

## Highlights

All key work streams for the Butcherbird Pre-Feasibility Study are active:

- **Metallurgy:** All test work completed, data and reporting being finalised and expected shortly.
- **Mine Planning:** Price estimates received from contractor candidates, detailed optimisation for ore reserves well advanced.
- **Power:** Final PFS report from Advisian at an advanced draft. Energy cost reductions anticipated over Scoping Study estimates.
- **Environmental:** Data analyses and reporting completed. No significant species identified.
- **Sales and Marketing:** Roskill Information Services market report completed. Offtake counterparty engagement ongoing with strong interest from Japan, Southeast Asia, Europe and North America. Visit planned for late October.
- **Capital and Operating Costs:** Capital, operating costs and cashflow modelling at an advanced stage pending completion.



The Quarter ending 30 September 2019 has seen further progress for Element 25 Limited (**Company** or **E25**) across multiple work streams. The work continues to progress the Pre-Feasibility Study (**PFS**) in relation to the Butcherbird High Purity Manganese Project (**Project**). The PFS is nearing completion. E25 intends to produce high purity manganese and/or manganese sulphate for lithium ion batteries (**HPMS**) and Electrolytic Manganese Metal (**EMM**)<sup>1</sup>.

<sup>1</sup> Company announcement dated 17 October 2017

## Company Snapshot

ASX Code:	E25	Board of Directors:	
Shares on Issue:	92M	Seamus Cornelius	Chairman
Share Price:	\$0.205	Justin Brown	MD
Market Capitalisation:	\$18.9M	John Ribbons	NED

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Element 25 Limited is developing the world class Butcherbird manganese project in Western Australia to produce high purity manganese sulphate for lithium ion batteries and electrolytic manganese metal.

## PRE-FEASIBILITY STUDY

The Company is currently in the closing phases of the PFS which is anticipated to provide a robust base case for the commercialisation of this world class manganese resource.

A number of key consulting groups are engaged to undertake or manage the various elements of the study. All key work streams are underway and progressing well.

Multiple work streams continue to be progressed towards completion, and the PFS is expected to be delivered to the market in coming weeks as various sections of the work programme are closed out. This is expected to include a maiden reserve statement.

E25 Managing Director Mr Justin Brown commented, *“We are very much looking forward to delivering a successful Pre-Feasibility Study to the market, which will represent a pivotal milestone in our journey to develop the world class Butcherbird Project.”*

The status of key work streams is summarised as follows;

### Mining

Pit optimisations are complete pending finalisation on receipt of detailed operating cost estimates. The associated documentation is well advanced and awaiting finalisation for inclusion into the PFS documentation. Given the low stripping ratios, and free dig mining methodology, mining costs are not expected to be a key cost driver for the operation.

### Processing

All PFS metallurgical test work is now complete and final results are being compiled. The work has shown slightly higher recoveries than the Scoping Study test programme, with all other outcomes in line with expectation.

The test programme has successfully yielded a high purity Electrolytic Manganese Metal product grading 99.9% Mn, which exceeds the required purity for commercial sale.

Plant layouts are complete, as are manning, logistics and reagent costings. Final capital and operating cost estimates are pending.



Figure 1: Manganese leaching test equipment.

## Marketing

An advanced draft of the manganese market report has been received from Roskill including coverage of both the EMM and battery grade  $\text{MnSO}_4$  market statistics and forecast pricing which will inform the pricing assumptions used in the PFS. The forecasts both in terms of pricing and volumes are in line with assumptions used in the Scoping Study released in 2018.

Offtake discussions are well advanced with a number of potential Japanese, Korean, US and European consumers of EMM. The identity of the potential end users remain confidential however they represent a number of major steel producers in jurisdictions outside of China. In discussions to date, the Company has received strong indications that demand for non-Chinese production of these high purity manganese products is robust which bodes well for the Company's efforts to lock in bankable offtake arrangements with credible counterparties to underpin project financing discussions. A visit to Japan, Korea, the USA and the EU is planned for late October 2019 to continue negotiations.

## Power Generation

Advisian are near completion on the PFS level analysis of the recommended power solution for the Project which is expected to comprise a hybrid wind/gas power station contracted over a 20 year Power Purchase Agreement (PPA) term. Progress to date indicates that there is an improvement on the Scoping Study power cost estimates of approximately \$120/MWh using a gas only base case. The renewable/gas option assumes a flat load profile.

As previously announced, the Company is also working with Murdoch University to explore the potential for a more dynamic operational regime which has the potential to allow for a higher renewable energy penetration than in the current base case which is expected to utilise approximately 50% renewable energy in tandem with gas fired generation using traditional reciprocating engines.

