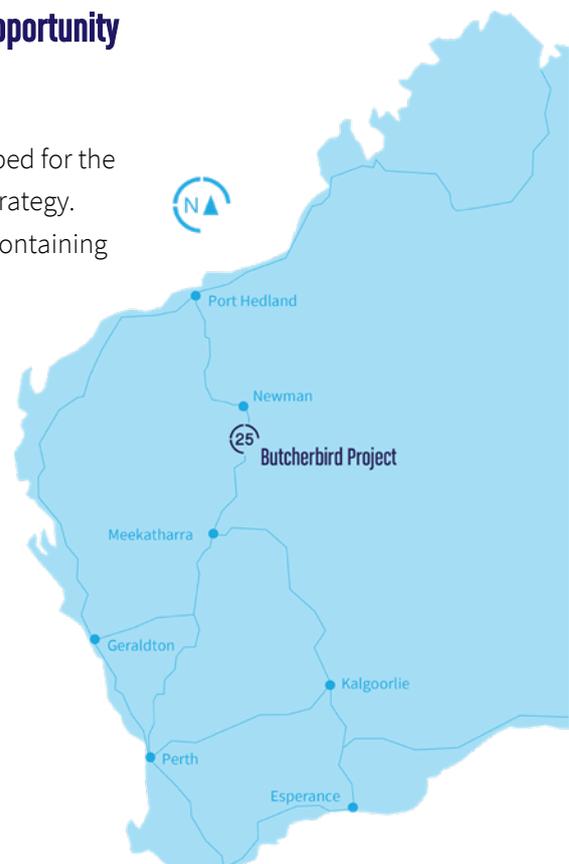


## Pre-Feasibility Study Highlights Robust, Short Lead Time Start-up Opportunity

### Highlights

- Start-up manganese concentrate export scenario has been developed for the Butcherbird Manganese Project as part of a staged development strategy.
- Maiden Proved and Probable Ore Reserve of 50.55Mt at 10.3% Mn containing 5.22Mt Mn (4.28Mt Recoverable Mn).
- Pre-tax Net Present Value<sub>8</sub> (NPV<sub>8</sub>) of Nominal **A\$441M** (Real **A\$283M**) and IRR of Nominal **255%**, (Real **223%**).
- **Low capital requirement** of \$14.5M plus \$9.2M working capital.
- Average annual operating **cashflow of \$32.1M** for years 1-5.
- Simple payback period **6 months** from start of operations.
- Full beneficial production scheduled for next financial year.
- **42 year** mine life based on Measured and Indicated Resources.
- Medium grade manganese market is the fastest growing section of the manganese market.
- Base case assumes annual production and sale of 312,000tpa of medium grade lump manganese concentrate grading 30-35% Mn.
- Complements and enhances the plan to develop and Electrolytic Manganese Metal (**EMM**) plant.



Element 25 Limited (**Company** or **E25**) (ASX: E25) is pleased to deliver a Pre-Feasibility Study (**PFS**) for the 100% owned Butcherbird Manganese Project (**Project**), located in the southern Pilbara region of Western Australia. The PFS contemplates the export and sale of manganese concentrate from the Project over a long mine life and delivers outstanding economic metrics further confirming the potential for the Project to be Australia’s next significant manganese mine.

Managing Director Justin Brown comments, “*The opportunity for a low capital and operating cost, rapid start-up will transform Element 25 into producer status much earlier than previously anticipated. The robust cashflows will be transformational in growing the company and generating long term shareholder value.*”

### Company Snapshot

<p>ASX Code: E25</p> <p>Shares on Issue: 97M</p> <p>Share Price: \$0.20</p> <p>Market Capitalisation: \$18.4M</p>	<p>Board of Directors:</p> <p>Seamus Cornelius Chairman</p> <p>Justin Brown MD</p> <p>John Ribbons NED</p>	<p>Element 25 Limited is developing the world class Butcherbird Manganese Project in Western Australia to produce high quality manganese concentrate and high purity manganese products for traditional and new energy markets.</p>
<p>Element 25 Limited P +61 8 6315 1400 E admin@e25.com.au element25.com.au</p>	<p>Level 2, 45 Richardson Street, West Perth, WA, 6005 PO Box 910 West Perth WA 6872 Australia</p>	

## Cautionary Statements

The production target referred to in this announcement is based on 30% Measured Resources, 70% Indicated Resources and 0% Inferred Resources for the life of mine. The mine plan comprises 90% of current global Measured Resources and 88% of current global Indicated Resources. The Company has not used Inferred Mineral Resources as part of the production scenario.

The study is based on the material assumptions described elsewhere in this announcement. These include assumptions about availability of funding. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the study will be achieved. To achieve the potential mine development outcomes indicated in the study, additional funding will be required. Investors should note that there is no certainty that the Company will be able to raise funding when needed.

However, the Company has concluded that it has a reasonable basis for providing the forward-looking statements included in this announcement and believes it has “reasonable basis” to expect it will be able to fund the development of the Project.

The PFS focusses on a development option which has been selected as the most likely mining start up location at this stage. The PFS has targeted a part of the manganese resource where it is considered that reasonable grounds exist for the production target to be achieved in both the grade and size which has been reported. This PFS development option is also well supported by the larger Butcherbird Mineral Resource where there are additional Indicated and Inferred Mineral Resources which have not been used in the study.

## Forward Looking Statements

Some of the statements contained in this report are forward looking statements. Forward looking statements include, but are not limited to, statements concerning estimates of tonnages, expected costs, statements relating to the continued advancement of Element 25 Limited’s projects and other statements that are not historical facts. When used in this report, and on other published information of Element 25 Limited, the words such as ‘aim’, ‘could’, ‘estimate’, ‘expect’, ‘intend’, ‘may’, ‘potential’, ‘should’ and similar expressions are forward looking statements.

Although Element 25 Limited believes that the expectations reflected in the forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that the actual results will be consistent with these forward-looking statements. Various factors could cause actual results to differ from these forward-looking statements including the potential that Element 25 Limited’s Project may experience technical, geological, metallurgical and mechanical problems, changes in manganese price and other risks not anticipated by Element 25 Limited.

Element 25 Limited is pleased to report this summary of the study in a fair and balanced way and believes that it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any mining of mineralised material, modifying factors, production targets and operating cost estimates. This announcement has been compiled by Element 25 Limited from the information provided by the various contributors to the announcement.

## Pre-Feasibility Summary

The Project consists of eight known manganese mineral resources located in an approximately 600km<sup>2</sup> area of the southern Pilbara region, approximately 1,050km North of Perth and 130km South of Newman, WA. The Butcherbird site is accessible directly from the Great Northern Highway.

E25 has held exploration tenure in the area since 2009 and has advanced the Project via a series of exploration programmes. Several Mineral Resource Estimates have been completed since work commenced. Refer to the Resource Estimate Section for details.

The Project is 100% owned by Element 25 Limited and comprises two granted exploration licences E52/2350 and E52/3606. Mining Lease Application M52/1074 covers a portion of E52/2350 which encompasses the Yanneri Ridge and Coodamudgi manganese deposits. Water exploration has identified potential process water sources within Miscellaneous Licence L52/211. A number of contiguous exploration and miscellaneous licence applications are pending. Project approvals are well advanced with two Native Title mining agreements in place. The Butcherbird project is located on two pastoral stations. The Company has an access agreements in place with one pastoral station and the access agreement for the second pastoral station is agreed in principal, pending formal documentation. Base line environmental surveys have been completed with no impediments to Project development having been found.

## Geology

The manganese mineralisation at Butcherbird with the most economic value occur where the manganiferous shales of the Ilgarari formation intersect the weathering profile and display a supergene overprint where deep chemical weathering have upgraded the grade of the manganese and partitioned the manganese mineralisation into discrete high grade bands, resulting in an ore that is amenable to simple physical beneficiation.

