



PANTERA
MINERALS

3 May 2022

Level 1
10 Outram Street
West Perth WA 6005

Multiple High Grade Manganese Targets Identified at Weelarrana

HIGHLIGHTS

- **High grade mineralisation previously identified (32 to 42% Mn in rock chips) has been confirmed and the strike length of outcropping mineralisation extended from 280m to 800m.**
- **Two further high grade manganese targets identified by mapping and field reconnaissance.**
- **22 rock chip samples taken with 16 reporting grades ranging from 11% Mn to 43% Mn. All rock chip samples taken from outcropping in-situ material (see Figure 2 for location and Table 1 for assay results). Assays were performed using a pXRF on samples that had been crushed, pulverised and pressed into a homogenous puck. This ensures the assay is representative of the entire rock sample.**
- **High grade manganese appears to be developed at the contact between the Calyie Sandstone and Ilgarari Siltstone with up to 5 vertical metres of manganese mineralisation observed over strike lengths of up to 800m. The Ilgarari Siltstone is the host to manganese mineralisation at the Element 25 Butcherbird deposit¹.**
- **Pantera Minerals has increased its landholding in the area from 401 km² to 758 km² with three new tenement applications. All new tenement applications are prospective for high grade manganese mineralisation and are proximal to the 701 Mile Project of OM Holdings and the Hill 616 Project of Firebird Metals (see Figure 6).**
- **Heritage survey confirmed for late May 2022 for the first drill area (Mn Area 1).**
- **RC drilling of Mn Area 1 expected in July 2022 with a 1500m drill program planned.**
- **Drill planning and permitting underway for Mn Areas 2 and 3 - drilling expected in Q3 2022.**

1. ASX E25 Announcement: Pre-Feasibility Study Highlights Robust, Short Time Start-up Opportunity - 19 May 2020.



Figure 1 - High grade outcopping manganese mineralisation at Mn Area 1 - WR001Mn - 34.5% Mn sample location.

Pantera CEO, Matt Hansen, commented:

"We are delighted to have commenced onground exploration at our Weelarrana Manganese Project. We believe this area holds great potential for the discovery of high grade manganese mineralisation and we are now able to access this area year round.

It is very pleasing to quickly identify three areas of outcropping high grade manganese mineralisation with large parts of the tenement area yet to be assessed. The upcoming drill program will be the first time the manganese mineralisation within the tenement area has been drill tested and we are very much looking forward to the results of the maiden drill program."

Pantera Minerals Limited (ASX:PFE) ("**Pantera**" or the "**Company**") is pleased to announce that the Company has identified multiple high grade manganese targets at Weelarrana, located 70km south of Newman in West Australia's Pilbara region.

Weelarrana Manganese Project - E 52/3878

Manganese Area 1

- Originally discovered by Pilbara Manganese in 2012 with 4 rock chip samples taken with grades from 32% Mn to 42% Mn and 280m strike of outcropping mineralisation noted (see PFE ASX announcement *Exploration Update and Grant of Tenements 3 November 2021*).
- Mapping now reveals 800m of strike of outcropping to subcropping manganese mineralisation with a vertical thickness of 2 to 5m with two distinct manganese horizons identified. Rock chip grades of **11.7% Mn to 43.6% Mn** from 8 samples reporting >10% Mn.
- Manganese mineralisation varies from massive nodular manganese to banded fine grained shale replacement manganese with mineralisation preferentially developed at the base of the Ilgarari Siltstone directly above the Calyie Sandstone.
- Mineralisation dips approx. 10° to the north and is essentially flat lying and close to surface.
- This area will be the subject of an ethnographic and archeological survey in late May prior to an RC drill program being conducted in late June/early July.

