

## Highlights

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

- **Metallurgy:** High Purity Electrolytic Manganese Metal (“EMM”) produced from Butcherbird ore.
- **Energy:** Stage one complete, vendor packs being prepared to go to market as part of the tender process.
- **Environmental:** Wet season tenders prepared for March-May surveys.
- **Geotechnical:** Drilling programme planned and scheduled.
- **Heritage:** Successful Native Title meeting held and in principle terms agreed. Ratification pending.
- **Resource development:** infill drilling completed, assays received, resource upgrade commenced.



The Quarter ending 31 December 2018 has seen significant progress for Element 25 Limited (“Company” or “E25”) across multiple work streams. The work continues to progress the Pre-Feasibility Study in relation to the Butcherbird High Purity Manganese Project where E25 intends to produce high purity manganese including 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:		Element 25 Limited is developing the world class
Shares on Issue:	84M	Seamus Cornelius	Chairman	Butcherbird manganese project in Western Australia to
Share Price:	\$0.165	Justin Brown	ED	produce high purity manganese sulphate for lithium ion
Market Capitalisation:	\$13.9M	John Ribbons	NED	batteries and electrolytic manganese metal.
Element 25 Limited	Level 2, 45 Richardson Street,			
P +61 8 6315 1400	West Perth, WA, 6005			
E admin@e25.com.au	PO Box 910 West Perth WA 6872			
element25.com.au	Australia			

## PRE-FEASIBILITY STUDY

Following the publication of the Scoping Study, and the positive demand forecast from Metal Bulletin for high purity manganese products, which indicated robust growth in demand and pricing over the forecast period, the Company initiated a Pre-Feasibility Study (“PFS”) to assess in more detail the pathway to commercialisation for 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 with the PFS on track to be completed within the forecast time frame.

### Metallurgy

E25 is pleased to advise that metallurgical test work conducted on representative PQ diamond drill hole core samples from the Butcherbird High Purity Manganese Project has successfully produced what is believed to be the first EMM produced in Australia from Australian ores.

The initial sighter leach tests were completed using subsamples of a larger bulk test sample comprising approximately 500kg. The bulk sample is currently being processed.

The sighter tests were completed with the intention of further optimising the front end of the processing flowsheet that has been developed in conjunction with the CSIRO for the purposes of extracting manganese from Butcherbird ores to produce high purity manganese (“HPM”) including battery grade manganese sulphate and EMM.

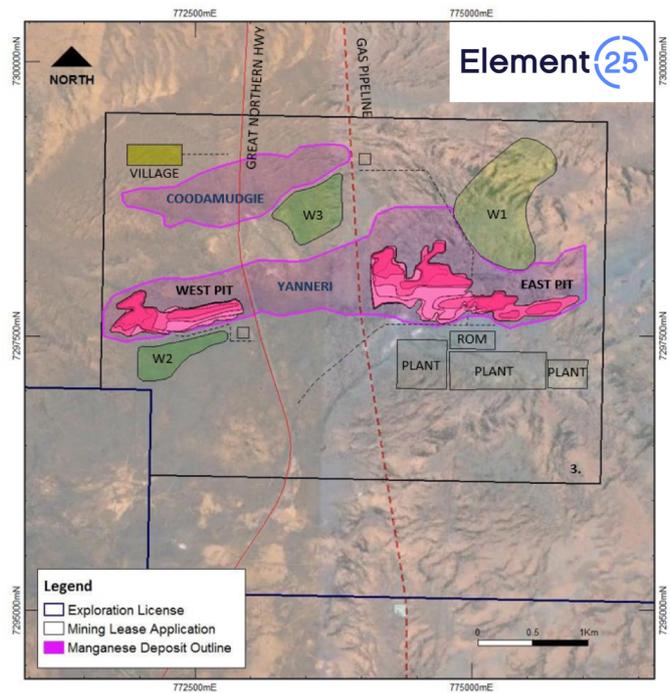


Figure 1: Infrastructure overview at the Butcherbird Project.



Figure 2: High purity Butcherbird EMM.

As a result of the success of the optimisation tests, the larger sample has been leached and is now being taken through the purification process following which both EMM and battery grade sulphate samples will be produced. This work is expected to provide sufficient samples of both products for despatch to prospective offtake partners.