To support the case for renewable energy as part of the design for the Project, a SODaR is in continuous operation on site, collecting ten-minute wind and solar data. The data collection exercise is expected to continue indefinitely to support PPA negotiations as we progress toward contracting of the power infrastructure.

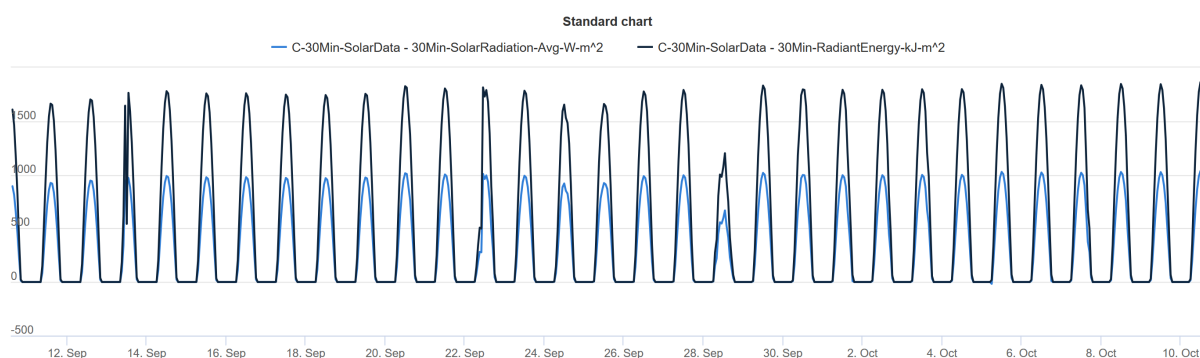


Figure 2: Solar insolation data collected at Butcherbird during September 2019.



Figure 3: SODaR wind data collected at Butcherbird during September 2019.

## Geology and Mineralisation Report

The PFS documentation for the updated resource statement released on 17 April 2019 is complete and will form part of the feasibility study report.

The PFS base case will target a 50 year initial mine life focussing on the Measured and Indicated resource categories to allow the reporting of a maiden reserve statement.

