20 May 2022

Spargoville - Pathway Towards Nickel Sulphide Production

HIGHLIGHTS

- Following major appreciation in the nickel price Estrella will seek to rapidly transition its 100% owned Spargoville nickel sulphide project to a ***producing asset***
- Mining professionals ***engaged to begin development activities*** at Spargoville
- Diamond drill rig secured to confirm Spargoville Mineral Resource Estimate and provide metallurgical sampling material
- Commencement of ***Definitive Feasibility Study (DFS)*** on 5A open pit mine (Spargoville)
- Previous ESR drill results from 5A Nickel Deposit in 2018 included[1]:
  - ***15m @ 10.45% Ni & 0.78% Cu***, 0.20% Co, 0.87g/t Pd, 1.15g/t Pt from 20m in KWC0004
  - ***5m @ 11.32% Ni & 0.54% Cu***, 0.21% Co, 0.42g/t Pd, 0.22g/t Pt from 61m in KWC0001
  - ***3m @ 12.90% Ni & 1.37% Cu***, 0.29% Co, 1.86g/t Pd, 0.67g/t Pt from 69m in KWC0002
- ***Scoping Study*** on the pre-developed ***5B Nickel Deposit to commence***
- Spargoville development to run concurrently with ongoing exploration at Carr Boyd Project

Estrella Managing Director Chris Daws commented:

"Timing is everything and the time is right for Estrella to kick-off development activities for our Spargoville nickel sulphide assets. Estrella bought the rights to mine and explore four nickel sulphide deposits, located 20km South-West of Kambalda, when nickel projects were out of favour. Nickel prices are now at high levels that provide strong financial metrics to warrant mine development. In response, we have put together an experienced team of mining professionals to assist the Company transition through to producer status. It is a very exciting development, with drilling and a number of technical studies set to get underway which hold the potential to fast-track access to early cashflow and place Estrella as the next nickel producer in Australia."

Estrella Resources Limited (ASX: ESR) (Estrella or the Company) is pleased to announce that following a major appreciation in the global nickel price, the Company is seeking to transition its Spargoville nickel sulphide project, which is located approximately 20km South-West of Kambalda, into a producing asset.

About Spargoville

The Spargoville nickel sulphide project was acquired by Estrella via the purchase of WA Nickel Pty Ltd (see ASX release 4 September 2017). Nickel sulphides were first discovered in the area by Selcast Exploration in the late 1960s. Since then, the 1A, 5A, 5B, and 5D deposits were discovered and partially developed on two of the three mining leases for which the Nickel Rights were purchased (Figure 2). All these mines have remnant nickel sulphide mineralisation left behind and extensive exploration potential at depth.

[1] Refer ASX announcement 6 December 2018 (ASX: ESR)

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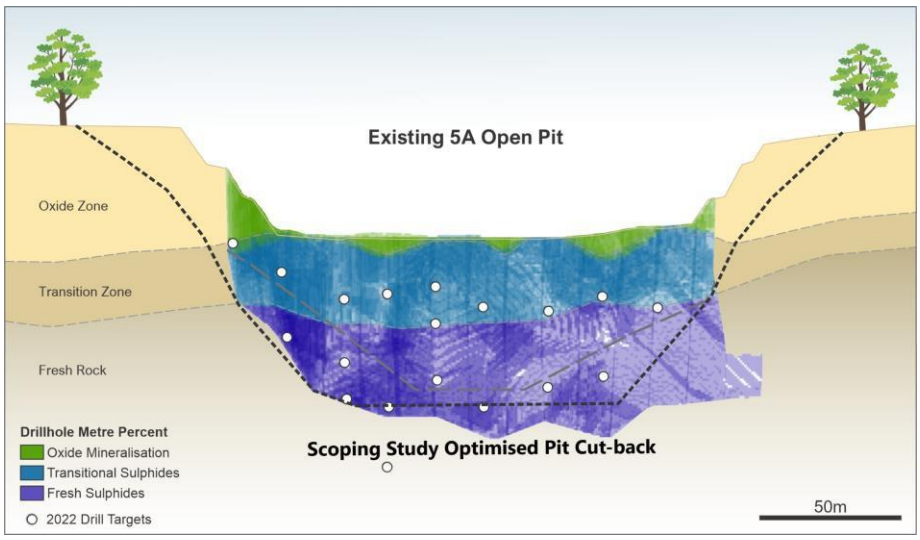

Figure 1: Longsection looking west through the 5A Nickel Resource showing abundance of Oxide, Transitional and Fresh Metallurgical Zones as well as an outline of the optimised pit shell from the 2020 Scoping Study.