The success of the test work carried out to date further confirms the process flowsheet which is a key enabling technology for the Company’s strategy of producing high value, high purity manganese products from the Butcherbird Project. The Butcherbird Project hosts Australia’s largest onshore manganese deposit and is the focus of a Pre-Feasibility Study due for completion in 2019.

The hydrometallurgical leach processing and purification was conducted on representative PQ diamond core from drill hole BBDD011 from within the Yanneri Ridge resource area. The work was undertaken by Simulus Laboratories. The electrowinning phase of the test work was undertaken at the Murdoch University research laboratory operated by the Extractive Metallurgy division. The work was carried out by the Metallurgical Process – Research, Development and Innovation (MPI) group headed by Associate Professor Aleks Nikoloski.

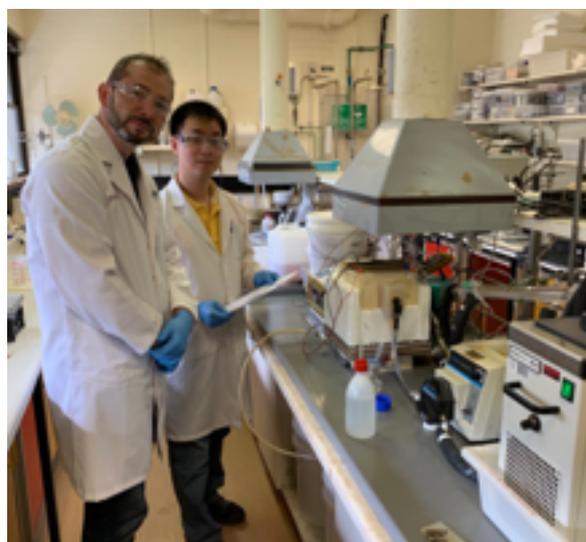


Figure 3: Murdoch research laboratory and team.



Figure 4: Electrowinning apparatus set up.

The chemical composition of the produced EMM is shown in Table 1 below and is based on impurity analysis. The chemical composition of the pregnant leach solution used in the test work is shown in Table 2.

EMM	Mn (%)	Se (%)	Na (%)	S (%)	Ca (%)	K (%)	Co (%)	Ni (%)
Butcherbird Ore	99.56	0.18	0.10	0.07	0.03	0.03	0.01	0.01

Table 1: Electrolytic Manganese Metal composition. Key impurities analysed by ICP-MS and manganese content is calculated.

Element	Units	Assay	Standard <sup>2</sup>	Element	Units	Assay	Standard <sup>1</sup>
Ag	mg/L	-0.0007	n/a	Pr	mg/L	0.02	n/a
Al	mg/L	-0.02	98	S	mg/L	32790	n/a
As	mg/L	0.004	0.96	Sb	mg/L	0.01	0.096
B	mg/L	2.24	0.96	Sc	mg/L	-0.001	n/a
Ba	mg/L	0.26	0.96	Se	mg/L	-0.008	0.96
Be	mg/L	0.001	n/a	Si	mg/L	-5.6	n/a
Bi	mg/L	-0.0001	0.96	Sm	mg/L	0.03	n/a
Ca	mg/L	711	587	Sn	mg/L	0.002	n/a
Cd	mg/L	0.03	0.096	Sr	mg/L	1.22	n/a
Ce	mg/L	0.16	n/a	Ta	mg/L	-0.01	n/a
Co	mg/L	0.03	1.4	Tb	mg/L	0.01	n/a
Cr	mg/L	0.003	0.96	Te	mg/L	0.001	0.096
Cu	mg/L	-0.002	0.4	Th	mg/L	-0.01	n/a
Dy	mg/L	0.06	n/a	Ti	mg/L	0.02	0.96
Er	mg/L	0.03	n/a	Tl	mg/L	0.0002	0.096
Eu	mg/L	0.01	n/a	Tm	mg/L	-0.01	n/a
Fe	mg/L	-0.01	1.4	U	mg/L	-0.01	n/a
Gd	mg/L	0.08	n/a	V	mg/L	0.02	0.96
Hf	mg/L	0.0003	n/a	W	mg/L	0.002	n/a
Ho	mg/L	0.01	n/a	Y	mg/L	1.02	n/a
K	mg/L	11.4	20	Yb	mg/L	0.01	n/a
La	mg/L	0.05	n/a	Zn	mg/L	0.07	0.096
Li	mg/L	5.83	20	Zr	mg/L	0.02	n/a
Mg	mg/L	843	1,955				
<b>Mn</b>	<b>mg/L</b>	<b>48190</b>	n/a				
Mo	mg/L	0.002	0.96				
Na	mg/L	200	195				
Nb	mg/L	0.001	n/a				
Nd	mg/L	0.11	n/a				
Ni	mg/L	0.02	3				
P	mg/L	0.64	0.96				
Pb	mg/L	0.006	0.096				