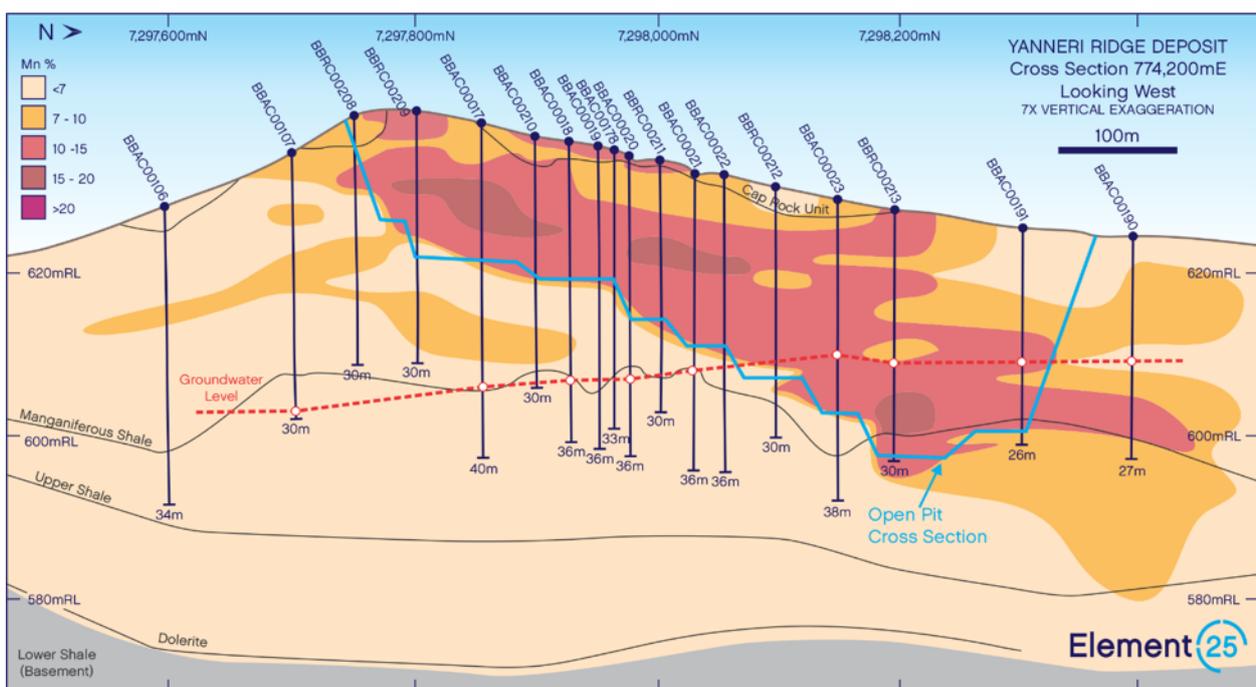


Figure 1. Yanneri Ridge Deposit cross section with simplified geology

Figure 2 illustrates the interlayered supergene manganese layers in the Manganiferous Shale Unit. The photo was taken during the bulk sampling program conducted in December 2019<sup>1</sup>.

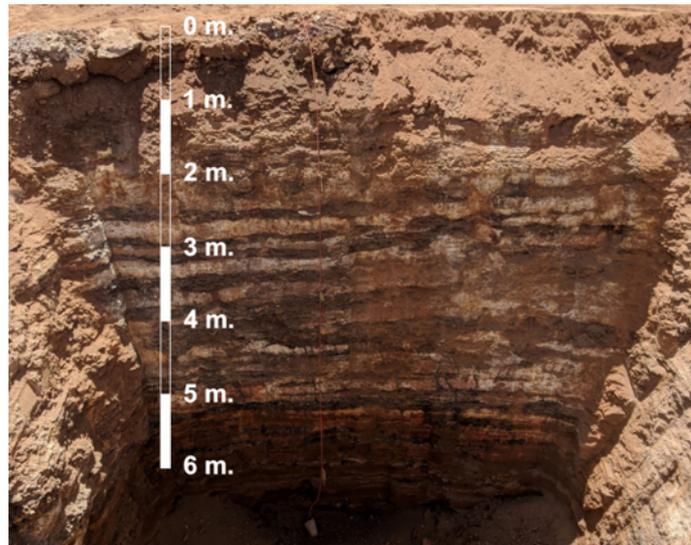


Figure 2. Bulk Sample Trial Pit - Pit Wall showing Manganese Lithology

## Resource Estimate and Mining Reserve

### Resource Estimate

The current 2019 JORC Measured, Indicated and Inferred Mineral Resource Estimate completed by IHC Robbins following a major infill drilling programme in 2018 and stands at 263Mt at 10% Mn<sup>2</sup>.

Table 1. 2019 Butcherbird Manganese Project Mineral Resource Estimate<sup>2</sup>

Category	Tonnes (Mt)	Mn (%)	Fe (%)	Si (%)	Al (%)
Measured	16	11.6	11.7	20.6	5.7
Indicated	41	10.0	11.0	20.9	5.8
Inferred	206	9.8	11.4	20.8	5.9
<b>Total</b>	<b>263</b>	<b>10.0</b>	<b>11.4</b>	<b>20.8</b>	<b>5.9</b>

Notes:

- Reported at a 7% Mn cut-off for the Measured and Indicated categories and an 8% Mn cut-off for the Inferred categories.
- All figures rounded to reflect the appropriate level of confidence (apparent differences may occur due to rounding)

### Mining Reserve

Based on the results of the Butcherbird Concentrate Pre-Feasibility Study, E25 has published a Maiden Ore Reserve for the Project of 50.55Mt in the Proved and Probable categories. This is shown below in Table 2:

Table 2. Butcherbird Ore Reserve Summary<sup>3</sup>.

Classification	Tonnes (Mt)	Grade (Mn%)	Contained Mn (Mt)	Recovered Mn (Mt)
Proved	14.4	11.5	1.65	1.35
Probable	36.2	9.8	3.56	2.92
<b>Total</b>	<b>50.6</b>	<b>10.3</b>	<b>5.21</b>	<b>4.27</b>

The estimated ore reserves and/or mineral resources underpinning the production target have been prepared

<sup>1</sup> Reference: Company ASX Announcement dated 19 December 2019.

<sup>2</sup> Reference: Company ASX Release dated 17 April 2019.

<sup>3</sup> Reference: Element 25 Limited Reserve Statement lodged with ASX 19 May 2020.

by a competent person or persons in accordance with the requirements in Appendix 5A (JORC Code).

### Mining

The mine plan is designed to utilise the tabular geometry of the mineralisation at Yanneri Ridge to provide a simple and low-cost mining operation. Mining will consist of loaders mining 1-2m tall benches and delivering the ore into a mobile-crusher feed-hopper via a grizzly. To enable the loaders to operate more efficiently the ore will be cross ripped with a dozer prior to mining.

The current estimated open pit life is 42 years. The pit designs contain 50.5Mt of ore at an average grade of 10.3% Mn and is expected to be mined along with 18.1Mt of waste for an overall strip ratio of 0.35 to 1 (vol:vol). The optimisation of the pit shells uses a base manganese price of US\$4.76/dry metric tonne unit (dmtu) CIF China. The base case pit design contains 30% Measured Resources 70% Indicated Resources and 0% Inferred Resources. The first five years of production use 93% Measured and 7% Indicated resources (see Figure 3. Ore Supply by JORC Resource Category.).

Inferred Resources have been treated as waste for the optimisation and evaluation purposes of the Project. Given that there is a low level of geological confidence associated with Inferred Mineral Resources, there treatment as waste is considered as conservative.

Drill and blast will not be required for mining. The Yanneri Ridge mineralisation will be mined by dozer ripping and conventional loaders to mine directly from the mining face into a mobile crusher. Where tramming distances become excessive, excavators will load into haul trucks to transport ore to the crusher. A contractor will be utilised for the mining operations, which will be overseen by Element 25 management.

Mining factors used for the pit optimisation include 95% ore recovery and 5% dilution, as all mineralisation within the pit designs will be treated these factors are considered conservative.

Figure 3. Ore Supply by JORC Resource Category.

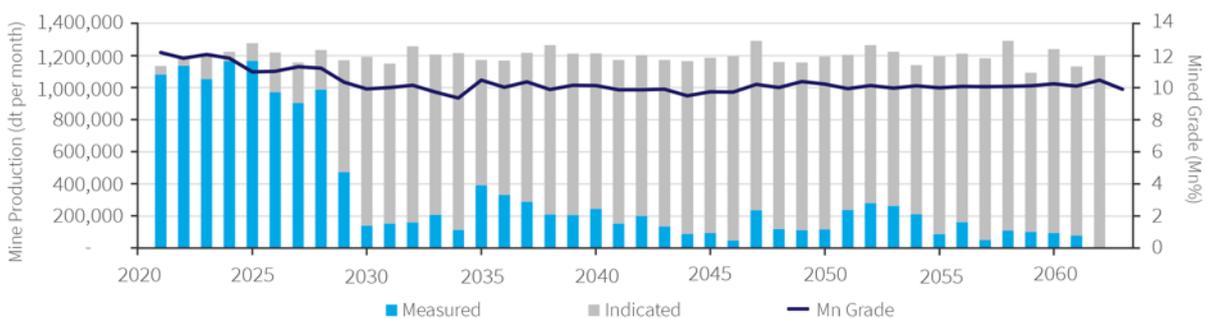


Figure 4. Mining Material Movement and Stripping Ratio.