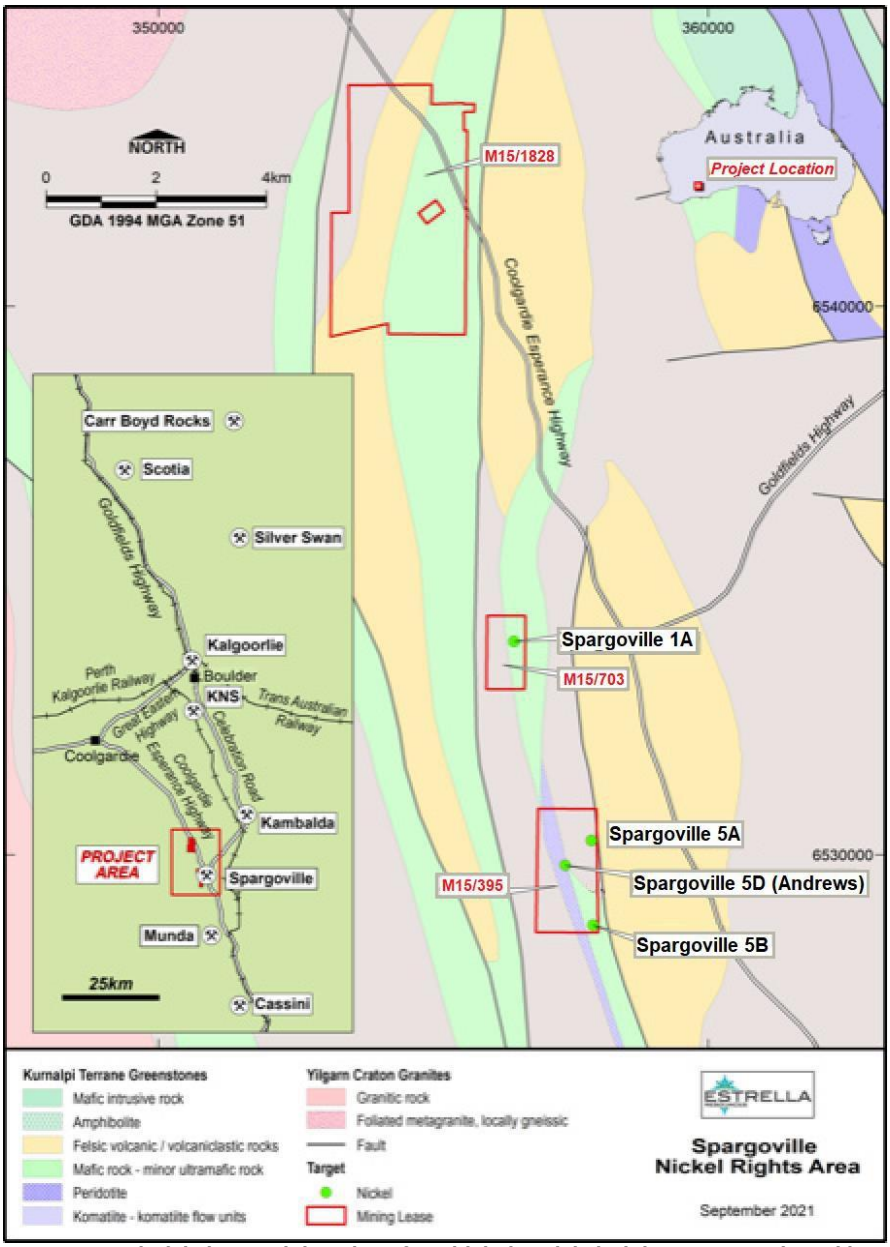

Figure 2: Mining Leases and Nickel Deposit locations for which the Nickel Rights were purchased by Estrella in 2017

Within the Spargoville area, three ultramafic units can be mapped. Mining Leases 15/395 and 15/703 lie over these ultramafic units which are separated by basalts and graphitic shales. Within the ultramafic units, Kambalda-style channels have formed in which nickel sulphides have been deposited. Historical ore zones have consisted of significantly high nickel tenor. Arsenic and gold can also occur within the nickel mineralisation. It is expected that significant advances in the treatment of arsenic-nickel ores will assist the Company to realise the current value of the remaining deposits.

5A Nickel Deposit

The Company's initial focus will be on the remaining resource at the 5A Nickel Deposit. The mineralisation at 5A consists of a 30m deep Oxide Zone, which was mined in an open pit by Amalg Resources NL in 1996-1997. Beneath this, and which will be the focus of the DFS, remains a 20m thick Transitional Zone (dominated by the nickel mineral violarite), underlain by another 30m of Fresh Sulphides (dominated by pentlandite) as can be seen in Figure 1. The metallurgical significance of this will be outlined later.

Historical intercepts through the 5A mineralisation are shown in Figure 3 below.

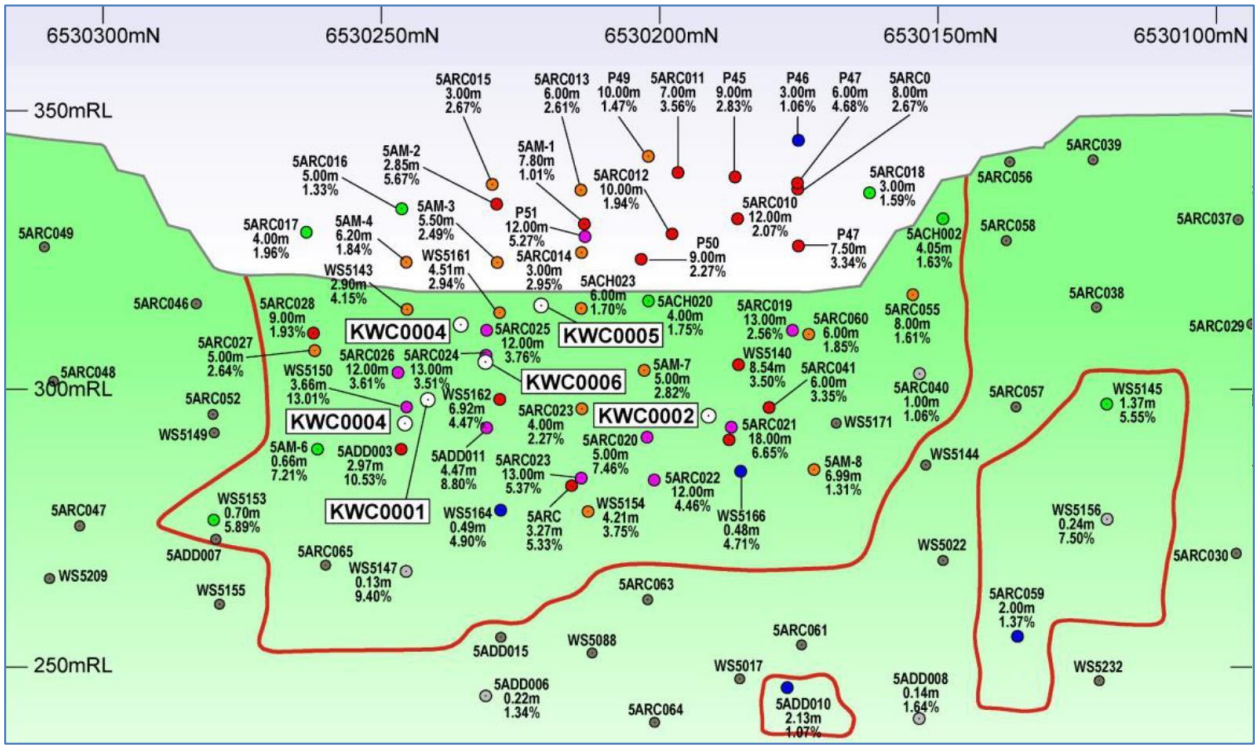

Figure 3: Historical significant intersections below the 5A Open Pit

Estrella conducted a new resource estimation released to the market on 18 October 2019 as follows:

Table1 – 5A October 2019 Mineral Resource Estimate (0.5% Nickel Cut-off)

Type	Indicated Mineral Resource				
	Tonnage kt	Ni %	Cu %	Ni t	Cu t
Saprolite	12	1.0	0.10	120	10
Saprock	38	2.2	0.19	830	70
Fresh	19	3.7	0.24	680	40
Total	**69**	**2.4**	**0.19**	**1,630**	**130**
Type	**Inferred Mineral Resource**				
	Tonnage kt	**Ni %**	**Cu %**	**Ni t**	**Cu t**
Saprolite	11	0.9	0.10	100	10
Saprock	17	1.0	0.14	170	20
Fresh	29	1.6	0.10	470	30
Total	**58**	**1.3**	**0.11**	**730**	**70**

Type	Total Mineral Resource				
	Tonnage kt	Ni %	Cu %	Ni t	Cu t
Saprolite	24	0.9	0.10	220	20
Saprock	55	1.8	0.17	1,000	100
Fresh	48	2.4	0.15	1,140	70
Total	**127**	**1.9**	**0.15**	**2,370**	**190**

5A Deposit Metallurgical Drilling and Testing; Impact on the DFS

The planned diamond drilling program to commence shortly will accomplish several aims, including updating the Oct 2019 Resource estimate. The major objective is to confirm the metallurgical "Top of Fresh" zone for the DFS. This depth, where the Transitional Zone ends, and Fresh mineralisation starts (refer to Figure 1) is critical to the final economics of the project.

