

ASX ANNOUNCEMENT

# Significant Massive Nickel Sulphide Discovery at Carr Boyd

# **HIGHLIGHTS**

- 2.9m of massive nickel-copper sulphide mineralisation (~true width) has been intersected at the southern end of the T5 Prospect in diamond core hole CBDD030 from 435.9m to 438.8m depth
- Massive sulphide zone is surrounded by a broader ~15m wide zone of vein, stringer, matrix and disseminated Ni-Cu sulphide mineralisation from 430.55m, with additional minor blebs and disseminated sulphides further downhole
- The presence of high-grade Ni and Cu mineralisation has been verified by site geologists using a pXRF gun and is by far the most extensive intersection away from the historic Carr Boyd Mine
- CBDD030 intersected the contact at a depth of 368m, was completely blind and is open in all directions providing a massive opportunity to drill out and expand this zone of mineralisation
- This is a significant breakthrough in the development of the T5 Prospect which has been discovered after almost five years of work by our team
- DHTEM is scheduled as soon as possible to survey this hole and further define the extent of this massive sulphide system
- Initial assay results for CBDD028 (159-204m) have been received for Ni-Cu-PGE sulphides intersected at T5 Prospect



Figure 1. Massive Ni-Cu bearing sulphides surrounded by a ~15m wide zone of vein, matrix, stringer and disseminated mineralisation in CBDD030 at the T5 Prospect, Carr Boyd Rocks Project (431.95m -441.3m shown).



Estrella Resources Limited (ASX: ESR) (Estrella or the Company) is excited to inform the market that a significant drill intersection of massive Ni-Cu ( $\pm$  PGE) bearing sulphides has been returned from CBDD030 which was drilled 300m south of the original T5 discovery zone at the Company's flagship Carr Boyd Project. The T5 Prospect is located 1.1km NE of the historic Carr Boyd mine and was identified in 2019 following RC drilling of a HP FLTEM anomaly<sup>\*</sup>.



Figure 2. Ni-Cu bearing massive sulphide zone in diamond drill hole CBDD030 drilled 300m south of the T5 Ni-Cu discovery zone (436.7m-437.6m shown).

**Chris Daws, CEO said** *"It is certainly an unprecedent time for all those involved with Estrella and the Carr Boyd Rocks Ni-Cu Project. Modern science, technology, belief, and persistence has led to this highly significant discovery which is now beginning to unlock the true potential of T5.* 

"The Board of Estrella recently focused all of our shareholder funds and efforts into supporting the Company's Flagship Carr Boyd Project. The exploration team comprising Geolithic Geological Services, Southern Geoscience and Topdrive Drillers have been instrumental in this discovery, spending the last 7 weeks on the ground setting up and drilling at T5. Previous geological input from respected individuals including Luke Marshall, Matt Painter, Dr. Martin Gole, Peter Hayden and others have given us the confidence to commit shareholder's funds into this venture. All the hard work has now delivered this outstanding result which confirms the confidence that the Company has had in the Carr Boyd Project.

"It was a bold move to drill deep holes well below the existing near surface drilling. Our work has resulted in this thick intersection of primary magmatic nickel sulphides, and Carr Boyd can now join an elite list of recent Western Australian nickel discoveries including the Golden Swan, Julimar and Mawson discoveries. The Company is still drilling our planned holes in the current program and our Phase IV HPMLTEM survey is also underway. I look forward to seeing what we next uncover."

<sup>\*</sup> Assay Results Confirm New Sulphide Nickel Discovery Zone at Carr Boyd Rocks - 8 July 2019



Diamond core hole CBDD030 was collared 300m south of the T5 zone (Figure 4), testing the Carr Boyd Layered Intrusions contact at depth, below and south of the previously identified mineralisation. The hole successfully intersected the basal contact of the layered mafic/ultramafic intrusion, returning a significant ~15m wide zone of sulphide mineralisation (Table 1) starting from 430.55m downhole, which contains a 2.9m thick core zone (~true width) of massive Ni-Cu sulphide mineralisation from 435.9m depth (Figures 1 & 2).

The sulphide zone forms unique magmatic nickel sulphide textures comprising pyrrhotite, pentlandite and chalcopyrite (Figure 3), with pXRF testing by site geologists confirming the high-grade nature of the Ni-Cu sulphides. Au+PGE elements are expected, as demonstrated by recent assay results from hole CBDD028 (Table 3).