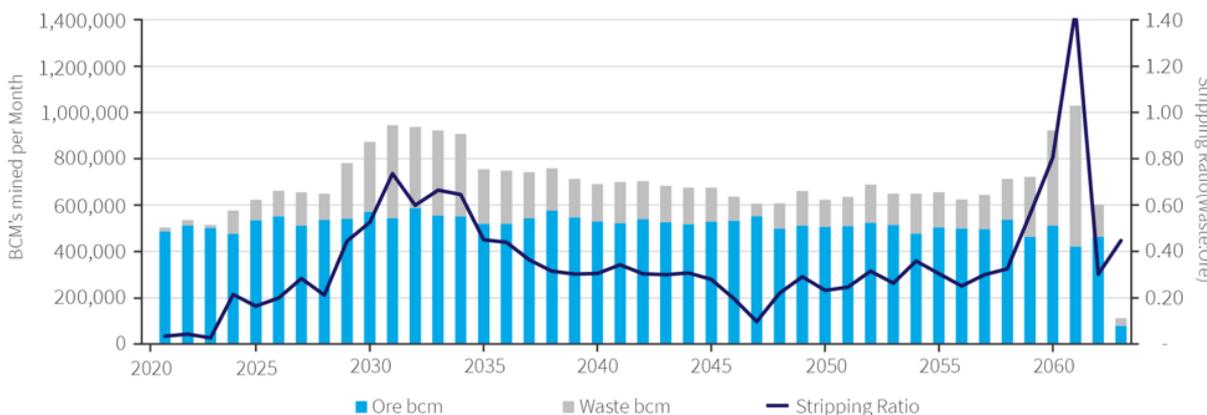
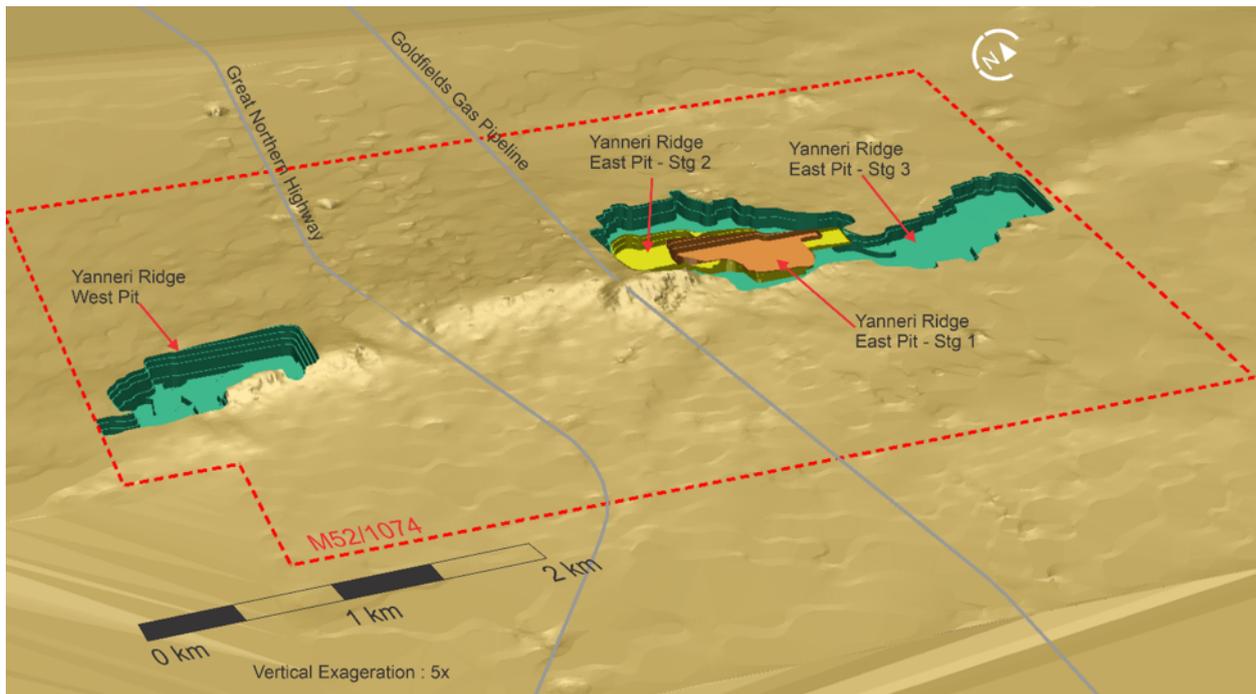


Figure 5. Butcherbird Pit Design and Staging, Looking North East.



## Geotechnical and Diggability Assessment

Peter O'Bryan and Associates were engaged to do a PFS level open pit geotechnical assessment study on the Yanneri Ridge section of the deposit. The study was based on 9 geotechnical holes and was completed in March 2019. The key findings of the base case wall design parameter limits for all walls in the proposed Yanneri Ridge pit included:

- Face height 5m from surface to 5m depth.
- Face height 10m below 5m depth.
- Face angles 50° from surface to 15m depth.
- Face angles 60° below 15m depth.
- Berm width - 5m throughout.

4D Geotechnics (4DG) were engaged and completed two detailed diggability reports evaluating likely excavation rates. These reports were completed on 18 July 2018 and 15 March 2019.

The 4DG study used 10 diamond drill holes. Hole sections were assessed and tabulated with 97 individual ratings. Of these 97 ratings the high values were 2 values above 60 (62 at 3.9m to 6.0m and 68 at 1.0m to 1.3m) and 7 values in the 51 to 60 range. The study concludes that based on the results of their examination and testing of 10 diamond holes in the Yanneri Ridge area that the area to be mined will mostly be free digging.

## Processing

Beneficiation test work has been conducted over an extensive period since 2009 both specifically focusing on a manganese ore product and more recently on the feed material for the hydrometallurgical process to produce EMM. It was noted from the depth of historical test work conducted that the opportunity to produce a manganese product from the Project was likely and confirmatory tonne-scale tests were conducted.

## Bulk Sampling

In December 2019, a bulk sampling programme was undertaken to mine approximately 40 tonnes of ore predominantly from the measured area of the resource<sup>4</sup>. This program comprised seven pits excavated and sampled in nominal 1 tonne lots at 1 m vertical intervals, to a maximum depth of 7m below the surface caprock. These pits provide material representative of the first four years of mining for subsequent test work and for the upcoming larger scale hydrometallurgical pilot testing. The programme also enhanced the geological interpretation and confirmed the suitability of mining methods.

## Beneficiation Testwork

The 2020 Q1 test program was focused on physical beneficiation processes with a dual objective to optimise the manganese grade/recovery curve for a manganese concentrate, targeting both direct export into the manganese ore market and improving the quality of feedstock for supply to the EMM processing plant. The testwork program followed a structured protocol of:

- Splitting, screening and crushing.
- Homogenisation and sampling.
- Scrubbing.
- Wet and dry screening.
- Ore sorting.
- Tailings assessment.

The ore material characteristics can be described as follows;

- Free-flowing.
- An average of approximately 30% >50mm.
- A moisture content in the range 4.5%-13%.

All test material was crushed to P<sub>100</sub> passing 50mm. The crushing process utilised a jaw crusher in line with previous testing and the results supported the outcomes of the earlier comminution test work.

Following preliminary screening tests and subsequent scrubbing and sorting to confirm the positive impact of dry screening, approximately 19 tonnes of from five separate test pits was processed across a 6mm dry screen with no evidence of processing issues. This inclusion of the dry screen in the flowsheet has a positive impact upon the water balance reducing the scrubbing duty water consumption proportionally to the mass reduction.

Material scrubbing characteristics and scrubber performance were assessed using several methods. Size fraction analysis delivered an optimal grade/recovery outcome with the various scrubber technologies. The outcome of the test work highlighted the suitability of a scrubbing and screening for removing the finer clay fraction and friable siltstone waste material which contain minimal manganese. The massive, lumpy manganese material conversely remains substantially intact. The selected flowsheet includes two streams of manganese concentrate, at +6.3mm/-19mm and +19mm/-50mm, to facilitate optimal ore sorting efficiency.

The results indicated a practical and economic selected size cut-off at 6.3mm yielded manganese recoveries and mass yields in the range 80.2% to 91.4% and 35.5% to 44.5% respectively, resulting in the average of 87.4% recovery and 38.5% mass yield post scrubbing.

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<sup>4</sup> Reference: Company ASX release dated 19 December 2019.



Figure 6: Bulk sampling from the Yanneri Ridge manganese resource, December 2019.

### Ore Sorting

Ore sorting was identified as a potential process to further upgrade the concentrate. Sorting tests have subsequently been conducted by Steinert Australia, utilising a full-scale 1m wide multiple sensor Steinert KSS sorter, on the two size fractions generated from the scrubbing/screening process. The sorting tests confirmed the ability of an industrial scale ore sorter to upgrade the manganese concentrate on a repeatable basis to a commercially marketable specification within the range 30-35% Mn.