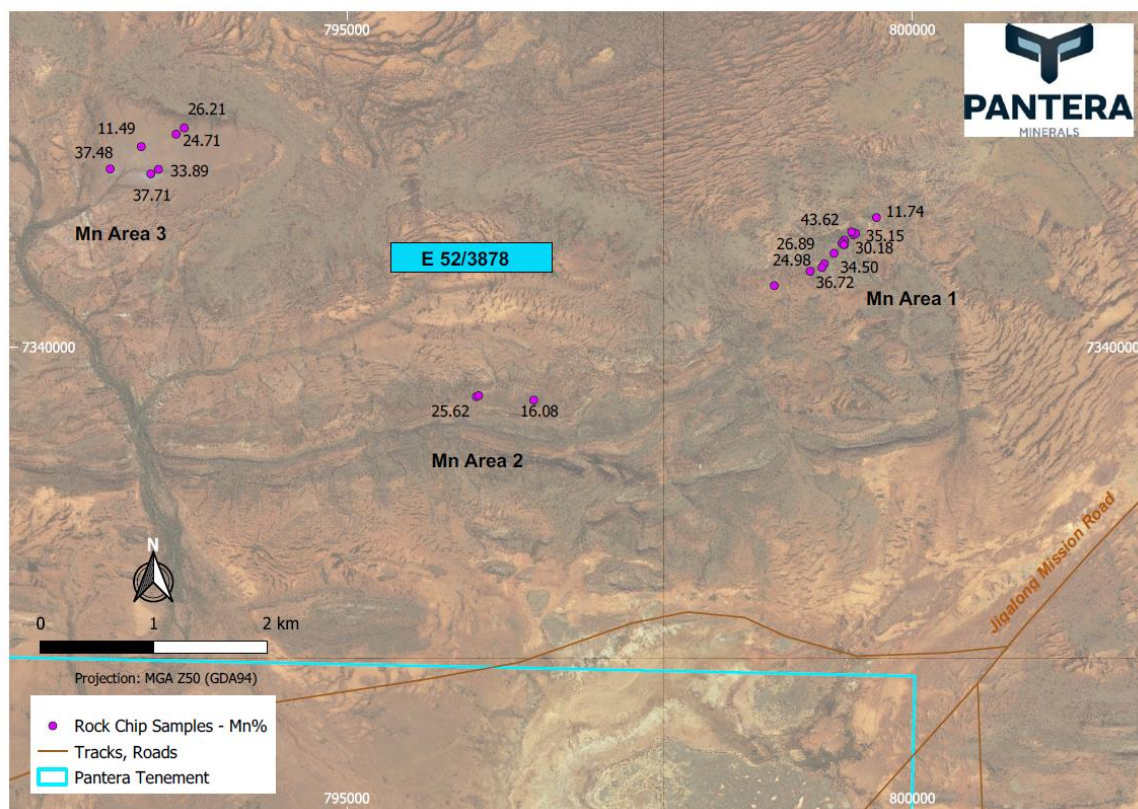


Figure 2. Weelarrana Manganese Project E 52/3878 showing location of outcropping high grade manganese mineralisation and rock sample locations.

Manganese Area 2

- Located 2.3km to the west of Manganese Area 1 and along the same contact between the Calyie Sandstone and Ilgarari Siltstone.
- 730m continuous strike of outcropping to subcropping manganese mineralisation mapped with widths of 5m to 50m noted. The vertical thickness was not able to be determined.
- Rock chip grades **of 16.8% Mn to 25.6%Mn** from 2 samples reporting >10% Mn.
- Manganese mineralisation appears to be more massive and nodular in nature (see Figure 4).
- Manganese mineralisation is terminated to the west against a north striking fault.



Figure 4. Massive nodular manganese mineralisation at Manganese Area 2.

Manganese Area 3

- Located 3.4km to the north west of Manganese Area 2 and situated wholly within a broadly folded sequence of Ilgarari Siltstone with only sporadic outcrop.
- Numerous exposures of outcropping to subcropping manganese replacement of shale over an area of 900m by 450m (see Figure 5). Strike extent and thickness of outcrops was not able to be determined.

- Rock chip grades of **11.5% Mn to 37.7% Mn** from 6 samples.
- Extensive development of manganese rich lag forming a coherent colour anomaly – similar colour anomalies are visible in satellite imagery in areas further to the west within the tenement that have not yet been inspected.



Figure 5. Manganese replacement of laminated shale at Manganese Area 3 - WR0018Mn - 26.6% Mn sample location.

Sampling Methodology

- To increase the sample turnaround time and the speed to understand the manganese potential of the Weelarrana Project it was elected to analyse the rock chip samples using a pXRF so that assay results could be delivered in days and not weeks.
- In order to deliver a more confident assay result the rock chip samples were crushed using a Reflex Crusher and then milled with a Reflex Mill to produce a homogenous sample which could be dry pressed into an assay puck. This process mimics a commercial laboratory sample preparation for a XRF sample.
- The homogenous pressed sample pucks were assayed using a calibrated SciAps pXRF which was calibrated in a single batch which included 4 standards of a known grade and 4 blank samples. The results were only accepted once the standards and blanks produced the expected results.
- A retention sample of crushed and milled material has been reserved and will be assayed by a commercial laboratory to validate the assay results delivered by the pXRF.

