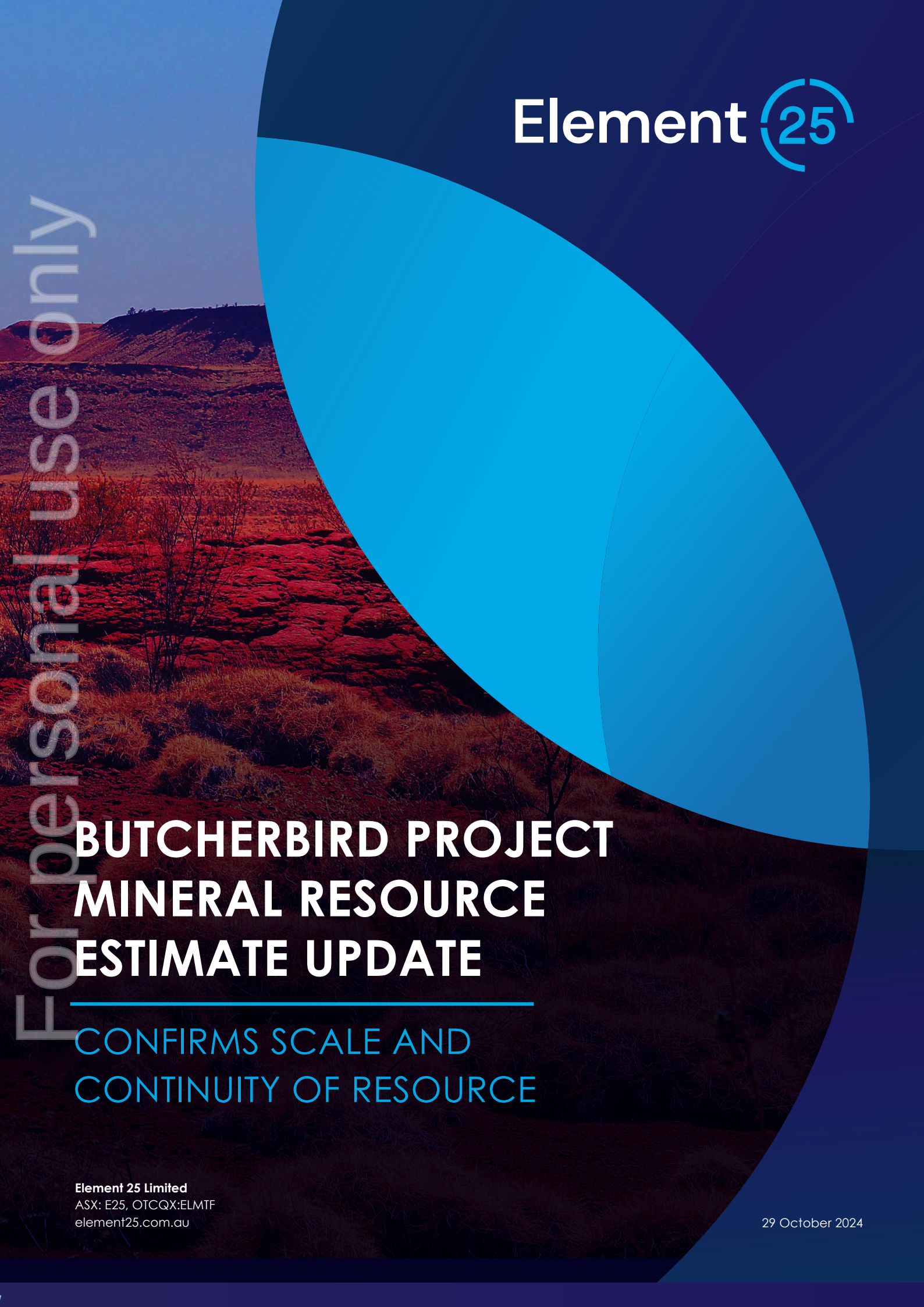

BUTCHERBIRD PROJECT MINERAL RESOURCE ESTIMATE UPDATE

CONFIRMS SCALE AND CONTINUITY OF RESOURCE

Element 25 Limited
ASX: E25, OTCQX:ELMTF
element25.com.au

29 October 2024

BUTCHERBIRD MINERAL RESOURCE UPGRADE CONFIRMS SCALE AND CONTINUITY OF RESOURCE

HIGHLIGHTS

- Butcherbird Manganese Project Measured and Indicated Resources **increased 142% to 130,000,000 tonnes at 10.23% Mn** following the recent infill drilling program
- Total Mineral Resource Estimate **increased by 6% to 274,000,000 tonnes @ 10% Mn**
- Measured and Indicated classifications now represent approximately **47% of the global Mineral Resource**
- Mine pit optimisation and scheduling in progress to support an updated Ore Reserve Statement

Element 25 Limited (**E25**) **(ASX: E25; OTCQX: ELMTF)** is pleased to announce an updated Mineral Resource Estimate **(MRE)** for its 100%-owned Butcherbird Manganese Project (**Butcherbird**, the **Project**) in WA's Pilbara region. The updated MRE has delivered a **142% increase** to the Measured and Indicated resource categories.

E25 recently completed an extensive infill drilling program at its Project, targeting known mineralisation within the current granted Mining Lease M52/1074, where Butcherbird Stage 1 mining and processing operations are located. Results from the infill drilling have been used to update the Mineral Resource Estimate for the Yanneri Ridge, Coodamudji, Richies Find, and Mundawindi deposits.

The work program has achieved the expected result, supporting a 142% increase to the (mining depleted) 2019 Measured and Indicated Resource base within the target mining area for Butcherbird's planned Stage 2 Expansion operations. The updated MRE will support re-statement of the Butcherbird Ore Reserve, pending mine optimisation and scheduling activities which are currently in progress, aiming to extend the current mine life.

Table 1: Butcherbird Manganese Project - Global Mineral Resource Estimate – October 2024.

Resource Category	Volume (m^3)	Density (t/m^3)	Tonnes (t)	Mn %
Measured	6,000,000	2.36	14,000,000	11.3
Indicated	50,000,000	2.33	116,000,000	10.1
Inferred	59,000,000	2.42	144,000,000	9.8
Total	**115,000,000**	**2.38**	**274,000,000**	**10.0**

Element 25 Managing Director Justin Brown said *"The updated Mineral Resource Estimate is a very important step in our delivery of the planned Stage 2 Expansion Project for Butcherbird. The increase in Measured and Indicated inventory is expected to support a significant increase in the mining Reserve which will translate to a longer mine life and reserve tail, an important metric in financing the project."*

EXECUTIVE SUMMARY

In September 2024, Element 25 commissioned MEC Mining **(MEC)** to complete an updated MRE for the Butcherbird Manganese Project, located approximately 130km south of Newman in Western Australia, and 100% owned by Element 25.

The October 2024 Mineral Resource statement comprises recently prepared estimates for the Coodamudgi and Yanneri Ridge deposits, incorporating recent 2024 drilling information, as well as the previous 2019 Mineral Resource estimates for the Richies Find and Mundawindi deposits.

The Butcherbird October 2024 Global MRE summary, (depleted for mining to December 2023), is shown in Table 1, with details of each deposit shown in Table 2. The 2024 updated Butcherbird MRE for the four updated deposits (depleted for mining to December 2023) is shown in Table 3. The grade tonnage curve for Butcherbird MRE is shown in Figure 1.

Table 2: October 2024 Butcherbird Global MRE by Resource Category and Deposit.

Deposit	Resource Category	Volume (m^3)	Density (t/m^3)	Tonnes (t)	Mn %
2024 Updated Mineral Resource Estimate					
Yanneri Ridge	Measured	5,000,000	2.39	13,000,000	11.4
	Indicated	38,000,000	2.33	89,000,000	10.1
	Inferred	6,000,000	2.96	17,000,000	9.0
	Subtotal	49,000,000	2.41	119,000,000	10.1
Coodamudgi	Measured	-	-	-	-
	Indicated	11,000,000	2.36	27,000,000	10.2
	Inferred	2,000,000	2.98	5,000,000	11.2
	Subtotal	13,000,000	2.44	32,000,000	10.3
Mundawindi	Measured	-	-	-	-
	Indicated	-	-	-	-
	Inferred	14,000,000	2.35	33,000,000	10.2
	Subtotal	14,000,000	2.35	33,000,000	10.2
Richies Find	Measured	-	-	-	-
	Indicated	-	-	-	-
	Inferred	15,000,000	2.34	34,000,000	9.2
	Subtotal	15,000,000	2.34	34,000,000	9.2
2024 MRE Sub Total	**Measured**	**5,000,000**	**2.39**	**13,000,000**	**11.4**
	Indicated	**50,000,000**	**2.34**	**116,000,000**	**10.1**
	Inferred	**36,000,000**	**2.50**	**89,000,000**	**9.7**
	Subtotal	**91,000,000**	**2.39**	**219,000,000**	**10.0**

Table 2: October 2024 Butcherbird Global MRE by Resource Category and Deposit (continued).

Deposit	Resource Category	Volume (m^3)	Density (t/m^3)	Tonnes (t)	Mn %
Previously Reported Mineral Resource Estimates					
Ilgarrarie Ridge	Inferred	15,000,000	2.35	36,000,000	9.9
Budgie Hill	Inferred	2,000,000	2.35	5,000,000	9.3
Bindi Bindi Hill	Inferred	6,000,000	2.35	14,000,000	10.4
Cadgies Flat	Inferred	100,000	2.35	300,000	10.0
Stockpiles	Measured	300,000	1.81	600,000	9.2
Butcherbird Global Mineral Resource Estimate					
Total	Measured	6,000,000	2.36	14,000,000	11.3
	Indicated	50,000,000	2.33	116,000,000	10.1
	Inferred	59,000,000	2.42	144,000,000	9.8
Total		**115,000,000**	**2.38**	**274,000,000**	**10.0**

NOTE: MRE are reported above a 7% Mn economic cutoff with no top-cut. Mineral Resources are rounded to reflect they are an estimation, numbers may not sum due to rounding. Mineral Resources are depleted for mining.

Table 3 below shows the summary of the Yanneri Ridge, Coodamudgi, Richies Find and Mundawindi MRE's.