Table 2: Pregnant Leach Solution (“PLS”) assay results for the liquor used to produce EMM. Analysis conducted by metal digest and ICP-MS finish. Negative values indicate below detection.

<sup>2</sup> A widely used, industry accepted North American specification that is a trade secret and commercial in confidence.

## Energy

E25 is aiming to implement a lower cost, low emissions solution as this will improve the project economics and potentially allow the Company to produce a product which has a lower carbon footprint than conventionally produced EMM. Producing battery grade high purity manganese sulphate using E25's process is exothermic and thereby largely energy neutral, however producing EMM requires significant electrical energy and therefore the work on the power solution is a key part of the project. The Company believes that being able to provide a low cost, low emission product may provide a marketing advantage in the future, as potential E25 customers (steel and battery manufacturers) seek to decarbonise their respective supply chains. Specialist consultants were engaged early in the Scoping Study to develop a power implementation strategy. This has continued and currently forms part of a three-stage process which, it is envisaged, will ultimately lead to the award of power contracts. The first stage which evaluated the site plant scale and power-plant scale and reviewed the options for power supply confirmed that the most economic energy mix for the Butcherbird High Purity Manganese Project is likely to include a combination of gas, wind and solar power to drive the electrowinning process. Vendor packs are now being prepared to go to market.

## Environmental

Contract Tenders have been prepared for wet season Flora and Fauna surveys of the Mining Lease and other infrastructure areas required for the Butcherbird project. These surveys will be conducted following the summer rains between March and May.

Previous surface hydrology studies have been reviewed and found to be suitable for the Butcherbird PFS.

## Geotechnical

An open pit geotechnical assessment program was developed during the quarter. This will determine wall stability and design angles for open pit optimisation and design purposes. The program will involve the drilling of several orientated diamond holes. These holes will be drilled in conjunction with metallurgical sample holes in the first quarter 2019.

### Resource Development

A resource infill drilling programme was completed during the quarter. The programme comprised 210 aircore holes for a total of 6,672m. The results from the programme will form the basis of a revised mineral resource estimate which is expected to upgrade the planned starter pit area from Inferred and Indicated to Indicated and Measured categories as a basis for a maiden reserve, expected to be published with the PFS.



Figure 5: X350 track mounted aircore drilling rig.