Table 3. Manganese Grade, Recovery and Yield by Size

	Mn Grade	Mn Recovery	Mass Yield
Ore Sorter Feed	27.3%		
+19mm Product	34.0%	97%	83%
-19mm Product	30.4%	86%	67%
<b>Total Product</b>	<b>33.1%</b>	<b>94%</b>	<b>79%</b>
Total Reject	8.0%	6%	21%

The ore sorter delivered a 33% Mn grade product which was the result of an upgrade of approximately 6% whilst maintaining a manganese recovery of 94%. This combined size fraction concentrate has the grade, composition and size distribution characteristics of commercial concentrates presently used in the steel industry.

Impurity levels across all main elements of concern are acceptable and certain key impurities may provide some marketing opportunities which will be further explored.



Figure 7: Steinhert Australia - Ore Sorting Test Facility

**Testwork Product Quality**

Component	Mn	Fe	SiO2	P	Al	Loss on ignition
Composition	33.1%	8.2%	21.8%	0.08%	2.97%	10.2%

Table 4. Sorted product composition.

**Process Plant Design**

The beneficiation process plant and other infrastructure have been designed in accordance with normal industry practice and the unit operations included in the flowsheet are well established within the resources and other industries.

The design philosophy has utilised predominantly mobile or semi-mobile equipment such that operating installation maintains a degree of flexibility for management of the advancing mining face, whilst minimising civils, structure and set-up investment costs.

The proposed processing facility includes the following unit operations, throughput and operating assumptions:

- 1.2 Million tons per annum mining rate
- Crushing
- Screening
- Scrubbing
- Sizing
- Ore Sorting

This is shown schematically in Figure 8 below:

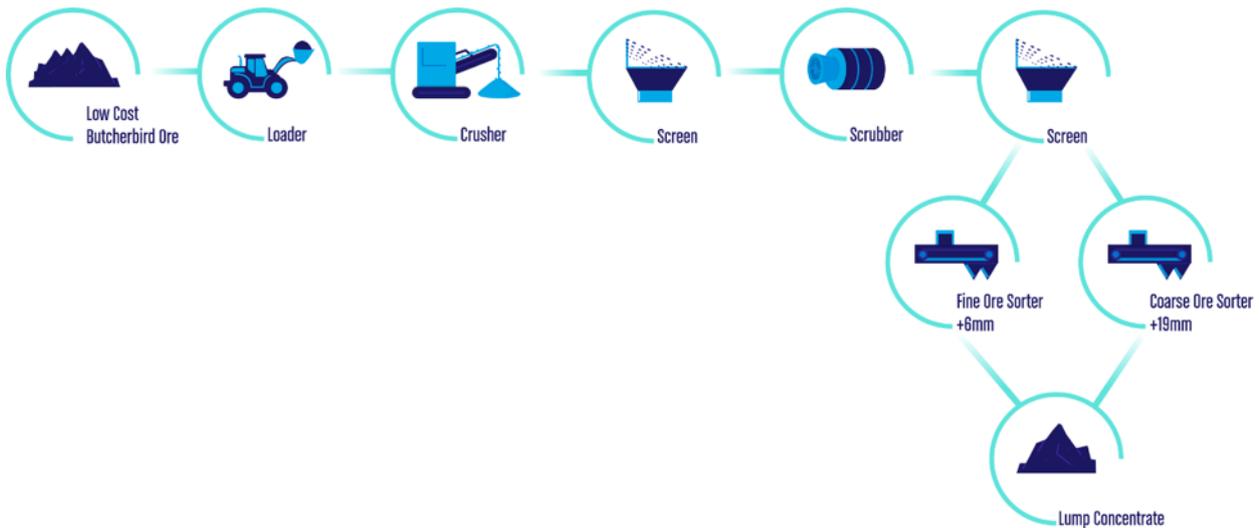


Figure 8. Butcherbird Schematic Flowsheet

## Logistics and Ore Transport

The Company will produce between 270,000 and 370,000 tonnes of Mn Ore per annum. Manganese lump product will be trucked from the Butcherbird mine site to the Utah Point at Port Hedland where it will be loaded on to ships for export.

The proposed concentrate handling method is fully compliant with Class 9 transport requirements and no special bulk shipping restrictions currently apply for UN 3077 mineral concentrates.

The location of the proposed site directly off the Great Northern Highway will allow for quick turnaround times and will allow the uses of the largest super quad road trains permissible under the Main Road PBS system. The entire route is a defined route under the existing concessional loading provisions applying to the Pilbara.

The Manganese ore is neither classified as a dangerous or as hazardous good in transit. It is a benign product and is not affected by typical atmospheric conditions (heat, cold, rain).

## Port Operations and Shipping

Element 25 has commenced negotiations with Pilbara Ports for the access to the Utah Point stockpile and port facilities at Port Hedland. The product will be in lumpy form and is perfectly suited to existing handling infrastructure located at Utah Point.

Element 25 has also engaged with Qube Logistics, the current operator of the ship loading infrastructure on behalf of Pilbara Ports. Qube indicated that the product can be handled and loaded efficiently with the current infrastructure. Qube has extensive experience in loading manganese ores.

## Project Infrastructure

The Project location is remote and will require infrastructure to be built to support the mining and process operations (see Figure 8). The base case has provided capital and operating costs based on the infrastructure typical of similar mines.

Water will be sourced from bores located within the E25 tenements. Work is underway to identify and test these locations.

Personnel will be accommodated in nearby offsite established infrastructure. A decision to develop a permanent accommodation village will be considered once operational. Workers will be bused to/from site and will likely be sourced from Perth on Fly In/Fly Out rosters.

Project operations will require an approximately 1.3km long purpose-built access road to be constructed to ensure ease of access to the mine site. The access road will also cross the Goldfields Gas Pipeline, utilising an existing approved crossing.

Some of the process plant will consist of self-powered diesel units. All other equipment will be powered by diesel generators.

E25 engaged Land & Marine Geological Services (L&MGS) to undertake a design of the tailings storage facility (TSF). The design assumes conventional wet tailings, with an average deposition rate of approximately 240,000tpa. Mine waste rock will be used for the construction of the TSF embankment walls.

The proposed TSF comprises a square cell, with initial internal dimensions of approximately 450m by 450m. The storage cell will be constructed with an initial capacity to store the two year of tailings production. During the first two years, wall lifts will continue allowing for extension of the tailings dam in height.

A decant tower will be constructed in the centre of the TSF utilising a rockfill filter to recover and return up to 75% of the process water. There is currently no requirement for the TSF to be lined. Geotechnical and foundation assessment work is planned.

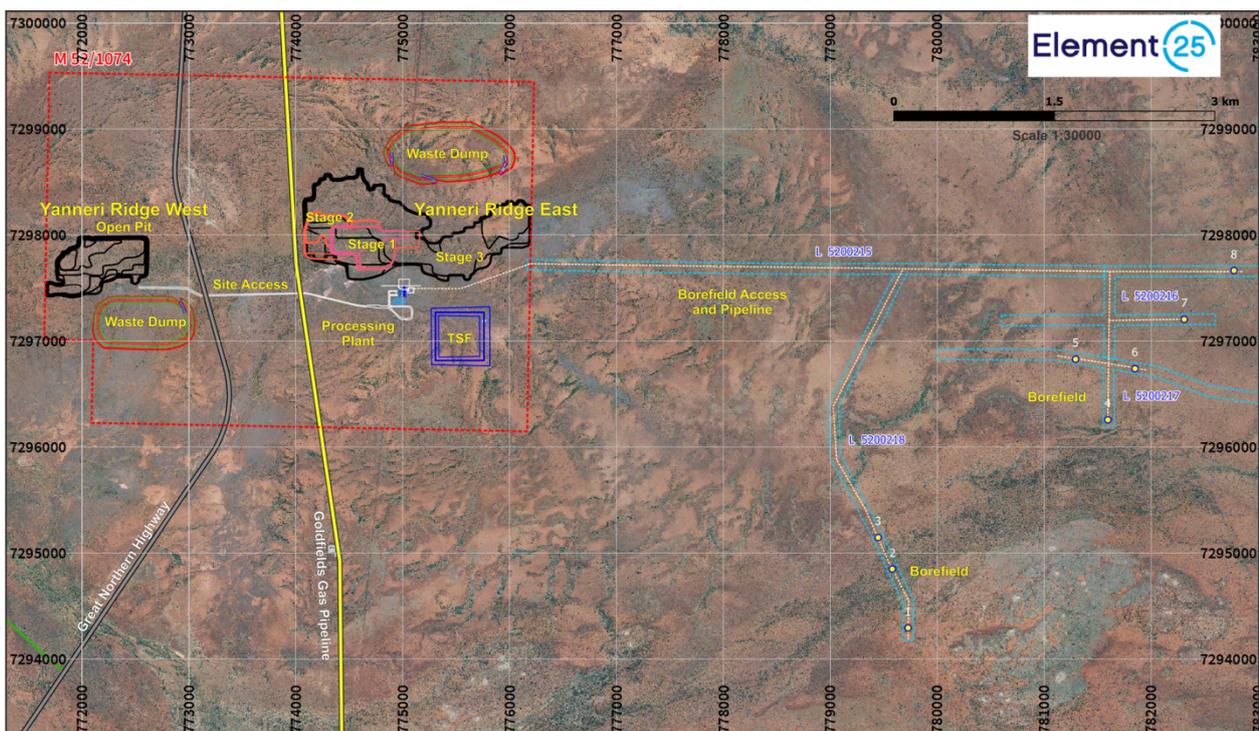


Figure 9. Butcherbird Project – Proposed Site Layout.