- The sample preparation and assaying were performed by AXT Pty Ltd.

New Tenement Applications

Three tenement applications recently made covering a total of 357 km² (see Figure 6) and consolidate Pantera's position in the area over prospective manganese host geology.

E 52/4046

- Tenement application E 52/4046 covers 203 km² and is prospective for an extension of manganese mineralisation along the contact between the Calyie Sandstone and Ilgarari Siltstone between Pantera's Manganese Area 1 and the OM Holdings 701 Mile Manganese project (see ASX OHM Announcement - *Exploration Farm-In and Joint Venture Agreement on 701 Mile Manganese Project - 21 April 2021*).
- The northern section of E 52/4046 is also prospective for manganese as the Ilgarari Siltstone has been identified and mapped by the GSWA.
- The tenement is easily accessed year round with numerous roads and pastoral tracks.

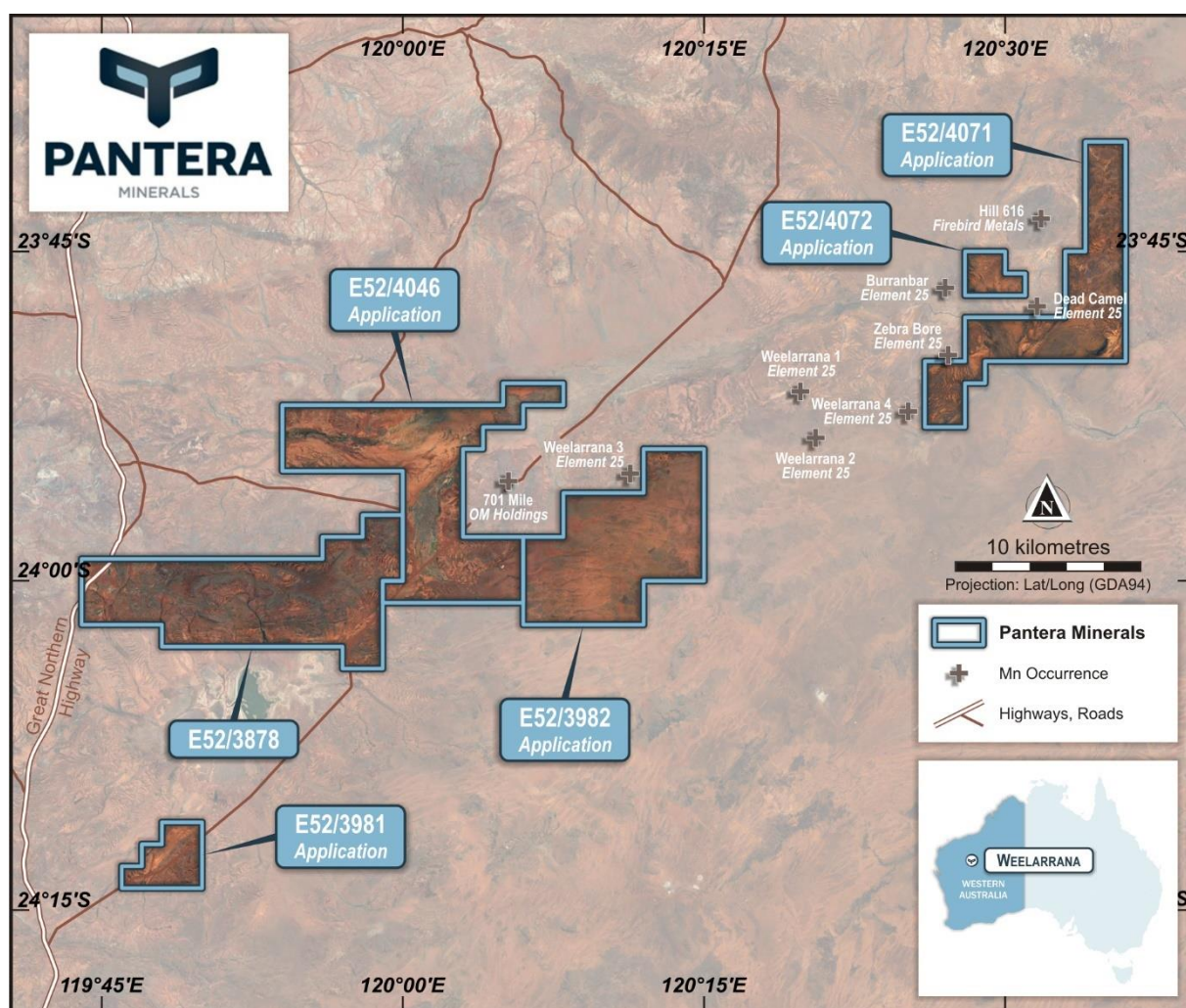


Figure 6. Recent tenement applications made by Pantera within the Weelarrana area - showing locations of known manganese occurrences.

E 52/4071

- Tenement application E 52/4071 is 52km east of Pantera's Weelarrana Manganese Project and covers 138 km² and is prospective for manganese mineralisation within the Balfour Formation which is the host for the Hill 616 Project of Firebird Metals which has an Inferred Mineral Resource of 57.5 mt @ 12.2% Mn (see ASX FRB Announcement *-Hill 616 Maiden Inferred Resource Increases Manganese Inventory by 90% - 21 April 2021*).
- The tenement application covers known outcrops of Balfour Formation that have seen little exploration for Manganese and is directly adjacent to known manganese occurrences at Weelarrana 4, Zebra Bore and Dead Camel which are currently held by Element 25.
- The tenement is easily accessed year round with numerous roads and pastoral tracks.

E 52/4072

- Tenement application E 52/4072 is 53km east of Pantera's Weelarrana Manganese Project and covers 16 km² and is 4.5 km along strike from Firebird Metals Hill 616 Project within the same stratigraphy.
- The tenement application covers known outcrops of Balfour Formation and is also adjacent to the Burranbar manganese occurrence held by Element 25.