Fresh Zone Sulphides

Fresh mineralisation is dominated by two minerals, pyrrhotite (iron sulphide) and pentlandite (nickel sulphide). The combination of these two minerals in a nickel concentrate is important for both the flotation and recovery of nickel, and for the smeltability of the concentrate. As such, off-take and payment terms are derived from the quality of the concentrate, whilst the quantity of nickel is a function of recovery and grade. These have a direct effect on the revenue from the project. It is therefore necessary to estimate the amount of nickel in the Fresh Zone to a high degree of certainty to de-risk the project.

These variables along with their associated positive or negative influences on revenue will impact the final optimised pit size and shape in the DFS.

As a necessary step in the DFS process, the Company will utilise mineralised core from the Fresh Zone blended from across the length of the deposit to estimate concentrator recoveries and monitor potential deleterious elements such as arsenic and magnesium. Optimum crush and grind size and power consumption will also be studied. The results will then be supplied to potential buyers of the ore and resulting concentrate for indicative payment terms.

Transitional Zone Sulphides

The Transitional Zone occurs from partial weathering of fresh sulphides near to the surface. Sulphide mineralogy at 5A is dominated by pyrite (iron sulphide) and violarite (nickel sulphide) as well as pyrrhotite and pentlandite. As the name suggests, the deposit mineralogy is transitioning from Oxide near surface to Fresh some 50m to 60m below surface, and its composition will vary (transition) with depth.

The composition of the Transitional Zone is important for metallurgical testwork. Whilst pyrite will float well through a traditional nickel circuit, violarite flotation can be inhibited by the surface properties of the mineral. A resulting, "traditionally floated" concentrate from Transition Zone feed could therefore be lower in nickel, impacting recovery.

Core from the Transition Zone will undergo testing to ascertain the level below surface where "traditional flotation" becomes profitable through improved nickel recovery, and this potential feed can then be included in the mining schedule to add to projected sales revenue.

Additional test material will be supplied to third parties or potential buyers of the Transitional Zone material prior to mining of the Fresh Zone . These companies operate processors using various leach technologies which can and are successfully treating Transitional and Oxide feeds in Western Australia. Deleterious elements do not impact recovery or nickel concentrate quality through these processors.

Successful testing of the 5A Transition and Oxide material may well lead to additional revenue to be realised over and above that gained by treating the Fresh Sulphides as defined in the DFS.

5A Scoping Study Update

Indicative offers from the recent asset sales process of the Spargoville Nickel Rights conducted by Estrella did not reach the threshold set by the Company whereby shareholders would receive fair value from the sale.

This deficit was heightened by the recent rise in the nickel price coupled with a more favourable exchange rate, a position that the Company estimates may be sustained for a significant period of time.

As a result, the 2019 5A Scoping Study was recently revisited by Estrella who have engaged a professional mining team to coordinate the generation of a mining reserve once the updated resource model is complete. The following work has already been completed:

- Open pit geotechnical assessment;
- Aerial digital survey; and,
- Initial environmental approval assessment.

Once a mining reserve is identified, the mining engineering team will complete the task of assembling the appropriate permits and approvals so that mining can recommence.

5B Nickel Deposit

The 5B Nickel Deposit is another Kambalda-style komatiite deposit similar to 5A with massive and matrix sulphides accumulating at the base of a lava channel. The deposit outcropped at surface and has been drilled to 340m vertical depth. The deposit is open below that depth (Figure 5).

The deposit was mined between 1975 and 1982 and again between 1992 and 1993 via an open pit (Figure 9), targeting the existing gold and nickel mineralisation. Approximately 14,000t of nickel was produced between the two mining campaigns.

A 600m long decline (120m vertical depth) was established post the open pit mining phase to allow drilling of the nickel and gold mineralisation from underground, yet no nickel was ever mined. The decline remains intact and accessible for refurbishment to allow mining activities to proceed.

A drilling program completed by Minotaur Exploration Ltd in 2014 (see ASX announcement MEP: 23 July 2014) confirmed historic nickel intercepts, with results including:

- 15m @ 1.41% Ni in hole SPRC001
- 16m @ 0.98% Ni in hole SPRC002
- 16m @ 1.82% Ni (including 6m @ 3.60% Ni) in hole SPRC003
- 24m @ 1.53% Ni (including 6m @ 3.08% Ni) in hole SPRC005

Mineral Resource estimates were completed on 5B by previous operators, but they were not completed to JORC Code 2012 reporting standards and therefore cannot be stated here.

There is a lack of survey control on the location of underground drill collars and drillhole deviation information. To rectify this, the decline would need to be dewatered and survey control re-established. A campaign of downhole surveying would follow for the deeper drillholes along with additional diamond drilling and metallurgical classification before a JORC 2012 compliant resource could be established.

Additional metallurgical work would need to be conducted to explore the potential of rejecting arsenic (associated with gold mineralisation) to keep a potential concentrate within smelting parameters. Alternatively, other processes, such as HPAL, may yield better nickel recovery whilst negating the deleterious effects of arsenic.