## Manganese Market

The majority of Manganese ore is used to produce Manganese alloys, with a smaller proportion used to produce high value Electrolytic Manganese Metal, refer Figure 10, below. Silicomanganese (SiMn) alloys have seen the most significant market growth.

Manganese alloy is mainly used in the steel industry to strengthen steel. Smaller volumes find its way into

stainless steel and aluminium production. The manganese content of steel has progressively been increasing in recent decades.

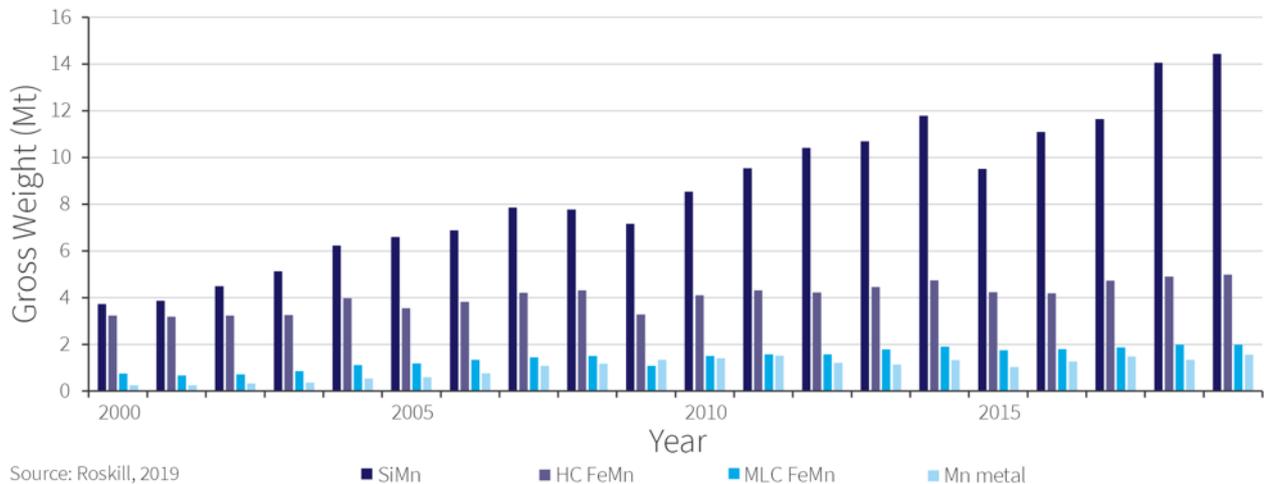


Figure 10. World: Manganese alloy production, 2000 to 2019 (Mt gross weight)

Manganese ore production has grown more than threefold in the last 20 years. The decline in low grade ore production in China has resulted in the average manganese content of ore increasing over the same period.

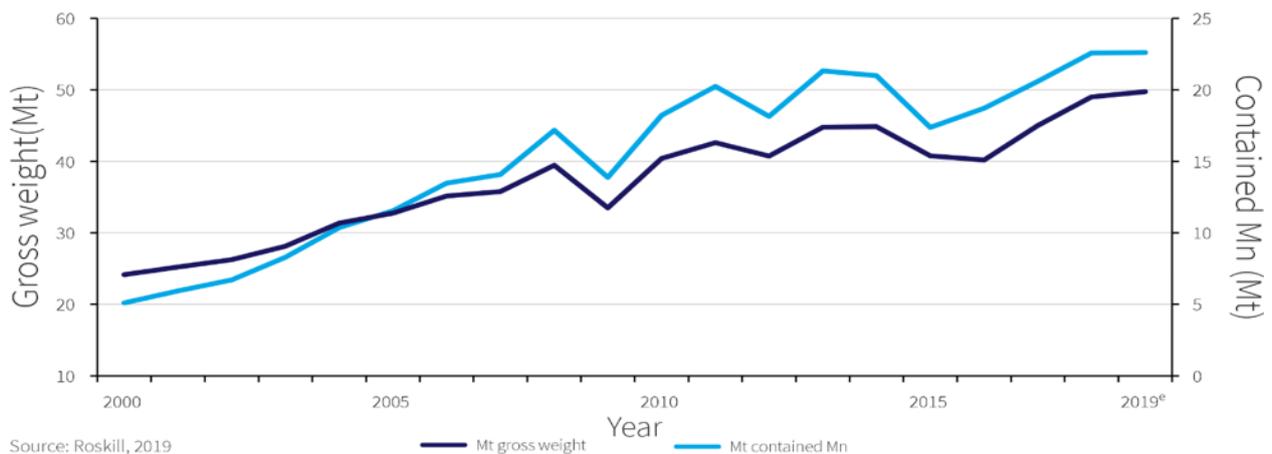


Figure 11. World: Manganese ore production, 2000 to 2019 (Mt gross weight and Mt contained Mn)

Existing high-grade Australian mines are becoming depleted and domestic Chinese ore production continues to decline. In parallel, the production from less stable jurisdictions such as Africa are often affected by government regulations, power and logistics issues and other problems. Consequently the medium grade manganese ore markets have been expanding and the Company believe that this presents an exciting opportunity to place manganese concentrate from the Project strategically into a growing market.

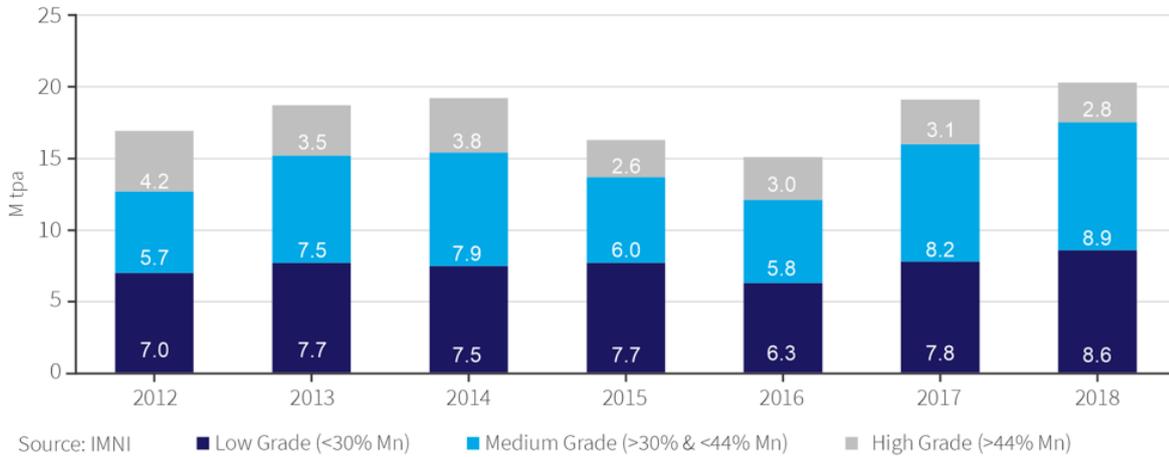


Figure 12. Global Manganese Ore Production, 2012-2018

### Manganese Ore Price

Manganese ore pricing in recent years has changed from long term contracts to being negotiated on a short-term contract basis. This has marked a step change in historical manganese ore price levels.

World-wide demand for Manganese in steel remains strong, and there is currently no known substitute material. Current longer-term forecasts place manganese ore in the US\$5 to US\$6/dmtu bracket for high grade ore.