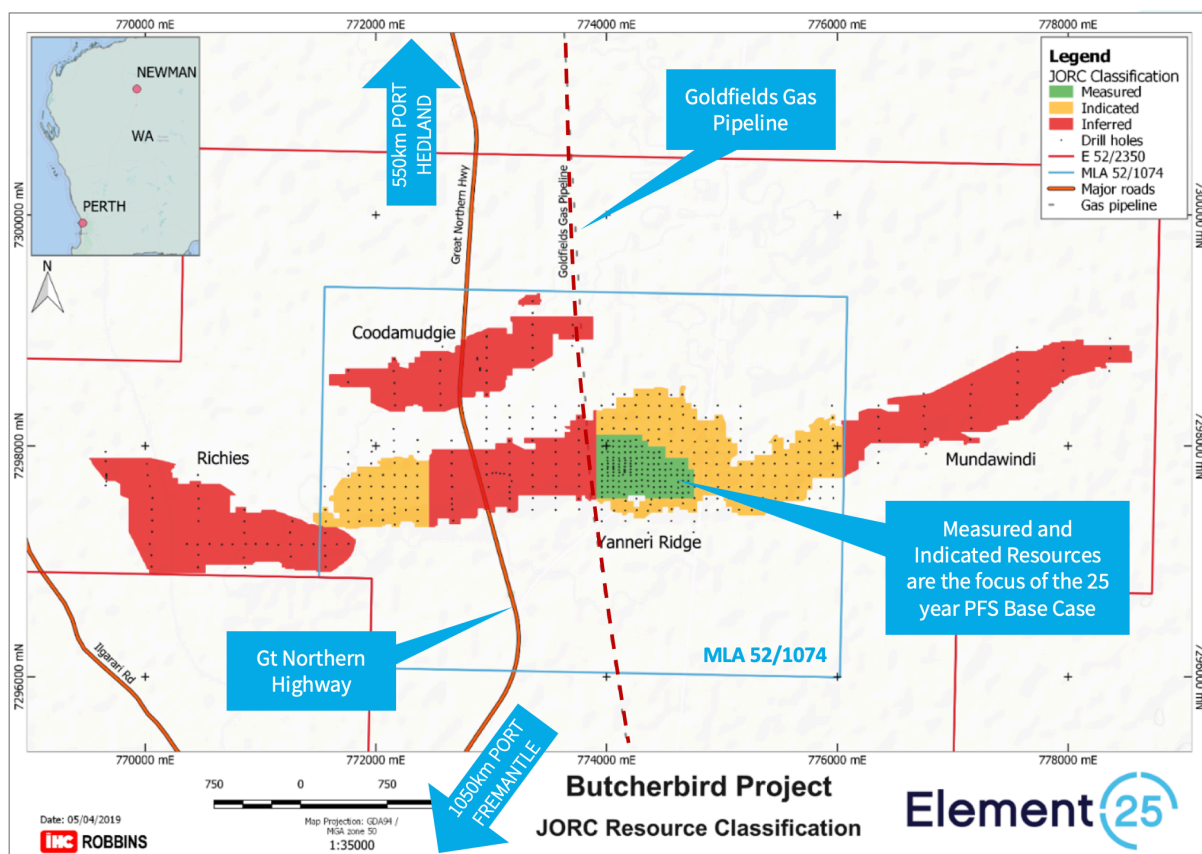


Figure 4: Project plan showing the mining lease application MLA 52/1074 as well as key transport and energy infrastructure and the Yanneri Ridge resource outlines highlighting the measured and indicated zones of mineralisation.

## Access Agreements

The final Native Title Agreement required for the grant of M52/1074 and development of the Butcherbird Project was entered into in the previous quarter and the Company has mining agreements in place with both the Nyiyaparli and Ngarlawanga native title groups.

An access agreement was agreed with the owners of the Kumarina pastoral lease and negotiations with the owners of the Bulloo Downs pastoral lease are ongoing.

## Environment

Final flora and fauna environmental surveys and reports have been completed to a PFS level of detail and have been included in the PFS documentation. Importantly, no Commonwealth EPBC Act or Western Australian *Biodiversity Conservation Act* listed Threatened Flora species have been identified in the project area.

Preliminary Waste characterisation is complete and recommendations for future work will be incorporated into future post PFS metallurgical work plans.

## Process Water

A ground magnetic survey defined an area to the east of planned mining operations which is interpreted as a paleo-drainage system prospective for groundwater. This area will be targeted for a groundwater exploration drilling programme as part of the work programme post the PFS.

## Project Finance

Burnvoir continues to engage with a number of groups in relation to project financing and on 9 October 2019, the Company announced that the Northern Australia Infrastructure Facility (NAIF) determined that it will further investigate the potential to provide debt financing for the Project.

This decision was taken after E25 provided NAIF with a strategic assessment paper detailing the benefits that will flow from the Project and its associated infrastructure to the local communities in the Pilbara region. This represents one of a number of avenues that the Company is pursuing in relation to securing project finance for the Project.

## Logistics

The logistics solution for the Project comprises road haulage of both inbound reagents and consumables and outbound product. The EMM product will be shipped via Fremantle Port in the early stages of the Project until

suitable infrastructure and container liner services are available at Port Hedland. Contractor pricing has been received for domestic and sea freight components and will be included in the final PFS report.

### About the Butcherbird High Purity Manganese Project

The Butcherbird High Purity Manganese Deposit is a world class manganese resource with current JORC resources in excess of 263 Mt of manganese ore<sup>2</sup>. The Company has completed a positive scoping study with respect to developing the deposit to produce high purity manganese sulphate for lithium ion battery cathodes as well as Electrolytic Manganese Metal for use in certain specialty steels. A PFS is currently being completed and is expected to further confirm the commercial potential of the Project.

The Project straddles the Great Northern Highway and the Goldfields Gas Pipeline providing turnkey logistics and energy solutions. The Company is also intending to integrate renewable energy into the power solution to minimise the carbon intensity of the Project as well as reducing energy costs.

### Mineral Resources

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

### Other Projects

#### Cummins Range

During the quarter, RareX Pty Ltd (**RareX**) exercised its option to purchase the Cummins Range Rare Earths Project comprising Exploration Licence E80/5092 (**Cummins Range**). The sale of Cummins Range has now completed.

Pursuant to the option agreement announced 19 July 2019, RareX paid \$500,000 in cash and parent company Sagon Resources Limited (**Sagon**) (**ASX:SG1**) has issued 13,338,261 ordinary shares at a deemed price of \$0.0375

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

per share for total consideration of \$1,000,000. The consideration shares are subject to a six month restriction agreement.

The sale agreement also includes a number of future payments as follows:

- Within twelve months of settlement of the acquisition, RareX/Sagon must pay \$500,000 in cash and issue \$500,000 in shares in Sagon or pay \$1,000,000 in cash (**Deferred Consideration**).
- Within 36 months of settlement, and subject to the completion of a positive Bankable Feasibility Study (**BFS**) on the Cummins Range project, RareX/Sagon must pay or issue \$1,000,000 in cash or Sagon shares or a combination thereof to a total value of \$1,000,000 (**Further Deferred Consideration**).
- If a BFS is unable to be completed within 36 months of the date of settlement, the further Deferred Consideration is not payable and RareX will, in lieu, grant E25 a 1% Net Smelter Return Royalty on future production from the Cummins Range project capped at \$1,000,000.

