acid along



with a reductant will be added in stages into the leach solution and its concentration will be controlled to maximise Ni and Co extraction and minimise leach acid consumption to the target 450kg/t. The estimated total heap leach cycle is 300 days comprising 210 days of leaching and 90 days for stacking, flushing, draining and removal activities.

Removal of heap leach residue (flushed and drained leached ore) will be conducted by way of an excavator feeding a mobile conveying system and transported to the Mt Kilkenny in-pit Residue Storage Facility (RSF). The RSF will be built to the requisite environmental engineering standards, including contouring and lining the pit slopes to eliminate any potential discharge.

### **3. Neutralisation and Fe / Al Removal**

Pregnant Leach Solution (PLS) from heap leaching will be neutralised using calcrete to remove residual acid and to precipitate 99.9% of the Fe and Al prior to DSX. In order to minimise nickel losses, the solution neutralisation and Fe / Al removal circuit will be conducted in two stages with preheating of the PLS to between 50 and 70 °C.

Residue solids from Stage 1 neutralisation will be filtered, washed and then co-disposed with the heap leach residue in the Mt Kilkenny In-Pit Residue Storage. Stage 2 residue will be thickened, re-leached and recycled back to Stage 1.

### **4. Direct Solvent Extraction**

The DSX plant consists of two separate SX circuits. The neutralised PLS is contacted with an organic in the primary SX circuit resulting in extraction of Ni and Co into the organic. The organic is then washed and finally stripped with an acidic solution which “strips” the Ni and Co from the organic into the purified acidic solution.

The strip solution containing the Ni and Co is then transferred to the secondary SX circuit where the Co is removed from the strip solution leaving a pure Ni sulphate strip solution that feeds the Ni crystalliser circuit.

The secondary SX circuit also generates a separate purified Co solution which is transferred to the CoS precipitation, re-leach and Co sulphate crystalliser circuit.

### **5. Nickel Sulphate and Cobalt Sulphate Crystallisation**

The highly concentrated nickel sulphate electrolytic solution is cooled under controlled conditions to produce high-purity nickel sulphate hexahydrate crystals. The crystals are recovered by centrifugation and subsequently lightly washed, dried and packaged into 1 tonne bulka-bags.

The cobalt strip solution from the solvent extraction process is contacted with a reductant chemical which through filtration results in the cobalt precipitating as pure solid cobalt sulphide. The cobalt sulphide is separated from the solution and filtered. This product is suitable for sale however GME has elected to further refine the cobalt sulphide through pressure leaching in a small autoclave and crystallisation to produce cobalt sulphate heptahydrate. This later step provides for additional value adding. The crystals are similarly packed in 1 tonne bulka-bags.

### **Heap Leach Residue Disposal**

Heap Leach residue and waste precipitate solids will be backfilled in the exhausted Mt Kilkenny mine pits. The exhausted mine pits will be prepared to prevent any potential leachates interacting with the local groundwater environments. The intended arrangement is to place a compacted clay base liner with an expected permeability of  $1 \times 10^{-9}$  m/s. The pit walls will be constructed with waste rock/compacted waste material and then lined with a HDPE liner.

# Infrastructure and Services

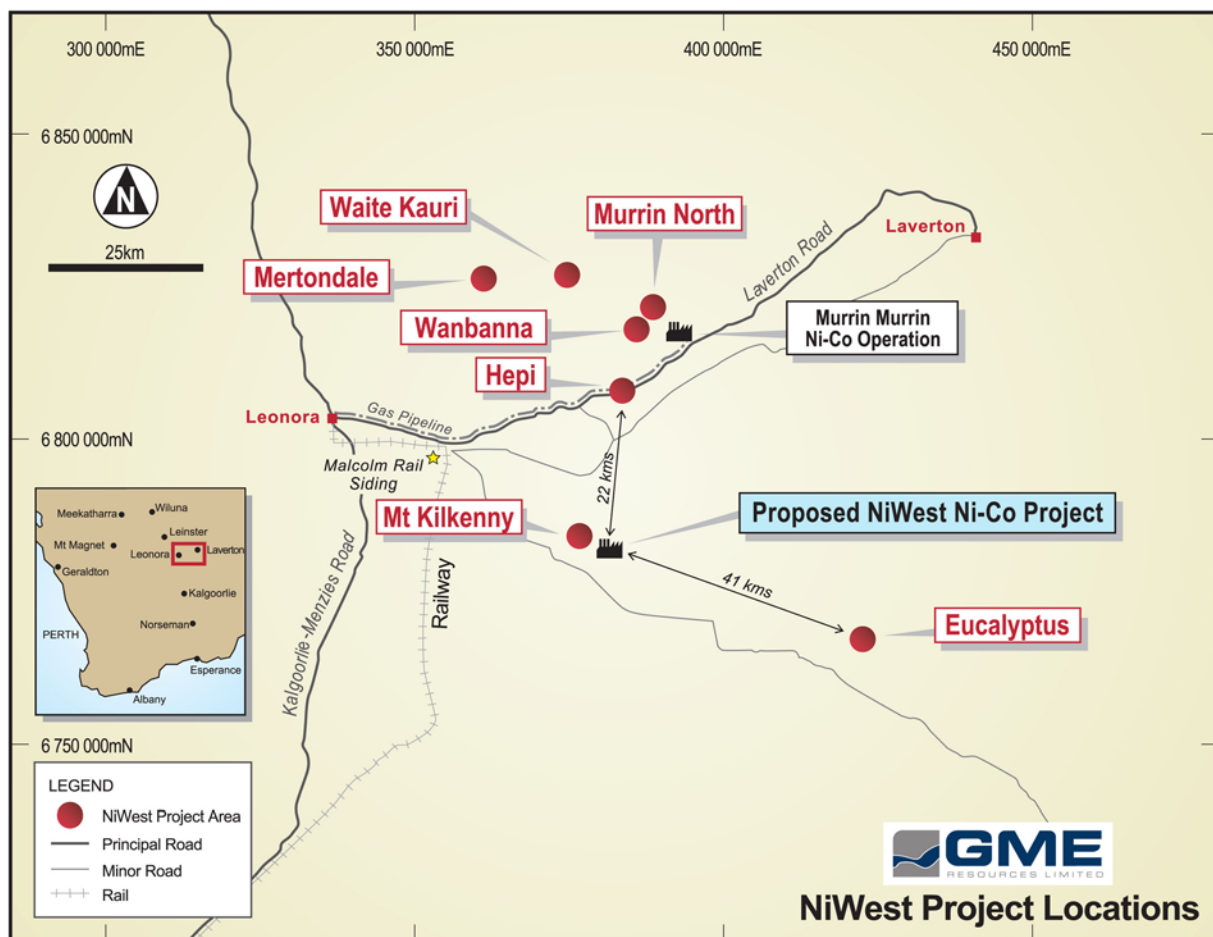
## Access

The project area is favourably located approximately 250 km north of Kalgoorlie and midway between Leonora and Laverton as shown in **Figure 20**. The area is well supported with primary infrastructure and has a 20-year history of nickel and cobalt mining operations at the nearby Murrin Murrin Operation.

The regional railway infrastructure extends to the Malcolm siding near Leonora. The Murrin Murrin Operation has been serviced from the siding for the past two decades.

An existing commercial air-strip located at Leonora is planned to be utilised to transport fly in, fly-out personnel to the operation.

**Figure 20: Regional Access & Infrastructure**



## Supply Logistics

Major consumables will be shipped via the port facility at Esperance and then trucked to site via existing sealed and unsealed roads.

The port facility at Esperance currently handles off-loading of sulphur for local users and it is anticipated that GME will also be able to access these facilities. The estimated annual sulphur requirement is approximately 360,000 tonnes.

The final products, namely approximately 93,500 tonnes of nickel sulphate hexahydrate and 6,800 tonnes of cobalt sulphate heptahydrate, will be transported to Esperance by road and then shipped to various customers.

Calcrete material will be procured locally through owner mining and crushing at the source, and then hauled by road to the Mt Kilkenny plant site.

## **Acid Plant**

All of the sulphuric acid demand on site will be met by a single train 3,300tpd sulphur burning acid plant. The acid plant will be fitted with a heat recovery system to allow for recovery of excess heat to generate site power and steam. The steam will be used to enhance the metallurgical efficiency of processing operations.

## **Power Supply**

All site power requirements are provided by steam turbines operating on steam sourced from the sulphuric acid plant. The acid plant will generate approximately 21 MW of power. Standby diesel generators will supply power during emergency and acid plant start-up/outage situations.

## **Water Supply**

The NiWest project will require approximately 3GL per annum of make-up water during the construction period and approximately 6GL per annum of make-up water per annum whilst operating. GME currently has a 2.0GL water extraction permit at Mt Kilkenny and the balance will be sourced from a borefield located approximately 15km from the plant site and from dewatering of the open pits. A previous groundwater study has identified the potential for significant additional capacity within the region of the proposed plant site. Further work will be conducted during the DFS to confirm the nature of the water resource.

## **Accommodation**

### **Construction**

Temporary accommodation will be required during the construction period which has been included in the indirect capital cost.

### **Operations**

An operating cost allowance has been made for contract accommodation during operations for site based personnel. It is expected that approximately 170 people will be required to support operations.

## **Service & Ancillary Buildings**

Provision has been made in the capital cost estimates to establish the requisite onsite office, plant and maintenance infrastructure.

# **Environmental and Social Impact Assessment**

## **Heritage and Community**

GME has a long standing history of engaging proactively and constructively with local stakeholders. A heritage survey was conducted in 2007 and an ethnographic survey was undertaken over the NiWest Project Area in 2007 in conjunction with representatives from the Wongatha people. The survey found some previously recorded Aboriginal heritage sites, located within the tenements. Agreement was reached with the Wongatha people regarding the relocation of “scatter” sites.

No Native Title claims have been lodged over the NiWest Project licence area.

## **Environmental**

A considerable body of work has been carried out over an extended period in support of environmental approvals and permitting requirements for the NiWest Project. GME recently engaged environmental consultants, Sustainability Pty Ltd, to conduct a review of the past work and investigations, and determine the environmental baseline studies required in order to obtain approval to develop the NiWest Project. A detailed program, schedule and budget has been compiled and included in the future project schedule.

# Operating Cost Estimate

The key NiWest Project PFS operating cost parameters utilised in the financial model are outlined in **Table 16**.

**Table 16: Key Capital and Operating Cost Parameters**

Cost Parameters	Unit	Input
Operating Costs		
Mining		
Ore mining cost	A\$/dmt ore	6.74
Waste mining cost	A\$/dmt waste	4.82
Satellite ore haulage cost	A\$/dmt/km	0.17
ROM pad and stockpile rehandle	A\$/dmt ore	0.50
Processing		
Variable processing cost (including all reagents)	A\$/dmt ore	53.2
Fixed processing cost (labour, maintenance, etc)	A\$M pa	22.9
General and Administration		
G&A	A\$/dmt ore	5.77
Product Transport		
Packaging, overland transport and shipping	A\$/t product	168

All mining activities are planned to be via contract mining arrangements. Mining costs include satellite haulage from the Eucalyptus and Hepi deposits, ROM and stockpile rehandling costs and waste dump and pit rehabilitation costs.

The processing plant is planned to be operated by GME. Forecast operating costs have been segregated into fixed and variable components based on reagents, labour, maintenance and administration costs. Processing cost is heavily driven by sulphuric acid, and therefore sulphur consumption and delivered cost (55-60% of total processing cost). Other major reagent costs include calcrete, magnesia and caustic soda. In total, variable cost elements (being predominantly reagents) account for over 80% of forecast processing operating costs.

General and administrative costs include all management/administrative/HSE/general labour costs and other general expenses. Product transport includes packing in one tonne bulka-bags, trucking to Esperance, export through the Esperance Port facility and sea freight to North Asia CFR. Royalties comprise Western Australian State government royalties on nickel and cobalt production, plus private royalties over select sections of the Eucalyptus deposit.

A breakdown of the final operating cost outcomes for the NiWest Project is outlined in **Table 17**.

**Table 17: Operating Cost Summary**

Item	A\$/t ore processed	A\$/t Ni produced	A\$/lb Ni produced	Proportion of Total (%)
Mining	21.2	3,026	1.37	21
Processing	63.1	9,000	4.08	62
General and admin	5.8	825	0.37	6
Product distribution	5.7	809	0.37	6
Royalties	6.6	943	0.43	6
<b>Total</b>	<b>102.4</b>	<b>14,601</b>	<b>6.62</b>	<b>100%</b>

On a life-of mine basis, mining costs (including haulage and ROM/stockpile rehandle) account for approximately 21% of total operating costs (inclusive of royalties). The equivalent proportion for processing costs is approximately 62%. G&A costs, product distribution costs and total royalties each account for approximately 6%.

Forecast net unit cash costs (post cobalt credits) average US\$3.24/lb over the life-of-mine (see Figure 7). Accelerated mining and processing of higher grade ore in earlier years delivers an equivalent figure of US\$3.00/lb for the first 15 years of processing life (including ramp-up).

## Capital Expenditure Estimate

### Pre-Production Capital Expenditure

The pre-production capital expenditure estimate for the Project is A\$966 million. The estimate is provided at an accuracy level of +/- 30%. A summary of the initial capital estimate for the proposed mining, processing and on-site refining is summarised in **Table 18**.

The total capital cost is based on the direct cost of mechanical equipment delivered and installed at site. The cost of the mechanical equipment is based on the mine plan, process flow diagrams, mass balance flows, design criteria and equipment list. The major capital items relate to the acid plant, heap leach pads, evaporation pond and main process plant. Budget prices for approximately 75% of equipment items were obtained from vendors. The estimate has been based on an Engineering Procurement and Construction Management (EPCM) basis. Indirect costs have been allocated including EPCM, Owners costs, mobilisation/demobilisation, heavy cranes, commissioning, operations readiness and first fills.

**Table 18: Pre-Production Capital Expenditure Estimate Summary**

Category	Breakdown	Cost (A\$M)
Direct Costs	Crushing and Heap Leaching	138.0
	Processing	193.7
	Utilities and Reagents (inc. acid plant)	312.9
	General Infrastructure	42.3
Total Direct Costs		686.8
Indirect Costs	EPCM	72.7
	Owners	9.7
	Other Indirects	76.8
Total Indirect Costs		159.3
Contingency		120.2
<b>Total</b>		<b>966.3</b>

### Sustainable Capital Expenditure

**Life-of-mine sustaining capital expenditure** is estimated at A\$582M. This comprises projected general annual sustaining expenditure in addition to specific items such as in-pit tailings storage preparations, additional evaporation ponds, acid plant maintenance, satellite haul road construction and mine closure preparations. Total estimated sustaining capital expenditure equates to approximately A\$21.5M or 2.2% of the total pre-production capital estimate on an average annual basis.

**Table 19: Sustainable Capital Expenditure Estimate Summary**

Items	Cost (A\$M)
General Provision (1.0% of total Pre-Production Capital pa)	262
Mt Kilkenny In-Pit Residue Storage	208
Residue Evaporation Pond 2	33
Acid Plant Maintenance Shutdowns	12
Project Closure	60
Eucalyptus and Hapi Haul Roads	8
<b>Total LoM Sustainable Capital Expenditure</b>	<b>582</b>

Heap leach residue and waste precipitate solids will be backfilled in the mined-out pits commencing with the southernmost Mt Kilkenny pit. The pit walls will be profiled and lined with a HDPE liner to prevent any potential leachates interacting with the local groundwater environments.

A second evaporation pond is planned for construction commencement from the end of Year 1, with commissioning 2 years after the commencement of processing operations. Evaporation pond utilisation will then alternate between Evaporation Ponds 1 and 2 every 2 years. The capital cost associated with the construction of Evaporation Pond 1 has been included in the pre-production capital estimate, and that for Evaporation Pond 2 included in the sustaining capital estimate.

Major acid plant maintenance shutdowns are assumed to be required every 4 years.

## Product Specification, Pricing and Marketing

GME is targeting production of premium nickel and cobalt sulphate products from the NiWest Project to directly supply the rapidly growing lithium-ion battery market.

### Product Specification

Heap leach and DSX flowsheet configuration adopted in the PFS purposefully provides flexibility to tailor final nickel and cobalt products to the specific requirements of Li-ion battery manufacturers. The pilot plant testing conducted to date has confirmed that the various nickel and cobalt products can be produced to the requisite quality.

The PFS is based on producing nickel and cobalt in sulphate form, namely Nickel Sulphate Hexahydrate ( $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ ) and Cobalt Sulphate Heptahydrate ( $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$ ).

The content of nickel and cobalt metal in the sulphate form is approximately 99.95% and >99.9% by mass respectively.

### Product Pricing

The nickel and cobalt price assumptions in the PFS are based on a review of

- The outlook for nickel and cobalt demand and supply;
- The consensus LME nickel and cobalt pricing forecasts by market analysts; and
- The historical and forecast premium for nickel and cobalt sulphate products.