Detailed logging of the core is currently in progress with cutting and sampling scheduled post showcasing the intersection in Kalgoorlie during the Diggers and Dealers Conference next week (12-14<sup>th</sup> October).



Figure 3. Unique magmatic sulphide texures showing breccia rip up clasts within the massive sulphide, interstitual sulphide/crystal intergrowth at the margin, and chalcopyrite segregation within the crystallised host gabbro. Coarse blebs of matrix sulphide are observed between the crystallising host rock (436.7m-441.1m shown).

Hole ID	mFrom	mTo	Width	Туре	Sulphides	<b>S%</b>	Comment
	430.55	431.60	1.05	Dissem	ро,ру,сру	2-5%	Weak sulphides
	431.60	431.70	0.10	Vein	po,py	70%	Remobilised
30	431.70	432.15	0.45	Blebby	po,py,pe	50%	Coarse blebs
00	432.15	432.35	0.20	Massive	po,pe	70%	Breccia Vein
DÖ	432.35	435.90	3.57	Dissem	ро,ру,сру	5-15%	Interstitial/dissem
GE	435.90	438.80	2.88	Massive	po,pe, cpy	80%	Primary Massive
	438.80	440.00	1.20	Matrix	po,pe,cpy	10%	Crystal intergrowths
	440.00	445.50	5.50	Dissem	po,py,cpy	5%	Dissem to blebby

# Table 1: Sulphide Intersection Summary

\*po=pyrrhotite, py=pyrite, cpy=chalcopyrite, pe=pentlandite

In relation to the disclosure of visual mineralisation, the Company cautions that visual estimates of sulphide and oxide material abundance should never be considered a proxy or substitute for laboratory analysis. Laboratory assay results are required to determine the widths and grade of the visible mineralisation reported in preliminary geological logging. The Company will update the market when laboratory analytical results become available.



The Company has completed 3 diamond core holes to date (Table 2) with the final hole (CBDD031) of the planned deep drill program now in progress. CBDD031 is collared 300m north of the T5 zone giving deep coverage over a 600m wide window along the intrusions basal contact.

Historical hole GD124 was drilled 140m south of CBDD030 (Figure 4), returning 1.83m @ 1.17% Ni at a vertical depth of 86m, providing the initial interest in this position of the basal contact. Hole GD140 was drilled above the position of CBDD030, also intersecting the intrusions contact near surface at a vertical depth of 100m (Figures 4 & 5). This hole returned an anomalous grade of 2.29m @ 0.8% Ni but was not followed up by previous explorers as follow up work was centered around GD124 to the south.

# In contrast, <u>CBDD030 intersected the contact at a depth of 368m, was completely blind and is open</u> in all directions (Figure 5). This provides massive opportunity to drill out and expand this zone of mineralisation.

DHTEM geophysical surveying is scheduled to be completed in this hole as soon as a crew is available and will further define the extent of this massive sulphide system. DHTEM has already been completed on the first two diamond holes CBDD028 & CBDD029, and with the pending completion of the final planned hole CBDD031, the results will assist Estrella in vectoring into the extents and source of this primary magmatic Ni-Cu sulphide mineralisation.

This is a significant breakthrough in the development of the T5 Prospect that was initially investigated in mid-2019 through drill testing of a High-Powered Fixed Loop TEM survey target located to the north of the historical intersections around GD124. Our current work is now beginning to unlock the real potential of the Carr Boyd Project.

Planning is now underway to rapidly expand the exploration program at Carr Boyd following this significant development which will include upgrading support infrastructure, increasing number of drilling rigs, personnel and support so that we can quickly determine the extent of this discovery.

Hole ID	Final Depth	Easting	Northing	Dip	Azimuth	Status		
CBDD0028	251.0m	367045	6673940	-60	090	Completed		
CBDD0029	603.8m	367000	6673940	-70	090	Completed		
CBDD0030	495.7m	367025	6673640	-65	090	Completed		
CBDD0031	~600m	366925	6674240	-65	090	In Progress		

# Table 2: Drill hole collar details





Figure 4. Drill hole plan showing ESR's recent RC and DD drill holes (blue trace) and historical holes >150m depth (grey trace). Nickel intersections are shown by the squares which are coloured by Width x Grade calculation.





Figure 5. Cross Section 6673640mN showing CBDD030 and shallow historical hole with interpreted geology and mineralised basal contact. Mineralisation is open in all directions with DHTEM planned to geophysically test the potential of this zone.