- The tenement is easily accessed year round with numerous roads and pastoral tracks.

Future Work Program

- The immediate work program will concentrate on delineating and understanding the manganese potential of Manganese Area 1. The following activities are planned:
 - Ethnographic and archeological survey early June 2022;
 - Access track and drill line earthworks late June 2022 (allows 1 month for receipt of heritage clearance report); and
 - 25 RC hole program for approx. 1000m mid-late July 2022.
- Planning will also commence for RC drill programs over Manganese Areas 2 and 3 including heritage clearance with these RC drill programs expected to commence in September/October 2022. Any infill drilling required at Area 1 will also be conducted at this time.
- Further reconnaissance and mapping will be conducted in the period July to September 2022 concentrating on further defining the outcropping manganese mineralisation at Areas 2 and 3 and also prospecting the contact between the Calyie Sandstone and Ilgarari Siltstone to the west of Area 2. There is a further 13 km of prospect contactive that has not yet been mapped.

- END -

This release is authorised by the Board of Directors of Pantera Minerals Limited.

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Competent Person's Statement

The information in this announcement that relates to geology and exploration results and planning was compiled by Mr. Nick Payne, a Competent Person whom is a Member of the Australasian Institute of Mining and Metallurgy and is Head of Exploration for Pantera. Mr Payne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Payne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

All parties have consented to the inclusion of their work for the purposes of this announcement. The interpretations and conclusions reached in this announcement are based on current geological theory and the best evidence available to the author at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however might be, they make no claim for absolute certainty. Any economic decisions which might be taken on the basis of interpretations or conclusions contained in this presentation will therefore carry an element of risk.