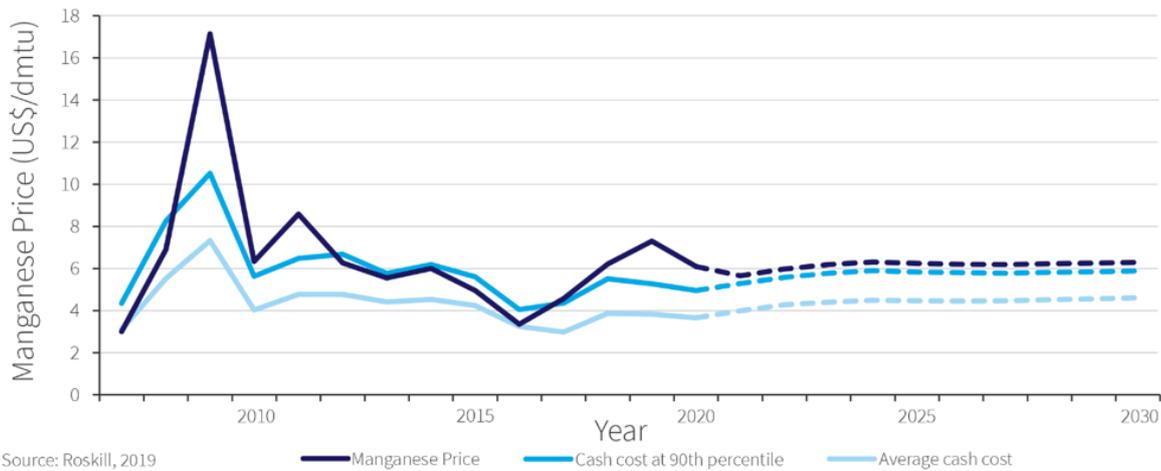


Figure 13. Prices and production costs for manganese ore, 2006 to 2029 (US\$/dmtu CIF China, real 2019 dollars)



Figure 14. Monthly prices for manganese ore, nominal terms, January 2009 to June 2019 (US\$/dmtu CIF China)

The Company's manganese concentrate will be placed in a market typically termed "medium grade ore". Historically medium grade ores have traded at a manganese content based discount to high grade ore.

### Marketing Strategy

The Project enjoys a number of advantages over competitors including a low cost base, high quality, proximity to market and the Company believes a new manganese producer in a stable well regulated jurisdiction like Western Australia will be welcomed by existing consumers.

The Company will use the relationships established through EMM marketing discussions with consumers in Japan and Korea and elsewhere to facilitate off-take arrangements for E25 manganese concentrate. The Company continues to receive requests for manganese ore from throughout East and Southeast Asia and the Indian sub-continent. E25 plans to enter into discussions with both end users of manganese alloys as well as smelters to establish off-take agreements for the manganese concentrate.

The recent outbreak of COVID-19 has confirmed the risks associated for manganese consumers with a single country sourcing strategy. This point has also been raised by a number of potential manganese ore consumers, and demonstrates that Element 25 is well placed geographically to be a strategic alternative supplier to the industry.

### Economic Analysis

Element 25 has developed a financial model for its proposed Butcherbird Manganese Concentrate business. The financial model is based on capital and operating costs estimates described below. The model, including all cost assumptions is calculated in Australian Dollars (A\$). Revenue assumptions are calculated in United States Dollars (US\$) and converted to Australian Dollars using an assumed exchange rate. The model is shown in Real dollar terms and no inflation, cost or revenue escalation has been applied to the financial model. The model consists of 43 years of financial data. The mine production has been scheduled outside of the financial model, but processing and intermediate stockpiles are handled within the model, this allows for variance of the production rate and hence production profile.

The financial analysis of the PFS shows that the Project has the potential to return a positive NPV<sub>8</sub> of A\$283M with an annualised cash flow of \$24.4M over the life of mine.

The Project requires a modest start-up capital investment of A\$14.5 million, plus working capital allowance of A\$9.3M and provides estimated returns supporting an internal IRR of 223%.

### Project assumptions

The following assumptions have been applied to the financial model for the Project:

- AUD/USD exchange rate of 0.65 for 2020 and 2021, 0.70 from 2022 onwards.
- 10-year straight line depreciation for capital.
- Discount factor 8%.
- Cost of capital 10%.
- Project capital costs totaling A\$14.5m (US\$9.4M), which includes a contingency of A\$1.9M.
- Working capital provision of A\$9.3M.
- State royalties of 5%.
- Native Title royalties, farm access payments and other varied government payments are included.

### Manganese Price

The manganese prices assumed for the Project were sourced from a report written by Roskill. Roskill presented 10 year forward estimates in Real and Nominal values for manganese prices based on a 37%Mn CIF China price, then discounted for the lower 33% grade.

This discounted price was then converted back to an FOB Port Hedland manganese price by subtracting freight and insurance. Freight and insurances costs were sourced from industry. This discount from the 37% Mn CIF China benchmark price equates to an approximately US\$0.75/dmtu reduction for a 33% Mn product FOB Port Hedland.

The Roskill forward estimate for manganese prices are shown below as well as the E25 forward price curve.

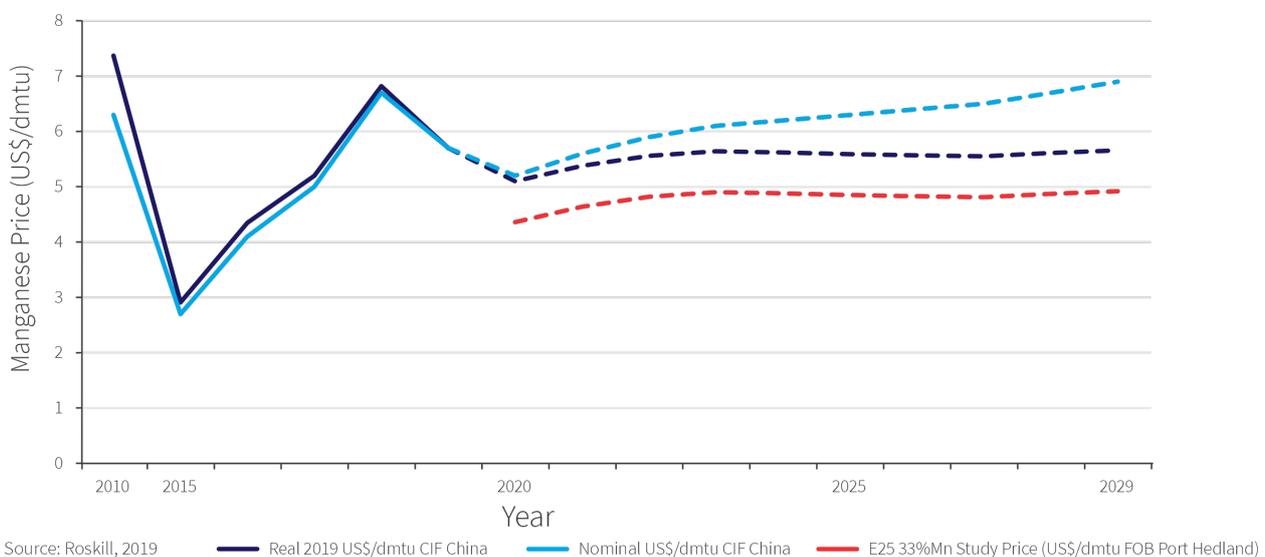


Figure 15. Historic and Forecast Mn Ore Prices (Roskill 2019)

### Operating costs

Mining and processing operating costs were developed from contractor quotations or were developed from first principals based on the Company purchasing the process plant and then operating it using company employees.

Equipment operating costs were sourced from equipment suppliers and allowances made for the maintenance. Staff allowance were developed by E25 and staff pricing was sourced from mining industry recruitment agencies.

Administration, costs were developed from first principles based on an organisation chart, catering process were sourced from a local supplier and fly in/out costs allowed for via Newman.

Ore haulage prices were sourced from industry quotations. Port operation costs were sourced from Pilbara Ports and Qube Ltd for stevedoring and other port charges. Unit operating costs for the Project are summarised below:

Table 5. LOM Operating Costs Summary

Operational Area	A\$/dt Product	A\$/dmtu produced
Site Cost (including mining, processing and administration)	69	2.09
Logistics (including haulage and port charges)	54	1.63
Marketing	3	0.09
Royalties	13	0.39
<b>FOB Cost</b>	<b>139</b>	<b>4.20</b>
Corporate	8	0.25
<b>Total Operating Cost</b>	<b>147</b>	<b>4.45</b>

## Capital costs

Capital costs for the Project are summarised below:

Table 6. Capital Cost Estimate Summary

Project Section	A\$M
Major plant and equipment	5.0
Power Generation	0.4
Water Supply	1.2
TSF & Fresh/Dirty Water Ponds	2.3
Buildings & Infrastructure, Site prep, SMP, Elec	2.6
Project Management, Engineering & Consultants	1.1
<b>Subtotal</b>	<b>12.6</b>
Contingency	1.9
<b>Total Plant &amp; Contingency Capital</b>	<b>14.5</b>
Working capital allowance	9.3
<b>Total Capital</b>	<b>23.8</b>

## Project Sensitivity

The Project is most sensitive to the concentrate grade, manganese price and the AUD/USD exchange rate while being relatively insensitive operating and capital costs. A 10% increase in Mn price has a US\$145M impact on NPV. Likewise, a 10% increase in the exchange rate impacts the Project NPV by approximately US\$126 million. A 10% change in capital costs has a US\$37 million impact.