Assay results have been returned from the initial batch of samples taken from the first shallow diamond core hole CBDD028 which was drilled under the RC hole CBP042 (Figure 7). The core was sampled through the remobilised and disseminated sulphide zone as shown at Figure 6 and as previously reported<sup>†</sup>.

<sup>&</sup>lt;sup>+</sup> Sulphides Intersected at Carr Boyd Rocks Ni/Cu Project - 8 September 2020



Table 3 below highlights the mineralised intersections and associated anomalous elements within CBDD028 and Table 4 shows full list of assays for the relevant economic elements.

						0		
Hole ID	From	То	Width	Ni	Cu	Со	Ag	Au+Pt+Pd
				%	%	ppm	ppm	ppm
CBDD028	165.2m	169.0m	3.8m	0.48	0.31	255	2.60	0.634
Incl	165.2m	165.6m	0.4m	1.12	1.07	579	6.80	0.930
CBDD028	173.6m	174.0m	0.4m	0.33	0.28	208	1.3	0.144

#### Table 3: Significant Intersection Results above 0.3% Ni cut-off grade.

\*Downhole widths reported, true widths not fully establish.



Figure 6. Anomalous Ni-Cu-PGE bearing sulphides in diamond drill hole CBDD028 at the T5 Ni-Cu discovery zone (161m-169m shown).

Diamond drill hole CBDD028 was designed to test the Carr Boyd layered mafic-ultramafic intrusions contact zone ~25-30m down dip of the original RC hole CBP042 which intersected 8m @ 1.11% Ni & 0.36% Cu, including 4m @ 1.60% Ni & 0.31% Cu from the matrix sulphide zone<sup>‡</sup>.

The core hole was drilled to a depth of 251m and successful intersected the contact at 165.2m downhole depth. Semi-massive & stringer Ni sulphides (pyrrhotite-pentlandite) was intersected at a depth of 165.31m-165.37m downhole (Figures 6 & 7). Remobilised Cu sulphides (chalcopyrite) occur above, within and below this zone. Ni bearing matrix to disseminated style sulphides immediately followed and were intersected from 165.37m-166.81m downhole. This is a significant lead in understanding the nature of the basal contact and how it appears to be thinner and lower grade near surface (masking earlier discovery efforts), then thickening and being higher grade at depth. This provides wide open opportunities along the entire length of the basal contact at depth, below the historical near surface drilling.

<sup>&</sup>lt;sup>‡</sup> Assay Results Confirm New Sulphide Nickel Discovery Zone at Carr Boyd Rocks - 8 July 2019





Figure 7. Cross Section 6673940mN showing interpreted geology from RC hole CBP042 and recently completed diamond drill holes CBDD0028 & CBDD0029. These holes provided a deep platform to test the mineralised contact over a down dip length of 400m.



DownHole Transient Electro-Magnetic (DHTEM) was recently completed on holes CBDD0028 & CBDD029 by GEM Geophysics and modelled by Southern Geoscience. Modelling of the data from hole CBDD028 shows a clear mid to late channel inhole/offhole anomaly which is defined at ~160-170m downhole with the source being centered above and south of this hole (Figure 8). This conductor is clearly related to the known T5 conductor as tested by the earlier RC hole and by the reported sulphide intersection within this diamond hole.

The second diamond core hole CBDD029 was completed to a depth of 603.8m and was designed to provide a deep DHTEM platform hole which parallels the intrusions contact (Figure 8). A clear mid to late channel anomaly is defined between ~100-200m downhole with the source being sub-parallel to the hole with the lower edge being at ~200m downhole depth within this hole. This conductor is clearly related to the known upper T5 conductor as already tested. A localised moderate strength anomaly (~750-1250S) is apparent at ~365-425m downhole and is modelled to be sub-parallel. It has a size of ~10-15m with reasonable strike extent of >50m, positioned just west of hole and strongly north of the hole (Figure 8).

This may be the deeper northern extents of the mineralisation intersected in CBDD030 and will be further tested with the final planned hole CBDD031 which is now in progress. Further modelling is required once the DHTEM survey of the highly successful hole CBDD030 is completed which will combined with the results of the northern most hole CBDD031 to assist in vectoring towards the extent and source of the magmatic sulphides.



Figure 8. DHTEM results showing position of anomaly in CBDD029 (Light blue zone).