Table 3: October 2024 Butcherbird Mineral Resource Estimate (excluding previously reported estimates for Ilgarrarie Ridge, Budgie Hill, Bindi Bindi Hill and Cadgies Flat) .

Resource Category	Volume (m^3)	Density (t/m^3)	Tonnes (t)	Mn %
Measured	5,000,000	2.39	13,000,000	11.4
Indicated	50,000,000	2.34	116,000,000	10.1
Inferred	36,000,000	2.50	89,000,000	9.7
Total	**91,000,000**	**2.39**	**219,000,000**	**10.0**

NOTE: MRE are reported above a 7% Mn economic cutoff with no top-cut. Mineral Resources are rounded to reflect they are an estimation, numbers may not sum due to rounding. Mineral Resources are depleted for mining.

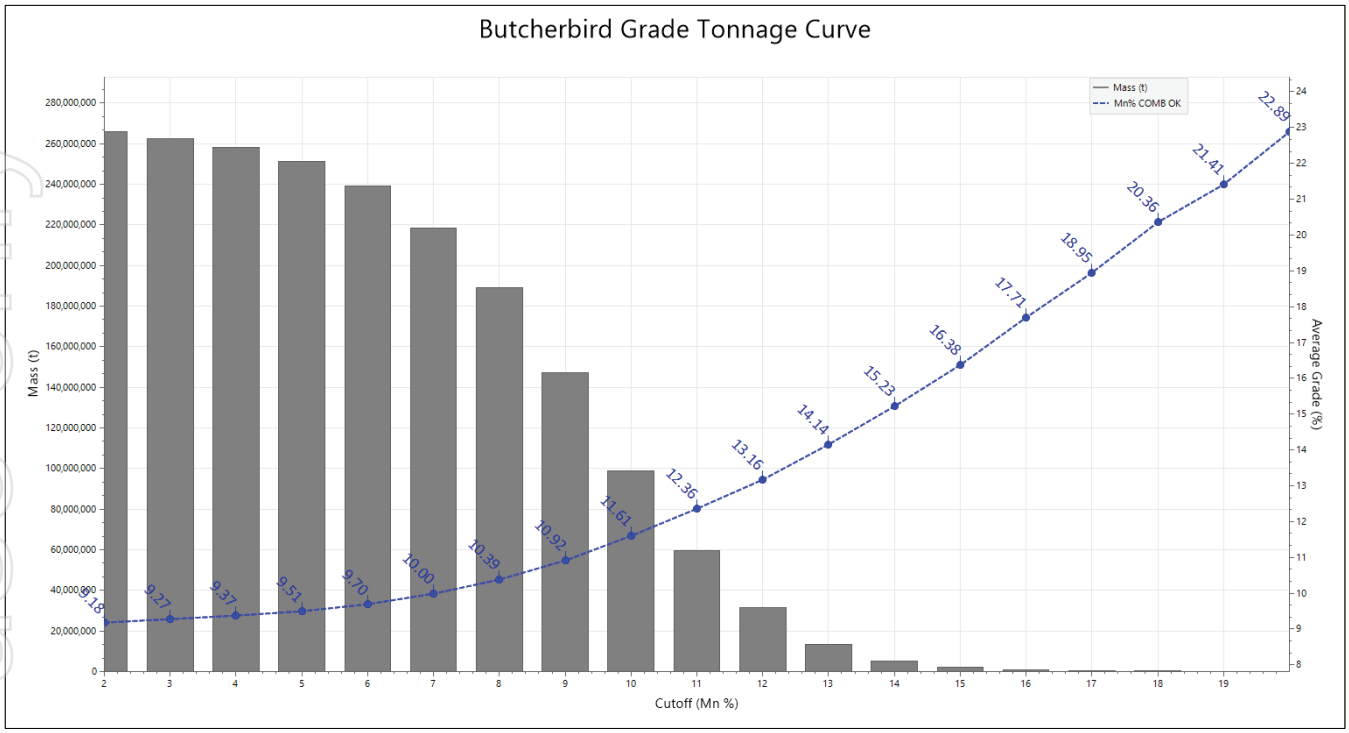

Figure 1: Grade tonnage curve for Butcherbird October 2024 MRE.

The 2024 MRE tonnage estimates for the four reported MRE's is 219 Mt versus the 2019 MRE tonnage estimate of 208.0 Mt. The 2024 MRE grade estimate is 10.0 Mn% versus the 2019 MRE grade estimate of 9.9 Mn%.

A comparison of the 2024 and 2019 MRE related to the 4 MRE's reported is shown in Table 4. An increase of 11 Mt is reported, with a minor increase in grade of 0.1 Mn%. Both MREs were reported at a cut-off of ≥7% Mn for all units. The October 2024 MRE has been depleted by mining. The 2024 MRE included an additional 216 RC drillholes drilled in early 2024.

Table 4: Comparison between 2024 (depleted) and 2019 MRE for total resource.

Resource Category	Density (t/m^3)		Tonnes (t)		Mn %	
	2024 MRE	2019 MRE	2024 MRE	2019 MRE	2024 MRE	2024 MRE
Measured	2.39	2.40	13,000,000	16,000,000	11.4	11.6
Indicated	2.34	2.27	116,000,000	41,000,000	10.1	10.0
Inferred	2.50	2.46	89,000,000	151,000,000	9.7	9.7
Total	**2.39**	**2.42**	**219,000,000**	**208,000,000**	**10.0**	**9.9**

NOTE: MRE are reported above a 7% Mn economic cutoff with no top-cut. Mineral Resources are rounded to reflect they are an estimation, and numbers may not sum due to rounding. Mineral Resources are depleted for mining.

For the mineralised shale only (Table 5) the denser spaced drilling resulted in a 3 Mt decrease in Measured Mineral Resources from 16 Mt in 2019 to 13 Mt in 2024 due to mining depletion since 2019, with an increase of 76 Mt increase in Indicated Mineral Resources from 40 Mt in 2019 to 116 Mt in 2024. The Inferred Resource tonnage decreased by 12 Mt from 101 Mt in 2019 to 89 Mt in 2024 due to conversion to Indicated Mineral Resources. The total mineralised shale MRE increased by 62 Mt from 157 Mt in 2019 to 219 Mt in 2024.

Table 5: Comparison between 2024 (depleted) and 2019 MRE for mineralised shale.

Resource Category	Volume (m^3)		Density (t/m^3)		Tonnes (t)		Mn %	
	2024 MRE	2019 MRE	2024 MRE	2019 MRE	2024 MRE	2019 MRE	2024 MRE	2019 MRE
Measured	5,000,000	7,000,000	2.39	2.42	13,000,000	16,000,000	11.41	11.66
Indicated	50,000,000	17,000,000	2.34	2.28	116,000,000	40,000,000	10.11	10.00
Inferred	36,000,000	45,000,000	2.50	2.25	89,000,000	101,000,000	9.66	9.80
Total	**91,000,000**	**69,000,000**	**2.39**	**2.27**	**219,000,000**	**157,000,000**	**9.95**	**10.04**

NOTE: MRE are reported above a 7% Mn economic cutoff with no top-cut. Mineral Resources are rounded to reflect they are an estimation, and numbers may not sum due to rounding. Mineral Resources are depleted for mining.

The MEC scope of work included a MRE update for Butcherbird compliant with the JORC 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

MEC Manager of Resources, Dean O'Keefe, visited the Butcherbird project in April 2023 to observe mining operations, to gain an understanding of the project geology, and to complete a geo-metallurgical study. The study incorporated the 2019 MRE grades and yield data, to predict product grade and tonnage. Dean O'Keefe, the Competent Person for the October 2024 MRE, observed the geology and mine operations, and all observations were consistent with supplied data and information.

Mining in pit was free dig except for the cap rock which was dozer ripped prior to excavation. Ore was hauled to the ROM pad and fed into a scalper, to produce barren fines and lump product. ROM sized lump was fed through a secondary belt feeder to bypass the crusher, and oversize was fed through the crusher. Both material streams were then fed into the log-washer, product material was then fed into the ore sorter and the fines were slurried as tailings to the settlement pond. The ore sorter removed non-manganese lump, and the manganese lump then became a saleable product. Typical intrinsic grade is ~30 to 33% Mn. The yield produced was ~20%.

MEC also completed a drillhole spacing study in February 2024. A kriging neighbourhood analysis (KNA) approach was used to test the impact of various drillhole spacings for the Project.
For the Butcherbird Mineral Resource, the findings were:

- A drillhole spacing of at least 50m x 50m is required to delineate Measured Mineral resources.
- A drillhole spacing of at least 100m x 100m is required to delineate Indicated Mineral resources.
- Areas defined by drilling wider than 100m x 100m should be classified as Inferred Mineral Resources at best.

The Project lies in the Bangemall Basin, near the eastern boundary of the Savory Basin in central Western Australia. The Bangemall Basin features three main rock units: the Backdoor Formation (shales, mudstone, and minor siltstone); the Calyie Sandstone (quartzite sandstone to the north) and the Ilgarrari Formation (grey/white shales, mudstone, and dolerite sills, containing the target manganiferous shales).

Locally, the Project comprises a stratiform sedimentary sequence hosted within the Ilgarrari Formation, which is mostly flat lying with some occurrences of gentle folding. Mineralisation occurs within a manganiferous surface cap, a supergene manganiferous laterite, and a basal shale. Where the hardcap material is mineralised, the mineralisation is from surface. The manganese occurs as sub-horizontal layers within bounding clays, and the average thickness of the mineralisation is approximately 5 metres. The dominant strike direction is east west.

There are five major lithologic units within the Project area capped by a thin botryoidal duricrust, with the duricrust ranging in thickness from 0.1 metres to 2 metres.
The lithological units are as follows:

- **Cap Rock** occurs intermittently across the Project area, particularly away from the Yanneri ridgeline. The cap rock is comprised predominantly of iron-rich calcretes and soils with minor occurrences of manganiferous bands with botryoidal and cemented textures. The economic cut-off grade for the Cap Rock for the October 2024 MRE is 25% Mn, as the intrinsic manganese may not be upgraded within the current process.