Sample ID	Easting	Northing	Mn %	Fe %	Al ₂ O ₃ %	P %
WR001Mn	799399	7340905	34.50	11.65	2.60	0.27
WR002Mn	799222	7340736	36.72	8.91	2.82	0.27
WR003Mn	799479	7340993	43.62	5.47	2.18	0.23
WR004Mn	799498	7341005	35.15	11.09	1.34	0.13
WR005Mn	799463	7341018	30.18	3.02	1.33	0.05
WR006Mn	799399	7340944	2.61	3.10	3.18	0.08
WR007Mn	799378	7340920	26.89	6.94	1.89	0.07
WR008Mn	799308	7340829	5.62	2.81	1.78	0.04
WR009Mn	799201	7340703	8.63	25.60	2.01	0.07
WR010Mn	799096	7340669	0.64	42.81	1.48	0.08
WR011Mn	798780	7340542	0.99	56.24	4.11	0.05
WR012Mn	799394	7340905	24.98	3.72	1.93	0.10
WR013Mn	799683	7341145	11.74	1.70	1.58	0.04
WR014Mn	796145	7339560	4.90	5.66	2.24	0.06
WR015Mn	796166	7339570	25.62	11.09	4.03	0.06
WR016Mn	796653	7339530	16.08	7.53	1.90	0.05
WR017Mn	793562	7341937	24.71	12.21	3.53	0.17
WR018Mn	793491	7341882	26.21	11.31	2.12	0.21
WR019Mn	793183	7341772	11.49	24.82	2.79	0.21
WR020Mn	792908	7341575	37.48	5.09	1.92	0.11
WR021Mn	793267	7341531	37.71	4.72	2.40	0.05
WR022Mn	793335	7341571	33.89	6.22	2.43	0.07

Table 1- Rock chip sample location and pXRF assay results (GDA94 MGAz50).

JORC Code Table 1 – Pantera Minerals Exploration Update

Section 1 Sampling Techniques and Data

Criteria in this section apply to all succeeding sections

Rock and soil sampling results reported in this report refer to results taken from exploration reports lodged by previous explorers over the prospects which are available on the West Australian Geological Survey WAMEX online database and have been assessed by Pantera Minerals. Details refer to the specific WAMEX reports.

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>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 down-hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i>	<ul style="list-style-type: none"> All rock chip samples were collected from in-situ outcropping material Rock chip sample sizes varied from 0.5 kg and 2kg
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	<ul style="list-style-type: none"> The samples taken are considered to appropriately represent the surface manganese mineralisation
	<i>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) may warrant disclosure of detailed information.</i>	<ul style="list-style-type: none"> The rock chip samples were assayed using a SciAps pXRF device. However, the rock chip samples were first whole crushed then pulverised to ensure a homogenous sample. The homogenous sample was pressed into a puck for pXRF analysis.
Drilling techniques	<i>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.).</i>	<ul style="list-style-type: none"> NA
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	<ul style="list-style-type: none"> NA
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	<ul style="list-style-type: none"> NA
	<i>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.</i>	<ul style="list-style-type: none"> NA
Logging	<i>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.</i>	<ul style="list-style-type: none"> Each rock chip sample was geologically described and recorded in a digital Rock Chip Register
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	<ul style="list-style-type: none"> NA
	<i>The total length and percentage of the relevant intersections logged.</i>	<ul style="list-style-type: none"> NA
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	<ul style="list-style-type: none"> NA
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	<ul style="list-style-type: none"> Each sample was whole crushed and pulverised with a 50g sub-sample dry pressed into a dry puck for pXRF analysis

Criteria	JORC Code explanation	Commentary
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	<ul style="list-style-type: none"> The sampling preparation technique of homogenising the entire rock chip sample is considered appropriate for the reporting of exploration results
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	<ul style="list-style-type: none"> The entire rock chip sample was crushed, split then pulverised. The pulverised material was split and sub-sampled to produce a 50g sample for assay
	<i>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.</i>	<ul style="list-style-type: none"> Every 5th sample was split twice to produce a duplicate for assay
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	<ul style="list-style-type: none"> Sample size is considered appropriate to the grain size of the manganese mineralisation
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	<ul style="list-style-type: none"> The assaying method and laboratory procedures are considered appropriate for the reporting of manganese rock chip results The assay method is considered a total method given the sample was whole crushed and pulverised
	<i>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.</i>	<ul style="list-style-type: none"> The pXRF using was SciApps X-505 model in Mining Mode using a two beam 30 second analysis method and was calibrated before use by using the supplied calibration disc. Prior to the commencement of assaying a blank assay was used to ensure the instrument was free of contamination and a standard was assayed to ensure readings were in the expected range
	<i>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.</i>	<ul style="list-style-type: none"> After every 5th assay a standard of known grade was assayed. Also each 6th sample was a field duplicate At the completion of the assaying the results of the standards and duplicates were assessed to determine if any sample or assay bias could be detected
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	<ul style="list-style-type: none"> Senior Pantera personnel verified the assay results
	<i>The use of twinned holes.</i>	<ul style="list-style-type: none"> NA
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	<ul style="list-style-type: none"> All of the assay data was electronically transferred to the companies database directly from the pXRF without any manual intervention
	<i>Discuss any adjustment to assay data.</i>	<ul style="list-style-type: none"> Assay data has not been adjusted
Location of data points	<i>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.</i>	<ul style="list-style-type: none"> All rock chip samples were recorded by the field geologist using a Garmin 65s handheld GPS. Accuracy is assumed to be +/- 2m in x, y and z
	<i>Specification of the grid system used.</i>	<ul style="list-style-type: none"> GDA94 MGA Zone 50 as the grid system
	<i>Quality and adequacy of topographic control.</i>	<ul style="list-style-type: none"> NA
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	<ul style="list-style-type: none"> NA
	<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>	<ul style="list-style-type: none"> NA
	<i>Whether sample compositing has been applied.</i>	<ul style="list-style-type: none"> NA
Orientation of data in relation to	<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>	<ul style="list-style-type: none"> It is not known if the orientation of rock chip sampling at Weelarrana has created a sampling bias. The results of the rock chip sampling should be considered indicative of the surface

