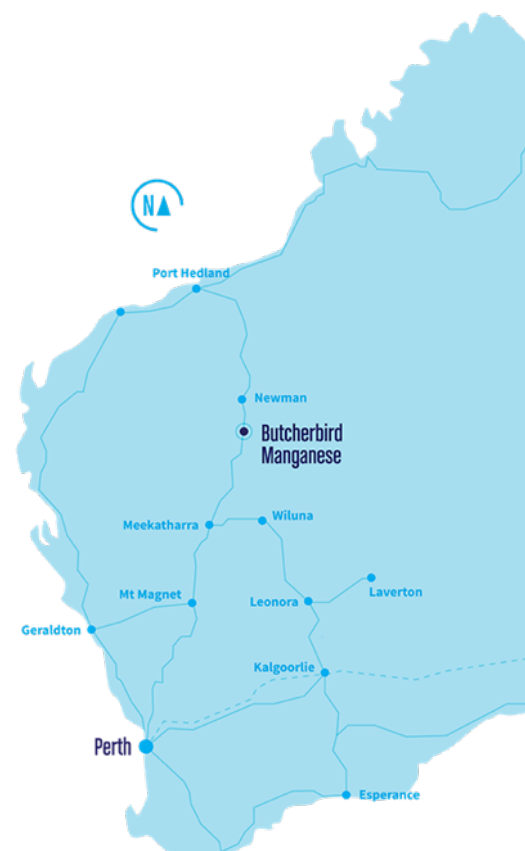


## Test Work Successfully Produces High Grade Manganese Concentrate

### Highlights

- Confirmed concentrate grades of **33% Mn** at **82% recovery**.
- Outstanding test results highlight an early start-up concentrate export opportunity with potential for early cashflow generation.
- Concentrate export strategy expected to facilitate and compliment **high purity manganese** business case.
- Metallurgical characteristics provide both mainstream and niche marketing opportunities.
- Low cost, free dig mining (**no blasting**), and simple processing.
- **Pre Feasibility Study** (PFS<sub>CON</sub>) economic evaluation underway for concentrate export strategy.



Element 25 Limited (E25 or **Company**) is pleased to announce that the bulk sample test programme initiated in December 2019 at the Company's 100% owned Butcherbird Manganese Project (**Project**) has successfully produced a commercial grade lump product through simple beneficiation. The successful flowsheet upgraded the ore by simple crushing, wet scrubbing, screening and ore-sorting to produce a high-grade concentrate. This material is suitable for hydrometallurgical leaching and/or as a concentrate product with favourable impurity levels and excellent recoveries for a potential near-term export business.

E25 Managing Director Mr Justin Brown commented, *"The fact that the Project might now have a low capital start up concentrate export stage to generate early cashflow could be a game changer. With existing manganese mines in Australia past their peak and in decline, the Butcherbird Project has the potential to be a key player in Australian manganese production. This is a very exciting development."*

## Company Snapshot

ASX Code:	E25	Board of Directors:		Element 25 Limited is developing the world class
Shares on Issue:	97M	Seamus Cornelius	Chairman	Butcherbird manganese project in Western Australia to
Share Price:	\$0.11	Justin Brown	MD	produce high purity manganese sulphate for lithium ion
Market Capitalisation:	\$10.7M	John Ribbons	NED	batteries and electrolytic manganese metal.

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 Australia

## Processing Methodology

In December 2019, approximately 40 tonnes of near surface material (1-6m vertical depth) was excavated from the Project site as feed for the upcoming pilot plant programme for the production of Electrolytic Manganese Metal (EMM)<sup>1</sup>.

The optimisation of the beneficiation circuit was targeted at maximising hydrometallurgical feed grade in order to minimise capital and operating costs. The test results exceeded expectations and the new data will be incorporated into the EMM Pre-Feasibility Study (PFS<sub>EMM</sub>).

The optimised flow-sheet (see Figure 5) uses crushing, scrubbing, screening and high-speed ore sorting technology to reject waste material and increase the concentrate grade. The success of this approach highlighted an opportunity to produce a bulk manganese concentrate at a suitable manganese grade for direct export to provide early cashflow to fund the overall Project development strategy.