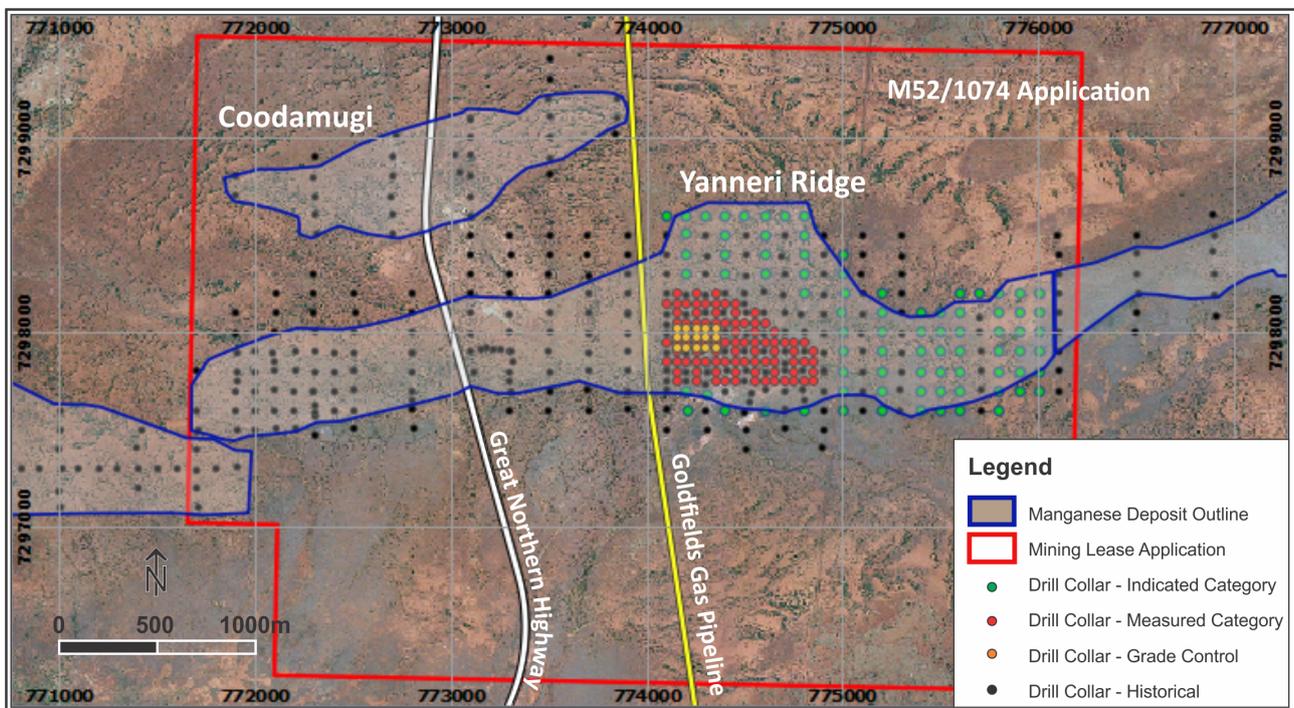


Figure 6: Completed infill drilling collar locations in relation to the previous drilling, Yanneri Ridge and Coodamudgi resource outlines and infrastructure.

### Native Title and Heritage

Engagement continued with the representatives of the Traditional Owners of the Niyaparli Native Title area (“Niyaparli”) to negotiate a native title agreement to allow the granting of the mining lease application at Butcherbird to progress.

A meeting was held in South Hedland on December 13 2018. The meeting included representatives from both E25 and the Nyiyaparli. The meeting was productive and draft terms were agreed in principle. The relevant documentation is now being drafted for ratification by the Nyiyaparli as soon as practicable which will allow for the mining lease grant process to proceed.

### Water Exploration

A gravity survey was conducted during November 2018 at the Butcherbird Project as a tool to guide water exploration for the process water requirements for the plant. The gravity survey lines spanned across interpreted palaeochannels mainly delineated from an airborne electromagnetic survey (XTEM).

The aim of the gravity survey was to map out gravity lows associated with the palaeochannel system. The negative gravity anomalies (i.e. gravity lows) have been interpreted and ranked based on simple anomaly strength and gradient criteria. Modelling has not been undertaken.

The programme was successful in defining a number of gravity anomalies interpreted as possible paleochannels which will be tested for their suitability as production bore sites.

