

## Channel Manganese Drilling Update

Element 25 Limited (**E25** or **Company**) is pleased to advise that assays have been received for a drilling programme which was completed in the June Quarter to target channel manganese within a well defined paleochannel system located within the Company’s exploration tenure footprint at the 100% owned Butcherbird Project (**Project**).

The programme was partly funded by the Western Australian State Government’s Exploration Incentive Scheme (**EIS**) and was targeting alluvial accumulations of high grade manganese mineralisation within the channel system that has previously been identified via a regional gravity survey<sup>1</sup>.

The program comprised 16 aircore drill holes drilled across 3 traverses across an interpreted paleochannel system. The target area was defined based on the results of a detailed, ground based gravity survey conducted in 2018 covering approximately a 10 kilometre x 5 kilometre area directly west of the M52/1074 Mining Lease application. Three holes were drilled on anomalies identified during the gravity survey. Collar locations for the drill holes are details in Table 1: .



<sup>1</sup> Reference: Company ASX Release dated 30 January 2019.

### Company Snapshot

<p><b>ASX Code:</b> E25</p> <p><b>Shares on Issue:</b> 92M</p> <p><b>Share Price:</b> \$0.19</p> <p><b>Market Capitalisation:</b> \$17.5M</p> <p><b>Element 25 Limited</b>  P +61 8 6315 1400  E admin@e25.com.au  element25.com.au</p>	<p><b>Board of Directors:</b></p> <p>Seamus Cornelius  Justin Brown  John Ribbons</p> <p>Level 2, 45 Richardson Street,  West Perth, WA, 6005  PO Box 910 West Perth WA 6872  Australia</p>	<p>Chairman  MD  NED</p>	<p>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.</p>
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HoleID	Easting	Northing	Collar RL	Azimuth	Dip	Depth (m)
BBGW00001	769041	7297883	613	0	-90	103.0
BBGW00002	769093	7297898	614	0	-90	92.2
BBGW00003	768959	7297875	612	0	-90	95.0
BBGW00004	769009	7297877	614	0	-90	95.0
BBGW00005	770300	7299982	613	0	-90	95.0
BBGW00006	770369	7300095	616	0	-90	95.0
BBGW00007	770212	7299876	614	0	-90	90.0
BBGW00008	768717	7302100	617	0	-90	122.0
BBGW00009	768787	7301920	610	0	-90	108.0
BBGW00010	768804	7301853	614	0	-90	132.0
BBGW00011	768679	7302191	617	0	-90	102.0
BBGW00012	769093	7297885	614	0	-90	16.0
BBGW00013	769860	7298091	612	0	-90	18.0
BBGW00014	769986	7298075	610	0	-90	18.0
BBRC00214	770909	7301480	617	0	-90	91.0
BBRC00215	770230	7298256	611	0	-90	91.0

Table 1: Channel manganese drill hole collar locations.

Logging of the drill cuttings identified several low quality manganese zones, supported by with anomalous assay values, however no economic channel manganese mineralisation was defined. All samples above 3% Mn are shown in Table 2: below.

Hole	From (m)	To (m)	Mn (%)	Al (%)	Fe (%)	K (%)	Mg (%)	P (%)	Si (%)	LOI (%)
BBGW00008	121	122	8.5	4.1	12.2	1.5	2.2	0.1	15.4	19.6
BBGW00009	103	104	9.7	3.4	12.7	1.2	2.4	0.1	13.5	21.5
	104	105	4.2	6.6	8.7	2.5	2.0	0.1	21.7	12.7
	105	106	10.1	3.1	12.9	1.1	2.6	0.1	12.6	23.0
	106	107	7.9	4.0	11.6	1.5	2.7	0.1	15.3	20.0
	107	108	5.1	5.4	9.1	1.9	2.7	0.1	20.0	15.1
BBGW00010	132	133	3.0	7.4	9.7	2.5	1.4	0.1	24.2	9.2

Table 2: Channel manganese drilling significant intercepts. All intercepts are approximately true width.

## 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 (%)
<b>Measured</b>	16	11.6	20.6	11.7	5.7
<b>Indicated</b>	41	10.0	20.9	11.0	5.8
<b>Inferred</b>	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).

Justin Brown

## Managing Director

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

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

## 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.

## Appendix 1 - JORC Code, 2012 Edition – Table 1 – Butcherbird Project Channel Manganese Drilling

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems.</li> </ul>	<ul style="list-style-type: none"> <li>Samples were selected for analysis based on visual logs of manganese content.</li> <li>Sample intervals selected for analysis were split and composited over four metre downhole intervals.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>An aircore drill rig with a blade bit was used for drilling the boreholes.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>• All samples have been logged to a level of detail to support the exploration for channel manganese mineralisation and other zones of interest.</li> <li>• Qualitative: Lithology, alteration, mineralisation.</li> <li>• The entire length of the hole is geologically logged.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• 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.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>• N/A.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• 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.</li> <li>• Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>• Samples were sent to a certified laboratory for standard assay processing.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>All collar coordinates were collected using handheld GPS in MGA 94 – Zone 51.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>The drilling was not completed for the purposes of calculating a mineral resource. Drill spacing was based on channel location interpreted from previously acquired gravity data.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All drill holes are drilled vertically as the stratigraphy is generally sub-horizontal.</li> <li>There is no known sample biasing.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>The data and sampling techniques are reviewed internally.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The Butcherbird Project consists of granted exploration license E52/2350 and Mining Lease Application M52/1074.</li> <li>The tenure is 100% owned by Element 25 Ltd.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The historical exploration data has been collected by Element 25 Limited and has been reported to high standards.</li> <li>The methods of exploration and techniques used are considered appropriate for the deposit types sought (Mn)</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The geological target is an alluvial channel system interpreted from previously acquired gravity data. The channel fill comprised clays, clastic shale material and sands.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>N/A.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation is flat lying, the drilling is vertical and the intersections are true width.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>The next phase of exploration work is still in the planning stages.</li> </ul>