The test work utilised two nominal 1 tonne samples A003 and B006 from pits BBS-A and BBS-B respectively as highlighted in Figure 4. The material is believed to be representative of Yanneri Ridge Measured Resource.

The concentrate product returned favourable impurity levels and excellent recoveries of over 80% as outlined in Table 1.

Market studies have confirmed that the concentrate grade and levels of deleterious elements are suitable for the production of ferromanganese and silicomanganese alloys. Additionally, there are a number of unique characteristics that may make this product suitable for premium niche markets.

A Pre Feasibility level study is currently being prepared (PFS<sub>CON</sub>) to confirm the potential economics for a low capital ore export business as a start-up stage, to be completed in parallel with the ongoing PFS<sub>EMM</sub>.



Figure 1 Bulk manganese ore post crushing.



Figure 2 Scrubbing and screening removes clays.



Figure 3 Ore sorting removes additional waste to improve concentrate grade to 33% Mn.

Mn	Fe	P	SiO <sub>2</sub>	Al	LOI	Recovery
33.1%	8.2%	0.08%	21.78%	2.97%	10.2%	82%

Table 1 Test concentrate analysis returned from the optimised processing flowsheet.

<sup>1</sup> Reference: Company announcement dated 19 December 2019

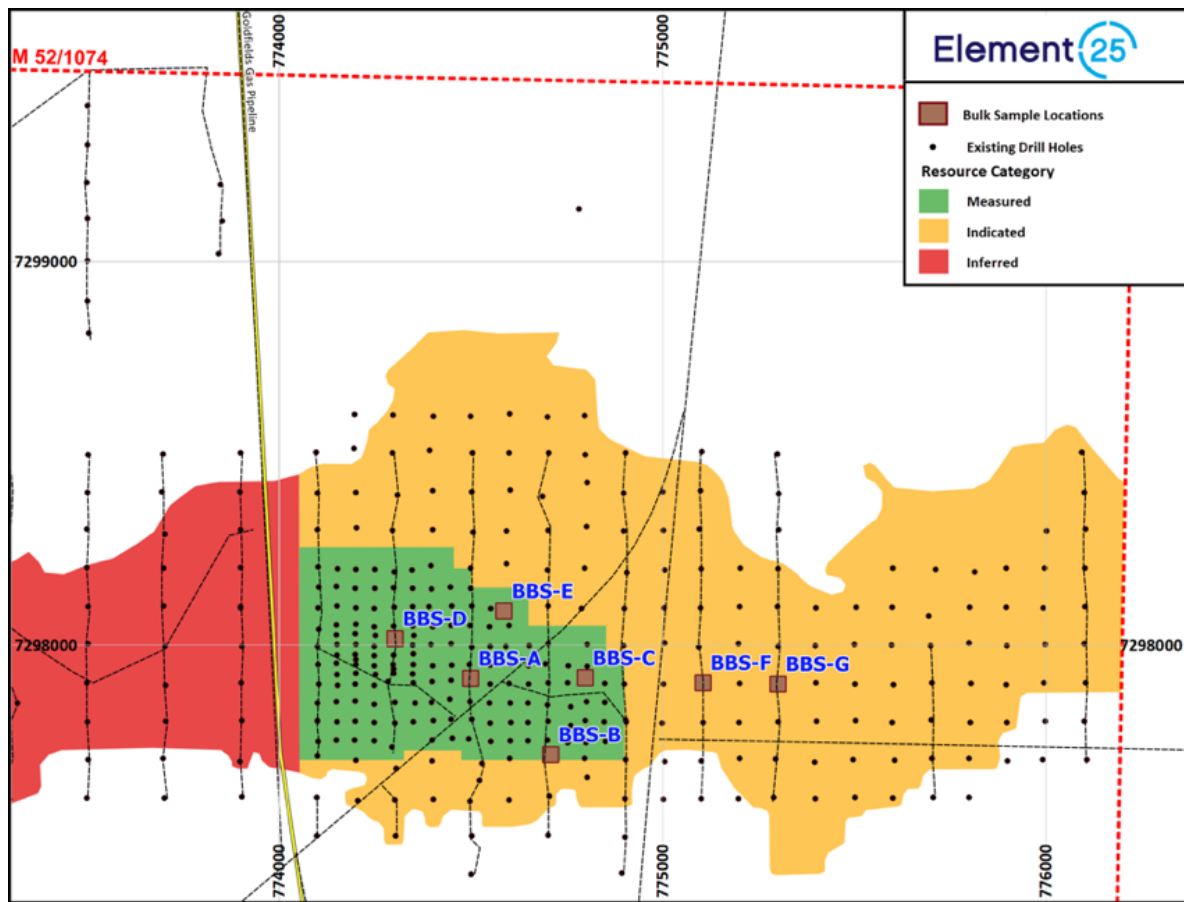


Figure 4 Bulk sampling pit locations. Each pit (BBS-A through G) was sampled in one metre intervals with approximately 1t per sample.