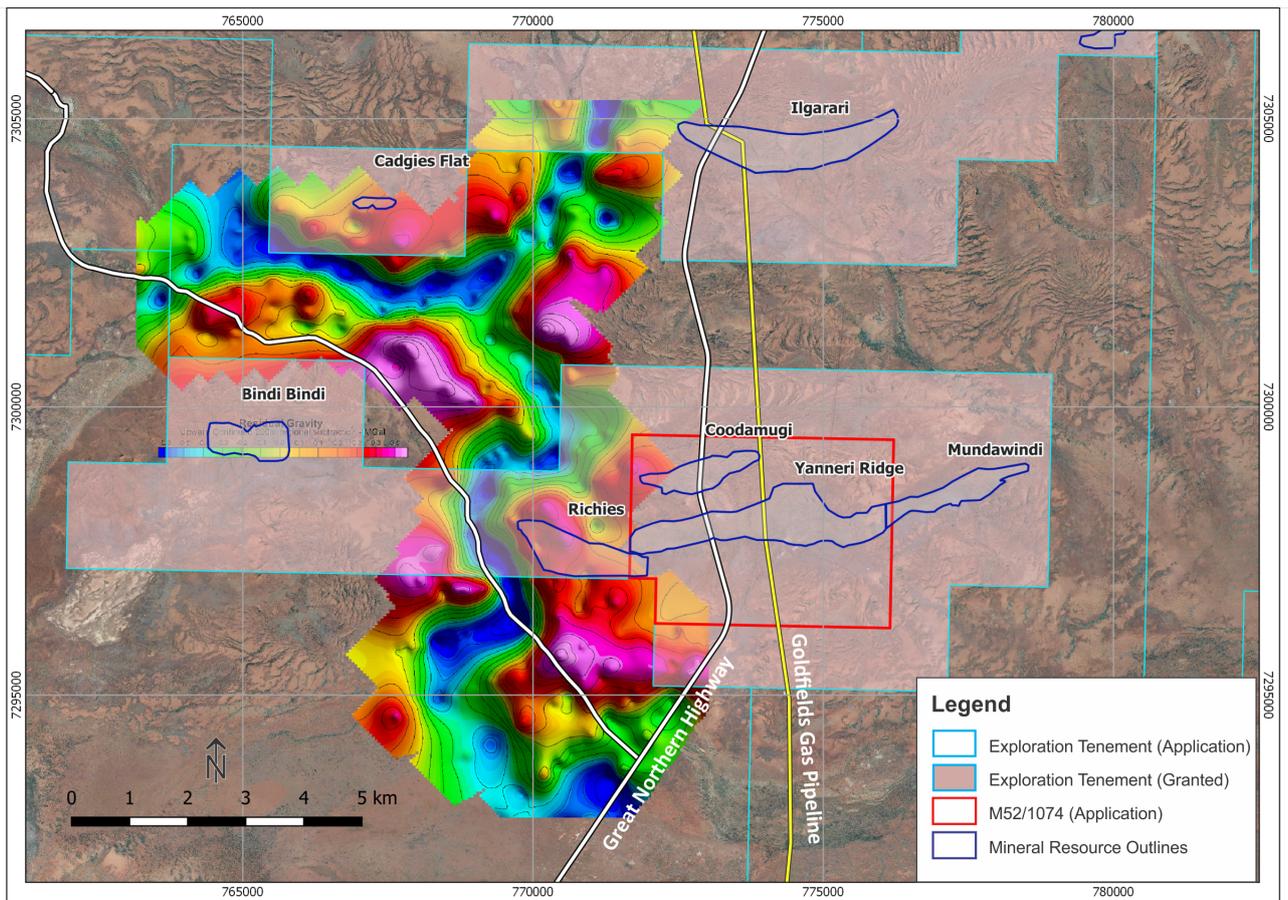


Figure 7: Residual Gravity Image, created by subtracting the upward continued gravity grid (200m continuation distance) from the Bouguer Anomaly Grid. Contour interval is 0.1 mGal.

## Project Finance

As part of the funding solution for the Butcherbird Project, the Company is in discussions with a number of independent advisory groups to provide early stage project financing services including initial engagement with potential funders, and advice on the available funding structures and strategies in relation to the project. Advice has been received that provided the PFS and DFS return results not materially different to the scoping study, that there is a pathway to project funding.

Although no funding decisions have occurred, at this stage, potential funding sources may include:

- **Strategic Funding** – The expected growth in the traditional high purity manganese markets as well as the battery manufacturing sector will require increased levels of supply of raw materials, including manganese metal and manganese sulphate. End users of raw materials may provide funding in order to secure supply. Steel makers and battery manufacturers therefore are a potential source of debt or equity funding for the Project.
- **North Australian Infrastructure Fund (“NAIF”)** – NAIF has been set up by the Australian government to provide loans to infrastructure projects in Northern Australia. With the Project being located in the southern Pilbara, NAIF funding has been identified as a potential source of debt funding. Initial discussions have been held and further meetings are planned.
- **Project Finance** – The positive economic results highlighted in the Scoping Study, supported by an independent review of the Scoping Study financial forecasts demonstrate that the project may be of appeal to traditional project financiers. Further detailed feasibility work would be required including a Bankable Feasibility Study.
- **Equity** – The positive economic results highlighted in the Scoping Study may allow a significant portion of the capital costs to be funded by the equity markets.

## Flowsheet Development

Discussions with CSIRO in relation to agreeing on a structure to collaboratively develop and commercialise the process technology that has been developed for the Butcherbird project are progressing and the Company looks forward to announcing details when available.