- **Manganiferous Shale** is the primary shale unit containing a supergene-enriched manganiferous sequence with an average thickness of 10m to 25m. The manganese layers are predominantly 1cm to 1m thick which are confined to distinct bands of cryptomelane within goethitic friable clays. There are also very minor interbedded red/brown shales intermixed within the clay bands. Botryoidal textures are a common characteristic observed within the manganese mineralisation zone, in particular the clay rich zone. The geological cut-off grade used for the October 2024 MRE for the manganiferous shale is 6% Mn. The economic cut-off grade for the manganiferous shale is 7% Mn. With the removal of the unmineralised clays the remaining manganese is economic. For the October 2024 MRE all basal shales were currently considered uneconomic and were designated as unclassified material.

- **Dolerite Unit** is a medium-grained weathered unit interbedded between the two basal shales which exhibits relatively parallel bedding that have undergone gentle folding.

- **Basal shale:** Lower Shale; capped by the weathered dolerite.

The combined extents of the four deposits (Coodamudgi, Mundawindi, Richies Find, and Yanneri) extends from approximately 769,500mE to 778,800mE, and 7,297,000mN to 7,299,500mN (GDA94 with projection MGA Zone 50).

Drilling programs have been conducted across the Project from 2010 to 2024. E25 completed 717 drillholes for 25,493m for inclusion in the October 2024 MRE, including both RC and AC drillholes. Diamond drillholes were used to support geological interpretations, but the assays were not used for estimation. The drillhole spacing at Richies Find and Mundawindi is 400m east-west by 100m north-south. The drillhole spacing at Coodamudgi and Yanneri Ridge is 100m north-south by 100m east-west, with localised drilling at 50m by 50m at Yanneri Ridge. A plan view of the location of the drillhole collars is provided in Figure 2. The image includes an outline of the mined area at Yanneri Ridge, and Figure 3 shows the topographical surface for this area.

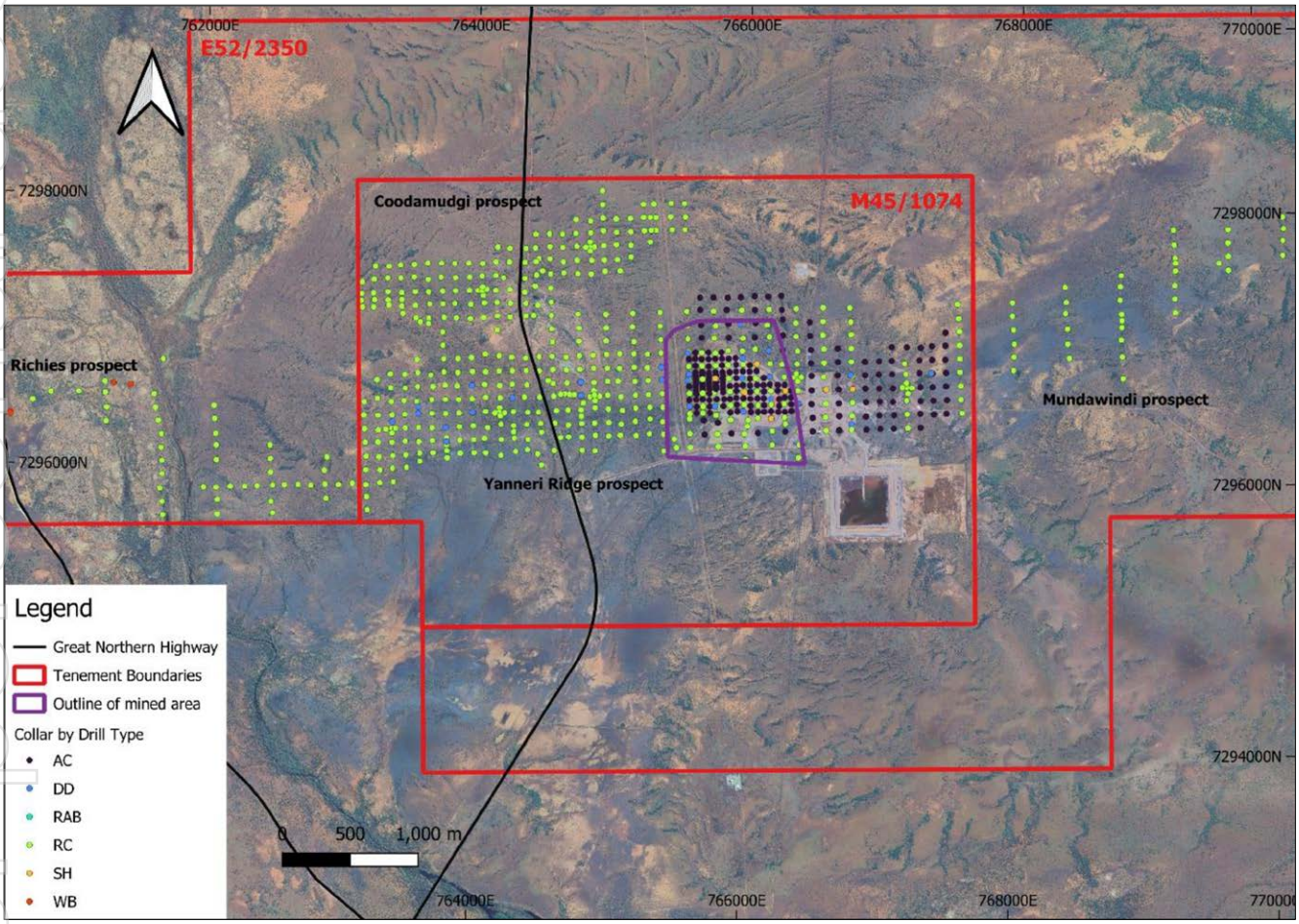

Figure 2: Butcherbird drillhole collar locations.

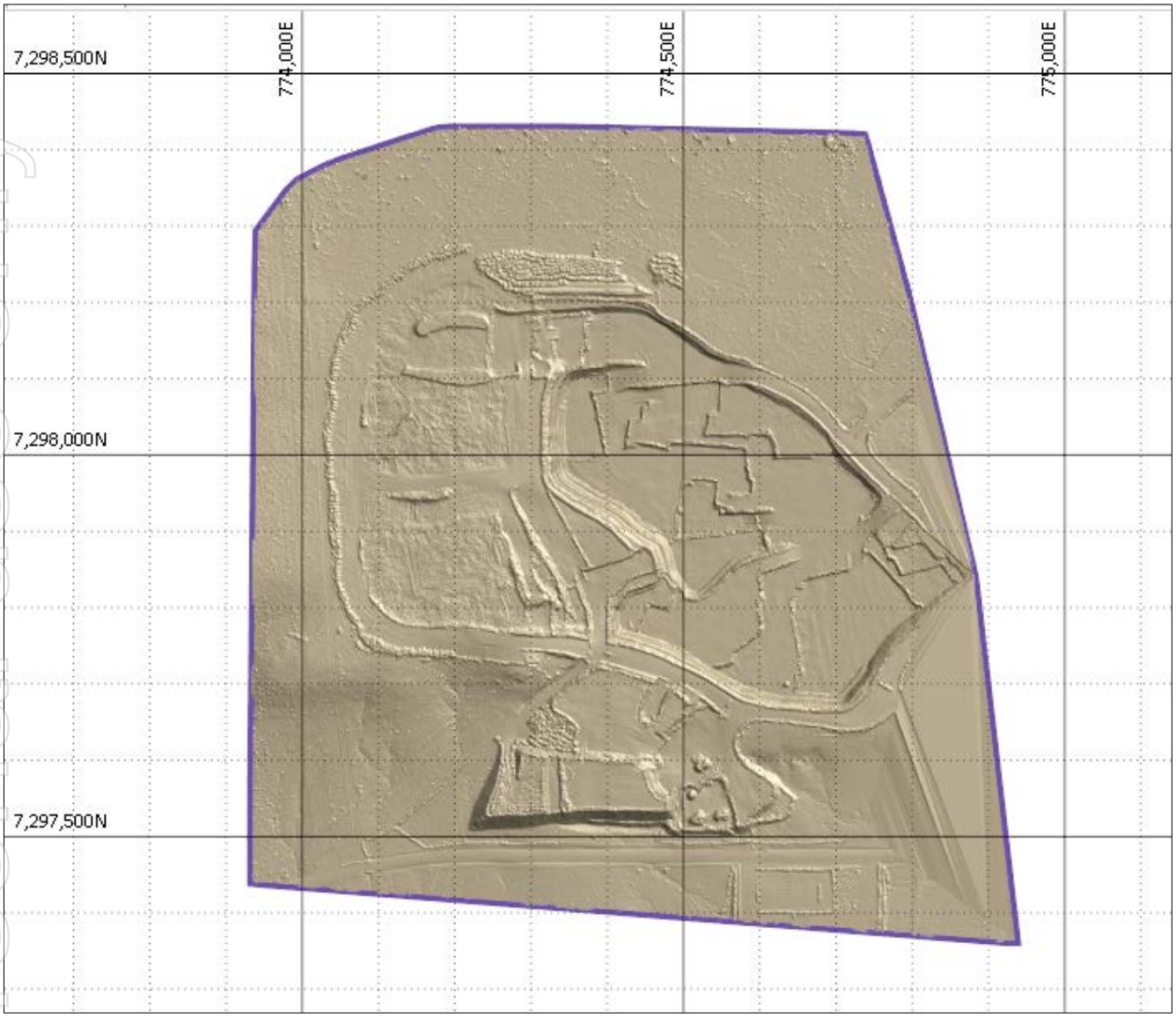

Figure 3: Plan view of mined area at Yanneri Ridge.

The drillhole database contains collar, lithology, assay and downhole geophysical density data. Validation checks were performed and any issues resolved prior to estimation. For the 2024 MRE, the data was supplied by Element 25, a complete QAQC dataset was provided directly by Expedio (External database management consultant) in the form of Excel spreadsheets or CSV files extracted from the E25 database.