A life of mine average (real) nickel price of US\$8.00/lb has been assumed based on a consensus long term forecast (*Consensus Economics July 2018*) London Metal Exchange (LME) price range of US\$7.00-7.50/lb and a forecast average US\$0.75/lb premium for the planned sulphate form of the contained nickel product.

A life of mine average (real) cobalt price of US\$25/lb has been assumed based on a consensus long term forecast London Metal Bulletin (LMB) price range of US\$22 – 28/lb. No premium has been assumed for the planned sulphate form of the contained cobalt product.

### Product Market

GME is targeting the lithium ion battery market and the respective nickel and cobalt products have been designed and targeted to meet the specifications required to produce Li-ion battery cathode precursor.

The average production of nickel and cobalt in sulphate form during the first 15 years is 86ktpa and 6.7ktpa tonnes respectively. The sulphate products will be packaged in bulka-bags and shipping containers to facilitate regular transport to multiple international customers via the Esperance Port

Whilst the NiWest ore contains Scandium, the processing flowsheet in the PFS does not make provision for the production of a Scandium product. The production of Scandium is considered an excellent future opportunity, and will be considered in the DFS.

# Financial Modelling and Economic Evaluation

A robust economic evaluation of the NiWest Project has been conducted as part of the PFS. A detailed project financial model was constructed on the basis of the PFS forecast physical and financial parameters. This model utilises a Discounted Cashflow (DCF) methodology to arrive at a Net Present Value (NPV) for the NiWest Project.

The financial model is built-up on a monthly basis over the first five years – capturing in detail all phases of construction, pre-production mining, initial heap stacking and leaching/plant ramp-up to nameplate capacity. The model then reverts to an annual forecast basis for the remaining life of mine operations.

Flat life-of-mine commodity price assumptions utilised in the financial model are:

- Nickel (contained in nickel sulphate) realised price of US\$8.00/lb  
(reflective of US\$7.25/lb LME nickel plus a US\$0.75/lb premium for nickel in nickel sulphate)
- Cobalt (contained in cobalt sulphate) realised price of US\$25.00/lb  
(reflective of US\$25.00/lb LME cobalt plus zero premium for cobalt in cobalt sulphate)

The consistent life-of-mine A\$/US\$ exchange rate is 0.75. Other key financial and fiscal assumptions are outlined in **Table 20** and include: a real 8% discount rate, 30% corporate tax rate, 2.5% State government royalty on nickel/cobalt sulphate sales and 100% equity financing assumption (ie ungeared cashflows).

**Table 20: Key Financial Assumptions**

Financial Assumptions	Unit	Input
Discount rate (ungeared, real basis)	%	8.0%
LME nickel price	US\$/lb	7.25
Premium for Ni in nickel sulphate	US\$/lb	0.75
Realised contained nickel price	US\$/lb	8.00
LME cobalt price	US\$/lb	25.00
Premium for Co in cobalt sulphate	US\$/lb	0.00
Realised contained cobalt price	US\$/lb	25.00
A\$/US\$	US\$	0.750
Corporate tax	%	30%
State royalty – nickel and cobalt	%	2.5%
Private royalties (equivalent ad valorem %)	%	0.8%

The key NiWest Project PFS physical parameters utilised in the financial model are outlined in **Table 21**. These are broken down into both total life-of-mine figures and those for solely the first 15 years of processing operations.

A project implementation and construction period of 24 months (Y-1 and Y0) is modelled along with a combined 20 month ramp-up phase for both heap leaching and plant operations to reach nameplate capacity. First nickel and cobalt sulphate products are expected to be produced approximately four months into that ramp-up phase (ie four months into Y1).

Mining and processing schedules are as detailed in the *Ore Reserve and Mine Planning* section of this document. These include accelerated mining rates in early years with stockpiling of lower grade ore for subsequent treatment in latter years of operational life. Ore processing life (expressed as life-of-mine) is approximately 27 years with mining activities effectively ceasing after 20 years.

Forecast steady-state nickel and cobalt recoveries of 79% and 85% respectively are as detailed in the *Metallurgy* section of this document. The slightly lower realised nickel and cobalt recoveries implied by the contained metal production figures in **Table 20** are a function of these forecast steady-state recoveries combined with the impact of initial heap and plant operational ramp-up, and leach solution inventory build, also incorporated.



Contained nickel and cobalt is planned to be produced, transported and sold in nickel sulphate hexahydrate and cobalt sulphate heptahydrate forms, respectively.

**Table 21: Key Physical Parameters**

Physical Parameters	Unit	First 15 years	Total
Construction and Ramp-up			
Construction period (incl 6 months mining)	months	na	24
Heap pad and plant ramp-up phase	months	na	20
Mining			
Mining activities	years	15	20
Ore mined	Mt	54.0	65.0
Waste mined	Mt	115.2	132.9
Strip ratio	waste:ore	2.1	2.0
Processing			
Ore processed	Mt	36.0	65.0
Processing life	years	15.0	27.1
Nickel head grade	% Ni	1.05	0.91
Cobalt head grade	% Co	0.071	0.058
Steady-state nickel recovery	%	79	79
Steady-state cobalt recovery	%	85	85
Contained nickel produced	kt	288	456
Nickel sulphate produced (99.95% purity)	kt	1,290	2044
Contained cobalt produced	kt	21.0	31.4
Cobalt sulphate produced (>99.9% purity)	kt	99.9	149.9

The key NiWest Project PFS capital and operating cost parameters utilised in the financial model are outlined in **Table 22**. These inputs are as detailed in the *Operating Cost Estimate and Capital Expenditure Estimate* sections.

**Table 22: Key Capital and Operating Cost Parameters**

Cost Parameters	Unit	Input
Capital Expenditure		
Pre-production capital	A\$M	966
Sustaining capital (life-of-mine)	A\$M	582
Operating Costs		
Mining		
Ore mining cost	A\$/dmt ore	6.74
Waste mining cost	A\$/dmt waste	4.82
Satellite ore haulage cost	A\$/dmt/km	0.17
ROM pad and stockpile rehandle	A\$/dmt ore	0.50
Processing		
Variable processing cost (including all reagents)	A\$/dmt ore	53.2
Fixed processing cost (labour, maintenance, etc)	A\$M pa	22.9
General and Administration		
G&A	A\$/dmt ore	5.77
Product Transport		
Packaging, overland transport and shipping	A\$/t product	168

Based on these physical and financial inputs the NiWest Project delivers an ungeared, post-tax NPV<sub>8%</sub> of A\$791M and post-tax IRR of 16.2%. The equivalent forecast pre-tax returns are A\$1,390M and 21.2% respectively.



Forecast pre-tax payback occurs 4.4 years from first heap stacking. Total project net cashflow (post all capital and tax) is A\$3,342M.

Other key financial outcomes are outlined in **Table 23**.

**Table 23: Key Financial Outcomes**

Financial Outcomes	Unit	Total
Price Inputs		
Realised contained nickel price (in sulphate)	US\$/lb	8.00
Realised contained cobalt price (in sulphate)	US\$/lb	25.00
A\$/US\$ exchange rate	US\$	0.75
Valuation, Returns and Key Ratios		
NPV <sub>8%</sub> (pre-tax, ungeared)	A\$M	1,390
NPV <sub>8%</sub> (post-tax, ungeared)	A\$M	791
IRR (pre-tax, ungeared, real basis)	%	21.2
IRR (post-tax, ungeared, real basis)	%	16.2
Payback period (pre-tax)	Years	4.4
Pre-production capital intensity	US\$/lb pa capacity	19.5
NPV <sub>8%</sub> (pre-tax) / Pre-production capex	ratio	1.4
Mine life / Payback (pre-tax)	ratio	6.1
Cashflow Summary		
Nickel sulphate revenue	A\$M	10,730
Cobalt sulphate revenue	A\$M	2,309
<b>Total revenue</b>	<b>A\$M</b>	<b>13,039</b>
Site operating costs	A\$M	-5,859
Product distribution costs	A\$M	-369
Royalties – State and private	A\$M	-429
<b>Project operating surplus</b>	<b>A\$M</b>	<b>6,381</b>
Pre-production capital expenditure	A\$M	-966
LOM sustaining capital expenditure	A\$M	-582
<b>Project free cashflow (pre-tax)</b>	<b>A\$M</b>	<b>4,833</b>
Tax paid	A\$M	-1,490
<b>Project net cashflow (post-tax)</b>	<b>A\$M</b>	<b>3,342</b>
Unit Cash Operating Costs		
Net operating costs (post Co credits)	A\$/lb cont Ni	4.32
Net operating costs (post Co credits)	US\$/lb cont Ni	3.24
Net operating costs - first 15 years	US\$/lb cont Ni	3.00
All-in-sustaining cost (AISC)	US\$/lb cont Ni	3.68
All-in-sustaining cost (AISC) - first 15 yrs	US\$/lb cont Ni	3.48

*Note: Throughout this report all dollar figures are expressed in Australian Dollars (AUD or A\$) and all tonne references are to dry metric tonnes, unless otherwise noted.*

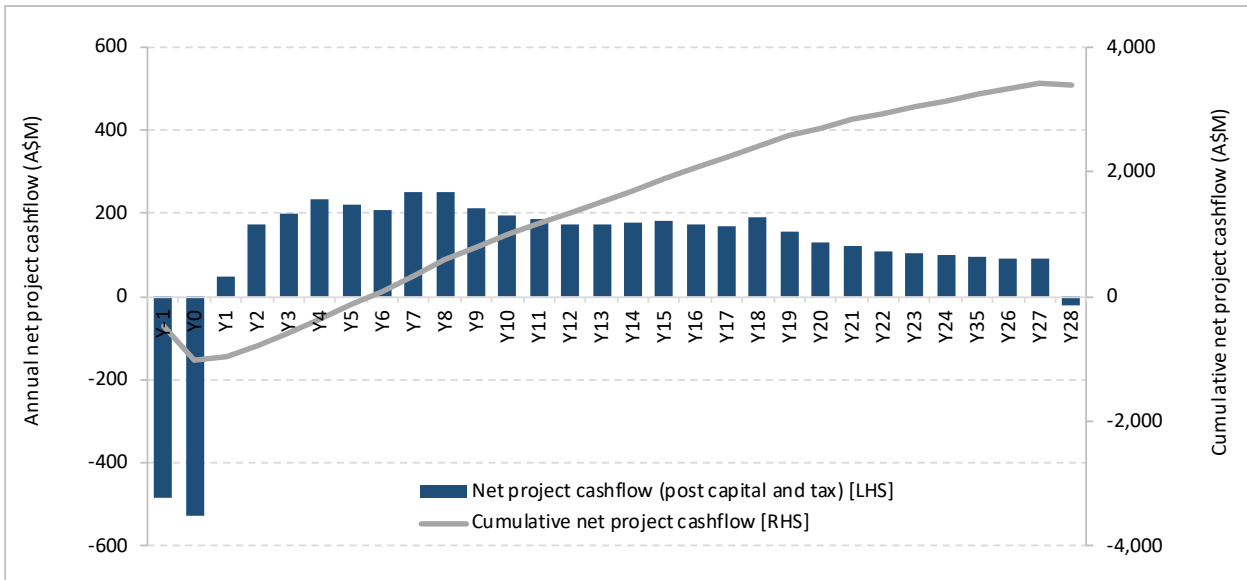
Nickel sulphate sales comprise approximately 82% of forecast total project revenue, with the remaining 18% being cobalt sulphate sales. On an annual forecast basis, the proportion of revenue composed of nickel sulphate sales ranges between 78% and 88%.

On a life-of mine basis, mining costs (including haulage and ROM/stockpile rehandle) account for approximately 21% of total operating costs (inclusive of royalties). The equivalent proportion for processing costs is approximately 62%. G&A costs, product distribution costs and royalties each account for approximately 5%.

Total project EBITDA is forecast at A\$6,381M. Average annual EBITDA (adjusted for deferred waste and ore stockpile movements) is projected at A\$235M, peaking at A\$376M in Year 4.

Forecast annual and cumulative project net cashflow generation (post all capital and tax) is detailed in **Figure 21**. Forecast maximum annual net cashflow is approximately A\$250M in Years 7 and 8.

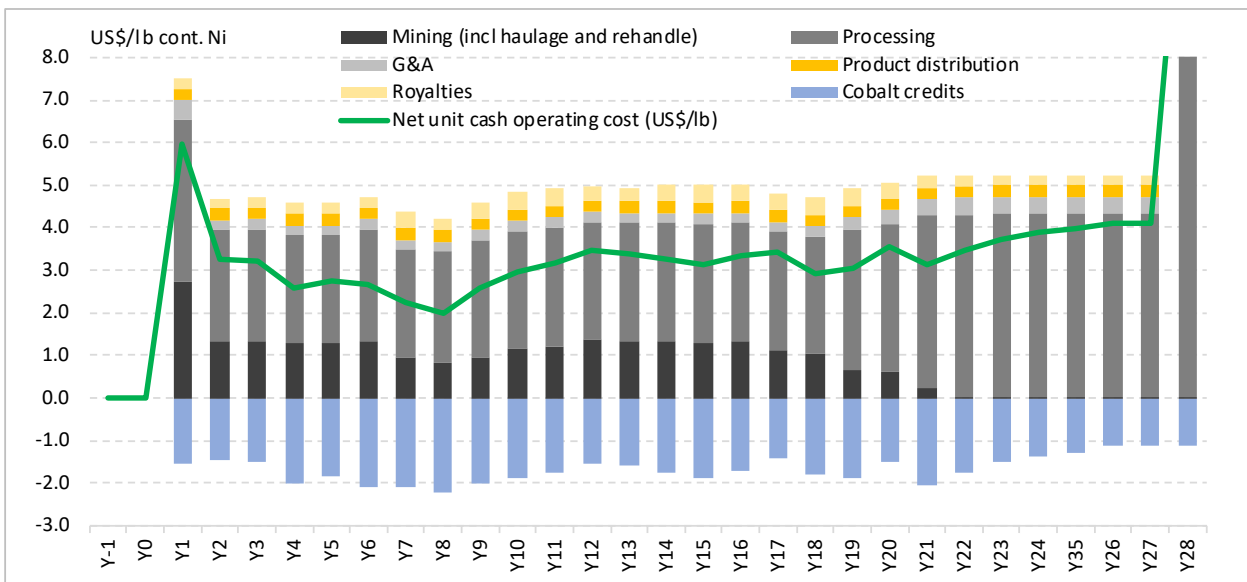
Figure 21: Forecast Annual and Cumulative Net Project Cashflow (A\$M)



Total life-of-mine sustaining capital expenditure equates to approximately 2.2% of pre-production capital on an annual operating basis.

Forecast unit cash costs average US\$3.24/lb over the life-of-mine (see **Figure 22**). Accelerated mining and processing of higher grade ore in earlier years delivers an equivalent figure of US\$3.00/lb for the first 15 years of processing life (including ramp-up).

Figure 22: Forecast Unit Cash Operating Costs (US\$/lb contained nickel)



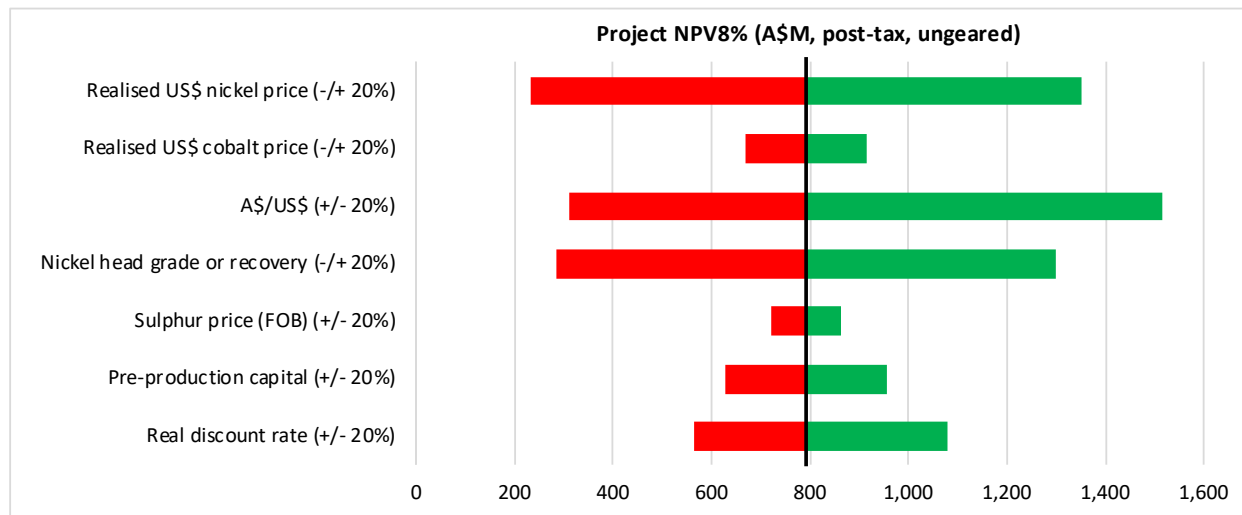
## Sensitivity Analysis

Economic evaluation of the NiWest Project PFS has included detailed input sensitivity analysis. A snapshot of this flexed returns analysis is outlined in Figure 18 (Post-tax project NPV) and Figure 1-5 (Post-tax project IRR) on a +/-20% input basis.