Criteria	JORC Code explanation	Commentary
geological structure		manganese mineralisation
	<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>	<ul style="list-style-type: none"> • NA
Sample security	<i>The measures taken to ensure sample security.</i>	<ul style="list-style-type: none"> • The samples were hand carried by Pantera staff from Weelarrana to Perth and then hand carried to the AXT assay facility. There are no concerns with sample security
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	<ul style="list-style-type: none"> • The company has not performed an audit of sampling technique or data

Section 2 Reporting of Exploration Results

Criteria in this section apply to all succeeding sections

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> The Weelarrana tenements consist of one granted and five applications covering approximately 758 sq. km. All of these tenements fall on pastoral stations and have native title agreements in place. Two tenement applications fall partially within the Jigalong Aboriginal Reserve for which a Mine Entry Permit will need to be issued to access the portions of the tenement within the reserve. Beau Resources retains a 2% Gross Value Royalty for all minerals, metals and products recovered and sold from within the tenement boundary of E 52/3878.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul style="list-style-type: none"> Most of the past exploration work within the Weelarrana Project area including soil and rock chip sampling, Auger drilling and RAB drilling has been conducted by Pilbara Manganese, Laconia Resources, Shaw River Resources and Sipa Resources The reports are available on the West Australian Mines Department WAMEX open file library.
Geology	Deposit type, geological setting and style of mineralisation.	<ul style="list-style-type: none"> The Weelarrana Project covers a portion of the Mesoproterozoic Bangemall Basin with the project sitting entirely within the Bangemall Group including sandstone/quartzite/conglomerate of the Calyie Sandstone and shale/argillite units of the Ilgarari and Backdoor Formations which are known Mn mineralisation hosts. Manganese mineralisation within the area is stratiform and primary in deposition with supergene enrichment and occurs within bedded argillite of the Ilgarari Formation which outcrops through the centre of the project area. Manganese mineralisation appears to be preferentially developed at the contact between the Calyie Formation and Ilgarari Siltstone within the project area.
Drillhole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes: <ul style="list-style-type: none"> easting and northing of the drillhole collar elevation or RL (elevation above sea level in metres) of the drillhole collar dip and azimuth of the hole down hole length and interception depth hole length. 	<ul style="list-style-type: none"> NA
Data aggregation methods	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Rock chip samples are reported as whole rock percentages. No cut off grades have been applied.
Relationship between	<ul style="list-style-type: none"> If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported. 	<ul style="list-style-type: none"> NA

Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i> 	
Diagrams	<ul style="list-style-type: none"> <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> Rock chip sample location and assay grades are shown.
Balanced reporting	<ul style="list-style-type: none"> <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> The report has been prepared to highlight the main targets and positive drillhole observations and rock chip results based on current and past exploration within the project areas. Not all exploration results are shown for practical purposes.
Other substantive exploration data	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Exploration work to date within the Weelarrna Project has largely been of a preliminary or reconnaissance nature. The company is aware of regional scale aeromagnetic surveys and geological mapping program and soil sampling undertaken by past explorers and has access to versions of the data that is available in reports and has assessed most of this data.
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> 	<ul style="list-style-type: none"> Near future exploration plans for Weelarrana are discussed in the release.