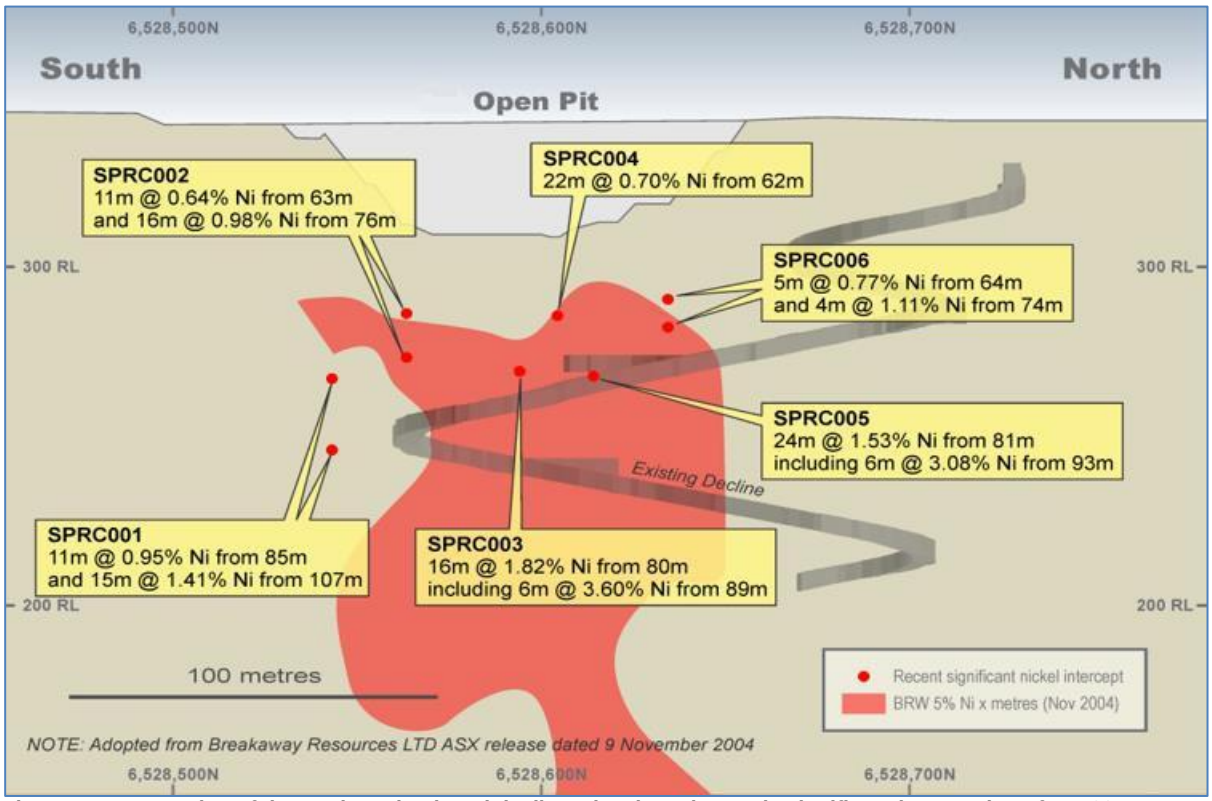

Figure 4: Long section of the 5B deposit, pit and decline, showing Minotaur's significant intersections from 2014.

5D Andrew's Nickel Deposit

The 5D Nickel Deposit is thought to be a westerly continuation of the 5A komatiite channel. The deposit is larger and more continuous than both 5A and 5B. The estimated pre-mining resource was around 18,000 tonnes of nickel metal at a grade of 2.48% Ni (Minotaur 2016) of which around 7,800 nickel tonnes were extracted. The last drive excavated at Andrew's 11 Level was 320m long, averaging 2m ore width at 3.04% nickel.

The deposit was mined via a 250m deep shaft (Figure 6) and previous work has identified several remnant pillars that were left behind, including the unmined Oxide Zone identified in drilling by Amalg Resources NL in 1999.

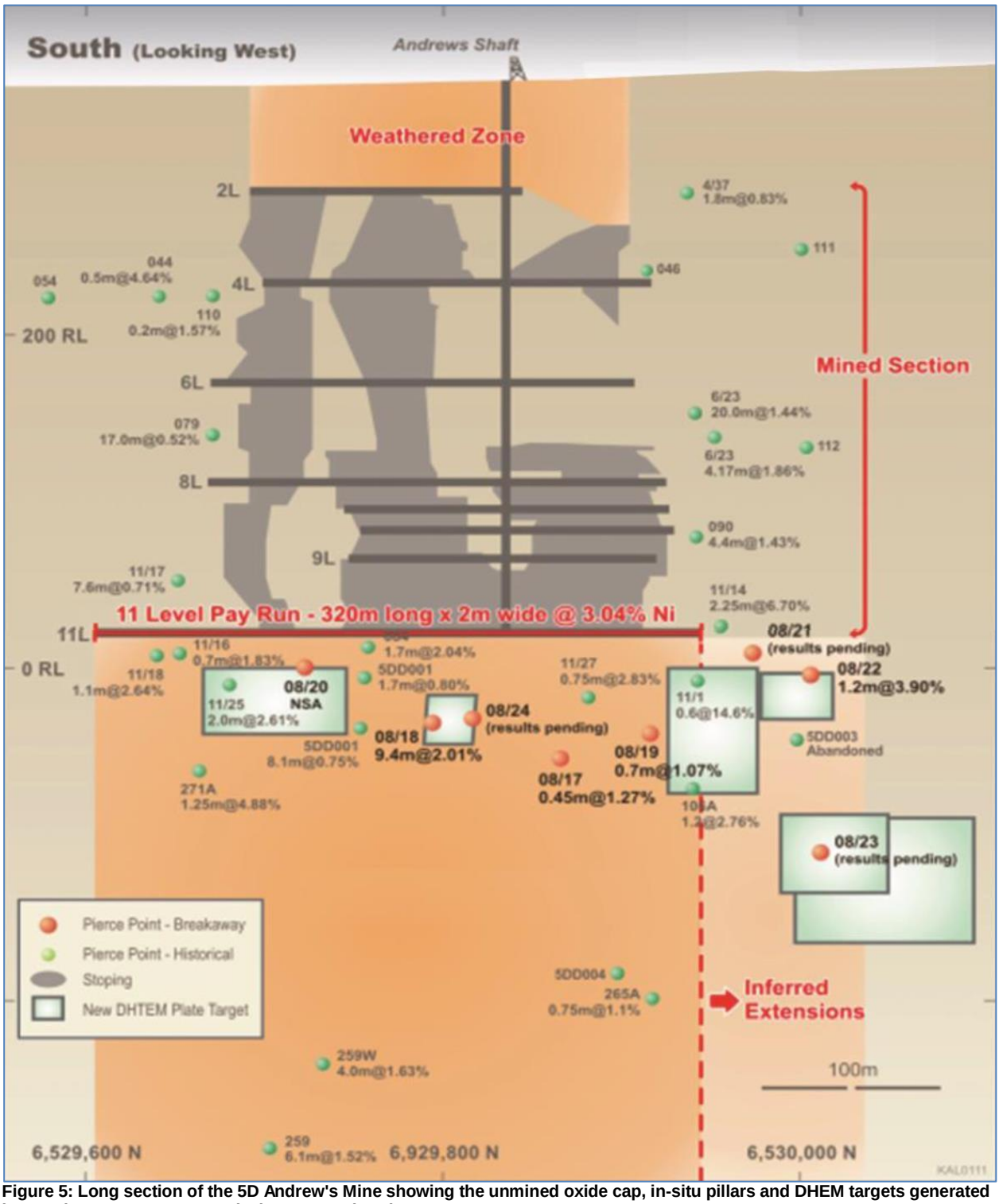

Figure 5: Long section of the 5D Andrew's Mine showing the unmined oxide cap, in-situ pillars and DHEM targets generated by Breakaway Resources and Minotaur Exploration

1A Nickel Deposit

This deposit is situated around 4km to the North of 5A, 5B and 5D on M15/703. It is another Kambalda-style channel deposit which has been structurally deformed, with at least three major, stacked thrusts dislocating mineralisation.

The deposit was mined between 1990 and 1992 via a 150m shaft and an internal decline down to 175m, seeing almost 4,300 nickel tonnes extracted at a grade of 3.8% Ni.

Remnant Inferred Resources have been calculated however they are not to JORC standards and so cannot be stated. Drill data shows good down-plunge intercepts close to the workings. However, the mineralisation

appears to break up shortly after on a fold nose and another thrust. Deeper intersections down to 550m below surface confirm the continuation of mineralisation at depth, meaning the deposit remains open.