In addition, a geophysical crew has been mobilized to the project this week to complete High-Powered Moving Loop Transient Electro-Magnetic (HP MLTEM) at the north eastern part of the project covering POH, Watertank and Tektite Hill prospects (Figure 9). Field investigation of these prospects return encouraging finding and nickel-copper bearing gossanous rocks at surface with the geologists collecting rock chip samples from these sites and submitting them to ALS laboratories for assaying. Results are pending and will be reported along with the results of the HP MLTEM survey results.

The Company will continue to update shareholders as assay and DHTEM results are received and interpreted.





Figure 9. Previous HPEM stations on aeromagnetics covering the Central Zone and Target 5 area which is the current focus of drilling. The central box defines the new target area for the HPEM extension survey which covers the POH Zone and Tektite Hill Zone.

#### **Competent Person Statement**

The information in this announcement relating to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Neil Hutchison, who is a consultant to Estrella Resources, and a member of The Australasian Institute of Geoscientists. Mr. Hutchison 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. Hutchison consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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

#### FURTHER INFORMATION CONTACT

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ABOUT THE PROJECT AND THE CBLC



The Carr Boyd Nickel Project (CBNP) is a magmatic hosted sulphide system which comprises the Carr Boyd Layered Complex (CBLC or the Complex). The CBLC is in a Tier 1 jurisdiction approximately 80km north northeast of Kalgoorlie Western Australia. An all-weather haul road accessible by Estrella under a granted miscellaneous license connects the Project to the Goldfields Highway via Scotia. Estrella holds 259km<sup>2</sup> of contiguous tenure over the entire magmatic maficultramafic layered complex

The CBLC hosts the historic Carr Boyd Rocks nickel mine which was the first magmatic hosted style of nickel deposit discovered and mined in WA. It was discovered an the late 1960's and produced 202,110t of ore at an average grade of 1.43% Ni and 0.46% Cu between 1973-1977.

Location of Carr Boyd Project

Komatiites flows have been the main source of developed nickel sulphide mines in WA and have been explored extensively since the late 1960's. Due to their well understood geochemistry, formation, and high-grade sulphide enrichment process within defined channels, most of the studies and exploration programs in WA have focused on discovering this style of mineralisation. The Kambalda-Kalgoorlie-Leinster-Laverton Goldfields Region has been the main focus for komatiite exploration, with limited potential existing outside this region. Greenfields discoveries of komatiite nickel have all bar dried up in the Goldfields Region and its only deep brownfields exploration that is delivering new nickel deposits.

Elsewhere around the world, large scale magmatic nickel deposits are the norm, producing world-class deposits with long productive mine lives. In WA, magmatic nickel deposits occur scattered throughout the state, however, they have had a long and slow history of discovery, development and understanding. Its only in recent years, since the discovery of the Nova-Bollinger deposit (2012) in the Fraser Range (which had been historically explored for over 40yrs), that a string of magmatic nickel deposit have suddenly been discovered. As komatile sources dry up, focus and understanding around magmatic nickel deposits is starting to gain momentum, resulting in exploration companies looking at various mafic-ultramafic bodies which have had limited to no exploration completed over them to date. This is resulting in a new level of understanding in WA on the formation/deposition of nickel-copper sulphides within magmatic rocks, leading to a wave of new discoveries.

Interest in magmatic nickel-copper deposits have had a resurgence with the recent discoveries of magmatic hosted sulphide mineralisation at Legend Mining's (ASX:LEG) Rockford Project and Chalice Gold Mines (ASX:CHN) Julimar Projects. A "Voisey Bay" magmatic style model has not been adequately explored within the CBLC. This represents a compelling exploration target opportunity which the Company will continue to aggressively pursue.