The Company is pleased with the outcome of this transaction which will provide valuable working capital to fund the Company's activities.

## Corporate

### Investment Portfolio (as at 30 September 2019)

In addition to cash reserves, the Company also currently holds securities in the following listed entities:

Listed securities at market value:	No. Held	Closing Price	Market Value
Anova Metals Ltd (ASX:AWV)	7,000,000	\$0.01	\$70,000
Buxton Resources Ltd (ASX:BOX)	356,001	\$0.10	\$35,600
Duketon Mining (ASX:DKM)	1,450,000	\$0.22	\$319,000
Danakali Limited (ASX:DNK)	8,500,097	\$0.635	\$5,397,562
Magmatic Resources Ltd (ASX:MAG)	3,770,485	\$0.051	\$192,295
Magmatic Resources Options (3c exercise price)	2,000,000		
Sagon Resources (ASX:SG1)	13,338,261	0.054	\$720,266
<b>Total</b>			<b>\$6,734,723</b>

Justin Brown

### Managing Director

Company information, ASX announcements, investor presentations, corporate videos and other investor material on the Company's projects can be viewed at: <http://www.element25.com.au>.



## Competent Persons Statement

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr Justin Brown who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Exploration Results and Exploration Targets were compiled, Mr Brown was an employee of Element 25 Limited. Mr Brown is a geologist and has sufficient experience which is relevant to the style of mineralisation 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 Exploration Results and Exploration Targets'. Mr Brown consents to the inclusion of this information in the form and context in which it appears in this report

Please note with regard to Exploration Targets, the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

The information in this report that relates to Mineral Resources is based on information announced to the ASX on 17 April 2019. Element 25 confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements, and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

## Disclaimer

The views expressed herein are not necessarily the views of the Australian Government, and the Australian Government does not accept responsibility for any information or advice contained herein.



## Element 25 Limited

## ASX Additional Information for Quarterly Report to 30 September 2019

	Tenement reference	Location	Interest at beginning of quarter	Acquired / Disposed	Interest at end of quarter
The mining tenements held at the end of the quarter and their location	E20/659	Eelya Hill WA	10%	N/A	10%
	E20/948	Yallon Well WA	100%	N/A	100%
	E20/953	Sunday Well WA	100%	N/A	100%
	E28/2577	Pinnacles WA	100%	N/A	100%
	E28/2701	Pinnacles East WA	100%	N/A	100%
	E28/2761	Flanker South WA	100%	N/A	100%
	E28/2908	Pinnacles WA	100%	N/A	100%
	E28/2925	Fraser Range WA	100%	N/A	100%
	E37/1295	Leonora WA	100%	N/A	100%
	E39/2135	Mulga Tank	0%	Acquired	100%
	E46/1300	Black Hill WA	100%	N/A	100%
	E52/1529	Mt Padbury WA	100% (Note 1)	N/A	100% (Note 1)
	E52/2350	Butcher Bird WA	100%	N/A	100%
	E52/3606	Yanneri Bore WA	100%	N/A	100%
	E52/3607	Neds Gap WA	100%	Disposed	0%
	E52/3663	Dead Camel WA	100%	N/A	100%
	E52/3704	Corner Bore WA	100%	N/A	100%
	E52/3706	Yanneri Pool WA	100%	N/A	100%
	E52/3708	Millidie Creek WA	100%	N/A	100%
	E52/3710	Neds Gap WA	100%	N/A	100%
	E52/3735	Limestone Bore WA	0%	Acquired	100%
	E52/3738	Mt Padbury WA	0%	Acquired	100%
	L52/202	Yanneri Ridge WA	100%	Disposed	0%
	L52/211	Limestone Bore WA	0%	Acquired	100%
	M52/1074	Yaneri Ridge WA	100%	N/A	100%
	E57/1060	Victory Well WA	100%	N/A	100%
	E59/2267	Twin Peaks WA	100%	Disposed	0%
	E63/1750	Lake Johnston WA	85%	N/A	85%
	E63/1789	Lake Johnston WA	85%	N/A	85%
	E63/1838	Lake Johnston WA	85%	N/A	85%

	Tenement reference	Location	Interest at beginning of quarter	Acquired / Disposed	Interest at end of quarter
	E69/3541	Cunyu Woolshed WA	100%	N/A	100%
	E80/5056	Eileen Bore WA	100%	N/A	100%
	E80/5092	Cummins Range WA	100%	Disposed	0%

Notes:

- 1) 100% interest held in all minerals other than iron ore and manganese.