Chip samples were collected from the drill rig by splitters mounted on the rig. The 2010, 2011, 2012, 2022 and 2024 drilling was all RC drilling, and was completed using 5-6m rods with a 5.5 inch bit and face sampling hammer. The 2018 drilling was air core (**AC**), using a 3 ½" drill string and a combination of blade and percussion hammer bits. Samples were collected over 1m intervals and dispatched to the relevant laboratory for drying, crushing, splitting and pulverising. 19,172 samples were used in the 2024 MRE for Coodamudgi and Yanneri Ridge, and 1,421 samples were used for the 2019 MRE for Richies Find and Mundawindi. The laboratories which were used to analyse the samples depends on the drilling program, but include Nagrom, Aurum, SGS and Bureau Veritas. All samples were dried at 105˚ by the laboratory, then prepared into discs using a lithium tetraborate/metaborate flux. Element concentrations were analysed using a Panalytical Axios XRF, which is considered an appropriate analytical technique for Mn ore. All laboratories, with the exception of Nagrom, are NATA accredited and procedures are considered appropriate and of sufficient quality.

The QAQC results for the Butcherbird project update are satisfactory for the 2024 MRE update (Coodamudgi and Yanneri Ridge). Supporting QAQC data included field duplicates, standards, blanks, laboratory repeats, and laboratory splits (duplicates).

A 6% Mn cut-off was applied to guide the mineralisation interpretation, and all geological and mineralisation domains were treated as hard boundaries. Geological and mineralisation interpretations were created in cross-section by constructing strings snapped to drillhole traces, which were then used to construct wireframes. The geological interpretation includes an upper layer of hardcap material (**HCAP**), followed by manganese shale (**MNSHALE**), and then basal shale (**BS1**), with a dolerite basement (**DOLERITE**). All units except the dolerite basement are mineralised.

The block model configuration consists of parents blocks of size 50 x 50 x 1m, and sub blocks of 5 x 5 x 0.5m. The blocks are aligned orthogonal to the grid (no rotation). Block sizes are based on an average drillhole spacing across all deposits of 100 x 100m, with 1m samples down hole, such that there is adequate sample support for the blocks.

The October 2024 MRE (central section that was updated by MEC) included 10 elements (Mn, Fe, Al, K, Si, Ni, Ca, Co, Mg, Na) estimated by Ordinary block Kriging with no top cut. At Yanneri Ridge, density was also estimated using Ordinary Kriging, but due to the lack of geophysical density data at Coodamudgi, a mean nominal density was assigned for each domain. Samples were composited to the dominant sample length of 1m. No extreme grades were observed and no grade top cut was applied. A block discretisation of 2 x 2 x 2 was used. The 2019 MRE for Richies Find and Mundawindi was estimated using IDW3 and was not updated by MEC, however, these estimates were combined with the MEC update of Coodamudgi and Yanneri Ridge to provide the complete 2024 MRE for the Butcherbird project.

The MEC semi-variogram model was applied to all 10 elements and density, within all mineralised domains. The orientation of the variogram main axis is 90˚ with a plunge of 0˚. The secondary axis azimuth is 180˚ with a plunge of 0˚. The rotation is 0˚. The semi-variogram parameters are shown in Table 6.

Table 6: Semi-variogram parameters for 2024 MRE.

Variogram	Nugget	Component	Sill	Range		
				Axis1	Axis 2	Axis 3
Mn%	7.25	Spherical 1	3.6	75.4	74	2.4
		Spherical 2	4.55	130	136	14.2

Global validation was completed by comparing the composited assays and the estimated block grades. Local validation was completed by using trend/swath plots by easting, northing and RL slices. There were no concerns with the outcomes of the validation checks. A cross section through the Yanneri Ridge deposit is shown in Figure 4.

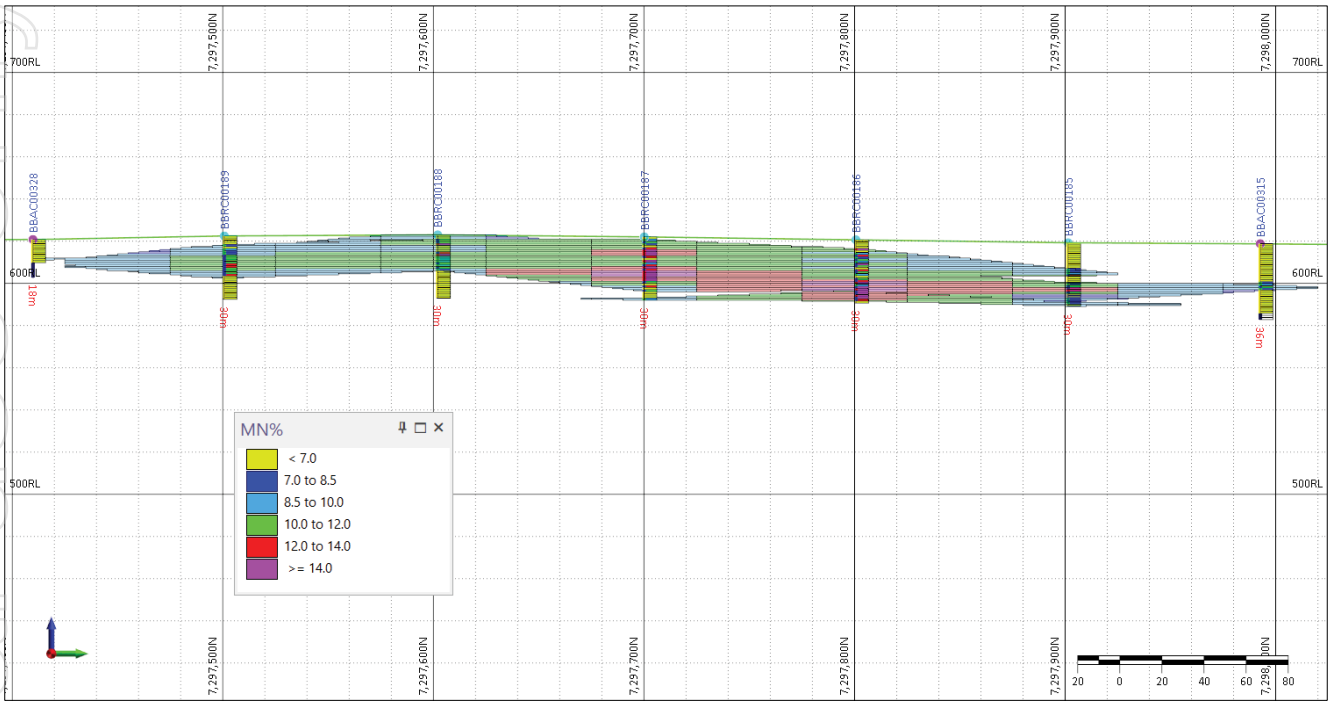

Figure 4: Cross section through the Yanneri Ridge deposit at 772,000mE looking west.

A plan view of the depleted 2024 block model showing the Measured, Indicated, and Inferred Mineral Resources for the mineralised shale is shown in Figure 5.

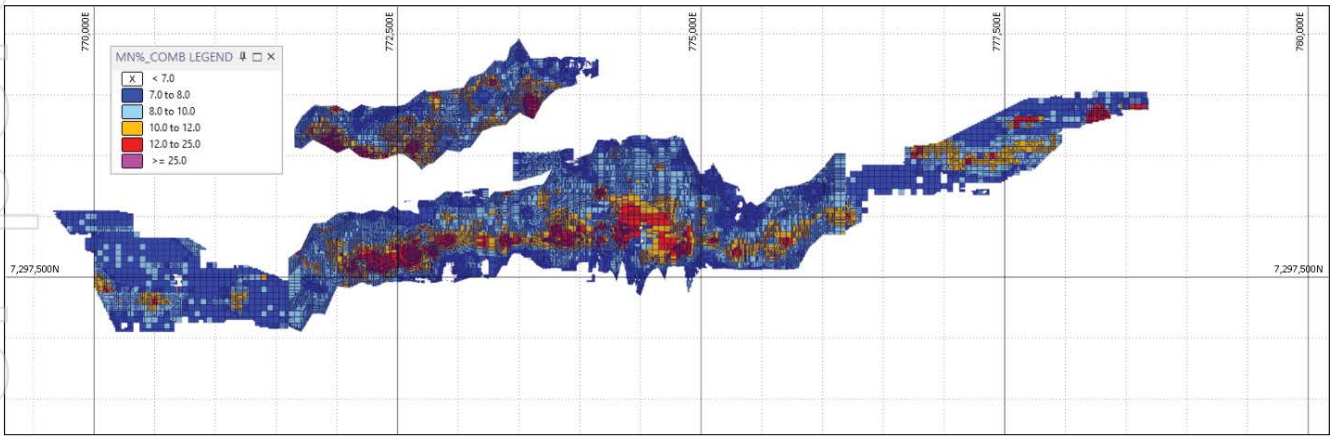

Figure 5: Plan view of depleted 2024 block model, Measured, Indicated, and Inferred Mineral Resources for mineralised shale.

The Resource Classification for the Butcherbird Project was based on drill hole spacing, risk assessment, and QAQC.

Clause 20 of the JORC (2012) Code requires that all reports of Mineral Resources must have reasonable prospects for eventual economic extraction, regardless of the classification of the resource. The Butcherbird Resource passes the RPEEE hurdle on the basis that the mine was producing as recently as late 2023.

ABOUT ELEMENT 25

Element 25 is an ASX-listed company (ASX: E25) that operates the world-class 100%-owned Butcherbird Manganese Project in Western Australia and is currently undertaking activities to expand production to approximately 1.1Mtpa of medium-grade high silica manganese ore for use in traditional and new energy markets[1].

E25 is also commercialising innovative proprietary technology to produce battery-grade high-purity manganese sulphate monohydrate (HPMSM) for use in Electric Vehicle (EV) battery manufacturing. The Company plans to build it's first HPMSM refinery in Louisiana, USA to produce raw materials for the US EV market, in partnership with General Motors LLC (GM) and Stellantis N.V. (Stellantis)[2]. E25 aims to become an industry leading, world class, low-carbon battery materials manufacturer.