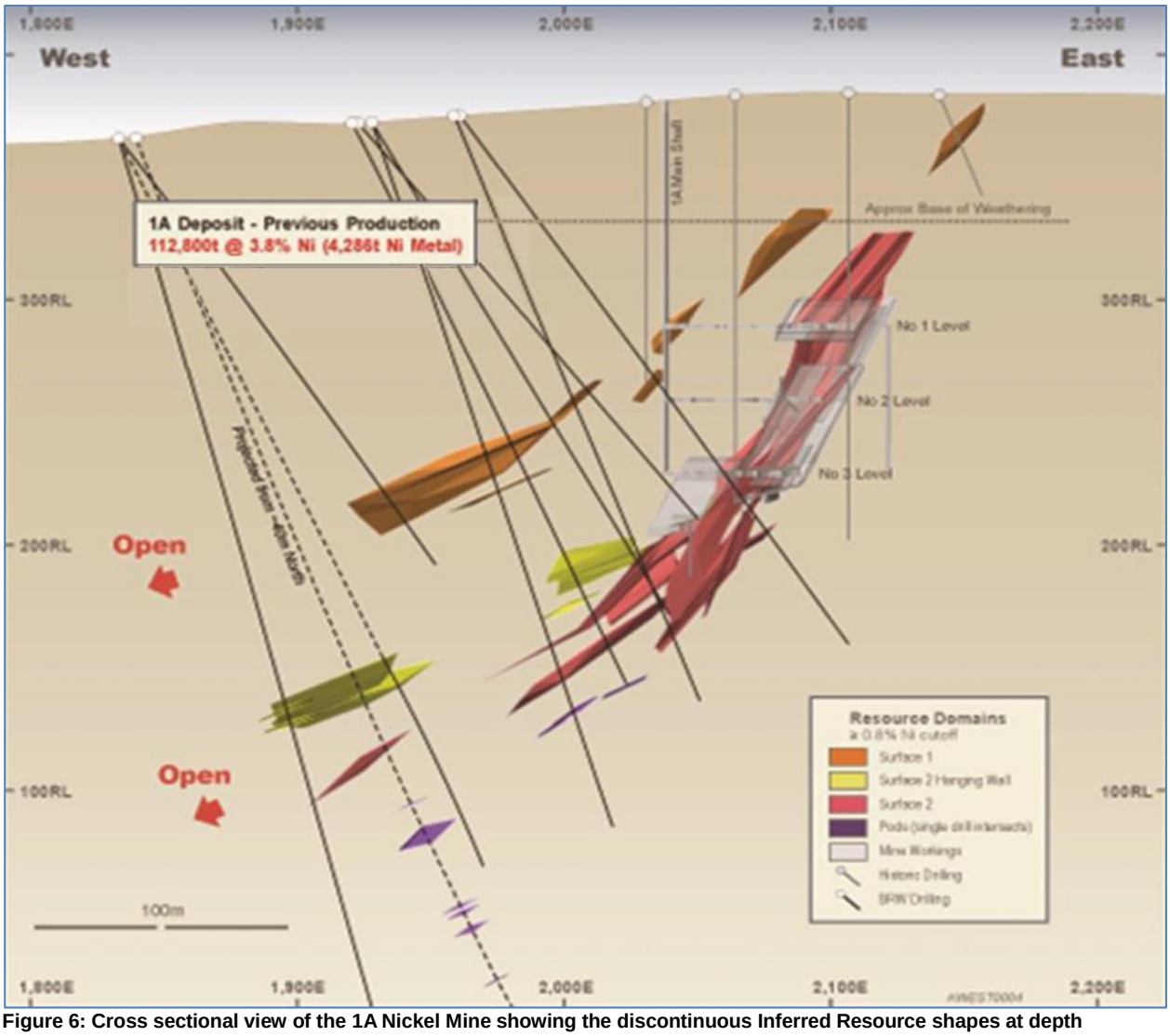

Figure 6: Cross sectional view of the 1A Nickel Mine showing the discontinuous Inferred Resource shapes at depth

Spargoville Development Plan

Considering favourable nickel prices and exchange rates are projected to continue, Estrella has elevated the priority of the Spargoville nickel project to run concurrently with exploration at the Carr Boyd Project. The Spargoville work plan developed by the Company consists of the following steps:

5A Nickel Deposit

1. Commence diamond drilling for metallurgical confirmation and potential expansion of the Fresh Sulphide JORC 2012 Resource of the 5A Nickel Mine.
2. Commence the Definitive Feasibility Study of the pit cut-back at 5A to mine and process the Transitional and Fresh Resource
3. Commence work and discussions on processing routes for the 5A Transitional and Oxide Resources
4. Submit Mining Approvals

5B Nickel Deposit

1. Commence Scoping Study on the viability of the remaining non-JORC Resource
2. Pending favourable results, drill test and acquire metallurgical samples for Transitional and Fresh mineralisation
3. Consider DFS level studies

5D Nickel Deposit

1. Compile or re-acquire data on the un-mined Oxide and Transitional mineralisation to JORC Resource standard
2. Seek processing routes for Oxide and Transitional material
3. Consider DFS level studies

1A Nickel Deposit – No work recommended at this time

The Company looks forward in providing further information as the various programs progress.

The Board has authorised for this announcement to be released to the ASX.

FURTHER INFORMATION CONTACT

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Competent Person Statement

The information in this announcement relating to Exploration Results is based on information compiled by Steve Warriner, who is the Exploration Manager of Estrella Resources, and a member of The Australasian Institute of Geoscientists. Mr. Warriner has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity 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 Resource and Ore Reserves". Mr. Warriner consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Compliance Statement

With reference to previously reported Exploration results and mineral resources, the company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Forward Looking Statements

This announcement contains certain forward looking statements which have not been based solely on historical facts but, rather, on ESR's current expectations about future events and on a number of assumptions which are subject to significant uncertainties and contingencies many of which are outside the control of ESR and its directors, officers and advisers.

Reliance on Third Party Information

Due care and attention has been taken in the preparation of this announcement. However, the information contained in this presentation (other than as specifically stated) has not been independently verified nor has it been audited. Accordingly, the company does not warrant or represent that the information contained in this presentation is accurate or complete. To the fullest extent permitted by law, no liability, however arising, will be accepted by ESR or its directors, officers or advisers, for the fairness, accuracy or completeness of the information contained in this announcement.