Full details in relation to the scoping study can be found on the Company’s website:

<http://www.element25.com.au/site/the-manganese-project/scoping-study>

## 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 180Mt of manganese ore<sup>3</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 Butcherbird 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 further reducing energy costs.

## Mineral Resources

Classification	Tonnes (t)	Grade Mn (%)
Indicated	22.5	12.0
Inferred	158.3	10.6
<b>TOTAL</b>	<b>180.8</b>	<b>10.8</b>

Notes:

- Reported at 8% Mn cut-off
- All figures rounded to reflect the appropriate level of confidence (apparent differences may occur due to rounding)

## Other Projects

### Green Dam

#### Air Core Drilling Programme

An aircore drilling programme was completed at the Green Dam Project during the quarter<sup>4</sup>. The drilling was designed to test a regionally extensive “gold in soil” anomaly in the southern area (Flanker prospect) of the Project (previously reported in December 2017 Quarterly Report). This anomaly trends in a NW direction and is highlighted by elevated gold values exceeding 5ppb Au (up to a maximum of 35ppb Au) over an area of approximately 3km by 1.5km. This prospect is located 18km to the east of the 1.1 Moz Bombora Gold Deposit

<sup>3</sup> Reference: Company ASX release dated 12 October 2017 (released under the Company’s previous ticker MZM)

<sup>4</sup> Reference: Company ASX release dated 29 January 2019

(Breaker Resources). There are several other gold and nickel anomalies that remain untested within the Green Dam Project tenure.

The initial testing of this southern anomaly was completed using broad spaced aircore drilling (600m x 100m). A total of 49 holes for 1,104m covering four drill traverses was completed during the quarter. The best results from this drilling are outlined below.

Hole_ID	From	To	Interval	Au (ppb)	Comments
GDAC0022	40	48	8	55	EOH = 60m
GDAC0025	16	24	8	244 ppb EOH	Incl 3m @ 581ppb Au
GDAC0041	16	29	13	113 ppb EOH	

Table 3: Significant Results returned from Green Dam aircore drilling. It is unknown whether the holes are true width. Assays were completed by Minanalytical in Perth using Aqua Regia digest and ICP-MS finish.