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

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

1. E25 ASX Release dated 23 January 2024
2. E25 ASX Releases dated 9 January 2023 and 26 June 2023

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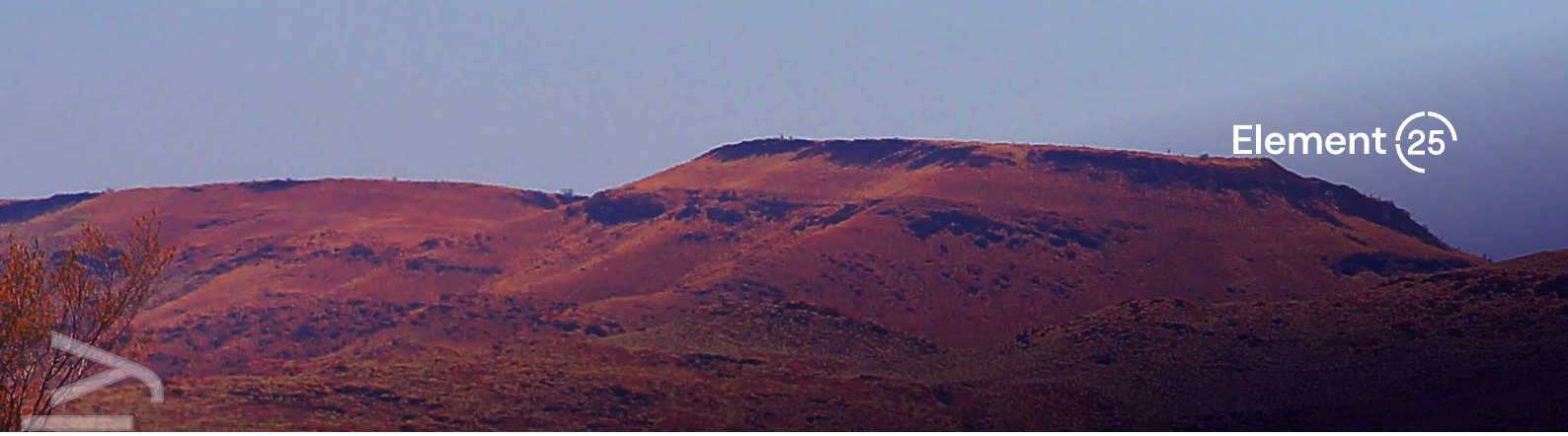

Competent Persons Statement

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, 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.

The information in this report that relates to the Yanneri Ridge and Coodamudgi Mineral Resources is based on, and fairly represents, information and supporting documentation prepared by Mr. Dean O'Keefe, who acts as Consultant Geologist for Element 25 and is a full time employee of MEC Mining. Mr. O'Keefe is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposits 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 (JORC Code). Mr. O'Keefe consents to the inclusion in this report of the Mineral Resources estimates and supporting information in the form and context in which it appears.

The information in this report that relates to the Mundawindi and Ritchies Find Mineral Resources is based on and fairly represents information and supporting documentation prepared by Mr Greg Jones, who acts as Consultant Geologist for Element 25 and is a full-time employee of IHC Robbins. Mr. Jones is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposits 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 (JORC Code). Mr. Jones consents to the inclusion in this report of the Mineral Resources estimates and supporting information in the form and context in which it appears.

The information in this report that relates to the Bindi Bindi, Budgie Hill, Cadgies Flat and Ilgarrarie Ridge Mineral Resources is based on, and fairly represents information and supporting documentation prepared by Mr Mark Glassock who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Mineral Resources were compiled, Mr Glassock was a consultant to Element 25 Limited. Mr Glassock 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 Glassock consents to the inclusion of this information in the form and context in which it appears in this report. 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.

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.

Investor Relations Disclaimer

Certain Statements included in this announcement are forward-looking statements concerning Element 25 Limited and its subsidiaries (E25) and its operations, economic performance, financial condition, plans and expectations. Without limiting the foregoing, statements including the words “believes”, “anticipates”, “plans”, “expects”, “could”, “potential”, “should” and similar expressions are also forward-looking statements.

All forward-looking statements are subject to a variety of known and unknown risks, uncertainties and other factors that could cause actual events or results to differ from those expressed or implied, including, without limitation, business integration risks; uncertainty of production, development plans and cost estimates, commodity price fluctuations; political or economic instability and regulatory changes; currency fluctuations, the state of the capital markets, uncertainty in the measurement of mineral reserves and resource estimates, E25’s ability to attract and retain qualified personnel and management, potential labour unrest, reclamation and closure requirements for mineral properties; unpredictable risks and hazards related to the development and operation of a mine or mineral or mineral deposit or mineral processing facility that are beyond E25’s control, the availability of capital to fund all of the Company’s projects and other risks and uncertainties.

You are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. E25 cannot assure you that actual events, performance or results will be consistent with these forward-looking statements, and management’s assumptions may prove to be incorrect. E25’s forward-looking statements reflect current expectations regarding future events and operating performance and speak only as of the date hereof and E25 does not assume any obligation to update forward-looking statements if circumstances or management’s beliefs, expectations or opinions should change other than as required by applicable law. For the reasons set forth above, you should not place undue reliance on forward-looking statements.

APPENDIX – JORC TABLE 1

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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. Unusual commodities or mineralisation types (e.g. submarine nodules)	• The majority of the drillholes were sampled as drill chips at 1m intervals, excluding diamond drillholes which were sampled to lithological contacts. • The 2010, 2011, 2012, 2022 and 2024 drilling was all RC drilling and completed using 5-6m rods with a 5.5 inch bit. Samples were taken from a rig mounted splitter. • The 2018 drilling was air core (AC), using a 3 ½" drill string and a combination of blade and percussion hammer bits. Drill chips were collected through a rig mounted cyclone and cone splitter. • There is no information available on the drilling companies which conducted the drilling, except for the 2018 AC drilling which was by Strike Drilling. • Drying, crushing, splitting and pulverising of the samples was conducted by the laboratory. • The samples used in the 2024 MRE for Coodamudgi and Yanneri Ridge are detailed below (diamond core samples were excluded from the estimation

YEAR	AC			RC			DD			SH		
	NO HOLES	NO METRES	NO SAMPLES	NO HOLES	NO METRES	NO SAMPLES	NO HOLES	NO METRES	NO SAMPLES	NO HOLES	NO METRES	NO SAMPLES
2010				203	6525	5094	6	183.86	48			
2011				58	3790	1003	9	187.54	-			
2012				47	3276	1909						
2013							8	254	-			
2016							1	175.8	-			
2018	189	5651	5650									
2019							10	264.5	-	7	42	-
2020	2	10	-									
2022				2	56	22						
2024				216	6185	5494						
	191	**5661**	**5650**	**526**	**19832**	**13522**	**34**	**1065.7**	**48**	**7**	**42**	**0**

TOTAL HOLES	758
TOTAL METRES	26600.7
TOTAL SAMPLES	19220

• Samples used in the previous (2019) MRE for Richies and Mundawindi are as follows -

YEAR	RC		
	NO HOLES	NO METRES	NO SAMPLES
2010	6	150	101
2011	68	2,093	1,320
	74	**2,243**	**1,421**

TOTAL HOLES	74
TOTAL METRES	2,243
TOTAL SAMPLES	1,421

Criteria	JORC Code explanation	Commentary
Drilling techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	• All RC drilling was undertaken using an air pressured reverse circulation 140mm diameter face sampling hammer. • All AC drilling was completed with a X350 Aircore Drill rig mounted on a VD3000 Morooka track base with a 3 ½" drill string and a combination of blade and percussion hammer bits.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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.	• Sample recovery is available in the form of sample weights for 5,624 samples from the 2018 AC drillholes at Yanneri Ridge, representing 31% of the total samples across Yanneri Ridge and Coodamudgi. Overall, the sample recovery is acceptable, with a mean weight of 1.63kg. There are 5 sample weights that are less than 150g, with a minimum sample weight of 40g that may not be representative of the sample length. • There is no known relationship between sample recovery and grade. • Sample recovery is also available for 9 diamond drillholes in the form of recovered core length for a total of 39 measurements at Yanneri Ridge. Sample recovery is low for these drillholes with a mean recovery of 29%. Diamond drillhole assays were not used in the current MRE.
Logging	• 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. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. • The total length and percentage of the relevant intersections logged.	• Brief logging summaries (of lithotype) and the sieving of 1m samples into chip trays was completed at the drill rig. Detailed logging of these chip trays was then completed in Perth. • The logging is qualitative in nature and includes colour, weathering, lithology, grainsize, texture, structure, mineralisation, and alteration. • The level of detail is sufficient for supporting the Mineral Resource Estimate. • The logging codes and procedure has been continuously refined by Element 25 according to increasing geological understanding. • All drillholes at Yanneri Ridge and Coodamudgi used in the 2024 MRE were logged from surface to end of hole, except for BBAC00325 at Yanneri Ridge which was logged to 36m (EOH = 42m).
Subsampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• The majority of the 2010, 2011 and 2012 RC samples (8,066) were split using a riffle splitter. 123 samples have a sample type of 'unknown'. • All of the 2018 AC, 2022 RC and 2024 RC samples (total 11,166 samples) were split using a cone splitter. • Splitters were inspected at the end of each drill rod, and cleaned with compressed air. • Samples were dispatched to various laboratories as below (note some samples do not have a lab code assigned therefore total samples in this table will be less than total samples used in MRE):

Criteria	JORC Code explanation	Commentary
Subsampling techniques and sample preparation	• Quality control procedures adopted for all subsampling stages to maximise representivity of samples. • 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. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• All RC drilling was undertaken using an air pressured reverse circulation 140mm diameter face sampling hammer. • All AC drilling was completed with a X350 Aircore Drill rig mounted on a VD3000 Morooka track base with a 3 ½" drill string and a combination of blade and percussion hammer bits.