Projected returns are most sensitive to realised US\$ nickel price, the A\$/US\$ exchange rate and nickel grade/recovery. A 20% increase in the realised US\$ nickel price (from US\$8.00/lb to US\$9.60/lb) increases

post-tax NPV to A\$1,351M and post-tax IRR to 21.0%. A corresponding decrease in the US\$ nickel price assumption (to US\$6.40/lb) decreases post-tax NPV to A\$231M and post-tax IRR to 10.6%.

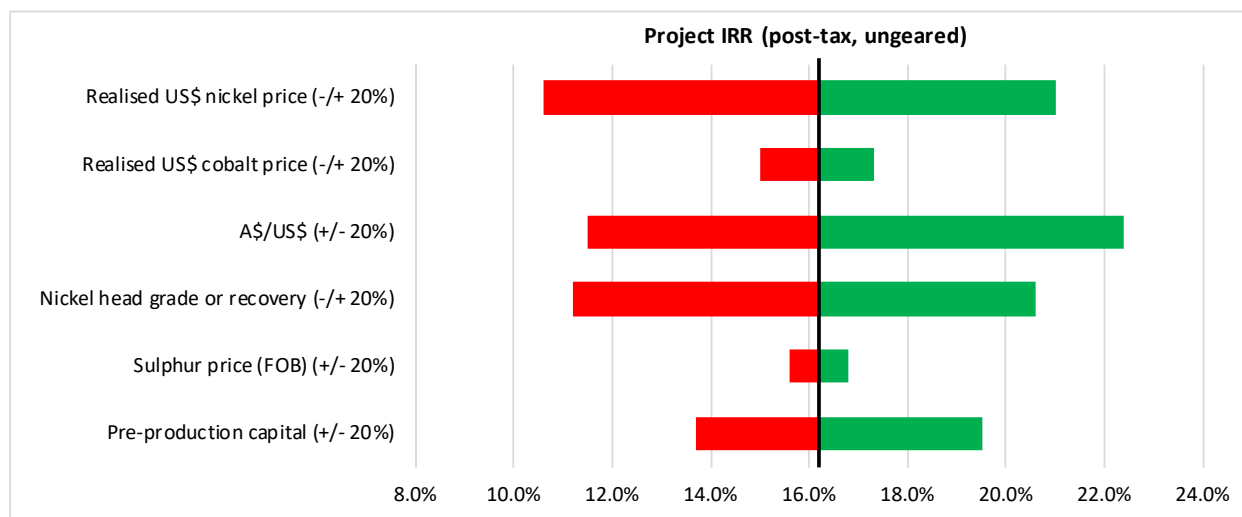
**Figure 23: Key Input Sensitivities for Project NPV (Post-Tax)**



A 20% decrease in the A\$/US\$ exchange rate (from 0.75 to 0.60) increases post-tax NPV to A\$1,515M and post-tax IRR to 22.4%. A corresponding increase in the A\$/US\$ exchange rate assumption (to 0.90) decreases post-tax NPV to A\$309M and post-tax IRR to 11.5%.

A 20% decrease in the real discount rate (from 8.0% to 6.4%) increases post-tax NPV to A\$1,078M. A corresponding increase in the real discount rate (to 9.6%) decreases post-tax NPV to A\$563M.

**Figure 24: Key Input Sensitivities for Project IRR (Post-Tax)**

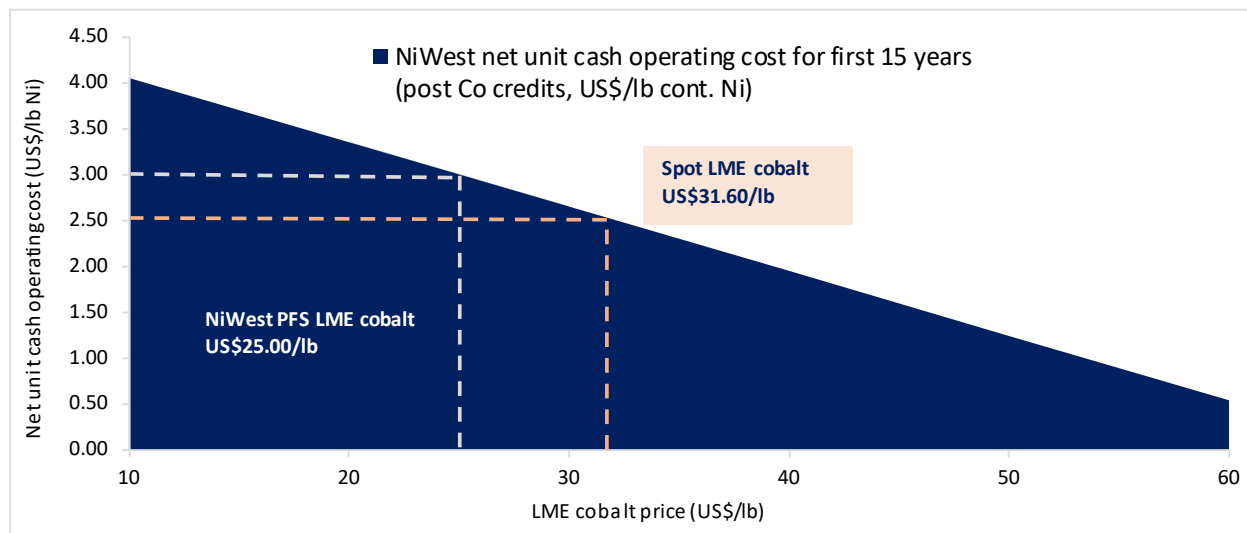


A 20% increase in nickel head grade (from 0.91% Ni to 1.09% Ni) increases post-tax NPV to A\$1,299M and post-tax IRR to 20.6%. A corresponding decrease in nickel head grade (to 0.73% Ni) decreases post-tax NPV to A\$283M and post-tax IRR to 11.2%.

A 20% decrease in pre-production capital expenditure (from A\$966M to A\$773M) increases post-tax NPV to A\$955M and post-tax IRR to 19.5%. A corresponding increase in pre-production capital expenditure (to A\$1,160M) decreases post-tax NPV to A\$627M and post-tax IRR to 13.7%.

As highlighted in **Figures 23 and 24**, forecast returns for the NiWest Project are moderately sensitive to realised US\$ cobalt price assumptions. **Figure 25** depicts the leverage of forecast NiWest average net unit cash operating costs for the first 15 years under a range of realised US\$ cobalt price assumptions.

**Figure 25: Forecast NiWest Net Unit Cash Operating Cost (First 15 Years) Sensitivity to Cobalt Price**



At the current spot LME cobalt price (approx. US\$31.60/lb) the projected NiWest net unit cash operating cost (first 15 years) falls to approximately US\$2.50/lb.

## Project Funding

GME has formed the view that there is a reasonable basis to believe that requisite future funding for development of the NiWest Project will be available when required. There are a number of grounds on which this reasonable basis is established:

- There is currently a significant trend of downstream operators in the Electric Vehicle (EV) and Lithium Ion Battery (LiB) sectors looking to secure long term supply of consistently high quality, sustainable and non-conflict nickel and cobalt (in particular) battery raw materials. GME has held preliminary discussions with respect to possible offtake and project funding/ownership with several potential strategic partners. These include international mining companies, trading houses, and battery and automotive manufacturers capable of providing 100% of the financing required to develop the NiWest Project.
- The technical and financial parameters detailed in the NiWest Project PFS are highly robust and economically attractive. The NiWest Project is ideally located in a first world country and within the highly established and low-risk mining jurisdiction of Western Australia. Release of these PFS fundamentals also now provides a platform for GME to advance discussions with potential strategic partners, off-takers, debt providers and equity investors.
- GME is debt free and owns 100% of the NiWest Project. The Company has an uncomplicated, clean corporate and capital structure. Finally, 100% of the forecast nickel and cobalt sulphate production from the NiWest Project remains uncommitted. These are all factors expected to be highly attractive to potential strategic investors, offtake partners and conventional equity investors. These factors also deliver considerable flexibility in engagement with potential debt or quasi-debt providers.
- The GME Board and management team is highly experienced in the broader resources industry. They have played leading roles previously in the exploration and development of several large and diverse mining projects in Australia and Africa. In this regard, key GME personnel have a demonstrated track

record of success in identifying, acquiring, defining, funding, developing and operating quality mineral assets of significant scale.

- Funding for NiWest Project pre-production and initial working capital is not expected to be required until post completion of a Definitive Feasibility Study (DFS) on the Project. Finalisation of a DFS on the NiWest Project is not expected before the September 2020 quarter. The majority of market analysts/commentators globally forecast demand for high quality nickel and cobalt battery raw materials, and in particular Class 1 nickel product prices, to continue to increase from their current levels over the intervening period.

## Risk Assessment

It is evident from the risk assessment conducted on the proposed mining and processing configuration adopted in the PFS that the geological and metallurgical understanding gained over the 20-year operating history at the adjacent Murrin Murrin Operation presents a significant opportunity to de-risk the NiWest Project.

The MMO and NiWest orebodies are located within the Murrin Domain and have similar laterite profiles. Hence the orebody performance assuming consistency in modelling and mining approach is likely to result in similar orebody reconciliation outcomes. Substantial information on these aspects has been published and has been consulted as part of the PFS.

The processing journey at MMO is well publicised, as has been the case with other HPAL operations, and hence a substantial body of metallurgical knowledge on the local Murrin ore has been established. This know-how includes over 5 years of heap leach development work that has similarly been publicly disclosed. It appears evident from public statements made by Minara that heap leaching of Murrin Murrin ore was established as a viable proposition. This provides significant confidence in the application of heap leaching to laterites in this region.

Key NiWest project related risks include:

### Nickel Sulphate Market

Future product specification, demand and price dynamics for nickel markets, particularly Class-1 nickel products seeking to supply into emerging battery raw materials markets, continue to evolve. As part of the NiWest PFS, GME commissioned a detailed nickel and cobalt market outlook, which also provided the key price assumptions utilised in the PFS.

### Heap Leach Acid Consumption and Metal Recovery

The project operating cost is dependent on the acid usage in leaching and revenue driven by nickel recovery. GME has used data from the test work program to predict acid consumption and metal recovery however risk remains that higher acid consumption or lower metal recovery would have an adverse impact on the project economics. Further test work will be performed during the DFS to establish the variability in acid consumption and metal recovery across the orebodies. This will enable optimisation of the ore feed schedule taking into account fluctuations in reagent prices, commodity prices, etc.

### Direct Solvent Extraction

The DSX flowsheet is based on the batch and continuous test work conducted (refer Metallurgy Section) and remains subject to further review. The PFS has identified various viable approaches that will be further evaluated, including test work, prior to finalising the flowsheet to be adopted in the DFS.

### Water Availability

The expected water usage for the project is approximately 6GL/yr. GME has performed hydrogeological work previously to identify local bore sources of water. Further work will be performed in the DFS to confirm source, quality and volume of bore water for the project.

## **Sulphur Price**

Sulphur will be imported and used to produce sulphuric acid on site. It constitutes the largest single operating cost and a market study was completed to determine the appropriate price assumption to be utilised in the PFS. Further market analysis and sourcing studies will be performed in the DFS.

## **Calcrete**

The second largest operating cost is sourcing of calcrete for neutralisation of the PLS. Calcrete occurrences are common in the region and the PFS has evaluated locally sourcing supply for the project. Further work will be conducted in the DFS to confirm the source and costs associated with mining and delivering the material to site.

## **Development Funding**

There is no certainty that sufficient funding will be available for construction of the NiWest Project or, even if available, such funding will be in a form or at a cost that is acceptable to GME.

# **Value Engineering Opportunities**

The PFS has identified a number of value engineering opportunities that have the potential to improve the project economics significantly. These opportunities are summarised below.

## **Ore Reserves**

The PFS is based on processing only the economic component of the Measured and Indicated Resources within the Eucalyptus, Hepi and Mt Kilkenny deposits. Hence the Inferred Resources within these three deposits, combined with GME's Wanbanna, Murrin North, Waite Kauri and Mertondale deposits presents a significant opportunity to either increase the operating life and/or the production rate of the NiWest Project. Further in-fill drilling will be required to increase the resource classification at each of the respective deposits.

## **Heap Leaching**

Further improvements in heap leaching performance will be evaluated to optimise acid consumption and increase nickel and cobalt recovery. Consideration will be given to the covering the heap leach pad as performed in Cu Heap Leach operations in South America to reduce evaporation losses and reduce make-up water requirements. The resultant increased heap leach operating temperature may enhance metal recovery characteristics. Improved performance could also reduce calcrete usage which is the second largest operating cost.

GME's recent 4m column-testing program has been encouraging, with results competitive to those achieved in the 2m columns. Further heap leach optimisation could potentially reduce capital costs, with a reduction in heap leach pad footprint requirements, and reduce volumetric flow through the downstream plant.

## **Acid Plant Capital Cost**

GME has used Western-sourced budget quotes for the acid plant supply on a lump sum turn-key basis. The acid plant is the largest capital cost item in the project and further work will be performed in the DFS to identify alternative sources from lower cost supply centres and alternative delivery structures, as has been pursued for similar projects.

## **Optimisation of Cobalt Sulphate Flowsheet**

The cobalt sulphate crystallisation flowsheet incorporates a small autoclave to pressure leach the sulphide, followed by crystallisation to produce cobalt sulphate heptahydrate. Alternate lower capital and operating costs options are available for the production of Co sulphate and these will be investigated.

## By-Products

A number of potential by-products are leached or produced in the processing plant which could be recovered to increase project revenue and reduce waste volume. Options for by-products include scandium, manganese and magnesium sulphate.

Scandium is leached and has been successfully extracted during testing. GME has elected not to take any credit for scandium production however this will be reviewed in the DFS.

The Project produces raffinate with high quantities of magnesium sulphate. Magnesium sulphate (Epsom salt) is an agricultural fertiliser. No test work has been performed however it is a well known process to recover magnesium sulphate for by-product sale.

Manganese is present in the PLS and largely removed during neutralisation. The battery market uses a combination of nickel, cobalt and manganese sulphate. Recovery of manganese has not been tested in the PFS but will be evaluated in the DFS with an aim to produce manganese sulphate monohydrate. The option to subsequently produce battery component precursor using a combination of nickel, cobalt and manganese to further value add will be considered.

## Next Steps

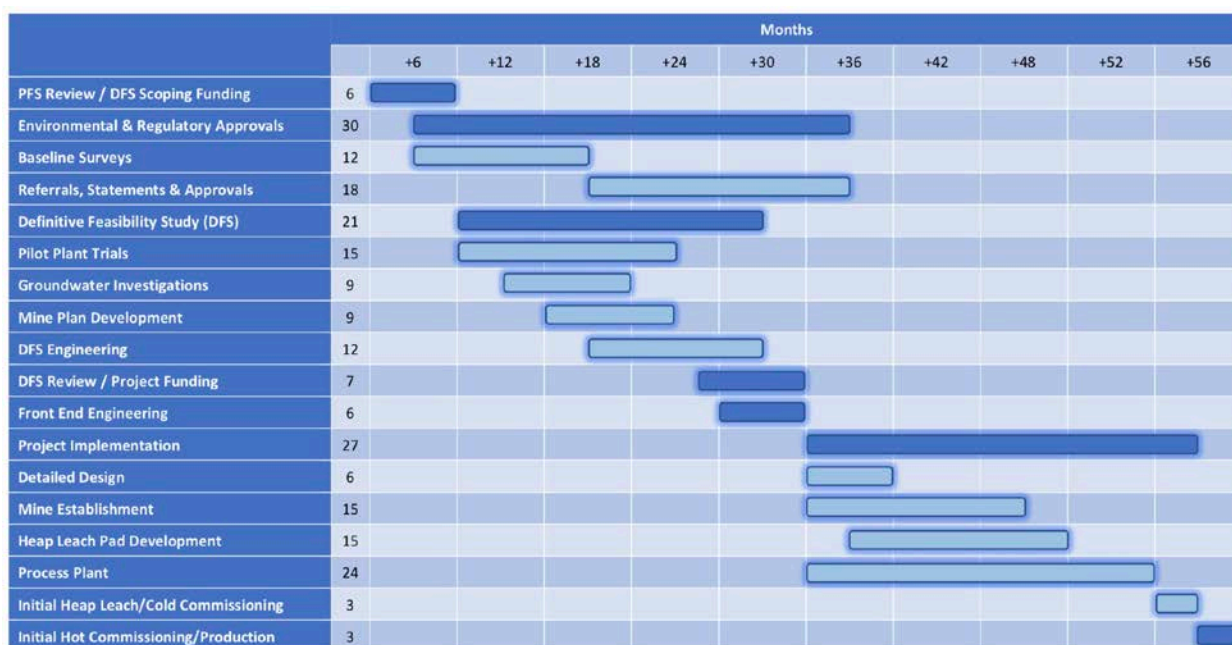
Prior to commencing a Definitive Feasibility Study (DFS) on the NiWest Project, GME intends to undertake a wider and more advanced period of engagement with potential strategic partner/offtake parties. This process is targeted at a comprehensive and robust assessment of the broad range of potential ownership, development and funding structures presently available to GME and the NiWest Project.