APPENDIX 1 JORC TABLE 1 - JORC CODE, 2012 EDITION – TABLE 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

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 down hole gamma sondes or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.	• The Spargoville landholding has been drilled by Diamond (surface and underground, 504 holes), RC (198 holes), RAB and Percussion (1514 holes) and Aircore (33), drilling both for nickel and gold. Drilling data exists for 3041 drill holes for 122051 metres in the tenement area. A total of 434 holes had one or more intercepts over 1% Ni. All of the holes were drilled by previous operators prior to Estrella Resources taking over the prospect in 2018. • Diamond holes were selectively sampled through the visible mineralised zones on a nominal 1m sample length, adjusted to geological and domain boundaries. Sample lengths vary from 0.03m to 3m. • Diamond core and RC sampling techniques conducted prior to 2005 are not known but are assumed to be industry standard at the time of collection. Pre-2005 data was compared to post-2005 data and the two datasets generally correlated well. From 2005 onwards, diamond core samples have been sampled by a combination of quarter core and half core cut samples, and a combination of BQ, NQ and HQ diameter. • From 2005 onwards RC drill holes were sampled by 1m riffle split composites. RC drilling was 5 ¼ inch in diameter.
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• From 2005 onwards sample representivity for diamond core was ensured by the sampling of an average length of 1m of core, which, depending on the company operating at the time was then cut to quarter or half, for laboratory analysis. RC sampling was riffle split from 1m composite bulk samples, producing a nominal 3kg – 5kg representative sample.
	• Aspects of the determination of mineralisation that are material to the Public Report.	• Sample lengths for diamond drilling range from 0.03 to 3m with the modal value approximately 1.0m. RC samples ranged from 4m in waste material and 1m in or near mineralisation

Criteria	JORC Code explanation	Commentary
	• 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 30g 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	• Nickel mineralisation consists of contact massive sulphides (pyrite, pyrrhotite, pentlandite, violarite, chalcopyrite) typically less than 1.5m thick, overlain by matrix sulphides and disseminated sulphides. At 5A the sulphides have been weathered to produce supergene sulphides of pyrite and violarite. • Most of the drilling, sampling and assaying was completed by Selcast Exploration and Amalg Resources. It is unknown how samples were collected, but it is assumed to be industry standard at the time. The data from this drilling compared well with drilling conducted post-2005 by Breakaway Resources and others. For post 2005 drilling, representative samples from RC and diamond drilling were collected and sent to accredited laboratories for analysis. Accredited laboratories in Kalgoorlie and Perth crushed and pulverised the samples in entirety and took a 50g pulp for analysis. • For post 2005 samples, nickel and multielement analysis was performed by 4 acid digest and a combination of ICP-MS and ICP-OES analysis techniques. Gold and PGEs were determined by a fire assay fusion, followed by aqua regia digest and atomic absorption spectrometer (AAS) finish. • Minor copper and cobalt occur in the nickel mineralisation along with fairly high arsenic levels.
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).	• The database used in the Mineral Resource for nickel is comprised of Diamond drilling samples (64), RC drilling samples (39) and unspecified drilling samples (231). • The majority of drilling was conducted by RC. Diamond drilling was used exclusively for deeper holes and underground drilling.
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.	• It is unknown whether core recoveries were recorded by previous operators. Core recoveries were recorded for all resource database diamond core collected by Titan Resources. All drilling activities were recorded on handwritten geotechnical logging sheets. Core recoveries are recorded in the database. Diamond core recoveries were close to 100%, where core recoveries were recorded. • RC samples recoveries or weights were not recorded. • No relationship has been established between sample recovery and reported grade.

Criteria	JORC Code explanation	Commentary
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.	• Detailed drill hole logs are available for the majority of the drilling. • Prior to 2005 it is unknown whether duplicates, standards and blanks inserted for QA/QC purposes were taken. Hard copy sample logging sheets were kept. This includes samples numbers for duplicates, standards and blanks taken for QA/QC purposes. All data are available for the work conducted Post 2005. • The logging is of a detailed nature and of sufficient detail to support the current Mineral Resource estimate categories. • The total length of drill intersections used in the nickel mineral resource is 255.79m.
Sub-sampling 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. • Quality control procedures adopted for all sub-sampling 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.	• From 2005 onwards core was halved or quartered, depending on which company and phase of work, by sawing before sampling. • From 2005 RC drilling was riffle split directly from the sample collection cyclone on the drilling rig. • From 2005 sample condition field to record moisture and sample recovery is included in the sampling log sheet and populates the assay table of the database. Unfortunately, only a very small percentage of the logs have captured this information, so no determination can be made about the quality of the RC samples. • From 2005 sample preparation is appropriate for RC and diamond drilling as per industry standard practices for managing RC samples and diamond core. • Prior to 2005 it is unknown whether quality control procedures have been used. From 2005 Quality control procedures included the inclusion of field duplicates, standard samples and blank samples into the sampling stream for laboratory analysis. Standards were placed every 30 samples with a combination of blank, low-grade and high-grade standards. Dependent on the geology a suitable was standard selected. Blank standards (OREAS22P) were generally placed after an ore zone and at the start of the hole sampling within each hole. Duplicate sampling was undertaken for the RC drilling for 4m composites. Further duplicates were taken from the RC drilling of the 1m samples at the discretion of the geologist. • Host rock for nickel mineralisation is mainly a serpentinite lens at the base of an ultramafic sequence. It is assumed that prior to 2005 sampling would have been appropriate for the style of mineralisation and from 2005 onwards it is appropriate.
Quality of assay data and	• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and	• From 2005 onwards quality control procedures included the inclusion of field duplicates, standard samples and blank samples into the

Criteria	JORC Code explanation	Commentary
laboratory tests	model, reading times, calibrations factors applied and their derivation, etc. • 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.	sampling stream for laboratory analysis. One standard, blank and field duplicate were inserted into the sample stream every 30 samples. These were offset through the sampling stream and placed in areas of interest i.e. high-grade standards and blanks in the mineralised zone where possible. The QAQC results are acceptable. • No umpire assaying has been documented. • No geophysical methods or hand-held XRF units have been used for determination of grades in the Mineral Resource estimate.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• Multiple intersections reported have been checked back to original logs and assay data.
	• The use of twinned holes.	• No twin holes have been drilled
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Drill hole data were sourced from digital sources and original hard-copy sampling and assay records, and imported into a central electronic database. Datashed software was used to validate and manage the data.
	• Discuss any adjustment to assay data.	• Assays were composited to 1m lengths and where necessary, top cuts applied for resource estimation. Only gold grades were cut to account for outliers in the populations.
Location of data points	• 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.	• Surface topography is derived from drill hole collars and the historical mine and dump pick-ups. Holes drilled by Titan Resources and as many historical holes as possible were picked up by RTDGPS by Spectrum Surveys in 2006. • Prior to 2005 it is assumed that the majority of the drillholes were downhole surveyed by a single shot tool and by collar measurement with a clinometer and compass. From 2005 of holes were down hole surveyed by a gyro.
	• Specification of the grid system used.	• Prior to 2005 original surveying was undertaken in Kambalda Nickel Operations Grid (KNO) and from 2005 in GDA94 grid.
	• Quality and adequacy of topographic control.	• Topographic control is considered reasonable but checks should be carried out
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• The Mineral Resource area has been drilled on a regular pattern and spacing. The average spacing is estimated to be approximately 20m by 10m within the Mineral Resource.
	• 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 data spacing and sampling is This is considered adequate to establish the geological and grade continuity required for the current Mineral Resource estimate.