#### Table 4. List of assay results from CBDD028 with selected relevant elements

Hole_ID	SampleID	mFrom	mTo	Interval	Ag	Co	Cu	Ni	S	Au	Pt	Pd	Au+Pt+Pd
					ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
CBDD028	ECB10001	159	160	1	<0.5	55	84	180	0.08	0.003	0.016	0.015	0.034
CBDD028	ECB10002	160	161	1	<0.5	55	106	139	0.09	0.003	0.013	0.017	0.033
CBDD028	ECB10003	161	162	1	<0.5	16	83	24	0.27	0.001	<0.005	0.003	0.004
CBDD028	ECB10004	162	163	1	<0.5	10	80	<1	0.33	0.002	<0.005	0.001	0.003
CBDD028	ECB10005	163	164	1	<0.5	14	414	17	0.73	0.02	<0.005	0.003	0.023
CBDD028	ECB10006	164	164.6	0.6	<0.5	33	64	57	0.07	0.012	0.009	0.01	0.031
CBDD028	ECB10007	164.6	165.2	0.6	<0.5	72	802	458	0.34	0.003	0.019	0.026	0.048
CBDD028	ECB10008	165.2	165.6	0.4	6.8	579	10700	11200	9.52	0.023	0.268	0.639	0.93
CBDD028	ECB10009	165.6	166.2	0.6	<0.5	383	752	7330	6.31	0.007	0.211	0.351	0.569
CBDD028	ECB10010	166.2	167	0.8	0.5	286	1605	5190	4.39	0.011	0.306	0.287	0.604
CBDD028	ECB10011	167	168	1	2.1	118	2030	2140	1.1	0.236	0.213	0.113	0.562
CBDD028	ECB10012	168	169	1	4.5	161	3630	3000	1.77	0.315	0.202	0.133	0.65
CBDD028	ECB10013	169	170	1	<0.5	85	160	1175	0.25	0.004	0.027	0.022	0.053
CBDD028	ECB10014	170	171	1	<0.5	83	93	1080	0.16	0.002	0.021	0.024	0.047
CBDD028	ECB10015	171	172	1	<0.5	84	301	1365	0.26	0.013	0.068	0.036	0.117
CBDD028	ECB10016	172	173	1	<0.5	80	248	1395	0.28	0.015	0.032	0.036	0.083
CBDD028	ECB10017	173	173.6	0.6	<0.5	131	705	2580	1.22	0.062	0.033	0.036	0.131
CBDD028	ECB10018	173.6	174	0.4	1.3	208	2780	3340	3.81	0.042	0.069	0.033	0.144
CBDD028	ECB10019	174	175	1	<0.5	41	112	352	0.17	0.001	0.007	0.008	0.016
CBDD028	ECB10020	175	176	1	<0.5	58	94	540	0.1	0.004	0.013	0.009	0.026
CBDD028	ECB10021	176	177	1	<0.5	62	104	606	0.1	0.007	0.014	0.011	0.032
CBDD028	ECB10022	177	178	1	<0.5	65	115	609	0.12	0.005	0.01	0.012	0.027
CBDD028	ECB10023	178	179	1	<0.5	65	79	599	0.09	0.004	0.013	0.011	0.028
CBDD028	ECB10024	179	180	1	<0.5	68	97	640	0.09	0.025	0.012	0.012	0.049
CBDD028	ECB10025	180	181	1	<0.5	63	114	604	0.1	0.006	0.013	0.012	0.031
CBDD028	ECB10026	181	182	1	<0.5	71	154	713	0.12	0.007	0.014	0.012	0.033
CBDD028	ECB10027	182	183	1	<0.5	68	104	660	0.05	0.006	0.014	0.011	0.031
CBDD028	ECB10028	183	184	1	<0.5	68	55	606	0.02	0.003	0.016	0.013	0.032
CBDD028	ECB10029	184	185	1	<0.5	69	89	693	0.02	0.009	0.025	0.019	0.053
CBDD028	ECB10030	185	186	1	<0.5	69	41	572	0.02	0.007	0.022	0.017	0.046
CBDD028	ECB10031	186	187	1	<0.5	72	97	725	0.02	0.009	0.022	0.02	0.051
CBDD028	ECB10032	187	188	1	<0.5	78	67	1035	0.02	0.012	0.041	0.033	0.086
CBDD028	ECB10033	188	189	1	<0.5	103	288	1365	0.43	0.008	0.037	0.033	0.078
CBDD028	ECB10034	189	190	1	<0.5	96	264	1145	0.47	0.005	0.03	0.027	0.062
CBDD028	ECB10035	190	190.5	0.5	<0.5	110	236	1250	0.39	0.003	0.04	0.037	0.08
CBDD028	ECB10036	190.5	191	0.5	<0.5	186	901	2670	1.12	0.016	0.045	0.044	0.105
CBDD028	ECB10037	191	192	1	<0.5	106	175	1495	0.36	0.001	0.033	0.026	0.06
CBDD028	ECB10038	192	193	1	<0.5	105	231	1545	0.45	0.004	0.039	0.034	0.077
CBDD028	ECB10039	193	194	1	<0.5	91	226	1290	0.39	0.004	0.03	0.026	0.06
CBDD028	ECB10040	194	195	1	<0.5	86	134	1045	0.13	0.009	0.023	0.023	0.055
CBDD028	ECB10041	195	196	1	<0.5	69	62	794	0.04	0.007	0.015	0.014	0.036
CBDD028	ECB10042	196	197	1	<0.5	82	285	1250	0.13	0.031	0.028	0.021	0.08
CBDD028	ECB10043	197	198	1	0.7	91	613	1005	0.27	0.011	0.02	0.017	0.048
CBDD028	ECB10044	198	199	1	<0.5	97	299	1435	0.8	0.006	0.06	0.029	0.095
CBDD028	ECB10045	199	199.5	0.5	<0.5	88	300	1050	0.81	0.005	0.038	0.027	0.07