Sensitivities are shown graphically in the following chart.

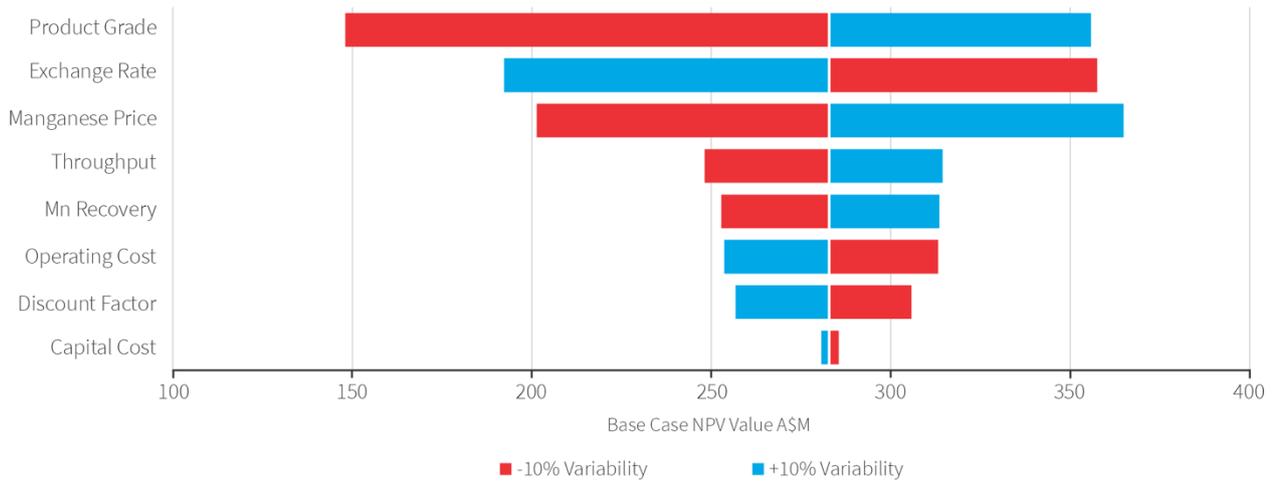


Figure 16. NPV Sensitivity Tornado Chart (Note: Mn recovery variability is +/-5%)

## Financial Summary

Table 7. Butcherbird Financial Summary

Measure	Unit	Life of Mine	Years 1-5
Ore Mined	ktpa	1,200	1,200
Manganese Concentrate Produced	ktpa	311	357
Manganese Concentrate Grade	Mn%	33	33
Manganese Price (base)	US\$/dmtu 33% Mn FOB Port Hedland	4.87	4.79
Undiscounted Cashflow	A\$M pa	24.4	32.1
Mine Life	Years	42	42
NPV <sub>8</sub> Real (pre-tax)	A\$M	283	
IRR <sub>Real</sub> (pre-tax)	%	223	
Operating Cost (AISC)	A\$/dmtu 33% FOB Port Hedland	4.43	4.06
	U\$/dmtu 33% FOB Port Hedland	3.09	2.80
Capital Cost	Project Capital A\$M	12.6	
	Contingency A\$M	1.9	
	Working Capital A\$M	9.3	
	<b>Total capital A\$M</b>	<b>23.8</b>	

Table 8. Financial summary under various manganese price scenarios. Note: AISC increases with the assumed manganese price due to increases in royalty payments.

Manganese Price CIF China	U\$/dmtu	4.00	4.76	5.00	6.00
Manganese Price FOB Port Hedland	U\$/dmtu	3.57	4.33	4.57	5.57
Capital Cost (incl. working capital)	A\$M	23.8	23.8	23.8	23.8
All in Sustaining Cost (AISC)					
Years 1-5	U\$/dmtu	2.75	2.80	2.81	2.88
Life of Mine	U\$/dmtu	3.10	3.15	3.16	3.23
Mine Life	Years	42	42	42	42
Project Payback Period	Months	9	6	5	4
NPV <sub>8</sub> Pre-Tax Real	A\$M	148.1	283.0	316.7	485.2
IRR Pre-Tax Real	%	109%	223%	257%	474%
IRR Post-Tax Real	%	83%	163%	186%	330%

## Development Timeline

A Project development timeline has been developed with key milestone and activities shown below. The timeline indicates that the first production is targeted for early 2021

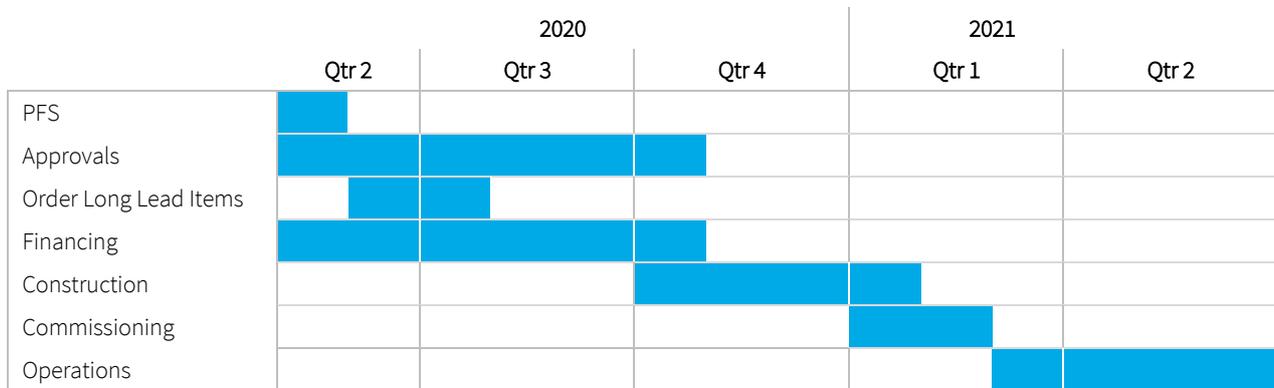


Figure 17. Project Development Timeline

## Business Risks

The Company has undertaken a comprehensive risk management review, identifying key business and operational risks and has developed strategies to mitigate and control these risks.

### Operating Costs

The top four cost areas are transport, processing, mining and royalties.

Concentrate transport is minimised by establishment of long-term relationships with haulage contractors utilising maximum payloads available on the roads. Fuel pricing sensitivity needs to be managed.

Processing costs are mitigated by establishing fit for purpose maintenance systems. Replacement of hire equipment loaders and electrical gensets with purchased equipment will lower operating costs.

Mining costs are minimised by minimising equipment hours by application of suitable mining planning systems focusing on reliability with a multi-skilled flexible workforce. Ultimately the company should review the opportunity to convert to an Owner Mining cost model.

Royalties are fixed via State Regulations and Access Agreements with native title and pastoral properties.

Other operating cost areas which may provide potential savings are in the construction of an owner’s camp and airstrip. Further review may allow operational cost savings in these areas which have been excluded from capital costs at start up.

### Revenue

The opportunity exists to establish long term relationships with potential offtake partners, traders and manganese smelters wherein the properties of the Butcherbird manganese including impurity levels can be best used as a marketing tool. Credits may be available for certain impurities which are at very low levels and these opportunities will be further explored.

## Social Licence

Although the Project operations will have minimal interaction with local pastoralists, native title groups and local communities, all efforts must always be taken to ensure that these stakeholders and other statutory requirements and concerns are met.

A schedule of statutory and other reporting requirements should be established and actively managed.

## Approvals

The majority of key environmental baseline studies have been completed at a PFS level for the Project, including flora and vegetation, fauna, short range endemics (SRE), groundwater, surface water and tailings characterisation. A draft Mining Proposal and Native Vegetation Clearing Permit have also been prepared. Current information indicates no areas of significant concern.

Additional works that are scoped include subterranean fauna, groundwater, waste rock characterisation, tailings characterisation, landform and soils.

## Flora, Fauna and Communities

No Threatened flora, vertebrate fauna or ecological communities listed at Federal or State levels or Groundwater Dependent Ecosystems (GDEs) are present within the Project area. Four Priority flora species and one Priority fauna species were identified in baseline surveys, although these are to be expected in the sub-region. Priority species are listed by the State's Department of Biodiversity, Conservation and Attractions (DBCA) generally in the regard of being poorly-known taxa, but as areas are surveyed the understanding of listed species are increased.

The Priority fauna species (Brush-tailed Mulgara) associated habitat is distributed outside of the mining lease area (not to be disturbed). Priority flora populations were found both within and external to the Project tenements and proposed disturbance footprint. Project impacts to Priority flora species will be managed through avoidance as part of Project design. Project impacts on flora, vegetation and fauna are not considered as significant at this time.