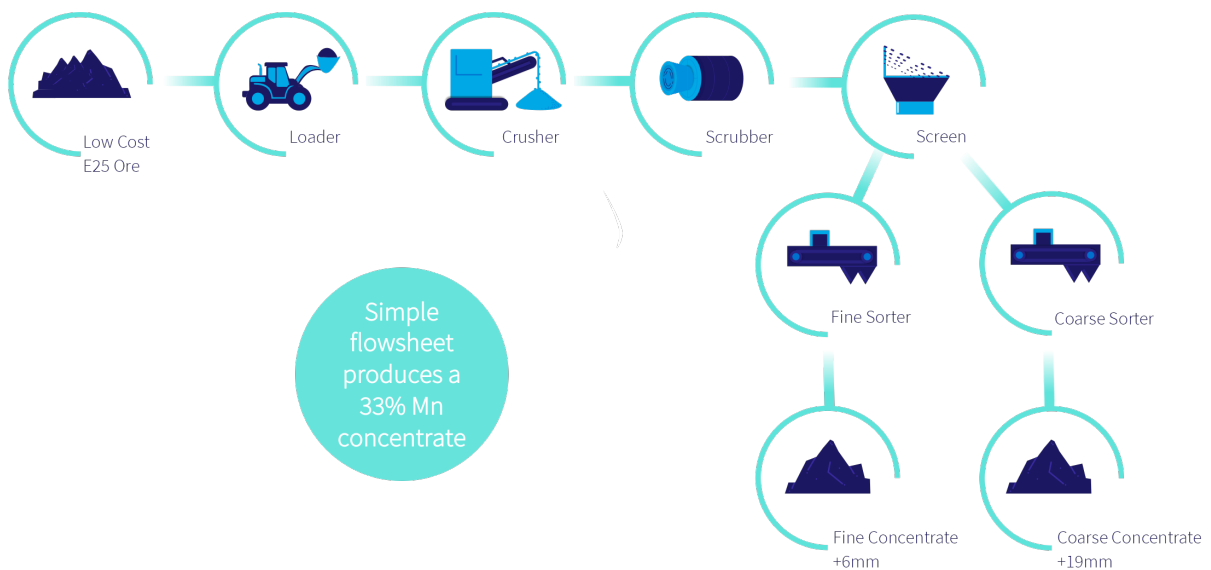


Figure 5 Beneficiation flowsheet for producing an ore export product and high-grade hydrometallurgical feed.

### PFS Study for Manganese Concentrate Export

The Company is currently completing a PFS<sub>EMM</sub> into the development of the Project to produce low cost, high quality Electrolytic Manganese Metal (**EMM**) and high purity manganese sulphate (**HPMSM**) from the Butcherbird ores as part of the global strategy for the development of the Project. This latest round of testing has added significant value to this work, and is expected to improve overall project economics by increasing the hydrometallurgical feed grade into the leach circuit. This is expected to have significant positive downstream impacts on reagent consumption as well as equipment sizing as the solids load of the hydrometallurgical circuit will be significantly reduced.

In parallel with this, the Company has taken the decision to undertake a PFS<sub>CON</sub> level economic study to assess the potential returns that may be generated by an early stage ore export start-up operation. It is envisaged that this will be completed and published ahead of the final PFS<sub>EMM</sub> investigation into the larger hydrometallurgical processing plant. Permitting and approvals for a staged start-up are well advanced.

The manganese concentrate export PFS<sub>CON</sub> case is expected to be completed in coming weeks to be followed by the release of the PFS<sub>EMM</sub>.