Hole_ID	SampleID	mFrom	mTo	Interval	Ag	Co	Cu	Ni	S	Au	Pt	Pd	Au+Pt+Pd
					ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
CBDD028	ECB10046	199.5	200	0.5	<0.5	130	872	1300	1.7	0.004	0.03	0.026	0.06
CBDD028	ECB10047	200	201	1	<0.5	98	370	1175	0.85	0.002	0.028	0.028	0.058
CBDD028	ECB10048	201	202	1	<0.5	94	84	1005	0.2	0.006	0.02	0.019	0.045
CBDD028	ECB10049	202	203	1	<0.5	81	20	874	0.03	0.006	0.015	0.014	0.035
CBDD028	ECB10050	203	204	1	<0.5	76	61	762	0.03	0.007	0.028	0.017	0.052



# **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	<ul> <li>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.</li> </ul>	<ul> <li>DD core samples have been half cut with automatic core saw</li> <li>0.3m-1.1m samples are collected from the core trays as marked out by the supervising geologist</li> <li>A handheld XRF tool was used to verify the mineralisation with samples reporting &gt;0.3% Ni in disseminated zones and &gt;1% Ni in the matrix sulphide zones.</li> <li>XRF results have not been reported and are used as a logging/sampling verification tool only.</li> <li>No other measurement tools other than directional survey tools have been used in the holes.</li> </ul>
R	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	• Core is continuously cut on the same side of the orientation line and the same side is sampled to ensure the sample is representative and no bias is introduced.
	<ul> <li>Aspects of the determination of mineralisation that are material to the Public Report.</li> </ul>	<ul> <li>Determination of mineralisation has been based on geological logging and confirmation using a pXRF machine. Samples were dispatched for laboratory ulti- element analysis.</li> </ul>
	<ul> <li>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</li> </ul>	<ul> <li>Diamond Core drilling was used to obtain 3-6m length samples from the barrel which are then marked in one meter intervals based on the drillers core block measurement.</li> <li>Assay samples are selected based on geological logging boundaries or on the nominal meter marks.</li> <li>Collect samples weigh a nominal 2-3 kg (depending on sample recovery) was sent to lab and pulverised.</li> <li>Samples have been dispatched to a commercial laboratory in Perth for analysis</li> <li>Samples are being analysed using a 4 acid digest for ME-ICP for 33 elements and ore zone samples are also being tested for PGM-ICP testing for Au &amp; PGE elements</li> </ul>
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).	<ul> <li>Drilling was undertaken using NQ2 sized drill core.</li> <li>Hole was collar with mud rotary from surface, HQ rough cored to top of fresh rock then NQ2 cored to EOH.</li> </ul>



Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> <li>Whether core and chip samples have base peologically and grade and complexity and complexity.</li> </ul>	<ul> <li>Core recovery was recorded by the drill crew and verified by the geologist.</li> <li>RQD measurements were digitally recorded to ensure recovery details were captured.</li> <li>Sample recovery in both holes was high with negligible loss of recovery observed.</li> <li>Diamond core drilling is the highest standard and no relationship has been established between sample recovery and reported grade as the core is in very good condition.</li> <li>Detailed industry standard of collecting core in core trays, marking meter intervals ? drawing core or prioritized lines.</li> </ul>
	<ul> <li>been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>marking meter intervals &amp; drawing core orientation lines was undertaken</li> <li>Core trays were photographed wet and dry prior to sampling.</li> <li>Drill hole logs are recorded in Excel spread sheets and validated in Micromine Software as the drilling progressed.</li> <li>The entire length of both holes was logged.</li> </ul>
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Core is half cut using an automatic core saw to achieve a nominal 2-3kg split sample for laboratory submission</li> <li>The sample preparation technique is considered industry best standard practice</li> <li>No field duplicates have been collected in this program. Field duplicates will be collected once initial results are return and resampling of the mineralised zones is warranted.</li> <li>Sample sizes are appropriate to the grain size of the mineralisation.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>No handheld XRF results are reported however the tool was used to verify the mineralisation with reporting &gt;0.3% Ni in disseminated zones and &gt;1% Ni in the matrix sulphide zones.</li> </ul>
Verification of sampling	• The verification of significant intersections by either independent or alternative company personnel.	Results verified by Company CEO