Concurrent activities during this period include delineation of planned DFS scope and workstreams, deeper end-market evolution analysis, assessment of value engineering opportunities delivered via the PFS and critical-path environmental study work.

### Indicative Project Development Schedule

A project implementation schedule has been prepared and a summary is shown in Figure 26. The critical path for the project is associated with the delivery of the acid plant which has a twenty four month engineering, fabrication and construction period.

Figure 26: Indicative Project Development Schedule





A 20 month commissioning and ramp-up period has been adopted. Heap leaching projects have the benefit of allowing progressive process plant commissioning and ramp-up as the heap reaches steady state. This places the initial production ramp-up close to McNulty (2014) classification Series 2 for the first production year and between Series 1 and 2 for the second production year.

## Key External Study Contributors

The following consultants made significant contributions to the NiWest Project PFS:

Prudentia Process Consulting	Process Engineering, Project Cost Estimation and Study Coordination
Golder Associates	Resource Modelling
Mworx	Metallurgical and Process Consulting
Perth Mining Consultants	Mining Study and Ore Reserve Estimation
SGS Bateman	Metallurgical and Process Consulting
Nagrom Laboratories	Laboratory Services
SGS Lakefield	Laboratory Services
Fivemark	Financial Modelling and Commercial Aspects
Graymatter Group	Project Management Consultant
David White	Metallurgical and Process Consulting
L&MGS Pty Ltd	Geotechnical and Civil Consulting
Sustainability Pty Ltd	Environmental and Permitting

# APPENDIX A: Summary of information required according to ASX Listing Rule 5.8.1

## Ownership

The NiWest Lateritic Nickel Cobalt Project (the Project) is held by NiWest Limited a wholly owned subsidiary of GME Resources Limited. The Project is located in the North Eastern Goldfields of Western Australia and is comprised of seven separate deposits located on mining leases which are between 30 to 70 kilometres east-northeast of the Leonora town site:

Mertondale M37/591; Waite Kauri M37/1216; Murrin North M39/758; Wanbanna M39/460\*; Hepi M39/717, M39/819; Mt Kilkenney M39/878, M39/879; Eucalyptus M39/313, M39/802, M39/666, M39/568, M39/674, M39/744, M39/289, M39/344, M39/803.

*\* Wanbanna is held 80% by NiWest Ltd and 20% by Wanbanna Pty Ltd*

The tenements are in good standing and no known impediments exist.

## Geology and Geological Interpretation

The NiWest's deposits lie within the Murrin Domain of the Kurnalpi Terrane which is part of the Eastern Goldfields Superterrane, Yilgarn Craton of Western Australia. The Yilgarn Craton comprises metamorphosed Archaean granite and greenstone rocks and is a world class mineral province highly endowed in both nickel and gold mineralisation.

The lithostructurally defined Murrin Domain of the Northeast Goldfields is bounded to the west by the northwest trending, district scale, Mt Kilkenney fault Zone and to the east by the north to north-northeast trending Celia Fault. NiWest's Ni-Co deposits (i.e. Mt Kilkenney, Eucalyptus, Hepi, Wanbanna, Murrin North, Waite Kauri & Mertondale) and Glencore's Murrin Murrin Ni-Co operations (i.e. Murrin Murrin, Murrin Murrin South & Murrin Murrin East) are all hosted within the Murrin Domain. These deposits are hosted either within ultramafic rock units of the Murrin Murrin Formation or their unassigned rock unit equivalence. The Murrin Murrin Formation consists of komatiitic basalts associated with layered mafic-ultramafic olivine cumulates and felsic volcanoclastic rocks that were deposited at c.  $2698 \pm 5$  Ma. The mafic-ultramafic olivine cumulates (i.e. Peridotites) are the protore hosts to the lateritic nickel-cobalt mineralization.

The Nickel-Cobalt mineralisation within the Murrin Domain has formed as supergene, blanket-style deposits from in-situ, lateritic weathering of serpentinised, olivine-rich peridotites. Within the Murrin district the typical laterite profile zonation above the fertile peridotites comprises from surface a thin veneer of ferricrete, siliceous capping or colluvium over a ferruginous zone, smectite zone, saprolite zone and finally saprock.

Lateritic nickel ore mineralisation is mainly hosted within the Smectite, upper Saprolite and lower Ferruginous Zones. The high-grade portion (i.e. 0.8 to 4.5% Ni) is largely located in the upper Smectite Zone, although high-grades transgressing up into the lower Ferruginous Zone are not uncommon. Nickel ore bodies defined on a 0.5% Ni lower cut delineate large blanket-like bodies. These nickel orebodies are generally laterally extensive, up to several kilometres long and several hundred metres wide, and vary in thickness from 10 to 30 metres. Localised thicknesses of up to 60 metres tapering at depth have been delineated. Zones of thickening are generally associated with high-grades and develop where weathering has been focused by structures or lithological contacts.

Lateritic cobalt mineralisation while similar in geometry is less extensive than nickel and associated with Mn oxides localised within the lower Ferruginous and upper Smectite Zones. Similar to nickel the cobalt orebodies (i.e. 0.04% Co l.c.) can also be quite laterally extensive, up to several kilometres long and several hundred metres wide, and varying in thickness from 5 to 20 metres. Like nickel, localised thicker zones that taper at depth have been delineated. Predominantly cobalt mineralisation is confined within the upper portion of the nickel orebody however locally it does extend outside of the nickel mineralisation. High grade assay results of up to 1.3% Co have been returned from NiWest deposits.

## Sampling and Sub-Sampling Techniques

Samples used in the NiWest Project Mineral Resource Estimate are predominantly obtained from Reverse Circulation (RC) drill holes with some samples from Diamond Drilling (DD), Sonic, Rotary Air Blast (RAB) and Air Core (AC) drilling.

The number of drill holes and metres used in the modelling is listed below:

Deposit	Drilling History
Hepi	335 holes for 9,531m (includes 206 RC Grade Control, 118 RC & 11 Sonic)
Mt Kilkenny	779 holes for 30,474m (includes 716 RC, 29 Sonic & 34 AC)
Mertondale	372 holes for 7,331 m (includes 108 RC & 264 RAB)
Waite Kauri	375 holes for 13,075 m (includes 346 RC, 2 DD & 27 RAB)
Eucalyptus	1218 holes for 36,541 m (includes 1069 RC, 18 Sonic, 2 DD & 129 RAB)
Murrin North	214 holes for 9,279 m (includes 141 RC & 73 RAB)
Wanbanna	198 Holes for 10,906 m (includes 113 RC & 85 AC)

Samples were collected at one metre intervals into labelled plastic and pre-numbered calico bags below the cyclone/splitter. Duplicate samples were inserted at a rate of 4%.

Subsampling was carried out as follows: RC samples were riffle split. Wet samples were hand grabbed. Drill cuttings are relatively well homogenised during collection in the cyclone and riffle splitting. The sub-sample collected in the calico bag is considered to be representative of the sample interval. Assay quality control measures in place included field duplicates, but very few standard reference materials were submitted with the samples to the laboratory. The laboratory standards indicate the data is of high accuracy. Field duplicates were collected using the same method as the primary sample and show a reasonable correlation to the original sample. Collection and submission of samples were supervised by company representatives up to the point of transfer to the assay laboratory.

## Drilling Techniques

The resource drilling technique used at the NiWest Nickel Cobalt Laterite Project deposits is predominantly RC drilling at varying drill grid densities. RC drilling for both resource and grade control predominantly utilised 5¼ inch 'face sample' hammer bits.

Several historical diamond drill holes were completed at Waite Kauri & Eucalyptus but these were RC pre-collared through the laterite mineralisation. Assaying of pre-collars is limited.

Some RAB (open hole) and AC drilling was conducted during exploration of several deposit. In some areas, this drilling was used in the geological and domain interpretation. For the Mertondale deposit the grade estimation is based on a high proportion of RAB drilling which has limited the deposit to Indicated Resource classification.

## Criteria Used for Resource Classification

Drilling across all deposits was conducted with mostly vertical holes spaced along section lines running across the deposits. Line and drill spacing vary over the deposits and are summarised for each deposit below:

Deposit	Drill Hole Spacing
Hepi	25 x 50 in main area, then 50 x100 or 100x100 extending to 200m to the north, within the grade control area 12.5 x 12.5m
Mt Kilkenny	50 x 50m (50 x 25m in places) in Central Areas, 100 x 50m to north, 400 x 100m to south
Mertondale	25/50 x 100m in the centre, 50 x 400 to south
Waite Kauri	25 x 50 in south, 50 x 100 to north. Small area 25 x 25m to east

Eucalyptus	100 x 200m with some area of 50 x 100m
Murrin North	25 x 100m in northeast, 50 x 200m elsewhere
Wanbanna	100 x 100m

Classification of resources relies on the underlying sample and data quality used to build the respective resource block models. The classification methodology used estimation quality values stored for each block estimate.

- Measured blocks were typically 0-50 m from the nearest composite.
- Indicated blocks were 50-100 m from the nearest composite.
- Inferred blocks were greater than 100 m from the nearest composite

The individual block classification quality value applied in the original block estimation was reviewed in the resource update and coherent zones of classification were interpreted and applied to the resource estimate.

Resource classification for Mt Kilkenny, Eucalyptus and Hepi deposits is based on consideration of a number of factors including data quality, geological and grade continuity. Variogram modelling has indicated that the grade correlation between drill holes becomes weak as separation is greater than 50-100 m. Resource classification was assessed based primarily on the estimation pass which was dependant on the drill hole spacing. Measured classification was applied to areas where there were reasonably continuous zones of blocks estimated in the first pass and is generally the area covered by 50 m × 50 m spaced drilling.

Factors used to guide the classification for the Mertondale, Waite Kauri, Murrin North and Wanbanna deposits were 'Kriging variance', 'number of sample composites available within block vicinity' and 'distance of block from nearest composite'. In addition to these, the lower confidence in the RAB drilling at Mertondale precluded the allocation of Measured classification at this deposit.

The Mineral Resource estimate appropriately reflects the view of the Competent Person.

### Sample Analysis Method

Samples were sent to Ultra Trace Laboratories in Canning Vale, Perth for analysis. The samples were dried at 105°C, milled and an aliquot taken for XRF analysis. The pulp was fused using a Li borate flux mixture with a Na nitrate oxidant. The fusion disks were analysed using wavelength dispersive X-ray fluorescence spectrometry for the following suite of elements:

- Ni, Co, Mg, Fe, Mn, Zn, Cu, Al, Cr, As, Ca, Si and Cl

Limited external standards and analysis at an alternative laboratory were used, however internal laboratory standards and repeats demonstrated a high level of accuracy and precision in the analysis.

Ravensgate have previously checked 10% of the digital assay data to original assay certificates, with no errors detected. No other independent check of significant intersections was conducted.

### Estimation Methodology

Golder updated the geology interpretation and grade estimation for the Mt Kilkenny, Eucalyptus and Hepi deposits using the following parameters:

- Mineralised domains were based on 4,000 ppm and 8,000 ppm Ni thresholds and a 400 ppm Co threshold.
- Golder proprietary software using ordinary kriging (OK) was used to estimate the grade of all elements:
  - Ni, Zn, As, Al, Cr, and Mn estimates were constrained by the Ni domains.
  - Co and Cu estimates were constrained by the Co domain.
  - Fe, Mg, Al, Ca, Si and Cl were constrained by regolith domains.
- Unfolding using the base of the ferruginous zone was applied to all estimates.
- A small number of higher grade outlier nickel and cobalt composites had restricted search neighbourhood applied to restrict the spatial influence on the grade estimate.

- Drill spacing in the areas of significant potentially economic mineralisation is predominantly 50 × 50 m or 50 × 25 m. The block size of 20 × 20 × 2 m used for estimation was approximately half the drill spacing. Search dimensions ranged from 60 × 60 × 15 m to 200 × 500 × 30 m.

Ravensgate (ASX release 21 February 2017) estimated the Mertondale, Waite Kauri, Murrin North and Wanbanna deposits using the following parameters:

- Mineralised domains were based on nominal 2,000 to 5,000 ppm Ni threshold.
- Medsystem software using ordinary kriging (OK) was used to estimate grades for Ni, Co, Mg, Fe, Mn, Zn, Cu, Al, Cr, As, Ca, Si and Cl.
- Vulcan software using uniform conditioning (UC) was used to estimate the nickel grade for the Wanbanna deposits.
- A small number of higher grade outlier nickel composites had restricted search neighbourhood applied to restrict the spatial influence on the grade estimate.
- Drill spacing in the areas of significant potentially economic mineralisation is predominantly 50m × 50m or 50m × 25m. The block size of 20 × 20 × 2 m used for estimation was approximately half the drill spacing. Sample search dimensions were 160 × 80 × 30 m to 220 × 100 × 25 m.

### Cut-off Grade and Basis for Selection

Cut-off grades of 0.5% plus Ni are expected to produce an economic product using heap leaching extraction.

Mineral Resource Estimates for each deposit are shown at a range of cut-off grades in the detailed report prepared by Golder.

### Mining and Metallurgical Methods

Based on the shallow depth of the resource, open pit mining with excavator, loader and truck fleet with minimal blasting was assumed. The expected SMU is 5 x 5 x 2m using small to medium sized mining equipment.

The NiWest Project metallurgical process flowsheet incorporates crushing, agglomeration, heap leaching acid neutralisation and Fe/Al removal, solvent extraction, Ni & Co sulphate crystallisation. Metallurgical test work has been conducted on all key components of the flowsheet.

Test work was conducted on composite samples compiled from sonic core samples sourced from geographically dispersed drill holes, with coverage of all geological domains. Specific drilling programs were conducted in 2007, 2011 and 2014. The focus of these test work programs the Mt Kilkenny, Hepi and Eucalyptus deposits.

Geotechnical testing of the Mt Kilkenny, Hepi and Eucalyptus agglomerated ores was conducted by SGS Lakefield Oretest, Golder Associates and HydroGeoSense. This testing confirmed that, for the range of laterite ores and ore types/blends from these deposits, optimal agglomeration conditions provide a stacked material that has the geotechnical and hydrodynamic characteristics suitable for heap leaching in commercial heaps of up to 6m in height over the entire leach cycle.

Bottle roll acid leaching tests confirmed that up to 95% of the Ni and Co contained within the ore is acid soluble.

Heap leach test work was first undertaken at SGS Lakefield Oretest during 2006 - 2008 at column heights ranging from 1 to 4m. Metal recovery results were consistent with published data from the Murrin Murrin Operations Heap Leach.

During the recent PFS, further 2 and 4m column test work was conducted at SGS Australia under the supervision of SGS Bateman. Favourable results from the 2m columns has resulted in the selection of 2m heap heights as the basis for the design of the heap leach operation.

Analysis and interpretation of test work along with the application of relevant scale-up factors was conducted and the average heap leach nickel and cobalt recoveries were estimated at 81% and 87% respectively.

The heap leach cycle has been estimated at 300 days including stacking and unstacking of the material. The average leach acid consumption has been estimated at 450kg/t. This estimate is consistent with the published MMO data.

Hydro-metallurgical test work was undertaken at the Nagrom laboratory in Brisbane under the oversight of Mworx Consultants. Batch and continuous pilot testing of the PLS neutralisation and Fe/Al removal, and the DSX stages was conducted. Subsequently, nickel sulphate and cobalt sulphide products were respectively produced via crystallisation and precipitation stages.

Recovery losses in the two-stage neutralisation and DSX stages are estimated at 2% resulting in an overall nickel recovery of 79% and overall cobalt recovery of 85%.

## APPENDIX B: Summary of information required according to ASX Listing Rule 5.9.1

### NiWest Nickel Cobalt Project Ore Reserves

#### Material Assumptions

- Initial costs and parameters used for Whittle pit optimisations were derived from GME's recent open pit gold mining experience in the region and in collaboration with Golder Associates. Final mining cost estimates were based on unit rates supplied by a contractor for a similar project in the region. The owner mining costs were derived from first principles. Costs were compared with other operations in the region from experience and deemed to be reasonable.
- Pit optimisation studies were based on the following input parameters:
  - A mining cost of US\$2.78/t for ore and waste plus a mining cost adjustment factor (MCAF) of US\$0.015 per 2m lift to surface. This rate is inclusive of load & haul, drilling and blasting, dayworks, dewatering and on-site technical staff.
  - Grade Control cost of US\$0.50/t ore.
  - Ore haulage costs from satellite pits to the processing facility at Mt Kilkenny were assumed as US\$0.12/dry tonne (inclusive of fuel, loading & road maintenance costs). Approximate haulage distances were calculated for each satellite deposit, resulting in the following haulage cost assumptions:
    - Eucalyptus (40 km): US\$4.80/ dry tonne.
    - Hepi (22 km): US\$2.78/ dry tonne.
  - Pit slope angle of 45 degrees
- Geotechnical parameters used in the pit designs were based on Golder and Perth Mining Consultants Pty Ltd (PMC) recommendations for different domains. Ramp width of 25m and gradient of 1:10 was used.