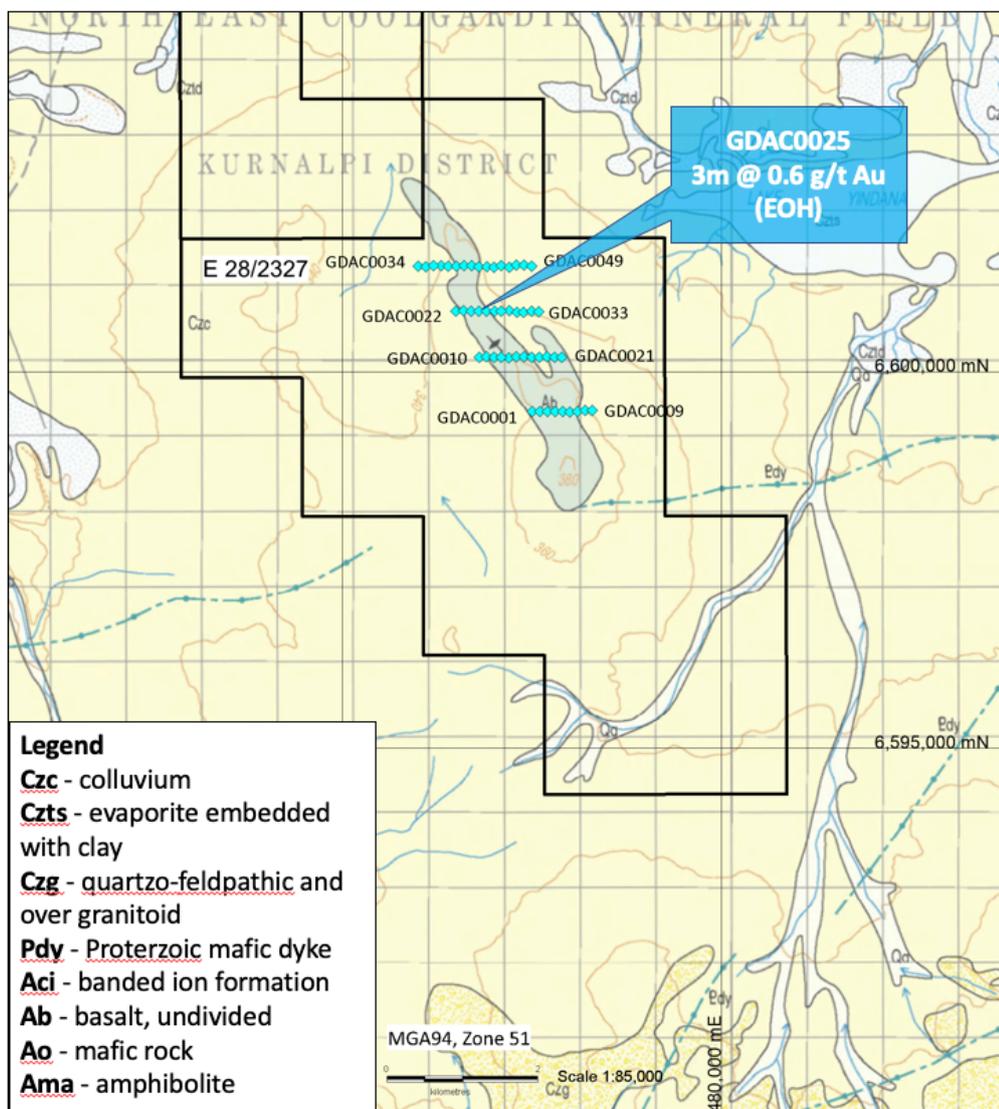


Figure 8: Green Dam aircore drilling programme collar location plan over surface geology.

### Airborne Magnetic Survey

An airborne magnetics survey was completed of the entire Green Dam Project as an aide to structural interpretation and targeting<sup>5</sup>.

The survey was flown at a nominal 100m line spacing and 40m sensor height. The survey collected both magnetic and radiometric data sets with the following instrumentation:

#### Magnetometer

Geometrics GR823 tail sensor; mounted in a stinger housing.

- Sensor Type: Caesium vapour
- Resolution: 0.001 nT
- Sensitivity: 0.01 nT
- Sample Rate: 20 Hz (≈3.5 metre sample interval)
- Compensation: 3-axis fluxgate magnetometer

#### Gamma-Ray Spectrometer

RSI RS-500 gamma-ray spectrometer, incorporating 2x RSX-4 detector packs.

- Total Crystal Vol.: 32 L (downward-looking)
- Channels: 1024
- Sample Rate: 2Hz
- Multi-peak automatic gain stabilisation