Criteria	JORC Code explanation	Commentary
and <sub>.</sub>	The use of twinned holes.	Hole CBDD0028 is twinning hole CBP042
assaying	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>The data was collected and logged using Excel spreadsheets and validated using Micromine Software. The data will be loaded into an externally hosted and managed database and loaded by an independent consultant, before being validated and checked, then exported and send back to ESR for analysis.</li> </ul>
	• Discuss any adjustment to assay data.	• No adjustments have been made to the assay data other than length weighted averaging.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> </ul>	<ul> <li>The holes were pegged by Geolithic Geological Services using a hand held GPS <u>+</u> 3m</li> <li>The rig was setup over the nominated hole position and final GPS pickup occurred at the completion of the hole.</li> </ul>
$\left  \right\rangle$	Specification of the grid system used.	• MGA94_51
D	<ul> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Topography is relatively flat and is more than adequate given the early stage of the project. A #D drone ortho- photographic survey is planned the create a DTM of the project area.</li> </ul>
Data spacing	<ul> <li>Data spacing for reporting of Exploration Results.</li> </ul>	Refer to Cross Sections and Plans included
and distribution	<ul> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> </ul>	<ul> <li>Not applicable, no Mineral Resource is being stated.</li> </ul>
	<ul> <li>Whether sample compositing has been applied</li> </ul>	• No compositing has been applied. Intercepts are quoted as length weighted intervals.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	The drill line and drill hole orientation are oriented as close as possible to normal the interpreted MLEM target.
Sample security	• The measures taken to ensure sample security.	• Samples are in the possession of Geolithic personnel from field collection to laboratory submission.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>No audits or reviews have been conducted for this release given the very small size of the dataset.</li> </ul>



# Section 2 Reporting of Exploration Results

oportion )

(Criteria listed in	the preceding section also apply to this s	ection.)
Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>Carr Boyd Nickel Pty Ltd (a wholly owned subsidiary of ESR) holds a 100% interest in the nickel and base metal rights to the project.</li> <li>There are no known impediments to operate in the area.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The Carr Boyd Rocks deposit was discovered by Great Boulder Mines, in a joint venture with North Kalgurli Ltd in 1968. The deposit was mined between 1972 and 1975, during which time they explored for additional breccia pipe occurrences near the mine.</li> <li>WMC acquired Great Boulder Mines Ltd in 1975, briefly reopening the mine in 1977 before closing it permanently shortly thereafter due to a collapse in the nickel price. The mine had produced 210,000t at 1.44% Ni and 0.46% Cu before its closure.</li> <li>From 1968 Pacminex Pty Ltd held most of the ground over the CBLC outside of the immediate mine area. Between 1968 and 1971 they conducted extensive exploration programs searching for large basal contact and/or stratabound Ni-Cu deposits. It was during this time that most of the disseminated and cloud sulphide occurrences such as those at Tregurtha, West Tregurtha and Gossan Hill were discovered.</li> <li>Defiance Mining acquired the regional tenements from Pacminex in 1987 and focused on exploration for PGE deposits between 1987 and 1990. In 1990 Defiance purchased the Carr Boyd Rocks mine from WMC and switched focus to the mine area between 1990 and 2001, leaving many PGE targets untested.</li> <li>From 1990 Defiance dewatered the mine to conduct testwork and feasibility studies on the remnant mineralisation. Metallurgical testwork, Mineral Resource estimations, and scoping studies were completed. Around 1996 the focus shifted again to regional exploration for large tonnage basal contact deposits.</li> <li>In 2001 Titan Resources Ltd (Titan) acquired the project and recommenced economic evaluations of the remnant material at Carr Boyd Rocks before embarking on another regional exploration program focusing on the basal contact. An aeromagnetic survey, airborne EM reprocessing, and several programs of RAB and RC drilling were completed.</li> <li>From 2005 Yilgarn Mining entered a JV with Titan and continued with some regional exploration, but focused most attention in and around the Carr Boyd Rocks</li></ul>