Domain	Slope Sector (Dip Direction)	Batter Height (m)	Batter Face Angle (°)	Berm Width (m)	IRA (°)
Colluvium	All	10	37	5	37
Ferruginous	All	10	65	5	41
Smectite	All	10	55	5	41
Saprolite	All	10	60	5	41

- The selling prices for Nickel and Cobalt utilised for Ore Reserves were based on a review of consensus analyst forecasts.

Metal	Sell Price (US\$)
Ni	8.00
Co	25.00

- The variable and fixed processing plant operating cost estimate (OPEX) was determined by Prudentia Process Consulting (PCC). The variable cost was A\$55.30/t ore and A\$22.9Mpa of fixed costs. Variable cost includes all reagents whereas fixed cost includes plant utilities, labour, maintenance, general expenses and contractor services.
- Heap Leach residue disposal costs are based on in-pit residue storage.



- Product transport cost was estimated at A\$195/t product based on transport from site to the Esperance port, and shipping to east Asia.
- Product specifications
  - nickel sulphate – 22.33 % nickel
  - cobalt sulphate – 20.96 % cobalt
- The Western Australia state government royalty of 2.5% metal product royalty was applied for both cobalt and nickel. In addition, the table below shows private agreement royalties that have also been incorporated in financial modelling where material:

Project Area	Tenements	Beneficiary	Terms
Mt Kilkenny	M39/878, M39/879	Retford Resources	A\$0.05 per tonne of ore processed to a maximum of A\$1.0 million
	M39/568 M39/289	Russell Mc Knight	A\$0.10 per tonne of ore mined.
Eucalyptus	M39/313, M39/344, M39/430, M39/666, M39/674	Glencore	1. A\$200,000 per annum less any NPR and NSR 2. 1.5% Net Profit Royalty (NPR) 3. 1% Net Smelter Royalty (NSR) 4. A\$0.10 per tonne of ore mined and recovered where recovered grade of nickel ore mined is equal to or less than 0.6% Ni OR A\$0.80 per tonne of ore mined and recovered, where recovered grade of nickel ore mined is equal to or greater than 3.0% Ni OR A\$ $\{[(\text{grade} - 0.6) \times 0.7]/2.4 + 0.1\}$ times ore tonnes mined and recovered, where recovered grade of nickel ore mined is greater than 0.6% Ni and less than 3.0% Ni
	M39/803	Old City Nominees	A\$0.10 per tonne of Proved Ore Reserve of nickel
	M39/744	Franco Nevada	A\$0.50 per tonne of ore processed

### Criteria for Mineral Resource and Ore Reserve Classification

The Mineral Resource classification considered a number of factors; including quality of the input data, geological interpretation and the grade continuity. Data quality is consistent over the entire deposit but the confidence in the local geological interpretation and grade estimation is largely a function of drill hole spacing. Variogram modelling suggest that the grade correlation between drill holes becomes weak as separation is greater than 50–100 m. Mineral Resource classification was assigned primarily on the estimation pass which is dependent on the drill hole spacing:

- Measured classification was applied to areas where there was reasonably continuous zone of blocks estimated in the first pass. This was typically in the area covered by 50m × 50m spaced drilling.

- Indicated classification was applied to the second pass estimation and is generally the area covered by 50 m × 100 m spaced drilling.
- Inferred classification was applied to all mineralised blocks delineated in areas of drill hole spacings greater than 50 m x 100 m.

Only the JORC classified Measured and Indicated Mineral Resource material types were used in the optimisations for reserve reporting. While the final designs may contain Inferred material as part of the final material inventory, Inferred classified material was not utilised as an economic driver and thus not included in any of the Ore Reserve calculations. Minor quantities of Inferred material that presented during the course of mining was stockpiled as waste and not incorporated in the ore feed schedule and hence financial evaluation.

The accuracy and confidence levels of the study are suitable for the reporting of Ore Reserves in a Pre-Feasibility Study as defined in the JORC Code 2012. The Ore Reserve is a global estimate and is based on optimisation of the Mineral Resources contained in the Eucalyptus, Mt Kilkenny and Hepi deposits. Whilst 23% of these mineral resources are classified as Measured, only Probable ore reserves have been reported. This is due to the reserve estimate being at a pre-feasibility level with approximately +/-30% confidence and further work is to be completed in the feasibility study. These include, but are not limited to:

- Geotechnical, Hydrogeology and waste rock classification (potentially acid or non-acid forming) evaluations
- Metallurgical recovery variability testing
- Hydrometallurgy continuous pilot testing

Further work to optimize the designs and therefore the operating costs, recoveries, etc. include, but are not limited to:

- Drilling to convert the Inferred Resources to Indicated or Measured Resources
- Delineation of the higher acid consuming zones of the deposit to enable optimization of the ore feed scheduling

### **Mining Method and Assumptions**

Industry standard open cut mining methods are assumed in a multi-open pit mining scenario that will extract ore using conventional drill and blast (minimal), load and haul processes. The operation is planned to use 12m<sup>3</sup> excavators and 136 tonne rigid body trucks along with a fleet of auxiliary equipment. This proposed mining method is considered appropriate for the deposit style.

Approximately 2.4Mt of ore will be hauled annually to the ROM pad proximal to the crusher and processing plant located at Mt Kilkenny and waste material hauled to the waste dumps located in close proximity of each pit. During periods where the quantity of ore mined exceeds the quantity processed, additional temporary long-term stockpile areas will be utilised. The stockpiles will also be used for grade blending as required and low-grade ore deferred for processing to the end of mine life.

As the ore comprises of large thick blanket shaped deposit with insignificant internal waste, a mining recovery of 95% and mining dilution of 3% has been assumed. Selective mining with 2m flitching will be done to minimise dilution and ore loss.

Bulk dry density has been assumed as 1.25 tonnes/cubic metre. This value has been validated against those used by the adjacent Murrin Murrin operations. Over the past two plus decades Murrin Murrin have undertaken detailed SG test work. They have determined SG's for the various lateritic ore zones as ranging from 1.21 to 1.8.

### **Processing Method and Assumptions**

The NiWest Project metallurgical process flowsheet incorporates the following steps:

- Leaching involving crushing, agglomeration & heap leaching

- Refining including two stage acid neutralization and Fe/Al removal, Direct Solvent Extraction (DSX), Ni sulphate and Co sulphate crystallisation.

The stacked ore is leached with both dilute sulphuric acid and raffinate in a series of counter-current leaching stages. The solution is applied to the heap surface using “dripper” irrigation. The nickel, cobalt, and other metals are leached and report to Pregnant Leach Solution (PLS) ponds for recovery. The ore consumes approximately 450kg/t of acid over a 300 day combined stacking/leaching cycle. Leached ore (ripios) is washed, drained and transported to the in-pit residue storage facility. Excess liquor, containing magnesium and other waste solutions, are sent to evaporation pond(s) to control the water balance in the plant. PLS is neutralised in a 2 stage neutralisation circuit using calcrete to remove impurities, mainly iron and aluminium prior to DSX. The slurry from neutralisation is thickened and washed in counter current decantation circuit prior to filtration. Solids are then conveyed to the residue storage facility. The neutralised PLS is pumped to solvent extraction for metals recovery. Advanced electrolyte from nickel SX is cooled to crystallise out nickel sulphate hexahydrate. The crystal slurry is centrifuged to remove pure nickel sulphate hexahydrate crystal prior to the crystal being dried and bagged into 1t bulk bags for sale.

Overall Ni recovery of 79% and Co recovery of 85% have been assumed based on laboratory test work.

### Cut-off Grades

The nickel cut-off grade was calculated using final costs and modifying factors. The cut-off grade for Mt Kilkenney was 0.41% Ni. Due to the distance from the Eucalyptus and Hepi deposits to the Mt Kilkenney heap leach facility, additional road train costs increased the cut-off grade marginally. The cut-off for Eucalyptus was 0.44% Ni and 0.43% Ni for Hepi ore. However, for practical purposes, a 0.5% Ni cut-off was assumed for all deposits. A minimum blend grade of 0.6% per annum was targeted in the mine schedule. Material below the 0.5% Ni cut-off grade was not included

### Reserve Estimation Methodology

Reserve estimation started with the compilation of a set of assumptions including commodity pricing, mining, processing and all other costs and technical parameters such as geotechnical slopes, dilution and ore loss. Pit optimisations were carried out for each of the resource models to define the ultimate pits.

Ultimate pit selection was based on Revenue Factor 1 shells, due to the flat nature of the NPV curves. Pit designs were completed within the selected pit shell and by applying the domain specific geotechnical criteria as stated above, and minimum mining widths of 25m. Pit ramps were designed at 25m wide and 1:10 gradient.

Where appropriate the mining from pits was staged to manage the annual total material movement. Larger pits were divided into stages, either with full stage designs or by flagging blocks at lengths along the strike of the pits for scheduling purposes. This process was done in conjunction with ensuring that a ramp was available for each of the stages for pit sequencing and scheduling.

Mining models for each of the three deposits were created to allow for conversion factors for dilution and ore loss. A dilution study was carried out on a bench by bench basis for all the deposits. This process included regularisation of the block model to 20m x 20m x 2m blocks to remove sub-blocks in z-dimension and identifying edge blocks of potential ore blocks based on 0.5% Nickel cut-off grade. Once the edge blocks were flagged, a dilution corresponding to 1.5m skin was applied to the edge blocks with dilution grade from the adjacent diluting blocks. This process resulted in an average dilution of 3%. Ore loss of 5% was applied. Mining is planned to be done in 2 m flitches.

The reserves are reported after applying the conversion factors and economic testing of mining schedules using the financial model which incorporated all operating and capital costs. Mt Kilkenny and Hepi deposits have Measured category resource however this was downgraded to Probable reserves due to possible uncertainties in pit slope geotechnical parameters, pit dewatering and further ongoing optimisation of heap leach circuit including recoveries.

## Material Modifying Factors

### Status of Environmental Approvals

- Environmental and process water studies have been completed at Mt Kilkenny and Hepi deposits.
- Ethnographic and archaeological surveys have been carried out of the NiWest project areas. A number of sites are recorded as known or identified; there are recommendations on sites to be avoided and where consent is required.
- Previous environmental (flora & fauna, and ethnographic) surveys across the leases hosting the Mt Kilkenny, Hepi and Eucalyptus Deposits have been carried out. No material issues were identified.
- GME has designed and costed (as part of the pre-feasibility study) in-pit and ex-pit residue disposal facilities that comply with worst case scenario contaminant containment and environmental protection.

A program for further environmental studies has been compiled and will be implemented in conjunction with the DFS.

### Status of Mining Tenements and Approvals

The NiWest PFS Ore Reserve is contained within the following tenements:

- Mt Kilkenny: M39/878, M39/879
- Eucalyptus: M39/313, M39/802, M39/666, M39/430, M39/568, M39/674, M39/744, M39/289, M39/344 and
- Hepi: M39/717, M39/819, M39/718

All tenements (granted Mining Leases) are in good standing with tenure until 2029 in nearly all cases.

### Other Governmental Factors

There are no significant Governmental risks noted for the project. GME will comply with all relevant studies and approvals required leading to the development of the project. Discussions with the local Leonora Council and community members has shown support for the project

### Infrastructure Requirements for Selected Mining, Processing and Product Transportation to Market

- It is anticipated that GME Resources would have access to existing port facilities at Esperance that is currently used for off-loading of sulphur for local users such as CSBP and Minara Resources.
- The water for the NiWest Nickel Project is assumed to be sourced from a bore field located approximately 8km north west of the proposed plant site.
- All site power requirements are proposed to be provided by steam turbines using excess steam from the sulphuric acid plant with diesel fuelled power generation backup.
- The general area of the mine site is serviced by council-maintained roads, however the mining areas are bisected by the sealed Laverton to Leonora Road and sealed single lane roads provide generally all-weather access to Kalgoorlie/Boulder, and thus to Perth. A railway siding (Malcolm Siding) exists at the intersection of the Leonora-Laverton road and the railway line between Kalgoorlie and Leonora.
- It is envisaged that the operations personnel will be housed near the processing plant site in contract provided accommodation. It is likely that accommodation used for construction would be re-used for operations accommodation. Accommodation in Leonora will also be used where required.
- Land based communications are available, including mobile phone coverage.

## APPENDIX C: JORC Code, 2012, Table 1 Report

JORC Code Assessment Criteria	Comment
<b>Section 1 Sampling Techniques and Data</b>	
<p><b>Sampling Techniques</b></p> <p>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</p> <p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</p>	<ul style="list-style-type: none"> <li>Samples used in the Project resource estimate are predominantly obtained from Reverse Circulation (RC) drill holes with some samples from Sonic, Rotary Air Blast (RAB), Diamond Drilling (DD) and Air Core (AC) drilling.</li> <li>The number of drill holes and metres used in the modelling is listed below: <ul style="list-style-type: none"> <li>Hepi 335 holes for 9,531m (includes 206 RC Grade Control, 118 RC &amp; 112 Sonic)</li> <li>Mt Kilkenny 779 holes for 30,474m (includes 716 RC, 29 Sonic &amp; 34 AC)</li> <li>Mertondale 372 holes for 7,331m (includes 108 RC &amp; 264 RAB)</li> <li>Waite Kauri 375 holes for 13,075m (includes 346 RC, 2 DD &amp; 27 RAB)</li> <li>Eucalyptus 1,218 holes for 36,541m (includes 1069 RC, 18 Sonic, 2 DD &amp; 129 RAB)</li> <li>Murrin North 214 holes for 9,279m (includes 141 RC &amp; 73 RAB)</li> <li>Wanbanna 198 holes for 10,906m (includes 113 RC &amp; 85 AC)</li> </ul> </li> <li>Samples were collected at 1m intervals into labelled plastic and pre-numbered calico bags below the cyclone/splitter.</li> <li>Duplicate samples were inserted at a rate of 4%.</li> <li>For Mt Kilkenny, Eucalyptus and Hepi deposits, separate wireframes were used for nickel and cobalt estimations to account for areas where cobalt mineralisation extends beyond the nickel mineralisation. Samples are assumed to be representative of the grade of the mineralisation intersected.</li> <li>Wireframes based on nickel mineralisation were used to constrain the nickel and cobalt estimations for Mertondale, Waite Kauri, Murrin North and Wanbanna and a strong correlation between these two elements has been assumed.</li> </ul>

JORC Code Assessment Criteria	Comment
<b>Drilling Techniques</b>	<ul style="list-style-type: none"> <li>Resource drilling was restricted to RC drill holes at varying drill grid densities. RC drilling for both resource and grade control predominantly utilised 5¼ inch 'face sample' hammer bits.</li> <li>Some RAB (open hole drilling) was conducted during exploration of the deposit. In some areas this drilling was used in the geological and domain interpretation. For the Mertondale deposit the grade estimation is based on a high proportion of RAB drilling which has limited the deposit to Indicated Resource classification.</li> </ul>
<p>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.), and details (e.g. 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.).</p>	
<b>Drill Sample Recovery</b>	<ul style="list-style-type: none"> <li>Drill sample recovery (visual) was recorded and is generally good.</li> <li>RC drilling was observed by Ravensgate Mining Industry Consultants (Ravensgate) and no sample recovery issues were identified.</li> <li>Due to shallow nature of mineralisation all drill sampling was located above the water and no sample bias issues are expected. No comparison of drill recovery and sample grade was conducted.</li> </ul>
<p>Method of recording and assessing core and chip sample recoveries and results assessed.</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>	
<b>Logging</b>	<ul style="list-style-type: none"> <li>All geological logging of RC chips was carried out rigorously, according to the guidelines and codes previously defined by 'Anaconda' and as presented in the current edition of GME's NiWest Nickel Laterite Project 'Field Geologists procedures'. The drilling carried out in the 'Pre-2004' and 'Post-2004' drilling programs referred to a similar set of older logging codes that have subsequently been updated and adopted for general use in the currently used logging reference procedures</li> <li>Logging is qualitative in nature. GME geologists logged drilling samples for Sample Colour, Hardness, Sample Recovery, Texture, Moisture Content, Clay-Type and finally Rock-Type.</li> <li>Drill holes were logged and sampled for the entire hole depth.</li> </ul>
<p>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.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.), photography.</p> <p>The total length and percentage of the relevant intersections logged.</p>	
<b>Sub-Sampling Techniques and Sample Preparation</b>	