### About the Butcherbird High Purity Manganese Project

The Butcherbird Manganese Project is a world class manganese resource with current JORC resources in excess of 263 Mt of manganese ore<sup>2</sup>. The company is currently evaluating a number of PFS level development scenarios around manganese ore concentrate production, with the ultimate aim of developing a high purity manganese production hub to produce EMM and HPMSM.

The Project straddles the Great Northern Highway and the Goldfields Gas Pipeline providing turn-key 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. A cleaner, lower carbon flowsheet and high penetration renewable energy will place Butcherbird at the forefront of sustainable metal production.

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

## 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)

This announcement is authorised on behalf of Element 25 Limited by:

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>.

## Competent Persons Statement

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.

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, 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.

## JORC Code, 2012 Edition – Table 1 – Butcherbird Project - Bulk Sampling Exercise

### 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>Each sample was received at the laboratory in approximately 1 tonne bulka bags having been collected during a bulk sampling exercise as reported in the Company ASX release dated 19 December 2019.</li> <li>Each bulka bag was split into four 44 gallon steel drums.</li> <li>Samples were screened at +50mm, with the oversize crushed to -50mm and returned to the bulk sample.</li> <li>The bulk sample was scrubbed using a rotary drum scrubber at 65% critical speed for 240 seconds.</li> <li>Scrubbed material was screened at +6.3mm and +19mm with the -6.3mm regarded as waste.</li> <li>The +6.3mm and +19mm size fractions were sorted using a Steinert ore sorter based on algorithms developed from Butcherbird calibration samples deemed to be representative of the overall resource.</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>See announcement dated 19 December 2019.</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>
<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> </ul>	<ul style="list-style-type: none"> <li>N/A.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <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>	
Sub-sampling techniques and sample preparation	<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>See announcement dated 19 December 2019.</li> </ul>
Quality of assay data and laboratory tests	<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>All samples collected have been completed under full supervision.</li> <li>Samples have been assayed using standard XRF techniques by ALS Labs, an accredited analytical laboratory.</li> </ul>
Verification of sampling and assaying	<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>
Location of data points	<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>	See announcement dated 19 December 2019.



Criteria	JORC Code explanation	Commentary
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• See announcement dated 19 December 2019.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The geological units are flat lying and sampling has been undertaken orthogonal to the stratigraphy and approximate true widths..</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• See announcement dated 19 December 2019.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No external audits or reviews have been conducted apart from internal company review.</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>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Butcherbird Project consists of granted Exploration Licenses E52/2350 and E52/3606, Exploration Licence Applications E52/3704, E52/3706, E52/3710, E52/3735 and E52/3769, Miscellaneous Lease Application L52/211 and Mining Lease Application M52/1074.</li> <li>• The tenure is 100% owned by Element 25 Ltd.</li> </ul>



Criteria	JORC Code explanation	Commentary
<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 previously reported to high standards.</li> <li>Refer to previous ASX announcements (ASX:E25)</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>Butcherbird is a stratiform sedimentary manganese deposit.</li> <li>The deposits are hosted within the Ilgarari Formation which is generally flat lying with gentle open folding in places.</li> <li>The manganese mineralisation within the ore zones is divided into three distinctive units – a high grade mangiferous cap, supergene enriched mangiferous laterite and basal shale.</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>The location of the bulk sample sites are detailed in the announcement dated 19 December 2019.</li> <li>Refer to historical ASX releases (ASX:E25) regarding the Butcherbird Mineral Resource.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>N/A.</li> </ul>
<b>Relationship between mineralisation</b>	<ul style="list-style-type: none"> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation is flat lying to shallow northly dipping, the bulk sample pits are vertical and have been orientated in a north-south direction.</li> <li>The bulk sample pits do not extend through the entire width of the mineralisation.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>widths and intercept lengths</i>		
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Figures and Photographs in this report.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The results are a composite of two nominal 1 tonne samples where the concentrate grades have been weighted according to sample size to normalise the bulk concentrate grades reported in this announcement. The methodology seeks to ensure that no individual sample biases the outcome.</li> </ul>
<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>N/A</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 work will involve a metallurgical pilot test program which will utilise the bulk samples collected in this program.</li> <li>A PFS level economic study is being prepared to understand the economics of a manganese concentrate export strategy based on these product specifications.</li> </ul>