Drilling Phase	Drilling Type	Laboratory	Number of samples
2010	RC	Nagrom	4,678
2011	RC	Aurum Nagrom	14 827
2012	RC	Nagrom	1,140
2018	AC	SGS	5,650
2022	RC	Bureau Veritas	12
2024	RC	Bureau Veritas	5,506
TOTAL	**N/A**	**N/A**	**17,827**

- In the initial 2010 drill program, waste samples were taken with a sample spear to generate a composite sample.
- Later drill programmes composite waste samples were taken with a sample shovel from each 1 metre sample.
- The majority of RC samples were sampled via dry riffle splitter.
- All samples were dispatched to Nagrom, and SGS Laboratories located in Perth, Western Australia.
- RC and AC samples were dry. All diamond core samples were dried prior to sampling.
- Samples were dried at 105°C. A fusion disk was prepared by mixing 0.8 grams of dried sample with 8 grams of 12:22 lithium tetraborate/metaborate flux (5% lithium nitrate), heated to 1000°C in a platinum crucible for 15 minutes, then poured into a platinum mould. Element concentrations were analysed using a Panalytical Axios XRF.
- For Loss on Ignition (LOI), the sample was heated to 1000°C for four hours, with mass loss measured using an electronic balance accurate to ±0.0001 grams.
- Quality control to maximise representivity of samples was conducted by the laboratories by monitoring the sizing analysis during crushing and pulverising. No issues regarding particle sizing were reported.
- Field duplicate analysis shows good correlation between primary and duplicate samples with no bias.
- All AC and RC samples were collected at 1m intervals down hole. The sample size is considered appropriate to the grain size of the material being sampled.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total	• Laboratories were Nagrom, Aurum, SGS and Bureau Veritas. • Suite of elements assayed using XRF analysis Ag, Al, Al2O3, As, Au, Ba, BaO, Be, Bi, Ca, CaO, Cd, Ce, Cl, Co, Cr, Cr2O3, Cu, Fe, Fe2O3, K, K2O, La, Li, LOI, Mg, MgO, Mn, MnO, Mo, Na, Na2O, Ni, P, P2O5, Pb, Pd, Pt, S, Sb, Sc, Si, SiO2, Sn, Sr, Te, Ti, TiO2, Tl, V and W. The elementals and oxides are in PPM and percent units. • Mn suite of elements for MRE are Mn, Fe, Al, Ca, Si, K, Mg, Na, Ni and Mg. • Analytical assay method is X-ray Fluorescence (XRF) with ICMP-MS used early in the drill programme. • XRF is considered a partial technique as it primarily analyses the elemental composition of the surface and does not provide a complete breakdown of all elements in the sample, particularly those bound within minerals or present in very low concentrations. • All laboratories with the exception of Nagrom, are NATA accredited and procedures are considered appropriate and of sufficient quality.

	• 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.	• Downhole geophysical density was undertaken in 2019 on 68 drillholes at Yanneri Ridge by Bore-Hole Geophysical Services. Short spaced density ('SSD') values were obtained. These were incorporated into the 2024 MRE using Ordinary Kriging.
		• The SSD down hole readings were recorded at 0.2 cm intervals which were composited downhole to 1 m intervals using Micromine software.
		• Tools used to during logging program include:
		  ◦ Auslog Gamma, 631 Sonde
		  ◦ Auslog Gamma, Calliper and Density, D605 sonde
		  ◦ Auslog Magnetic Susceptibility / Induction / Conductivity 082E (HMI-383E)
		• Diamond drillhole BBDD012 was used as a calibration hole and BBAC0028 was used to test for tool drift.
		• Calibration standards of lucite (density 1.28) and aluminium (density 2.6) were also used.
		• The Geophysical density data was cleaned and validated, with values less than 1.5 g/cm3 were excluded.
		• A programme of dry bulk density determination is required to adjust the geophysical density data to dry bulk density.
		• The density data in the MRE is not dry bulk density data. There is the potential for minor overestimation of tonnes. Reconciliation data has not been available to assist.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	• Supporting QAQC data is available in the form of standards and paired duplicate data such as field duplicates, laboratory splits and laboratory repeats. Blanks and internal standards were also used. • From 2010 to 2018, field duplicates at a frequency of 1 in 40. The duplicate samples and standard reference material were analysed at Nagrom and SGS Laboratories. • Field duplicates show good correlation, suggesting acceptable levels of precision. Standard (CRM) results are available at an overall rate of 1:50 and show acceptable analytical accuracy. There are some outliers which are attributed to sample mix ups/incorrect labelling. • Blank samples are available at a rate of approximately 1:50, and did not highlight any concern regarding sample cross contamination. The mean grade of the blanks was 0.21% Mn. • Laboratory repeats were submitted at a rate of approximately 1:20, and show acceptable precision with ≥99% of samples <10% HARD (Half Absolute Relative Difference). • Laboratory splits are available at a rate of approximately 1:150, but only for samples from the 2018 RC program tested by SGS. They show acceptable precision with >99% samples <10% HARD. • Data to support external laboratory checks have not been supplied. The 2019 MRE report sample analysis was routinely checked via testing carried out by other certified laboratories, with no bias with no analytical issues detected to date.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• Assay data was compared with geology logs by the site geologist for anomalous assays.
	• The use of twinned holes.	• Twinned holes have not been compared as part of the analysis of this MRE. • Previous analysis showed no significant bias between drilling techniques when sample recovery was > 50%.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Data was logged into an Excel spreadsheet template. • The data is reportedly checked by a Data Manager using standard routines, prior to being loaded into the company's drillhole database. • Assay data is loaded into the database when received from the laboratory in csv format. • Prior to 2017, the database was managed in a Microsoft Access database maintained by Element • 25. Currently, the drillhole database is managed by an independent data management company, • Expedio Services. Exports of the drillhole database were supplied as csv files to MEC for the 2024 MRE.

Criteria	JORC Code explanation	Commentary

Verification of sampling and assaying	• Discuss any adjustment to assay data.	• The assay data was converted to account for different units (percent and ppm) and both elemental and oxide were reported (e.g. MnO or Mn), depending on the laboratory. A merged column of the element in percent unit was created for the majority of the manganese ore suite.
		  • Where results were supplied in ppm, this was converted to % by dividing by 10,000.
		  • Where results were supplied as an oxidised state, they were converted to elemental values using the appropriate stoichiometric conversion factor. For example. Mn% = MnO% * 0.7745.
		• Negative values were reported as half Detection Limit (DL) where known.
		• The 2010 diamond holes were excluded from the resource estimate due to elevated Mn values. These samples were selectively sampled within the manganese bands and are not representative and misleading. This uncertainty resulted in the exclusion of these values.
		• A number of sample intervals with underweight sample weights below 150g were reviewed, a total of 3 sample intervals were excluded due to anomalous manganese values and poor representative sample of a 1m sample interval.

Location of data points	• Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	• All drill holes within the resource area were surveyed predominantly using DGPS (96%), with remaining being GPS and RTK GPS. • A new topographic surface was created in 2019 utilising the adjusted topographic contours from a 2015 aero mag survey, and drillhole collar DGPS locations. • Validation of the collar coordinates identified a number (8) of anomalous collar coordinates in the z direction that were below the topography. The collar coordinates were updated to align with the topography and close nearby collar data. There was a single instance where the collar coordinate was used to define the topography, resulting in a deep spike in the topography. To the MRE, the topography was regenerated with the updated collar.
	• Specification of the grid system used.	• The datum for the project is GDA94 with projection MGA94 Zone 50. • All data provided was under this co-ordinate system.
	• Quality and adequacy of topographic control.	• Six of the diamond drillholes showed an absolute deviation of >1m from the topography. These drillholes were not used in the resource estimate. • The topographic surface at RC drillhole BBRC00133 in Coodamudgi showed a small, sharp deviation from the surrounding surface by approximately -7m RL. The surface was adjusted accordingly and the drillhole re-allocated an RL of 617.156m (original RL 610m). • The topographic surface was otherwise considered adequate.

Criteria	JORC Code explanation	Commentary

Verification of sampling and assaying	• Discuss any adjustment to assay data.	• The assay data was converted to account for different units (percent and ppm) and both elemental and oxide were reported (e.g. MnO or Mn), depending on the laboratory. A merged column of the element in percent unit was created for the majority of the manganese ore suite.
		  • Where results were supplied in ppm, this was converted to % by dividing by 10,000.
		  • Where results were supplied as an oxidised state, they were converted to elemental values using the appropriate stoichiometric conversion factor. For example. Mn% = MnO% * 0.7745.
		• Negative values were reported as half Detection Limit (DL) where known.
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		• A number of sample intervals with underweight sample weights below 150g were reviewed, a total of 3 sample intervals were excluded due to anomalous manganese values and poor representative sample of a 1m sample interval.

Location of data points	• Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	• All drill holes within the resource area were surveyed predominantly using DGPS (96%), with remaining being GPS and RTK GPS. • A new topographic surface was created in 2019 utilising the adjusted topographic contours from a 2015 aero mag survey, and drillhole collar DGPS locations. • Validation of the collar coordinates identified a number (8) of anomalous collar coordinates in the z direction that were below the topography. The collar coordinates were updated to align with the topography and close nearby collar data. There was a single instance where the collar coordinate was used to define the topography, resulting in a deep spike in the topography. To the MRE, the topography was regenerated with the updated collar.
	• Specification of the grid system used.	• The datum for the project is GDA94 with projection MGA94 Zone 50. • All data provided was under this co-ordinate system.
	• Quality and adequacy of topographic control	• Six of the diamond drillholes showed an absolute deviation of >1m from the topography. These drillholes were not used in the resource estimate. • The topographic surface at RC drillhole BBRC00133 in Coodamudgi showed a small, sharp deviation from the surrounding surface by approximately -7m RL. The surface was adjusted accordingly and the drillhole re-allocated an RL of 617.156m (original RL 610m). • The topographic surface was otherwise considered adequate.

Criteria	JORC Code explanation	Commentary

Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• The overall drill spacing at Richies Find and Mundawindi is 400m east-west by 100m north-south.
		• The overall drill spacing at Yanneri Ridge is 100x100 with a small central area infilled to 50x50m.
		• The overall drill spacing at Coodamudgi is 100x100m.
		• The drill programs were as follows:
		  • 2010 program: primary focus on the Yanneri Ridge deposit using 200 x 100 m grid spacing with some wider spaced drill lines completed at the eastern and western extents using 400 x 100 m grid spacing.
		  • 2011 program: focus on the Coodamudgi, Richies Find, and Mundawindi. Drilling was conducted at 400 x 100 m spacing to define the extents of the three individual deposits. 2012 program: 200 x 100 m to further infill the 2010 drill lines within the extents of the
		  • Yanneri Ridge resource area.
		  • 2018 program: variable spacing in the eastern extents of the Yanneri Ridge deposit. 25 x 25 m and 50 x 50 m spacing were utilised to increase confidence regarding mineralisation continuity in the target area which then further stepped out to 100 x 100 metre.
		  • 2019 program: predominantly diamond drillhole twins to existing drillholes.
		  • 2024 program: infilled both Coodamudgi and Yanneri Ridge to 100x100m spacing.