JORC Code Assessment Criteria	Comment
<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p>If non-core, whether riffled, tube sampled, rotary split, etc., and whether sampled wet or dry.</p> <p>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p> <p>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.</p> <p>Whether sample sizes are appropriate to the grain size of the material being sampled.</p>	<ul style="list-style-type: none"> <li>• Drilling was primarily RC. Limited diamond drilling conducted on Waite Kauri deposit used RC precollar in the mineralised zone.</li> <li>• RC samples were riffle split. Wet samples were hand grabbed.</li> <li>• Drill cuttings are relatively well homogenised during collection in the cyclone and riffle splitting. The sub-sample collected in the calico bag is considered to be representative of the sample interval.</li> <li>• Assay quality control measures in place included field duplicates, but very few standard reference materials were submitted with the samples to the laboratory.</li> <li>• The laboratory standards indicate the data is of high accuracy.</li> <li>• Field duplicates were collected at a frequency of 1:25 using the same method as the primary sample and show a reasonable correlation to the original sample.</li> <li>• Twelve twin holes were completed at Mt Kilkenny Deposit. Comparison between individual samples showed a high variability which was attributed to short scale grade variation.</li> <li>• Sub-sampling techniques have not been documented. Grain size of mineralisation is expected to be fine and grades are in the percentage range therefore large sample sizes are not required for samples to be representative.</li> </ul>
<b>Quality of Assay Data and Laboratory Tests</b>	
<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>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.</p> <p>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</p>	<ul style="list-style-type: none"> <li>• Samples taken from the RC drilling programs were sent to Ultra Trace Laboratories in Canningvale, Perth for analysis. The samples were dried at 105°C, milled and an aliquot taken for XRF analysis. The pulp was fused using a Li borate flux mixture with a Na nitrate oxidant. The fusion disks were analysed using wavelength dispersive X-ray fluorescence spectrometry for the following suite of elements: <ul style="list-style-type: none"> <li>○ Ni, Co, Mg, Fe, Mn, Zn, Cu, Al, Cr, As, Ca, Si and Cl.</li> </ul> </li> <li>• No geophysical or spectral scanning was conducted.</li> <li>• Very limited external standards and analysis at alternative laboratory were of insufficient numbers to make conclusive assessment of assay accuracy.</li> <li>• Internal laboratory standards and repeats demonstrated at high level of accuracy and precision in the analysis.</li> </ul>



JORC Code Assessment Criteria	Comment
<b>Verification of Sampling and Assaying</b> <p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes.</p> <p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</p> <p>Discuss any adjustment to assay data.</p>	<ul style="list-style-type: none"> <li>10% of the digital assay data was checked with original assay certificates by Ravensgate during the previous modelling stage, with no errors detected. No other independent check of significant intersections was conducted.</li> <li>Twelve twin holes were completed at the Mt Kilkenny deposit. Comparison between individual samples showed a high variability which was attributed to short scale grade variation.</li> <li>The drilling was logged in the field on paper sheets which were subsequently entered on excel spreadsheets.</li> <li>Drilling data is stored in an Access database with Datashed as a front-end management system. During the main drilling period in 2007 &amp; 2008 the database was managed externally by Maxwell Geoservices. Maxwell are consultants who provide industry best practices with data validation to ensure data integrity.</li> <li>No assay adjustment was made.</li> </ul>
<b>Location of Data Points</b> <p>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</p> <p>Specification of the grid system used.</p> <p>Quality and adequacy of topographic control.</p>	<ul style="list-style-type: none"> <li>Completed drill hole collar locations were surveyed by Wild Total Station instrument, traversing from survey control stations which were located using differential GPS with a reported accuracy of (<math>\pm</math>) 0.1 metre accuracy.</li> <li>Downhole survey of hole deviation was not conducted. Any deviation in the short holes would not materially affect the modelling of the mineralised zones.</li> <li>The NiWest Nickel Laterite Project used MGA94-51 grid coordinates.</li> <li>Digital Terrain Elevation surface models were generated using ground collar point surveys of at least 0.1 m in surface elevation accuracy.</li> </ul>
<b>Data Spacing and Distribution</b> <p>Data spacing for reporting of Exploration Results.</p> <p>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.</p> <p>Whether sample compositing has been applied.</p>	<ul style="list-style-type: none"> <li>Drilling was conducted with mostly vertical holes spaced along section lines running across the deposits. Line and drill spacing vary over the deposits and are summarised for each deposit below: <ul style="list-style-type: none"> <li>Hepi: 25 × 50 in main area, then 50 × 100 or 100 × 100 extending to 200 m to the north, with grade control area 12.5 × 12.5 m</li> <li>Mt Kilkenny: 50 × 50 m (50 × 25 m in places) in Central Areas, 100 × 50 m to north, 400 × 100 m to south</li> <li>Mertondale: 25/50 × 100 m in the centre, 50 × 400 to south</li> <li>Waite Kauri : 25 × 50 in south, 50 × 100 to north. Small area 25 × 25 m to east</li> <li>Eucalyptus : 100 × 200 m with some area of 50 × 100 m</li> </ul> </li> </ul>

JORC Code Assessment Criteria	Comment
	<ul style="list-style-type: none"> <li>○ Murrin North: 25 × 100 m in north-east, 50 × 200 m elsewhere</li> <li>○ Wanbanna : 100 × 100 m</li> <li>• Drill spacing was sufficient to allow the interpretation of the mineralised zone at the 3,000-5,000ppm Ni and variogram ranges generally exceed the drill spacing in most of the resource areas. Locally the depth of mineralisation is variable and there is higher confidence in the local resource estimate where drill spacing is closer. This is reflected in the classification criteria where the following nominal distance to a drill hole was applied to blocks: <ul style="list-style-type: none"> <li>○ Measured blocks less than 50m.</li> <li>○ Indicated blocks less than 100m.</li> </ul> </li> </ul>
<b>Orientation of Data in Relation to Geological Structure</b>  Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  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.	<ul style="list-style-type: none"> <li>• Almost all of the drill holes were drilled vertically (-90°).</li> <li>• Most of the observed regolith zonation which controls the mineralisation shows strong horizontal zonation. Vertical drill holes are the best orientation to test the horizontal zones.</li> <li>• Vertical drilling cross cuts the horizontal mineralised zones. This aligns the closest spaced sampling with the orientation of the greatest grade variability leading to the best representation of the mineralisation grade.</li> </ul>
<b>Sample Security</b>  The measures taken to ensure sample security.	<ul style="list-style-type: none"> <li>• Collection and submission of samples were supervised by company representatives up to the point of transfer to the assay laboratory.</li> </ul>
<b>Audits and Reviews</b>  The results of any audits or reviews of sampling techniques and data.	<ul style="list-style-type: none"> <li>• Ravensgate conducted a review of drilling and sampling process in 2007.</li> <li>• Peer reviews of the geology interpretation and grade interpretation were conducted between GME and Golder.</li> </ul>
<b>Section 2 Reporting of Exploration Results</b>	
<b>Mineral Tenement and Land Tenure Status</b>  Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint	<ul style="list-style-type: none"> <li>• The NiWest deposits are located on Mining Leases as detailed below: <ul style="list-style-type: none"> <li>○ Mertondale:M37/591</li> <li>○ Waite Kauri : M37/1216</li> </ul> </li> </ul>

JORC Code Assessment Criteria	Comment
<p>ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>○ Murrin North: M39/758</li> <li>○ Wanbanna: M39/460</li> <li>○ Hepi: M39/717, M39/819</li> <li>○ Mt Kilkenny: M39/878, M39/879</li> <li>○ Eucalyptus: M39/313, M39/802, M39/666, M39/568, M39/674, M39/744, M39/289, M39/344, M39/803</li> </ul> <ul style="list-style-type: none"> <li>• Any royalty or other interests in tenements are detailed below: <ul style="list-style-type: none"> <li>○ Mt Kilkenny: <ul style="list-style-type: none"> <li>▪ A\$0.05 per tonne of ore processed to a maximum of A\$1.0 million to Retford Resources Pty Ltd</li> <li>▪ A\$0.10 per tonne of ore mined to Russell McKnight</li> </ul> </li> <li>○ Eucalyptus: M39/313, M39/344, M39/340, M39/430, M39/666, M39/674 <ul style="list-style-type: none"> <li>▪ A\$200,000 per annum less any NPR and NSR</li> <li>▪ Net Profit Royalty (NPR) 1.5%</li> <li>▪ Net Smelter Royalty (NSR) 1%</li> <li>▪ A\$0.10 per tonne of ore mined and recovered where recovered grade of Ni ore mined is equal to or less than 0.6% Ni</li> <li>OR</li> <li>▪ A\$0.80 per tonne of ore mined and recovered, where recovered grade of Ni ore mined is equal to or greater than 3.0% Ni</li> <li>OR</li> <li>▪ A\$[{(grade - 0.6) x 0.7}/2.4 + 0.1] times ore tonnes mined and recovered, where recovered grade of Ni ore mined is greater than 0.6% Ni and less than 3.0% Ni</li> </ul> </li> </ul> </li> <li>○ Murrin Murrin East Pty Ltd, Glen Murrin Pty Ltd (Glencore)</li> <li>○ Eucalyptus: M39/803 A\$0.10 per tonne of Proved Ore Reserve of nickel to Old City Nominees</li> <li>○ Eucalyptus: M39/744 50c per tonne of ore processed to Franco Nevada</li> <li>○ Wanbanna: 20% Direct Interest by Wanbanna Pty Ltd</li> </ul> <ul style="list-style-type: none"> <li>• All tenements (granted Mining Leases) are in good standing with tenure until 2029 for nearly all tenements.</li> </ul>

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<b>Exploration Done by Other Parties</b>	<ul style="list-style-type: none"> <li>Prior to 2004 exploration at Eucalyptus was conducted by Aberfoyle</li> </ul>
Acknowledgment and appraisal of exploration by other parties.	
<b>Geology</b>	<ul style="list-style-type: none"> <li>Mineralisation is strongly related to both lithology and in-situ regolith/laterite development. The observed nickel and cobalt mineralisation is very closely related to the presence of ultramafic rock. Mineral Resource estimation domains are based on the underlying geology but also encompass the known extents of significant nickel mineralisation</li> </ul>
Deposit type, geological setting and style of mineralisation.	
<b>Drill hole information</b>	<ul style="list-style-type: none"> <li>Details of drill holes used in the estimation of each deposit are listed in Mineral Resource Estimation report Appendices.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>Top cut was applied to the grade estimation outside the interpreted mineralised zone for Mount Kilkenny, Eucalyptus and Hepi Deposits. Restricted search distance was applied to high nickel and cobalt grade outliers to limit their spatial influence.</li> <li>1 m compositing was used for nickel grade estimation for all the deposits with the exception of Murrin North.</li> <li>2 m composites were used to estimate grade for nickel, cobalt and other elements for Murrin North deposit.</li> <li>Metal equivalent values were not used.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>The intersection widths are effectively the width of mineralisation.</li> <li>The majority of drill holes are vertical and intersect the strongly horizontal mineralised zones at 90°.</li> <li>Down hole lengths approximate to true width of mineralisation.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Drill hole location plan and typical cross section for each deposit are supplied as figures in the Mineral Resource Estimate report.</li> </ul>
<b>Balance reporting</b>	<ul style="list-style-type: none"> <li>Mineral Resources have been defined for all GME NiWest Deposits. No exploration results are being reported.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Detailed aeromagnetics were flown by Fugro over the Hepi, Mt Kilkenny and Eucalyptus areas during 2005.</li> </ul>

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	<ul style="list-style-type: none"> <li>Detailed 10K scale geological outcrop mapping and solid geological interpretations were completed over the Mt Kilkeny and Hepi resource areas during 2008 by Jigsaw Geoscience. The above aeromagnetic imagery was heavily utilised in the solid geology interpretations.</li> <li>Sonic drill programs to collect bulk samples for metallurgical testing were undertaken at Mt Kilkeny, Hepi, Eucalyptus &amp; Waite Kauri from mid-2000s to 2014.</li> <li>Hydrological test work, including the drilling of water bores, was undertaken by Rockwater during 2008 at Mt Kilkeny. A further hydrological investigation was completed by Coffey in 2009.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>All resources contain an inferred component which further infill and extension drilling has potential to be converted to an indication classification thus potentially increasing the global probable mining inventory.</li> <li>Aeromagnetic imagery highlights that all NiWest deposits contain prospective Ni-Co areas, particularly under shallow cover which have been only lightly or not drill tested at all.</li> <li>Undertake a detail review to delineate and prioritise Ni-Co exploration targets.</li> </ul>
<b>Section 3 Estimation and Reporting of Mineral Resources</b>	
<b>Database Integrity</b>  Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.  Data validation procedures used.	<ul style="list-style-type: none"> <li>GME data is stored in a SQL database managed by a designated Data Custodian. Data has undergone industry standard validations utilising Datashed (front end industry software package) and sections &amp; plans</li> <li>GME has completed comparison of original drill collar coordinates on logging sheets to the data base values and corrected where required.</li> <li>Golder conducted logical validation checks including: <ul style="list-style-type: none"> <li>Duplicate collar location</li> <li>Intervals beyond end of hole depth</li> <li>Overlapping of intervals</li> </ul> </li> </ul>
<b>Site Visits</b>  Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	<ul style="list-style-type: none"> <li>David Reid has observed sonic drill core to verify the relation with regolith profile and grade.</li> <li>David Reid visited all the NiWest deposits on 19-20 June 2018. Rehabilitation of drill locations had been rehabilitated with collar location marked with metal tags. A selection of hole collar coordinates was checked by GPS and all matched the drill database coordinates.</li> </ul>

JORC Code Assessment Criteria	Comment
If no site visits have been undertaken indicate why this is the case.	
<b>Geological Interpretation</b>  Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.  Nature of the data used and of any assumptions made.  The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation.  The factors affecting continuity both of grade and geology.	<ul style="list-style-type: none"> <li>• In the zones of mineralisation there is a strong correspondence between the regolith and mineralisation profile of adjacent drill holes. This provides reasonable confidence in the underlying geological control interpreted for the mineralisation.</li> <li>• The lithological coding surfaces developed were predominantly directed toward separating and defining the main saprolite or nickel bearing material and the underlying basement serpentinite (ultramafic) unit.</li> <li>• Regolith profile was modelled for Mt Kilkenny, Eucalyptus and Hepi deposits using cluster analysis of the sample multi-element geochemistry.</li> <li>• Mineralisation domains based on nickel grades and cobalt grade (for three deposits) have been used to constrain estimates for other elements.</li> <li>• Limited areas of close spaced grade control drilling at the Hepi deposits have demonstrated the geological interpretation based on the initial wide spaced drilling is reasonably robust. The close spaced drilling highlighted that locally the base of mineralisation is highly variable.</li> <li>• Mineral Resource estimation domains are based on the underlying geology and regolith profile but also encompass the known extents of significant nickel mineralisation. It is these combined constraining limits that are used to build the individual ore zone domain wireframes used in this study.</li> <li>• Mineralisation is strongly related to both ultramafic bedrock lithology and in-situ regolith/laterite development.</li> <li>• The observed nickel and cobalt mineralisation is very closely related to the presence of ultramafic rock.</li> </ul>
<b>Dimensions</b>  The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul style="list-style-type: none"> <li>• Mineralisation occurs as horizontal tabular zones located near the surface (0-20 m depth) and typically 20-50m thick. The extent of mineralisation for each deposit is variable and summarised below: <ul style="list-style-type: none"> <li>○ Hepi: 2,200 m × 300 m (up to 600m)</li> <li>○ Mt Kilkenny: 5,000 m × 200-400m</li> <li>○ Mertondale: discontinuous over 3,500m × 50-100m</li> <li>○ Waite Kauri: 1,500 m two zones 200m wide</li> <li>○ Eucalyptus: 12,000 m two zones 100-400m wide</li> </ul> </li> </ul>

JORC Code Assessment Criteria	Comment
	<ul style="list-style-type: none"> <li>○ Murrin North: two zones 2,150 × 200 m and 1,250 × 150m</li> <li>○ Wanbanna: 2,100 × 450 m</li> </ul>
<b>Estimation and Modelling Techniques</b>	<ul style="list-style-type: none"> <li>• Golder updated the geology interpretation and grade estimation for Mt Kilkenny, Eucalyptus and Hepi Deposits using the following parameters: <ul style="list-style-type: none"> <li>○ Mineralised domains were based on 4,000 ppm and 8,000 ppm Ni thresholds and a 400 ppm Co threshold.</li> <li>○ Golder proprietary software using ordinary kriging (OK) was used to estimate grade of all elements.</li> <li>○ Ni, Zn, As, Al, Cr, and Mn estimates were constrained by the Ni domains.</li> <li>○ Co and Cu estimates were constrained by the Co domain.</li> <li>○ Fe, Mg, Al, Ca, Si and Cl were constrained by regolith domains.</li> <li>○ Unfolding using the base of the ferruginous zone was applied to all estimates.</li> <li>○ A small number of higher grade outlier nickel and cobalt composites had restricted search neighbourhood applied to restrict the spatial influence on the grade estimate.</li> <li>○ Drill spacing in the areas of significant potentially economic mineralisation is predominantly 50 × 50 m or 50 × 25 m. The block size of 20 × 20 × 2 m used for estimation was approximately half the drill spacing. Sample search dimensions ranged from 60 × 60 × 15 m to 200 × 500 × 30 m.</li> </ul> </li> <li>• Ravensgate estimated the Mertondale, Waite Kauri, Murrin North and Wanbanna deposits using the following parameters: <ul style="list-style-type: none"> <li>○ Mineralised domains were based on 2,000-5,000 ppm Ni thresholds.</li> <li>○ Medsystem software using ordinary kriging (OK) was used to estimate grades for Ni, Co, Mg, Fe, Mn, Zn, Cu, Al, Cr, As, Ca, Si and Cl.</li> <li>○ Vulcan software using uniform conditioning (UC) was used to estimate the nickel grade for the Wanbanna deposits.</li> <li>○ A small number of higher grade outlier nickel composites had restricted search neighbourhood applied to restrict the spatial influence on the grade estimate.</li> <li>○ Drill spacing in the areas of significant potentially economic mineralisation is predominantly 50 × 50 m or 50 × 25 m. The block size of 20 × 20 × 2 m used for</li> </ul> </li> </ul>
The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters, and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	
The assumptions made regarding recovery of by-products.	
Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	
In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	
Any assumptions behind modelling of selective mining units.	