Criteria	JORC Code explanation	Commentary
	• Whether sample compositing has been applied	• Diamond drill and RC hole samples were composited to 1.0 m down-hole intervals for resource modelling.
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. • 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 drill line and drill hole orientation is oriented as close as practicable to perpendicular to the orientation of the general mineralised orientation. • A majority of the drilling intersects the mineralisation at close to 90 degrees ensuring intersections are representative of true widths.
Sample security	• The measures taken to ensure sample security.	• Sample security measures are unknown for the older drilling. From 2005 onwards sample security measures adopted include the daily movement of core samples in trays to the Kalgoorlie Office, where core was kept in a secure area before cutting and sampling. • From 2005 onwards RC split samples were transported from site daily and delivered to the accredited laboratory depot in Kalgoorlie for preparation and analysis. • Industry standard sample security standards were followed for Titan Resources drilling. Reports and original log files indicate that a thorough process of logging, recording, sample storage and dispatch to labs was followed at the time of drilling.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• From 2005 onwards, sample data reviews have included an inspection and investigation of all available paper and digital geological logs to ensure correct entry into the drill hole database. • Visualisation of drilling data was completed in three dimensional software (Micromine and Surpac), and QA/QC sampling review using Maxwell Geoservices QAQCR Software was undertaken. Although these reviews are not definitive, they provide confidence in the general reliability of the data.

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.	• ESR has entered into agreements to hold a 100% interest in all nickel rights to the project. • There are no known impediments to operate in the area. • The area is held under M15/395 and M15/703.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• Anaconda explored the area for nickel between 1967 and 1972. These programs led to the discovery of nickel mineralisation. Anaconda

Criteria	JORC Code explanation	Commentary
		entered into a joint venture with Union-Minere between 1972 and 1975. • Metals Exploration acquired the Widgiemooltha leases between 1979 and 1983. They did not undertake any exploration activity during this time. • By 1983 Western Mining Corporation (WMC) had acquired the Widgiemooltha leases. WMC reviewed the project's gold potential in 1996 following a completed percussion and diamond drill program. They completed a technical evaluation of Munda as a gold / nickel resource in 1998. • Amalg Resources held the package from 1993 to 2002. • The tenements were acquired by Titan Resources in late 2003 as part of the acquisition of the Central Widgiemooltha tenements. • Breakaway Resources explored on the tenements until 2004. • Tychean held the tenure between 20013 and 2015 upon which the tenure was acquired by Maximus Resources.
Geology	• Deposit type, geological setting and style of mineralisation.	• All Widgiemooltha Dome nickel deposits are Kambalda-style deposits. 1A, 5a, 5B and 5D deposits are type 1A massive-matrix style. • Nickel mineralisation is located along the contact of basalt and ultramafic rocks. High grade nickel mineralisation is in the form of poddy contact shoots, with a broad disseminated component. The contact itself is quite disturbed as the area has been extensively deformed, with numerous footwall thrusts of thin packages of mineralised ultramafic. The hanging wall ultramafic unit varies from talc, tremolite, and serpentinised altered ultramafics. Disseminated nickel mineralisation is generally in serpentinised ultramafic. • The stratigraphy at a deposit scale consists of the Archaean Mt Edwards basalt overlain by the Widgiemooltha Komatiite. The ultramafic succession consists of a series of flows with intercalated sediments. It is approximately 250m thick and displays carbonate alteration and serpentinisation. The mineral assemblages are talc-antigorite-chlorite-magnetite and talc-magnesite-amphibolite-magnetite.
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	• All relevant drillhole information can be found in the Tables and sections within the announcement.

Criteria	JORC Code explanation	Commentary
	○ 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.	• No information is excluded.
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.	• Drill hole summary results are included in this release. The results reported include all intersections included in the estimation of the Mineral Resources. • A nominal cut off of 0.5% or 1.0% Ni was used to define the drill intersections composites of low-grade and high-grade respectively.
	• The assumptions used for any reporting of metal equivalent values should be clearly stated.	• No metal equivalents have been stated
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 (e.g. 'down hole length, true width not known').	• The drill line and drill hole orientation is oriented as close to 90 degrees to the orientation of the anticipated mineralised orientation as practicable. • The majority of the drilling intersects the mineralisation between 70 to 80 degrees.
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.	• Maps and sections with drill hole locations are included in the announcement.
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.	• All new drillhole information within this announcement is reported
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.	• Everything meaningful and material is disclosed in the body of the report. • Geological observations are included in the report. • There are no known potential deleterious or contaminating substances other than those stated in the report.
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas	• Further work has been recommended in the body of the announcement.

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	of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

Section 3 Estimation and Reporting of Mineral Resources

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.* • *Data validation procedures used.*	• The data base has been systematically audited by ESR geologists. • All drilling data has been verified as part of a continuous validation procedure. Once a drill hole is imported into the data base a report of the collar, down-hole survey, geology, and assay data are produced. This is then checked by a ESR geologist and any corrections are completed by the data base manager.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• A site visit was conducted by Shaun Searle of Ashmore during September 2019. Shaun inspected the deposit area, historical pit, drill chips and subcrop. During this time, notes and photos were taken. Discussions were held with site personnel regarding drilling and sampling procedures. No major issues were encountered. • A site visit was conducted, therefore not applicable.
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 confidence in the geological interpretation is considered to be good and is based on visual confirmation in the open pit and within drill hole intersections. • Geochemistry and geological logging has been used to assist identification of lithology and mineralisation. • The 5A deposit is characterised as a Kambalda style (komatiite hosted) nickel sulphide deposit. Nickel mineralised bodies commonly form as lenses of massive sulphide up to several metres thick within ultramafic rocks at or near the ultramafic / meta-basalt contact. A halo of disseminated, lower-grade, mineralisation often extends up to 20m width into the ultramafics. Infill drilling has supported and refined the model and the current interpretation is considered robust. • Observations from the open pit of mineralisation and host rocks; as well as infill drilling, confirm the geometry of the mineralisation. • Infill drilling has confirmed geological and grade continuity.
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 5A Mineral Resource area extends over a north-south strike length of 185m (from 6,530,105mN – 6,530,290mN), has a maximum width of 25m (357,905mE – 357,930mE) and includes the 130m vertical interval from 350mRL to 220mRL.
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 availability of check estimates, previous estimates and/or mine production records*	• Using parameters derived from modelled variograms, Ordinary Kriging (“OK”) was used to estimate average block grades in three passes using Surpac software. Linear grade estimation was deemed suitable for the 5A Mineral Resource due to the geological control on mineralisation. The extrapolation of the lodes along strike and down-dip has been limited to a distance of 10m and 15m respectively. Zones of extrapolation are classified as Inferred Mineral Resource.