	• 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.	• The drill spacing is considered appropriate for the MRE. • A drillhole spacing analysis project was completed in February of 2024 by MEC to define appropriate Mineral Resource classifications.
	• Whether sample compositing has been applied.	• Samples were composited downhole to the dominant sample interval length of 1m, using Micromine software.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	• The dominant strike direction of the mineralisation is east-west. The drill lines are on a grid aligned east-west, north-south and therefore considered an appropriate orientation with respect to the structure of the deposit.
	• 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.	• The mineralisation is relatively flat lying and the vast majority of the drillholes are vertical. • No bias to sampling has been introduced with respect to the drilling orientations.
Sample security	• The measures taken to ensure sample security.	• Sample calicos were placed into pre-numbered polyweave sample bags and sealed with cable ties. • The samples were delivered to the laboratory in Perth via a courier with the relevant consignment note.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Audit and reviews undertaken at Butcherbird has not been made available to MEC for review.

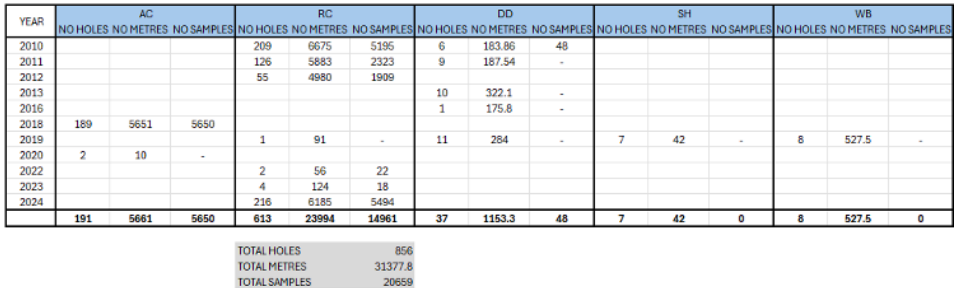
Section 2: Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• 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. • 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.	• The Butcherbird project is 100% owned by Element 25 and is located within Exploration Lease E52/2350 and mining lease M45/1074. • Both tenements are in good standing.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• Copper mineralisation outcrops were discovered in the Yanneri Ridge and Ilgarrari areas in the early 1910s and worked sporadically until the 1970s, but deemed sub-economic due to the predominantly oxide nature of the ore. • In 1977, BHP showed interest in manganese mineralisation after observing high-grade manganese nodules in gravel pits near the Great Northern Highway. They mapped and sampled surficial manganese mineralisation in the Yanneri Ridge and Ilgarrari Hill areas but estimated 15–20Mt of sub-economic manganese without drilling. • In 1982, Alcoa drilled a 350m deep diamond drill hole and intersected 102m at 8.3% Mn from surface. • The data from the 1982 drilling, and any subsequent drilling for Mn, has been captured and retained in the current active database.

Geology	• Deposit type, geological setting and style of mineralisation	• The Butcherbird project consists of a number of stratiform sedimentary manganese deposits hosted within the Ilgarrari Formation, which is mostly flat lying with some occurrence of gentle folding.
		• The manganese mineralisation occurs within three primary ore zones;
		  • High grade manganiferous hardcap
		  • Supergene enriched manganiferous shale
		  • Basal shale

Criteria	JORC Code explanation	Commentary

Drill hole Information	• 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:
	  • easting and northing of the drill hole collar
	  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
	  • dip and azimuth of the hole
	  • down hole length and interception depth
	  • hole length
	• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.
		• Exploration Results are not being reported at this time as this report is for a Mineral Resource Estimate, however a summary of the drillholes used in the MRE is given below.
		• Note that the table below is for the drillholes at Yanneri Ridge, Coodamudgi, Richies Find and Mundawindi deposits.
		 

Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Exploration results are not being reported at this time • No high grades have been cut. • The majority of samples were 1m intervals, and all samples have been composited to this length prior to estimation. • Metal equivalent grades are not being reported.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • 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').	• The deposit is relatively flat lying, striking approximately east west and intersected mostly by vertical drillholes. The mineralisation is primarily strata bound. Downhole length is therefore approximately equivalent to true width.

YEAR	AC			RC			DD			SH			WB		
	NO HOLES	NO METRES	NO SAMPLES	NO HOLES	NO METRES	NO SAMPLES	NO HOLES	NO METRES	NO SAMPLES	NO HOLES	NO METRES	NO SAMPLES	NO HOLES	NO METRES	NO SAMPLES
2010				209	6675	5195	6	183.86	48						
2011				126	5883	2323	9	187.54	-						
2012				55	4980	1909									
2013							10	322.1	-						
2016							1	175.8	-						
2018	189	5651	5650												
2019				1	91	-	11	284	-	7	42	-	8	527.5	-
2020	2	10	-												
2022				2	56	22									
2023				4	124	18									
2024				216	6185	5494									
	191	**5661**	**5650**	**613**	**23994**	**14961**	**37**	**1153.3**	**48**	**7**	**42**	**0**	**8**	**527.5**	**0**

TOTAL HOLES	856
TOTAL METRES	31377.8
TOTAL SAMPLES	20659

Criteria	JORC Code explanation	Commentary
Diagrams	• 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	• A plan view of collar locations is given in the main body of the report in section 8.5.2 Collar Data. • Cross sections are given in the main body of the report in section 16.1 Visual Comparison.
Balanced reporting	• 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.	• Exploration results are not being reported at this time.
Other substantive exploration data	• 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	• Exploration results are not being reported at this time.
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• No further work has been planned at this stage.

Section 3: Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	• The data is reportedly checked by a Data Manager using standard routines, prior to being loaded into the company's drillhole database. • Assay data is loaded directly into the drillhole database when received from the laboratory in csv format. • Prior to 2017, the database was managed in a Microsoft Access database maintained by Element 25. • Currently, the drillhole database is managed by an independent data management company, Expedio Services. • Exports of the drillhole database were supplied as CSV files to MEC for the 2024 MRE.
	• Data validation procedures used.	• The database was validated using tools within Micromine software and any discrepancies identified (for example below detection limit assays) were resolved prior to estimation. • Validation checks included searching for duplicate hole IDs and co-ordinates, spurious hole locations, checking all drillholes have associated orientation and inclination records, checks for overlapping records or missing data, checks that end of hole depths match the collar file. Checks were also performed for collars against the topography. • Validation of the assay data comprised of merging elemental and oxide assay data to generate a comprehensive and complete assay dataset in the percent unit. • Validation of the assay data incorporated review of underweight sample weights, management of negative values to half DL. • Two samples were flagged as 'bad assay' and excluded from the MRE (BBAC00075 12-13m at Coodamudgi and BBAC00092 11-12m at Yanneri Ridge. • The 2010 diamond holes assay data were also excluded from the estimate and flagged as 'bad assay'. • Cross validation of assay and lithology logging was also undertaken. • Statistical analysis of the domains was used to verify the appropriateness of the domaining and stationarity. • Geophysical density data was cleaned and validated.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits	• The Competent Person for the 2024 MRE, Dean O'Keefe, conducted a site visit 25-27 April 2023. The purpose of the site visit was to observe mining operations, to gain an understanding of the • project geology, and to complete a geo-metallurgical study. The findings of the CP were consistent with the supplied project data.
	• If no site visits have been undertaken indicate why this is the case.	• Not applicable

Criteria	JORC Code explanation	Commentary

Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.
	• Nature of the data used and of any assumptions made.
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.
	• The use of geology in guiding and controlling Mineral Resource estimation.
	• The factors affecting continuity both of grade and geology.
		• The geological interpretations for the Mundawindi and Richies Find deposits were undertaken by IHC Robbins as they are part of the 2019 MRE.
		• The geological interpretations for the Yanneri and Coodamudgi deposits were undertaken by MEC. Existing interpretations by IHC Robbins were retained in areas where there was no additional drilling data.
		• The manganese mineralisation occurs within three primary ore zones;
		  ◦ High grade manganiferous hardcap
		  ◦ Supergene enriched manganiferous shale
		  ◦ Basal shale
		• Data used to support the interpretations includes geochemical assays and lithological logs. Interpretations were completed in cross section, snapping to drillholes, to create wireframes which were used to flag the resource block model.
		• Mineralisation was interpreted separately to geology, however, is constrained by it. The occurrence of the manganese bands in terms of thickness, frequency, and intrinsic grade is highly variable. The sedimentary origin and supergene enrichment has resulted in a zonal deposit, with a high nugget effect.
		• A geological cut-off grade of 6% Mn was used for mineralisation interpretation.
		• There is a high degree of confidence in the geological interpretation as the mineralisation is fairly flat lying with no complex folding observed.
		• Grade trends have been used with cross-sectional data and variography analysis to define search ellipsoid orientation and size in populating the resource model.

Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The extent of the Butcherbird project area encompassing the four deposits (Coodamudgi, Mundawindi, Richies Find, and Yanneri Ridge) extends from approximately 769,500mE to 778,800mE, and 7,297,000N to 7,299,500mN. • A cookie cutter approach to the update of the Yanneri Ridge and Coodamudgi MRE whilst the Richies Find and Mundawindi deposits remain unchanged from the 2019 MRE. • The average thickness of mineralisation is approximately 5 metres. • Where the hardcap material is mineralised, the mineralisation is from surface.