JORC Code Assessment Criteria	Comment
<p>Any assumptions about correlation between variables.</p> <p>Description of how the geological interpretation was used to control the resource estimates.</p> <p>Discussion of basis for using or not using grade cutting or capping.</p> <p>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</p>	<p>estimation was approximately half the drill spacing. Sample search dimensions were 160 × 80 × 30 m to 220 × 100 × 25 m.</p>
<p><b>Moisture</b></p> <p>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</p>	<ul style="list-style-type: none"> <li>Tonnages are estimated on a dry basis.</li> <li>231 samples from RC &amp; Sonic core containing ore bearing material from four project areas (Mt Kilkenny, Hepi, Murrin North &amp; Waite Kauri) have been submitted by GME to Industry registered laboratories SGS &amp; Analabs for moisture determinations. Averages of returned determinations are summarised below: <ul style="list-style-type: none"> <li>Ferruginous Zone - 24%</li> <li>Smectite Zone - 28%</li> <li>Saprolite Zone - 29%</li> </ul> </li> </ul>
<p><b>Cut-off Parameters</b></p> <p>The basis of the adopted cut-off grade(s) or quality parameters applied.</p>	<ul style="list-style-type: none"> <li>Mine planning is currently in progress to determine the most suitable cut-off grades for the deposits</li> </ul>
<p><b>Mining Factors or Assumptions</b></p> <p>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution.</p>	<ul style="list-style-type: none"> <li>Based on the shallow depth of the resource, open pit mining with excavator, loader and truck fleet with minimal blasting was assumed.</li> <li>The expected SMU is 5 × 5 × 2m using small to medium sized mining equipment.</li> </ul>

JORC Code Assessment Criteria	Comment
It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
<b>Metallurgical Factors or Assumptions</b>  The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul style="list-style-type: none"> <li>• The NiWest Project metallurgical process flowsheet incorporates the following steps: <ul style="list-style-type: none"> <li>○ Leaching: Crushing, agglomeration &amp; heap leaching</li> <li>○ Refining: Acid neutralisation and Fe/Al removal, Direct Solvent Extraction, Ni &amp; Co sulphate crystallisation</li> </ul> </li> <li>• Metallurgical test work has been conducted on all key components of the flowsheet.</li> <li>• Test work was conducted on composite samples compiled from sonic core samples sourced from geographically dispersed drill holes, with coverage of all geological domains. Specific drilling programs were conducted in 2007, 2011 and 2014.</li> <li>• The focus of these test work programs has been the Mt Kilkenny, Hepi and Eucalyptus deposits.</li> <li>• Geotechnical testing of the Mt Kilkenny, Hepi and Eucalyptus agglomerated ores was conducted by SGS Lakefield Orestest, Golder Associates and HydroGeoSense. This testing confirmed that, for the range of laterite ores and ore types/blends from these deposits, optimal agglomeration conditions provides a stacked material that has the geotechnical and hydrodynamic characteristics suitable for heap leaching in commercial heaps of up to 6m in height over the entire leach cycle.</li> <li>• Bottle roll acid leaching tests have confirmed that up to 95% of the Ni and Co contained within the ore is acid soluble.</li> <li>• Heap leach test work was first undertaken at SGS during 2006-2008 at column heights ranging from 1 to 4m. Metal recovery results were consistent with published data from the Murrin Murrin Operations (MMO) Ni Laterite Heap Leach.</li> <li>• During the recent PFS, further 2 and 4 m column test work was conducted at SGS Lakefield Orestest under the supervision of SGS Bateman. Favourable results from the 2 m columns has</li> </ul>

JORC Code Assessment Criteria	Comment
	<p>resulted in the selection of 2m heap heights as the basis for the design of the heap leach operation.</p> <ul style="list-style-type: none"> <li>• Analysis and interpretation of test work along with the application of relevant scale-up factors was conducted and the average heap leach nickel and cobalt recoveries were estimated at 81% and 87% respectively.</li> <li>• The heap leach cycle has been estimated at 300 days including stacking and unstacking of the material.</li> <li>• The average leach acid consumption has been estimated at 450 kg/t. This estimate is consistent with published MMO data.</li> <li>• Hydro-metallurgical test work was undertaken at the Nagrom laboratory in Brisbane under the supervision of Mworx Consultants. Batch and continuous pilot testing of the PLS neutralisation and FE/Al removal, and the Direct Solvent Extraction stages was conducted. Subsequently, nickel sulphate and cobalt sulphide products were respectively produced via crystallisation and precipitation stages.</li> <li>• Recovery losses in the two-stage neutralisation and Direct Solvent Extraction stages are estimated at 2% resulting in an overall nickel recovery of 79% and overall cobalt recovery of 85%</li> </ul>
<p><b>Environmental Factors or Assumptions</b></p> <p>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</p>	<ul style="list-style-type: none"> <li>• Environmental and process water studies have been completed at Mt Kilkenny and Hepi deposits.</li> <li>• A spreadsheet "Summary of Ethnographic and Archaeological Surveys at NiWest Projects.xlsx" was provided by GME that summarises the results of various ethnographic and archaeological surveys of the NiWest project areas. A number of sites are recorded as known or identified; there are recommendations on sites to be avoided and where consent is required</li> <li>• GME has conducted Environmental (flora &amp; fauna, and ethnographic) surveys across the leases hosting the Mt Kilkenny, Hepi and Eucalyptus Deposits. No material issues were identified.</li> <li>• GME has designed and costed (as part of the pre-feasibility study) residue disposal facilities that comply with worst case scenario contaminant containment and environmental protection.</li> </ul>
<b>Bulk Density</b>	<ul style="list-style-type: none"> <li>• No measurement of bulk density had been carried out at any of the NiWest project areas</li> </ul>

JORC Code Assessment Criteria	Comment
<p>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</p> <p>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</p> <p>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</p>	<ul style="list-style-type: none"> <li>• An assumed value of 1.25 tonnes/cubic metre was used to calculate the resource.</li> <li>• The SG was validated against those used by Murrin Murrin over the past two plus decades, which have been derived from detailed SG test work. They have determined SGs for the various lateritic ore zones as ranging from 1.21 to 1.8</li> <li>• GME Resources personnel believe this is a reasonable or slightly conservative value and is based on typical mine production of similar nearby deposits.</li> <li>• The assumed bulk density applied to the resource estimate allows for expected voids and porosity of the saprolite material.</li> </ul>
<p><b>Classification</b></p> <p>The basis for the classification of the Mineral Resources into varying confidence categories.</p> <p>Whether appropriate account has been taken of all relevant factors, i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data.</p> <p>Whether the result appropriately reflects the Competent Person(s)' view of the deposit.</p>	<ul style="list-style-type: none"> <li>• Classification of resources relies on the underlying sample and data quality used to build the respective resource block models. The classification methodology used estimation quality values stored for each block estimate.</li> <li>• Measured blocks were typically 0-50 m from the nearest composite. Indicated blocks were 50-100 m from the nearest composite. Inferred blocks were greater than 100 m from the nearest composite</li> <li>• The individual block classification quality value applied in the original block estimation was reviewed in the resource update and coherent zones of classification were interpreted and applied to the resource estimate.</li> <li>• Resource classification for Mt Kilkenny, Eucalyptus and Hepi deposits is based on consideration of a number of factors including data quality, geological and grade continuity. Variogram modelling has indicated that the grade correlation between drill holes becomes weak as separation is greater than 50-100 m. Resource classification was assessed based primarily on the estimation pass which was dependant on the drill hole spacing. Measured classification was applied to areas where there were reasonably continuous zones of blocks estimated in the first pass and is generally the area covered by 50 m x 50 m spaced drilling.</li> <li>• Factors used to guide the classification for the Mertondale, Waite Kauri, Murrin North and Wanbanna were 'Kriging variance', 'number of sample composites available within block vicinity' and 'distance of block from nearest composite'.</li> </ul>

JORC Code Assessment Criteria	Comment
	<ul style="list-style-type: none"> <li>In addition to these the lower confidence in the RAB drilling at Mertondale precluded the allocation of Measured classification at this deposit.</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Person.</li> </ul>
<b>Audits or Reviews</b>	<ul style="list-style-type: none"> <li>Ravensgate conducted a review of drilling and sampling process in 2007.</li> </ul>
The results of any audits or reviews of Mineral Resource estimates.	
<b>Discussion of Relative Accuracy/Confidence</b>	<ul style="list-style-type: none"> <li>Overall the resulting interpolated block models are considered to be relatively robust for most of the project areas because of relatively good drilling density and corresponding mineralisation distribution understanding. The relatively low variance nature of the nickel mineralisation throughout the deposit areas also allowed for reliable grade interpolation and associated resource estimation.</li> <li>Resource estimates are global.</li> <li>Relative accuracy could not be quantified, but it is expected that the resource will have the following global ranges: <ul style="list-style-type: none"> <li>Measured <math>\pm 10\%</math></li> <li>Indicated <math>\pm 15\%</math></li> <li>Inferred <math>\pm 30\%</math></li> </ul> </li> <li>A small proportion (200,000 t) of the Hepi Deposit where grade control drilling has been conducted can be considered as a local estimate.</li> <li>Mining has not been conducted on any deposit to allow comparison of the resource to mine production.</li> <li>A small area of grade control drilling at Hepi Deposit is the closest information to mine production. The close spaced drilling confirmed the continuity of grade but showed that the mineralisation had irregular upper and lower surfaces.</li> </ul>
Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	
<p>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</p> <p>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</p>	

JORC Code Assessment Criteria	Commentary
<b>Section 4 Estimation and Reporting of Ore Reserves</b> (Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)	
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>The resource models used as the basis for this Ore Reserves was compiled by Golder with updated geology interpretation and grade estimation for Mt Kilkenney, Eucalyptus and Hepi Deposits.</li> <li>Mineral Resources are reported inclusive of Ore Reserves.</li> </ul>
<p>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</p> <p>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</p>	
Site Visits	<ul style="list-style-type: none"> <li>The Competent Person for Ore Reserve did not visit the site.</li> <li>From the Ore Reserve perspective, a site visit was deemed not necessary for this greenfields project and relied on Ore Resource Competent person and other study team members for specific information from their site visit. The Competent person is familiar with the general area having worked in the surrounding area for many years.</li> </ul>
<p>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</p> <p>If no site visits have been undertaken indicate why this is the case.</p>	
Study Status	<ul style="list-style-type: none"> <li>A Pre-Feasibility Study based on three deposits, Mt Kilkenney, Eucalyptus and Hepi, was completed in August 2018.</li> <li>The study demonstrated that the mine plan is technically achievable and economically viable. All material modifying factors were considered.</li> </ul>
<p>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</p> <p>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</p>	
Cut-off parameters	<ul style="list-style-type: none"> <li>Nickel cut-off grade was calculated using final costs and modifying factors. Cut-off grade for Mt Kilkenney was 0.41% Ni. The cut-off grade calculated for Eucalyptus was 0.44% Ni and 0.43% Ni for Hepi ore, due to the road haulage distance from the respective deposits to the processing plant located at Mt Kilkenney.</li> <li>For practical purposes the cut-off grade is deemed to be 0.5% Ni.</li> </ul>
The basis of the cut-off grade(s) or quality parameters applied.	