Criteria	JORC Code explanation	Commentary
	and whether the Mineral Resource estimate takes appropriate account of such data. • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Open pit mining has previously occurred at the deposit. The 2019 5A Mineral Resource reports 35,000t at 2.23% nickel for 783t of contained nickel metal at a 0.75% nickel cut-off grade in the 5A mined pit. This compares to the estimated 34,560t at 2.36% nickel for 815t of contained nickel metal from the Amalg production figures. • It is assumed that the ore can be transported to third parties for processing, where ESR will receive payment for nickel metal with no additional credits. • Ni, Cu, Co, Pt, Pd, Fe, Mg, As and S were interpolated into the block model. Arsenic is the major deleterious element for the proposed processing option. • The parent block dimensions used were 10m NS by 5m EW by 5m vertical with sub-cells of 0.625m by 0.625m by 0.625m. The parent block size dimension was selected on the results obtained from Kriging Neighbourhood Analysis that suggested this was the optimal block size for the 5A dataset. • An orientated 'ellipsoid' search was used to select data and adjusted to account for the variations in lode orientations, however all other parameters were taken from the variography derived from Domains 15; and 1 and 101 combined. Up to three passes were used for each domain. First pass had a range of 35m, with a minimum of 6 samples. For the second pass, the range was extended to 60m, with a minimum of 4 samples. For the third pass, the range was extended to 100m, with a minimum of 2 samples. A maximum of 16 samples was used for each pass with a maximum of 4 samples per hole. • No assumptions were made on selective mining units. • Correlation analysis was conducted on the domains at 5A. • The mineralisation was constrained by wireframes prepared using a variety of cut-offs for the various sulphide mineralisation types. Disseminated sulphide was domained using a nominal 0.4% nickel cut-off, plus geological logging, matrix sulphide was domained using a nominal 1.0% nickel cut-off, plus geological logging; and semi-massive to massive sulphide mineralisation was domained using a 4.0% nickel cut-off, plus geological logging. • Statistical analysis was carried out on data from 8 domains. Following a review of the population histograms and log probability plots and noting the low coefficient of variation statistics, it was determined that the application of high grade cuts was not warranted. • Validation of the model included detailed visual validation, comparison of composite grades and block grades by northing and elevation and a nearest neighbour check estimate. Validation plots showed good correlation between the composite grades and the block model grades.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages and grades were estimated on a dry in situ basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The Statement of Mineral Resources has been constrained by the mineralisation

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		solids and reported above a cut-off grade of 0.5% nickel. The cut-off grade was estimated based on parameters derived from a cut-off grade estimation spreadsheet under the assumptions that the mineralisation would be treated by Third Parties and ESR would receive payment for the 5A material. Therefore, the 5A deposit has probable prospects for eventual economic extraction. Further geological, geotechnical, engineering and metallurgical studies are recommended to further define the nickel sulphide mineralisation.
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.*	• Ashmore has assumed that the deposit could be mined using open pit mining techniques. Previous open pit mining has occurred at the 5A deposit.
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.*	• A bulk RC dill chips sample from the 5A drilling program was delivered to Auralia Metallurgy Pty Ltd laboratory in Midvale, WA for a metallurgical test program aimed at establishing a flow sheet for processing the weathered ore. • The high degree of weathering has resulted in about 25% of the nickel being water soluble. The low pH necessitates uneconomical rates of neutralant consumption, but water washing and rinsing of the residual solids prior to flotation has given excellent results enabling a low MgO to iron ratio and arsenic concentrations well below the upper limit. The inclusion of the water-soluble nickel increases overall nickel recovery from 65% to around 90%. • Preliminary metal precipitation tests show that nickel and cobalt can be successfully separated from copper by the iron cementation process. This process enables high-purity nickel and cobalt recovery although the composite sample tested contains low cobalt concentration. • The iron cementation test shows that this process can be used to separate copper and arsenic from nickel and cobalt. This enables a copper-free nickel and cobalt precipitate to be produced. Such a precipitate is valued by some nickel processors, that cannot tolerate copper in their circuit. • This work lead to ESR commencing discussions with Third Parties about processing the 5A ore.. Testing of the 5A material at the Third Party processor indicates that more than 90% recovery of nickel can be achieved, with zero credits for additional metals such as copper, cobalt, platinum or palladium.
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*	• No assumptions have been made regarding environmental factors. ESR will work to mitigate environmental impacts as a result of any future mining or mineral processing.

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	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.	
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.*	• There were some historical core measurements obtained from the 5A deposit by Amalg and Breakaway, however the data was not available in a format to assess geospatially in 3D software. Ashmore notes the majority of measurements were obtained from the lower transitional mineralised zones and had an average of 3.43t/m^3. • A total of 337 pycnometer measurements were obtained from the five RC holes drilled by ESR during 2018. A total of 111 of these measurements were obtained from within the mineralisation wireframes. Ashmore utilised this data for analysis. • Pycnometer measurements usually overstate true density values of material, therefore Ashmore adjusted the measurements for application in the block model, by subtracting 10% from the pycnometer measurements. In addition, good correlation between the measurements and nickel grades were observed for the matrix and semi massive/massive mineralisation styles. • Good correlation between the measurements and nickel grades were observed for the semi massive/massive mineralisation styles, so regression equations were applied for this material. • Ashmore recommends that ESR obtain additional bulk density measurements for the various material types from core drilled at the deposit, where one measurement is obtained for each sampled assay interval. Ideally, regression equations are used to estimate down hole densities based on nickel grades where no measurements are available; these values are then interpolated into the block model.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie 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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The Mineral Resource estimate is reported here in compliance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' by the Joint Ore Reserves Committee (JORC). The Mineral Resource was classified as Indicated and Inferred Mineral Resource based on data quality, sample spacing, and lode continuity. The Indicated Mineral Resource was defined within areas of close spaced RC and DD drilling of less than 20m by 20m, and where the continuity and predictability of the lode positions was good. The Inferred Mineral Resource was assigned to areas where drill hole spacing was greater than 20m by 20m, where small isolated pods of mineralisation occur outside the main mineralised zones, and to geologically complex zones. • The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ

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		mineralisation. The definition of mineralised zones is based on high level geological understanding producing a robust model of mineralised domains. This model has been confirmed by infill drilling which supported the interpretation. Validation of the block model shows good correlation of the input data to the estimated grades. • The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• Internal audits have been completed by Ashmore which verified the technical inputs, methodology, parameters and results of the estimate.
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 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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The geometry and continuity has been adequately interpreted to reflect the applied level of Indicated and Inferred Mineral Resource. The data quality is good and the drill holes have detailed logs produced by qualified geologists. A recognised laboratory has been used for all analyses. • The Mineral Resource statement relates to global estimates of tonnes and grade. • The 2019 5A Mineral Resource reports 35,000t at 2.23% nickel for 783t of contained nickel metal at a 0.75% nickel cut-off grade in the 5A mined pit. This compares to the estimated 34,560t at 2.36% nickel for 815t of contained nickel metal from the Amalg production figures.