## Subterranean Fauna

Mining will be above the water table and within geologies considered unlikely to support subterranean fauna. A subterranean fauna survey is scheduled to be undertaken in the Q3 2020 with a focus on the eastern borefield. If subterranean fauna is determined to be present and restricted species identified within the impact area for groundwater drawdown, bore field design will be modified to ensure habitat availability remains consistent with current industry practices for impact minimisation.

## Hydrology

Surface water characteristics of the site include flow velocities generally less than 0.5 m/s with some higher velocities located adjacent the Great Northern Highway and Old Road. Modelling of 10, 50 and 100 year ARI rain events indicates fairly stable water accumulation (ranging between 0 – 0.5 m deep across ARI events) throughout site, but with ponding likely to occur in heavy downpours at particular locations near Old Road to the east and Great Northern Highway to the west. These conditions have been taken into account for Project design.

A palaeochannel underlies a surface drainage channel approximately 3 km southeast of the Project area. This

paleochannel is being explored as a potential source of groundwater for mining and processing use during Q2 2020. The forward work plan will confirm borefield design and model the expected groundwater drawdown.

### Native Title and Heritage

Nine Aboriginal heritage surveys have been conducted for the Project. While artefacts were found, and several unregistered sites identified in the local vicinity, there are no registered heritage sites within the Mining Lease.

Native Title Agreements are in place with both the Nyiaparli and Ngarlawangga Traditional Owners of the land occupied by the Project.

### Mining Proposal

A schedule for development of environmental impact assessment documents necessary to gain Project environmental approvals has been developed. This considers concurrent assessment for the varying approvals required, stated regulatory assessment timeframe requirements and availability of Project design inputs necessary for development of impact assessment documents.

Applications under the Western Australian Mining Act (i.e. Mining Proposal) are planned for submission in H2 2020 once further detailed engineering and design has been completed. The planned approvals schedule assumes that all required regulatory approvals will be obtained in advance of the planned decision to mine.

### Project Finance

The Company currently has cash at bank and ASX listed investments of \$5m before creditor payments<sup>5</sup>. Budget estimates of \$2 million have been factored in for the remaining three quarters of 2020 including prepayments for long lead time items and the Board is confident that appropriate funding strategies are in place to meet these requirements.

Burnvoir Corporate Finance have been engaged to assist with project financing and engage with potential lenders. In addition, the Company has been approached and is in discussions with a number of potential funders, at a level commensurate with the current stage of the Project. These include debt financing, traditional bank resource Project financing, offtake funding, Project and corporate level equity investment and equipment finance providers. These discussions are continuing.

The Company recognises that having robust offtake arrangements is an important factor in securing project finance and has actively engaged with potential partners to progress discussions with respect to offtake.

Investors should note that there is no certainty that the Company will be able to raise the funding required, or that funding may only be available on terms that may be dilutive to, or otherwise affect, the value of the Company's existing shares. It is also possible that the Company could pursue other value realisation strategies.

The quantum of capital required, however is deemed to be low for a Project of this type and the nature of the proposed mining activities and the robust economics demonstrated by the PFS are commensurate or better than other similar projects that have successfully raised the required capital to fund development in Western Australia, a recognised mining jurisdiction.

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<sup>5</sup> Reference: ASX Quarterly Report lodged 23 April 2020

The Board believes that there are strong “reasonable grounds” to assume that future funding will be available for the development of the Project;

- a) The Company’s Board and management team have a strong track record and experience in developing and operating mines.
- b) E25 has a large resource base at Butcherbird and is confident that it can continue to increase the quantity and quality of the mineral resources extending the mine life beyond what is contemplated in this study.
- c) The Project is located in the southern Pilbara region of Western Australia. The region is well serviced by road and gas infrastructure and has a long history of mining operations. Western Australia is considered one of the world’s top mining jurisdictions and a low risk investment destination. Australia is home to significant sources of equity and debt capital and has very active resource focused capital markets.
- d) The strong recent price increases are being driven in part by new demand for manganese for use in steel products and more recently for use in manganese battery technology, which is undergoing a rapid rise at the present time. This increase, beyond the long-term average price, is currently being driven by a number of factors:
  - i. Long term supply disruption (particularly from South Africa) after long low price and low demand periods;
  - ii. Changes to usage of manganese in China rebar steel products;
  - iii. Limited or slow new mine production, and
  - iv. Chinese smelter environmental shutdowns.
- e) The improvements to manganese market conditions and an encouraging future outlook for demand for manganese enhances the Company’s view of securing successful funding for the Project. The Company is also able to pursue other methods of value realisation to assist funding the Project, such as a partial sale of the asset, long term offtake and joint venture arrangements.
- f) The strong production and economic outcomes delivered by the study are considered by the Board to be sufficiently robust to provide confidence in the Company’s ability to fund pre-production capital through conventional debt and equity financing. The Company has been active in seeking out partners in key markets such as Malaysia, China and Japan.

## Consultants and Contributors

The internal E25 team has unique expertise in process design, start-up and operation of manganese operations throughout the world. E25 has partnered with a similar team of outstanding professionals across multiple disciplines to assure that the Butcherbird Project Study is of the highest quality. The external team includes input and services from:

Table 9. Butcherbird PFS Major Consultants and Contributors

Group	Abbreviation	Function
4DG	4DG	Open Pit Excavatability assessment
ALS Laboratories	ALS	Metallurgical test-work
BurnVoir		Corporate Finance Advisor
Civil Group Pty Ltd		Access Road and Pipeline engineering
Core Group		Comminution Review
Digimaps		Drafting services
IHC Robbins	IHC	Resource Modelling
Karlka Nyiyaparli		Assistance with Native Title Clearance and Approvals
Land & Marine Geological Services	L&MG SPL	TSF Design and assessment
MBS Environmental Pty Ltd	MBS	Environmental surveys and preparation of the environmental approval documents
Mine Planning Services	MPS	Open Pit Optimisation, Design and Scheduling
Mining Solutions Pty Ltd		Project management, Mine Engineering, Financial Modelling
MWES Pty Ltd	MWES	Water Resource Definition and assessment
NG Consult	NGC	Metallurgical assessment and Process Engineering
Orway Minerals Consultants	ORWAY	Comminution circuit option study
Peter O'Bryan and Associates	POB	Open Pit Geotechnical Review
ProjX Pty Ltd		Engineering Services
Resource Engineering Consultants Pty Ltd	REC	TSF Geotechnical assessment
Roskill Consulting Group Ltd	Roskill	Manganese market and pricing assessment
Steinert Australia		Ore Sorting technology
Water Technology Pty Ltd		Hydrological studies

## Competent Persons Statement

### Competent Person Statement - Mineral Resource Estimation 1

The information in this report that relates to Mineral Resources for the Yanneri Ridge, Coodamudgi, Mundawindi and Ritchies Find JORC Mineral Resource estimates is based on and fairly represents information compiled by Mr Greg Jones, (Consultant with IHC Robbins Ltd). Mr Jones is not a shareholder of Element 25 Limited. Mr Jones is a fellow of the Australasian Institute of Mining and Metallurgy. Mr Jones has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Jones is the Competent Person for the resource estimation and Competent Person for the Database. Mr Jones has visited site. Mr Jones consents to the inclusion in this report of the matters based on their information in the form and context in which they appear.

### Competent Person Statement - Mineral Resource Estimation 2

The information in this report that relates to Mineral Resources for the Bindi Bindi Hill, Cadgies Flat, Ilgarari Ridge and Budgie Hill JORC Mineral Resource estimates is based on and fairly represents information compiled by Mr Mark Glassock (Consultant with Extomine Pty Ltd). Mr Glassock is not a shareholder of Element 25 Limited. Mr Glassock is a member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically Mr Glassock is the Competent Person for the geological model estimates. Mr Glassock has visited site. Mr Glassock consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

### Competent Person Statement - Mining, Metallurgical Results and Financial Modelling

The information in this statement that relates to Mining, Metallurgy and Financial Modelling is based on information compiled by independent consulting mining engineer Ian Huitson (Fellow AusIMM, CP Min, B.Eng Mining Eng). Mr Huitson is a Fellow of The Australasian Institute of Mining and Metallurgy. Ian Huitson is employed by Mining Solutions Pty Ltd. Mr Huitson is a shareholder of Element 25 Limited. Mr Huitson has visited site on a number of occasions as part of the ongoing studies of the Butcherbird Project. Mr Huitson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr Huitson consents to the inclusion in the report of the matters based on the information made available to him, in the form and context in which it appears.

## Disclaimer

The company confirms that in the case of estimates of Mineral Resource or Ore Reserves, all material assumptions and technical parameters underpinning the estimates in the market announcement dated April 17, 2019, continue to apply and have not materially changed. The company confirms that the form and context in which the competent person's findings are presented has not been materially modified from the original market announcement.

This announcement is authorised for market release by Element 25 Limited's Board of Directors.