JORC Code Assessment Criteria	Commentary																														
	<ul style="list-style-type: none"><li>A minimum average nickel grade of 0.6% was targeted on an annual basis in the mine plan.</li></ul>																														
Mining factors or assumptions	<ul style="list-style-type: none"><li>Pit optimisations were completed using Whittle software. Input assumptions were based on estimates obtained from suppliers, contractors and GME Resources. These were compared with estimates in other third-party studies to confirm relativity. Detailed mine designs were based on the respective Revenue Factor 1.0 shells.</li><li>The pit slope design takes into account the nature of the lithologies at the pit boundary and the overall slope angles therefore vary from zone to zone as shown below:<table><tr><th>Domain</th><th>Slope Sector (DDir)</th><th>Batter Height (m)</th><th>Batter Face Angle (°)</th><th>Berm Width (m)</th><th>IRA (°)</th></tr><tr><td>Colluvium</td><td>All</td><td>10</td><td>37</td><td>5</td><td>37</td></tr><tr><td>Ferruginous</td><td>All</td><td>10</td><td>65</td><td>5</td><td>41</td></tr><tr><td>Smectite</td><td>All</td><td>10</td><td>55</td><td>5</td><td>41</td></tr><tr><td>Saprolite</td><td>All</td><td>10</td><td>60</td><td>5</td><td>41</td></tr></table></li><li>Dilution and SMU analysis resulted in 3% dilution and 5% ore loss. Dilution was only applied to the edge blocks with the dilution grade from the adjacent ore block. Average dilution grade was calculated to be 0.4% Ni.</li><li>Mine schedules were generated using measured and indicated resources only.</li><li>Mine plan was evaluated using a detailed project financial model. This model utilises a Discounted Cashflow (DCF) methodology to arrive at a Net Present Value (NPV) for the NiWest Project.</li><li>The shallow (typically around 50m deep) nature of the deposits enables mining with conventional open pit mining methods. There are multiple pits within each of the three deposits. The mining sequence of the deposits and pits was optimized to deliver high grade ore up front.</li><li>Pre-strip associated with creating in-pit void sufficient for heap leach tailing residue disposal and construction of the heap leach pads is commenced 6 months prior to scheduled commissioning of the plant.</li><li>Grade control drilling is assumed to be done on a 12.5 x 12.5 m drill pattern. Additional pre-production drilling will be required in the starter pits to convert indicated resources to measured</li></ul>	Domain	Slope Sector (DDir)	Batter Height (m)	Batter Face Angle (°)	Berm Width (m)	IRA (°)	Colluvium	All	10	37	5	37	Ferruginous	All	10	65	5	41	Smectite	All	10	55	5	41	Saprolite	All	10	60	5	41
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JORC Code Assessment Criteria	Commentary																																																						
	<p>resources and also testing potential for conversion of inferred resources. Sterilisation of waste dump and long-term stockpile areas will also require additional drilling.</p> <ul style="list-style-type: none"><li>Pit optimisations were based on resource models compiled by Golder Associates with updated geology interpretation and grade estimation for Mt Kilkenny, Eucalyptus and Hepi Deposits. The following major assumptions were made for pit optimisation. Note that assumptions listed below were used for pit optimisation work and some of the assumptions were refined as the study progressed. For this reason, both initial and final assumptions are listed below.</li></ul> <table><tr><th>Parameter</th><th>Pit Optimisation</th><th>Ore Reserves</th></tr><tr><td>Nickel Price (US\$/lb)</td><td>7.50</td><td>8.00</td></tr><tr><td>Cobalt Price (US\$/lb)</td><td>20.00</td><td>25.00</td></tr><tr><td>Mining Costs (US\$/dt)</td><td></td><td></td></tr><tr><td>Ore</td><td>2.78</td><td>5.05</td></tr><tr><td>Waste</td><td>2.78</td><td>3.62</td></tr><tr><td>Incremental cost/2m flitch (US\$/dt)</td><td>0.015</td><td>0</td></tr><tr><td>Processing Costs (US\$/dt)</td><td>55.50</td><td>48.60</td></tr><tr><td>Ore Haulage (US\$/dt)</td><td></td><td></td></tr><tr><td>Eucalyptus to Mt Kilkenny</td><td>4.50</td><td>5.10</td></tr><tr><td>Hepi to Mt Kilkenny</td><td>2.78</td><td>2.81</td></tr><tr><td>Ni Recovery (%)</td><td>81</td><td>79</td></tr><tr><td>Co Recovery (%)</td><td>81</td><td>85</td></tr><tr><td>Geotechnical Slope (deg)</td><td>45</td><td>As per above table</td></tr><tr><td>Production Rate (Mtpa)</td><td>2.4</td><td>2.4</td></tr><tr><td>Dilution (%)</td><td>5</td><td>3</td></tr><tr><td>Mining Recovery (%)</td><td>95</td><td>95</td></tr><tr><td>Minimum mining width (m)</td><td>25</td><td>25</td></tr></table>	Parameter	Pit Optimisation	Ore Reserves	Nickel Price (US\$/lb)	7.50	8.00	Cobalt Price (US\$/lb)	20.00	25.00	Mining Costs (US\$/dt)			Ore	2.78	5.05	Waste	2.78	3.62	Incremental cost/2m flitch (US\$/dt)	0.015	0	Processing Costs (US\$/dt)	55.50	48.60	Ore Haulage (US\$/dt)			Eucalyptus to Mt Kilkenny	4.50	5.10	Hepi to Mt Kilkenny	2.78	2.81	Ni Recovery (%)	81	79	Co Recovery (%)	81	85	Geotechnical Slope (deg)	45	As per above table	Production Rate (Mtpa)	2.4	2.4	Dilution (%)	5	3	Mining Recovery (%)	95	95	Minimum mining width (m)	25	25
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	<ul style="list-style-type: none"> <li>• Mining dilution was determined to be 3%. A dilution study was carried out on a bench by bench basis for all the deposits. This process included regularisation of the block model to 20 x 20 x 2m blocks to remove sub-blocks in the z-dimension and identify edge blocks for potential ore blocks based on 0.5% Nickel cut-off grade. Once the edge blocks were flagged, a dilution skin of 1.5m was applied to the edge blocks with grades from adjacent diluting blocks. This process resulted in an average dilution of 3%. Ore loss of 5% was applied. Mining is planned to be done in 2m flitches.</li> <li>• Ore loss and dilution will be controlled by selective mining using appropriate mining equipment.</li> <li>• Minimum mining width of 25m was used. This is only applicable at the bottom benches.</li> <li>• Inferred resources have not been utilized in the mine plan although additional Whittle optimisations were carried to test pit sensitivity. This is discussed in the opportunities section of the PFS report.</li> <li>• The costs for all mining related infrastructure have been allowed for in the study. It is assumed that mining will be done by a contractor who will be responsible for provision of all mining equipment and labour. Cost estimates associated with waste dumps, stockpiles, mine dewatering, haul roads and the heavy vehicle workshop facilities have been included in the PFS.</li> </ul>
<p>Metallurgical factors or assumptions</p> <p>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</p> <p>Whether the metallurgical process is well-tested technology or novel in nature.</p> <p>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</p> <p>Any assumptions or allowances made for deleterious elements.</p> <p>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</p> <p>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</p>	<ul style="list-style-type: none"> <li>• Bottle roll tests were conducted on 220 samples and confirmed that the deposits are amenable to sulphuric acid leaching. The flowsheet comprises heap leaching, acid neutralisation, Direct Solvent Extraction and crystallisation of final product. The individual components of the flowsheet have been employed at various operations.</li> <li>• Heap leaching is employed extensively in copper and gold mining and has been successfully demonstrated at full scale level at the Murrin Murrin Operation.</li> <li>• Metallurgical testing has been conducted since 2002 and covered all aspects of the flowsheet. The testing was conducted by industry recognized parties and reviewed by Mr Dave Readett, who is a fellow of the AUSIMM and considered to have the relevant experience. The laboratory testing has been factored to reflect the scale up losses expected. The heap leach testing was conducted on composite samples sourced from Hepi, Mt Kilkenny North and Central. Metallurgical testing conducted to date does not enable assigning specific recovery factors to domains. This testing will be conducted during the feasibility study. Heap leach recovery of 81% is forecast for nickel and 87% for cobalt and the overall recovery estimate of 79% for nickel and 85% for cobalt assumes a 2% loss in the hydro-metallurgical section of the plant.</li> </ul>

JORC Code Assessment Criteria	Commentary
	<ul style="list-style-type: none"> <li>All deleterious elements, including Iron, Aluminium, Copper, Calcium, MgO are extracted during the process to produce Nickel Sulphate and Cobalt Sulphate at the purity levels required by offtake market.</li> <li>Continuous pilot plant testing of the hydrometallurgical flowsheet was conducted at the Nagrom Laboratory in Brisbane. The program and testing was reported on in the GME Resources Quarterly Activity Reports released to the ASX in 2017 and 2018.</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>An environmental baseline study program has been compiled with the assistance of an industry expert and will be completed in conjunction with the Feasibility Study. Residue disposal design have been completed by suitably qualified experts and based on the relevant Australian and international standards. No applications for approvals have been lodged however based on the designs complying with requisite standards and an existing similar operation being in existence adjacent to the NiWest project, it is anticipated that subject to due process being followed approval will be granted.</li> </ul>
The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	
Infrastructure	<ul style="list-style-type: none"> <li>It is anticipated that GME Resources would have access to existing port facilities at Esperance that is currently used for off-loading of sulphur for local users such as First Quantum Minerals (FQM).</li> <li>Water for the NiWest Nickel Project is assumed to be sourced from a bore field located approximately 8km north west of the proposed plant site.</li> <li>All site power requirements are proposed to be provided by steam turbines using excess steam from the sulphuric acid plant with diesel fuelled power generation backup.</li> <li>The general area of the mine site is serviced by natural/gravel unsealed roads however the mining areas are bisected by the sealed Laverton to Leonora Road and sealed single lane roads provide generally all-weather access to Kalgoorlie/Boulder, and thus to Perth. A railway siding (Malcolm Siding) exists at the intersection of the Leonora-Laverton road and the railway line between Kalgoorlie and Leonora.</li> <li>It is envisaged that the operations personnel will be housed in contractor provided accommodation near the Mt Kilkenny processing plant site. It is likely that the construction accommodation facilities will be re-used for operations accommodation. Accommodation in Leonora will also be used where required.</li> </ul>
The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.	

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	<ul style="list-style-type: none"><li>Land based communications are available, including mobile phone coverage.</li></ul>																										
Costs	<ul style="list-style-type: none"><li>The capital cost estimate for the Project is AUD 966 M. The capital cost estimate is provided at an accuracy level of -30% to +30%. Capital cost estimate summary is shown below:<table><tr><th>NiWest Project</th><th>Capital Cost (AUD millions)</th></tr><tr><td><b>Directs</b></td><td></td></tr><tr><td>Crushing and Heap Leaching</td><td>\$138.0</td></tr><tr><td>Processing</td><td>\$193.7</td></tr><tr><td>Utilities and Reagents</td><td>\$312.9</td></tr><tr><td>General Infrastructure</td><td>\$42.3</td></tr><tr><td><b>Total Directs</b></td><td><b>\$686.8</b></td></tr><tr><td><b>Indirects</b></td><td></td></tr><tr><td>EPCM</td><td>\$72.7</td></tr><tr><td>Other</td><td>\$86.5</td></tr><tr><td><b>Total Indirects</b></td><td><b>\$159.3</b></td></tr><tr><td>Contingency</td><td>\$120.2</td></tr><tr><td><b>Total</b></td><td><b>\$966.3</b></td></tr></table></li><li>Operating costs have been obtained from vendor quotes, contractors and/or derived from first principles.</li><li>Product transport cost was estimated at A\$195/t product based on transport from site to the Esperance port, and shipping to east Asia.</li><li>The Western Australia state government royalty of 2.5% was applied for both cobalt and nickel. In addition, private agreement royalties are also applicable as outlined in ASX Listing Rule 5.9.1.</li></ul>	NiWest Project	Capital Cost (AUD millions)	<b>Directs</b>		Crushing and Heap Leaching	\$138.0	Processing	\$193.7	Utilities and Reagents	\$312.9	General Infrastructure	\$42.3	<b>Total Directs</b>	<b>\$686.8</b>	<b>Indirects</b>		EPCM	\$72.7	Other	\$86.5	<b>Total Indirects</b>	<b>\$159.3</b>	Contingency	\$120.2	<b>Total</b>	<b>\$966.3</b>
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Revenue factors	<ul style="list-style-type: none"><li>A life of mine average (real) nickel price of US\$8.00/lb has been assumed based on a consensus long term forecast London Metal Exchange (LME) price range of US\$7.00-7.50/lb and a forecast average US\$0.75/lb premium for the planned sulphate form of the contained nickel product.</li><li>A life of mine average (real) cobalt price of US\$25/lb has been assumed based on a consensus long term forecast London Metal Bulletin (LMB) price range of US\$22 – 28/lb. No premium has been assumed for the planned sulphate form of the contained cobalt product</li></ul>																										
The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.																											

JORC Code Assessment Criteria	Commentary
The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	
Market assessment	<ul style="list-style-type: none"> <li>A marketing report was commissioned by GME during the PFS to understand the future demand and sale price forecast for nickel and cobalt sulphate. The report has concluded that the demand for nickel sulphate hexahydrate and cobalt sulphate heptahydrate are expected to grow substantially. Nickel sulphate, the principle nickel-based product supplied to the Li-ion battery market, currently sells at a premium of up to USD 1.80/lb.</li> <li>A life of mine average (real) nickel price of US\$8.00/lb has been assumed based on a consensus long term forecast London Metal Exchange (LME) price range of US\$7.00-7.50/lb and a forecast average US\$0.75/lb premium for the planned sulphate form of the contained nickel product.</li> <li>A life of mine average (real) cobalt price of US\$25/lb has been assumed based on a consensus long term forecast London Metal Bulletin (LMB) price range of US\$22 – 28/lb. No premium has been assumed for the planned sulphate form of the contained cobalt product.</li> </ul>
<p>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</p> <p>A customer and competitor analysis along with the identification of likely market windows for the product.</p> <p>Price and volume forecasts and the basis for these forecasts.</p> <p>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</p>	
Economic	<ul style="list-style-type: none"> <li>The financial analysis and overall economics of the NiWest Project have been completed with an overall accuracy expected to be -30% to +30% and indicate a project post tax NPV of A\$791 million at an 8% discount rate and post-tax IRR of 16.2%.</li> <li>Projected returns are most sensitive to realised US\$ nickel price, the A\$/US\$ exchange rate and nickel grade/recovery. Economic evaluation of the NiWest Project PFS has included detailed input sensitivity analysis on a +/-20% input basis: <ul style="list-style-type: none"> <li>A 20% increase in the realised US\$ nickel price (from US\$8.00/lb to US\$9.60/lb) increases post-tax NPV to A\$1,351M and post-tax IRR to 21.0%.</li> <li>A corresponding decrease in the US\$ nickel price assumption (to US\$6.40/lb) decreases post-tax NPV to A\$231M and post-tax IRR to 10.6%.</li> <li>A 20% decrease in the A\$/US\$ exchange rate (from 0.75 to 0.60) increases post-tax NPV to A\$1,515M and post-tax IRR to 22.4%.</li> <li>A corresponding increase in the A\$/US\$ exchange rate assumption (to 0.90) decreases post-tax NPV to A\$309M and post-tax IRR to 11.5%.</li> <li>A 20% decrease in the real discount rate (from 8.0% to 6.4%) increases post-tax NPV to A\$1,078M.</li> </ul> </li> </ul>
<p>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</p> <p>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</p>	

JORC Code Assessment Criteria	Commentary																
	<p>○ A corresponding increase in the real discount rate (to 9.6%) decreases post-tax NPV to A\$563M.</p> <table border="1"> <caption>Project NPV8% (A\$M, post-tax, ungeared) - Sensitivity Data</caption> <thead> <tr> <th>Variable</th> <th>NPV Change (A\$M)</th> </tr> </thead> <tbody> <tr> <td>Realised US\$ nickel price (-/+ 20%)</td> <td>± 1,100</td> </tr> <tr> <td>Realised US\$ cobalt price (-/+ 20%)</td> <td>± 100</td> </tr> <tr> <td>A\$/US\$ (+/- 20%)</td> <td>± 1,300</td> </tr> <tr> <td>Nickel head grade or recovery (-/+ 20%)</td> <td>± 1,100</td> </tr> <tr> <td>Sulphur price (FOB) (+/- 20%)</td> <td>± 100</td> </tr> <tr> <td>Pre-production capital (+/- 20%)</td> <td>± 150</td> </tr> <tr> <td>Real discount rate (+/- 20%)</td> <td>± 300</td> </tr> </tbody> </table>	Variable	NPV Change (A\$M)	Realised US\$ nickel price (-/+ 20%)	± 1,100	Realised US\$ cobalt price (-/+ 20%)	± 100	A\$/US\$ (+/- 20%)	± 1,300	Nickel head grade or recovery (-/+ 20%)	± 1,100	Sulphur price (FOB) (+/- 20%)	± 100	Pre-production capital (+/- 20%)	± 150	Real discount rate (+/- 20%)	± 300
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Social	<ul style="list-style-type: none"> <li>GME has a longstanding history of engaging proactively and constructively with local stakeholders.</li> <li>In 2007 an ethnographic survey was undertaken over the NiWest Project Area by Western Heritage Research Pty Ltd in conjunction with representatives from the traditional owners, the Wongatha people. The survey found 7 previously recorded Aboriginal heritage sites, located within the tenements.</li> <li>Agreement was reached with the Wongatha people regarding the relocation of 'scatter' sites.</li> <li>There are no native title determinations or applications over the Project area.</li> <li>A survey of European heritage sites over the project area has not been undertaken. An enquiry on the Western Australian inHerit State Heritage database during the preparation of this report did not indicate the presence of registered heritage sites at or near Mt Kilkeny.</li> </ul>																
The status of agreements with key stakeholders and matters leading to social licence to operate.																	
Other	<ul style="list-style-type: none"> <li>There are no known naturally occurring risks to the project.</li> </ul>																

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<p>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</p> <p>Any identified material naturally occurring risks.</p> <p>The status of material legal agreements and marketing arrangements.</p> <p>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</p>	<ul style="list-style-type: none"> <li>• Project area within valid exploration and mining licences held by GME Resources.</li> <li>• A considerable body of work has been carried out over an extended period in support of environmental approvals and permitting requirements for the NiWest Project. GME recently engaged environmental consultants, Sustainability Pty Ltd, to conduct a review of the past work and investigations, and determine the environmental baseline studies required in order to obtain approval to develop the NiWest Project.</li> <li>• There is no information or reason to believe that government and statutory approvals will not be granted.</li> </ul>
<p>Classification</p> <p>The basis for the classification of the Ore Reserves into varying confidence categories.</p> <p>Whether the result appropriately reflects the Competent Person's view of the deposit.</p> <p>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</p>	<ul style="list-style-type: none"> <li>• The Ore Reserves contained in the Eucalyptus, Hepi and Mt Kilkenny pit designs are derived from 23% Measured mineral resources and 77% from Indicated mineral resources</li> <li>• Due to the pre-feasibility level of study with approximately +/-30% accuracy and substantial further work to be completed in the feasibility study, the Ore Reserve is classified as Probable only.</li> <li>• The PFS appropriately reflects the Competent Persons view of the deposit.</li> </ul>
<p>Audits or reviews</p> <p>The results of any audits or reviews of Ore Reserve estimates.</p>	<ul style="list-style-type: none"> <li>• Extensive internal reviews of the Mineral Resource Estimate, Metallurgical &amp; Process Design and Ore Reserve Estimate were conducted by GME personnel and contributing independent consultants. The metallurgical and processing aspects of the PFS have been reviewed by a suitable qualified competent person.</li> </ul>
<p>Discussion of relative accuracy/ confidence</p>	<ul style="list-style-type: none"> <li>• The reserve estimate is to a pre-feasibility level with approximately +/-30% confidence.</li> </ul>



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<p>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</p> <p>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</p> <p>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</p> <p>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</p>	<ul style="list-style-type: none"> <li>• The Ore Reserve is a global estimate in line with the Mineral Resource Statement.</li> <li>• Further work to be completed in the feasibility study includes, but is not limited to: <ul style="list-style-type: none"> <li>○ Geotechnical, Hydrogeology and waste rock classification (potentially acid or non-acid forming) evaluations</li> <li>○ Metallurgical recovery variability testing</li> <li>○ Hydrometallurgy continuous pilot testing.</li> </ul> </li> <li>• Further work to optimize the designs and therefore the operating costs, recoveries, etc. include, but are not limited to: <ul style="list-style-type: none"> <li>○ Drilling to convert the Inferred Resources to Indicated or Measured Resources</li> <li>○ Delineation of the higher acid consuming zones of the deposit to enable optimization of the ore feed scheduling</li> </ul> </li> </ul>