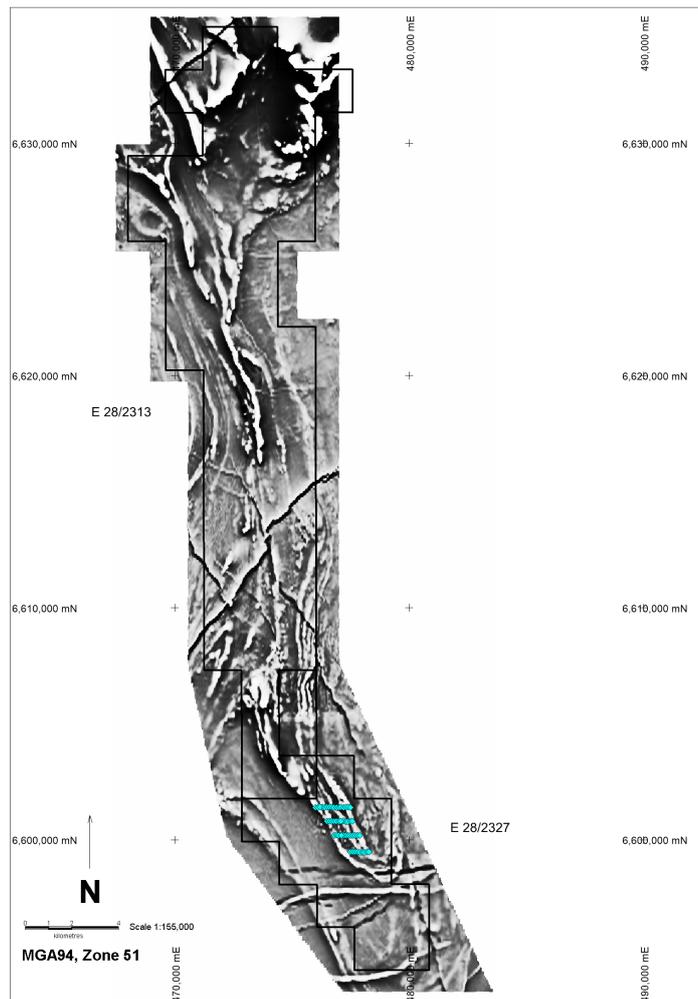


Figure 9: Green Dam TMI Aeromagnetic image.

<sup>5</sup> Reference: Company ASX release dated 29 January 2019

## Corporate

### Investment Portfolio (as at 31 December 2018)

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
Alt Resources Ltd (ASX:ARS)	1,250,000	\$0.02	\$25,000
Magmatic Resources Ltd (ASX:MAG)	3,770,485	\$0.03	\$113,115
Buxton Resources Ltd (ASX:BUX)	356,001	\$0.14	\$70,000
Buxton Resources Ltd 12.5c Options	1,500,000	N/A	
Duketon Mining (ASX:DKM)	1,450,000	\$0.13	\$188,500
Anova Metals Ltd (ASX:AWV)	7,000,000	\$0.01	\$70,000
Danakali Limited (ASX:DNK)	8,800,097	\$0.74	\$6,546,482
<b>Total Market Value as at 31 December 2018</b>			<b>\$6,958,526</b>

Justin Brown

### Executive 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, Exploration Targets, Mineral Resources and Mineral Reserves 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, Exploration Targets, Mineral Resources and Mineral Reserves 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, Mineral Resources and Ore Reserves'. 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 12 October 2017. 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.

## Element 25 Limited

## ASX Additional Information for Quarterly Report to 31 Dec 2018

	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%
	E20/927	Yallon Well WA	100%	Disposed	0%
	E20/941	Sunday Well WA	100%	N/A	100%
	E20/948	Yallon Well WA	100%	N/A	100%
	E28/2313	Green Dam WA	100%	N/A	100%
	E28/2327	Green Dam WA	100%	N/A	100%
	E28/2577	Pinnacles WA	100%	N/A	100%
	E28/2701	Pinnacles East WA	100%	N/A	100%
	E28/2757	Pinnacles WA	100%	N/A	100%
	E28/2761	Flanker South WA	100%	N/A	100%
	E37/1176	Leonora WA	100%	N/A	100%
	E37/1295	Leonora WA	100%	N/A	100%
	E46/1220	Black Hill WA	100%	Disposed	0%
	E46/1300	Black Hill WA	0%	Acquired	100%
	E52/1529	Mt Padbury WA	100% (Note 1)	N/A	100% (Note 1)
	E52/2350	Butcher Bird WA	100%	N/A	100%
	E52/3082	Mt Padbury WA	100%	Disposed	0%
	E52/3588	Dead Camel WA	100%	Disposed	0%
	E52/3606	Yanneri Bore WA	100%	N/A	100%
	E52/3607	Neds Gap WA	100%	N/A	100%
	E52/3613	Millidie Creek WA	100%	N/A	100%
	E52/3626	Corner Bore WA	100%	N/A	100%
	E52/3627	Corner Bore WA	100%	N/A	100%
	E52/3663	Dead Camel WA	100%	N/A	100%
	M52/1074	Yaneri Ridge WA	100%	N/A	100%
	E57/1060	Victory Well WA	100%	N/A	100%
	E59/2246	Milgoo Peak WA	100%	Disposed	0%
	E59/2267	Twin Peaks WA	100%	N/A	100%
	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%
E69/3541	Cunyu Woolshed WA	100%	N/A	100%	

	Tenement reference	Location	Interest at beginning of quarter	Acquired/ Disposed	Interest at end of quarter
	E70/5033	Holleton West WA	100%	Disposed	0%
	E77/2334	Holleton WA	100%	Disposed	0%
	E77/2458	Holleton WA	100%	Disposed	0%
	E80/5056	Eileen Bore WA	100%	N/A	100%
	E80/5092	Cummins Range WA	100%	N/A	100%

## Notes:

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