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	• The 2024 MRE for Yanneri Ridge and Coodamudgi was completed using Micromine software. • 10 elements (Mn, Fe, Al, K, Si, Ni, Ca, Co, Mg, Na) were estimated using Ordinary block Kriging. • At Yanneri Ridge, density was also estimated using Ordinary Kriging, however no geophysical density measurements were available at Coodamudgi therefore a mean nominal density for each domain was assigned. • Discretisation was 2 x 2 x 2. • No extreme grade values were observed and no grade top cut was applied. • The estimation was conducted in 3 search passes using restrictions on the minimum number of samples required for estimation (see later section of this table for parameters). • Blocks unestimated at the end of the third pass were assigned the mean grade relevant to that element and domain wireframe as below:

Element		Domain							
		Y MN1	YMN5	YMN7	Y HCAP	YBS1	C MN	CHCAP	CBS1
Co	Count null blocks	30,431	-	1,291	6,669	8,041	42,777	4,197	10,455
	% null blocks	24.24	-	100	49.3	21.95	100	100	100
	Nominal Value used	0.00628	-	0.00611	0.00506	0.00103	0.00611	0.00506	0.00103
Density	Count null blocks	42,938	173	1,291	7,564	8,041	42,777	4,197	10,455
	% null blocks	34.21	0.14	100	55.91	29.95	100	100	100
	Nominal Value used	2.35578	2.37214	2.37214	1.96503	2.97922	2.37214	1.96503	2.97922

• Negative kriging weights were reset to zero. Only parent cells were estimated, and the grade defaulted to the sub-cells within the parent cell.
• Variograms were modelled for Mn% in the mineralised MNSHALE domain in three directions, using Micromine software.
• The variogram model was applied to all 10 estimated elements and density within all mineralised domains. The orientation of the variogram main axis is 90˚ with a plunge of 0˚. The secondary axis azimuth is 180 ˚ with a plunge of 0˚. The rotation is 0˚. The variogram parameters are as follows:

Variogram	Nugget	Component	Sill	Range		
				Axis1	Axis2	Axis3
Mn%	7.25	Spherical 1	3.6	75.4	74	2.4
		Spherical 2	4.55	130	136	14.2

• An inverse distance estimation (to a power of 3) was also completed as a baseline check to compare the OK against. The comparison between the two techniques did not highlight any issues in the OK estimate.
• The validation approach and results are described in the relevant section of this Table 1.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td rowspan="7">Estimation and modelling techniques</td><td>• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data</td><td>• The 2024 MRE was reviewed against the 2019 MRE and found to be comparable. Any discrepancies could be reasonably explained, for example, due to additional data, or changes in Resource Classification due to the change in drill spacing leading to increased confidence.
• The 2019 MRE was reviewed against two previous MREs, one completed by Snowden in 2011 and another by Extomine in 2017.</td></tr>
<tr><td>• The assumptions made regarding recovery of by-products.</td><td>• No assumptions have been made regarding the recovery of by-products.</td></tr>
<tr><td>• Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</td><td>• No deleterious elements were estimated.</td></tr>
<tr><td>• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</td><td>• The parent block size is 50 x 50 x 1m, with blocks aligned orthogonal to the grid (no rotation). The sub-block size is 5 x 5 x 0.5m.
• This is based on an average drillhole spacing across all deposits of 100 x 100m, with 1m samples down hole, such that there is adequate sample support for the blocks.
• Estimation for all elements and density was completed using OK and 3 search passes as below.
• All search ellipses were orientated at 90° azimuth, no plunge and -90° dip.
• The run 1 and 2 searches required a minimum of 5 drillholes. The ellipse sectors were octants, with a maximum of 5 samples per sector and a minimum of 5 total samples required for estimation.
• The run 3 search had no minimum number of drillholes. One sector was used, with no maximum number of samples.
<table>
<tr><th>Run</th><th>Azimuth (m)</th><th>Dip (m)</th><th>Plunge (m)</th></tr>
<tr><td>1</td><td>120</td><td>72</td><td>6</td></tr>
<tr><td>2</td><td>240</td><td>144</td><td>12</td></tr>
<tr><td>3</td><td>500</td><td>300</td><td>50</td></tr>
</table></td></tr>
<tr><td>• Any assumptions behind modelling of selective mining units.</td><td>• No assumptions were made regarding selective mining units.</td></tr>
<tr><td>• Any assumptions about correlation between variables</td><td>• No assumptions were made about correlation between variables.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	• Description of how the geological interpretation was used to control the resource estimates.	• The 2024 MRE approach with respect to the geological interpretation, in that hard domain boundaries were used for the geological interpretation and the mineralisation envelopes. • The mineralisation interpretations were constrained within the geological boundaries. A geological cut-off grade of 6% Mn was used for the interpretation of the mineralised envelope. • Wireframes were used to assign the domains into the block model, then filter conditions were applied during estimation such that only blocks within the relevant domain were populated.
	• Discussion of basis for using or not using grade cutting or capping	• Grade cutting or capping was not used prior to estimation, as no extreme values were observed. • Density values below 1.4 g/cm3 were excluded.
	• The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available	• The block model was validated globally and locally at key stages during the construction and estimation processes using Micromine software. • Basic block model checks such as reporting on the minimum and maximum of each attribute were used to ensure all blocks were populated. A check was also performed for overlapping blocks, of which there were none. • Visual validation was completed by comparing the block grade to the drillhole grade. There was close correlation between raw and modelled grades. • Global statistical validation was completed by comparing statistics between the composited, and estimated grades. • Local validation was completed by using trend/swath plots by easting, northing and RL slices. • There were no concerns with the outcomes of the validation checks.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• The tonnages have been estimated on an assumed dry basis. • No work has been carried out to determine the moisture content of the material.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• A Cutoff grade of 7% Mn was used for reporting the Mineral Resource estimate.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	• Clause 20 of the JORC (2012) Code requires that all reports of Mineral Resources must have reasonable prospects for eventual economic extraction, regardless of the classification of the resource. The Butcherbird Resource passes the RPEEE hurdle on the basis that the mine was producing as recently as late 2023.

Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• Detailed metallurgical test work is previously has demonstrated that the manganese mineralisation is easily upgradable to a low-grade product with the following typical process;
		  • Scrubbing
		  • Wet screening
		  • Two stage gravity separation
		• Scrubber energy requirement and whole ore scrubbing testwork was completed on nominally 64 mm diameter diamond drill core pieces, crushed to minus 50 mm.
		• The manganese shale has been found to be upgradeable at an economic cutoff. The hardcap does not upgrade.

Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	• Environmental studies for both Terrestrial Fauna and Flora have been completed for Prefeasibility studies. • No environmental concerns or issues were identified during this study.

Criteria	JORC Code explanation	Commentary
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• Density (SSD) in the Yanneri Ridge deposit was interpolated in the 2024 model using Ordinary Kriging. All blocks were estimated at the end of the third search pass. • There were no downhole geophysical density measurements at the Coodamudgi deposit so a nominal mean density for each domain was assigned to the relevant blocks (2.37 g/cm3 in MNSHALE, 1.96 g/cm3 in HCAP and 2.97 g/cm3 in BS1). • For the 2019 component of the MRE, density in the Mundawindi and Richies Find deposits had been interpolated using a nearest neighbour approach. There were 412 blocks with no density information. Of these, 212 blocks were mineralised (≥7% Mn). The empty density values in these 212 blocks were replaced with the mean density for the mineralised shale of 2.327g/cm3. • The SSD down hole readings were recorded at 0.2 cm intervals which were composited to 1 m intervals. • A programme of dry bulk density determination is required to adjust the geophysical density data to dry bulk density. • The density data in the MRE is not dry bulk density data. There is the potential for minor overestimation of tonnes. Reconciliation data has not been available to assist.

Classification	• The basis for the classification of the Mineral Resources into varying confidence categories.	• The resource classification for the Butcherbird Project was based on the following criteria:
		  • drill hole spacing analysis project
		  • confidence in the interpretation of the relevant domain
		  • continuity of grade
		• All the material in both the Mundawindi and Richies Find prospects estimated in the 2019 MRE is classified as Inferred.
		• The mineralised shale in the Yanneri Ridge deposit is classified as Measured in the 50 x 50m drill spacing area, as supported by the outcome of the drillhole spacing analysis project. Similarly, the project showed that a minimum spacing of 100 x 100m was required to support an Indicated
		• Resource. This classification was applied to the rest of the Yanneri Ridge deposit, except for a small area in the north which did not meet the criteria, and as such this area was classified as Inferred.
		• The hardcap material in the 50 x 50m drilling areas is classified as Indicated due to the inherently variable nature of this material.
		• The entire Coodamudgi deposit is supported by 100 x 100m spaced drilling and was therefore classified as Indicated.
		• The mineralisation in the basal shale unit is Inferred as there is uncertainty at depth, due to less sample support.

Criteria	JORC Code explanation	Commentary
Classification	• Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	• All relevant factors were carefully considered. Grade estimations were based on validated data using appropriate methods (e.g., kriging). Input data was verified with QAQC protocols, ensuring reliability. Geological continuity was supported by drill hole logging, and drillholes were adequately spaced. • The quantity and distribution of data are sufficient for supporting the assigned Mineral Resource Classifications.
	• Whether the result appropriately reflects the Competent Person's view of the deposit.	• The Mineral Resource Classification accurately represents the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• Audit and reviews undertaken at Butcherbird include the MEC Metallurgical study and the Drillhole spacing study.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	• The 2024 MRE accuracy and confidence is commensurate with the applied Mineral Resource classification. • Factors that could affect the relative accuracy and confidence in the estimate are the high zonal nature of the mineralised manganese bands and the high nugget effect. • No quantitative test of the relative accuracy has been completed. • There were no concerns with the block model validation checks which included global mean comparisons, visual checks of composite versus block grades, and swath plots by easting, northing and RL. • Relative confidence in the underlying data, drillhole spacing, geological continuity and interpretations has been appropriately reflected by the CP in the Resource Classification.
	• The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	• The MRE is considered a global estimate for the Yanneri, Coodamudgi, Richies Find and Mundawindi deposits. • The estimate for the Mundawindi and Richies Find deposits was completed in 2019 by IHC Robbins, and the estimate for the Yanneri Ridge and Coodamudgi deposits was completed by MEC in 2024.
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Production has occurred at the Butcherbird Manganese mine; however, insufficient data has been provided to reconcile production with the MRE.

Element 25