Criteria J	IORC Code explanation	Commentary
		<ul><li>commitments, before selling the project to Apollo Phoenix Resources in 2016.</li><li>Apollo sold the project to ESR in 2018.</li></ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul> <li>The Carr Boyd project lies within the Achaean Yilgarn Craton in a 700km belt of elongate deformed and folded mafic, ultramafic rocks and volcanic sediments intruded by granitoids which is referred to as the Norseman-Wiluna Belt. The belt has been divided into several geological distinct terranes, with the project area lying at the northern end of the Gindalbie terrane (Swager, 1996).</li> <li>The geology of the Carr Boyd area is dominated by the Carr Boyd layered mafic-ultramafic intrusive complex (CBLC). This layered intrusive covers an area of 17 km by 7km and has intruded into an Achaean Greenstone/Granite succession. The CBLC is comprised of a basal sequence of dunites, which are overlain by peridotites / pyroxenites and above that by gabbros. The intrusion has been interpreted to have been tilted to the east with the geometry of the intrusive further complicated by regional deformation and folding. The sequence has been metamorphosed to upper greenschist to lower amphibolite facies.</li> <li>Several distinctive styles of Ni and Ni-Cu mineralisation have been identified within the CBLC. At the Carr Boyd Rocks Nickel Mine Ni-Cu mineralisation is hosted within several 20 - 60m diameter brecciated pipe-like bodies that appear to be discordant to the magmatic stratigraphy. Mineralisation is hosted by a matrix of sulphides (pyrrhotite, pentlandite, pyrite and chalcopyrite) within brecciated Bronzite and altered country rock clasts.</li> <li>Stratiform Ni-Cu-PGE mineralisation has been identified at several locations within the basal parts of the complex and at shallower stratigraphic levels of the complex. The presence of Ni-Cu-PGE mineralisation within multiple stratigraphic positions and of several unique styles of mineralisation highlights the potential of the CBLC for hosting a substantial Ni-Cu deposit.</li> <li>The Company is not aware of any significant cobalt exploration being completed in the area.</li> </ul>
Drill hole •	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill boles:	<ul> <li>All relevant drillhole information can be found in Table 1 of the announcement.</li> </ul>
	<ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	
	<ul> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> </ul>	



	Criteria	JORC Code explanation	Commentary
		<ul> <li>hole length.</li> <li>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.</li> </ul>	No information is excluded.
	Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	<ul> <li>Intersections are reported on a nominal 0.3% Ni or 0.1% Cu cut-off with length weighted intervals.</li> <li>All intercepted are reported using length weighted intervals to balance with short higher grade lengths.</li> </ul>
$\subseteq$	D	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No metal equivalents are used in this announcement.</li> </ul>
	Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known')</li> </ul>	<ul> <li>The drill line and drill hole orientation in relation to mineralisation orientation is perpendicular to the MLEM plate and the geological contact targeted.</li> <li>True width cannot be fully determined at this stage as the dip of the contact is not planar or fully controlled due to lack of drilling. The intersection in CBDD030 is close to true width as the contacts are near perpendicular to the core axis.</li> </ul>
	Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Appropriate maps, sections and tables are included in the body of the Report.
	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.	<ul> <li>All new drillholes within this announcement are reported in Table 1</li> <li>Major economic elements only are reported in Table 3 due to width of table being impractical to print. All other elements are for geochemical purposes only.</li> </ul>
	Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results;	<ul> <li>Everything meaningful and material is disclosed in the body of the report.</li> <li>Geological observations are included in the report.</li> <li>No bulk samples, metallurgical, bulk density, groundwater, geotechnical and/or rock characteristics test were carried</li> </ul>



Criteria	JORC Code explanation	Commentary
	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.	<ul> <li>out.</li> <li>There are no known potential deleterious or contaminating substances.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Continued deep diamond drilling is underway and DHTEM geophysical testing of the drill holes will commence soon.</li> <li>Surface HPEM to the NE of the project is currently being scheduled to commence.</li> <li>Further RC/DD drilling will be planned.</li> </ul>