



# ESSENTIAL METALS

for a sustainable future

## ASX Code: ESS

### Corporate Profile

Shares on issue: 200,817,300

Cash: \$6.2m (31 Mar 2021)

Debt: Nil

### KEY PROJECTS

**LITHIUM** Pioneer Dome

**GOLD** Golden Ridge

**GOLD** Juglah Dome

### Joint Ventures (ESS %)

1 x lithium project (51%)

2 x nickel projects (20-25%)\*

4 x gold projects (25-30%)\*

\* Free carried to a decision to mine

### Corporate Directory

#### Non-Executive Chairman

Craig McGown

#### Non-Executive Directors

Paul Payne

Warren Hallam

#### Managing Director

Timothy Spencer

#### CFO & Company Secretary

Carl Travaglini

#### Exploration Manager

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### Investor Relations

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08 July 2021

## Air-core drilling at Golden Ridge intersects numerous new zones of gold mineralisation

Drilling at the Skandia, Maximus and AC75 prospects confirms gold mineralisation and identifies prospective underexplored areas

### HIGHLIGHTS

- All assays have now been received from the 92-hole/6,080m Air-Core (AC) drill programme across three prospects (Skandia, Maximus and AC75).
- Skandia** (25 AC holes) results include:
  - 8m @ 1.01 g/t Au from 96m** including **3m @ 2.45g/t Au** (hole GRA0454); and
  - 12m @ 0.50 g/t Au** from 60m (hole GRA0388)
- Maximus** (26 AC holes) results include:
  - 3m @ 3.0 g/t Au** from 30m including 1m @ 6.07g/t Au (hole GRA0375); and
  - 5m @ 0.75 g/t Au** from 57m (hole GRA0369); and
  - 3m @ 0.89g/t Au** from 24m and **6m @ 0.17g/t Au** from 33m (hole GRA0368)
- AC75** (41 AC holes) results include:
  - 12m @ 0.49 g/t Au** from 51m including 3m @ 1.01 g/t Au (hole GRA0415); and
  - 9m @ 0.26 g/t Au** from 54m (hole GRA0451)

Essential Metals Managing Director, Tim Spencer, said: "This first pass air-core drilling tested for gold mineralisation in undrilled areas and the results were better than expected with anomalous gold intersected at all three prospects.

"The results support the overall gold exploration model at Golden Ridge where there is potential for large scale Boorara (ASX:HRZ) style mineralisation as well as deposits like the higher grade Golden Ridge Mine nearby."



## GOLDEN RIDGE GOLD PROJECT (ESS: 100% Au)

The Golden Ridge Project is located 20km southeast of Kalgoorlie and is highly prospective for gold and nickel mineralisation. The project lies within the well-endowed Menzies-Boorara Shear Zone that hosts the New Boddington, Paddington, Boorara and Golden Ridge Deposits (the latter two are owned by Horizon Minerals Limited – ASX:HRZ). Exploration at the Project by previous owners had identified multiple highly prospective gold and nickel targets.

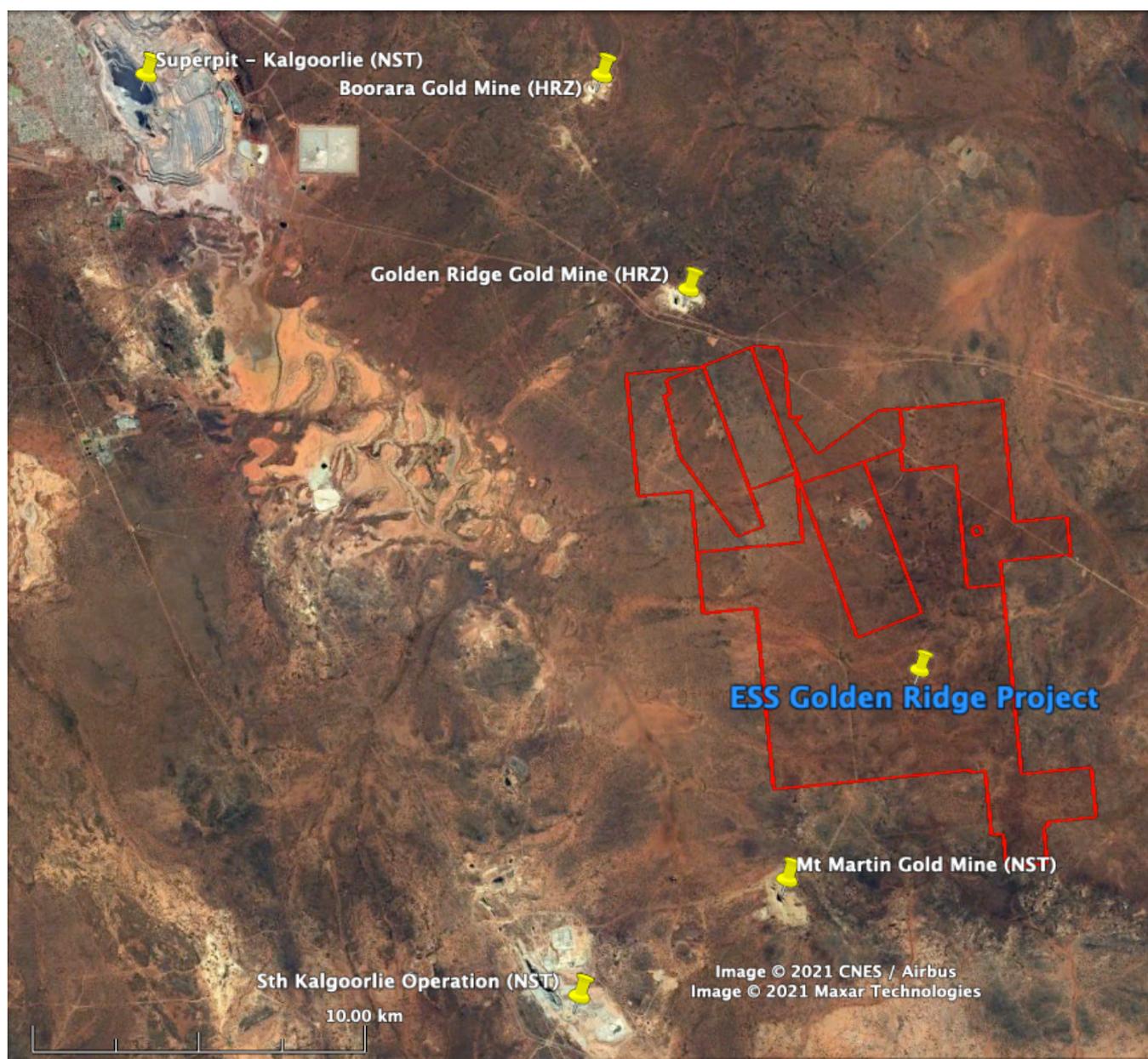


Figure 1 – Location of the Golden Ridge Gold Project



## DRILL PROGRAMME

Three of these gold targets (AC75, Skandia and Maximus) were identified to have coincident magnetic breaks, dislocations of lithological units and medium to large scale soil anomalies with potential to host >100koz. gold deposits. These targets were either previously not tested or were poorly tested.

Drilling was designed to determine the source of the soil anomalism, to gain a greater understanding of the geology and to identify favourable features to support the presence of significant gold mineralisation.

The Air-Core (AC) drill programme was completed in May with 92 holes drilled for a total of 6,080m. Table 1 below provides a breakdown of number of holes and metres drilled by prospect.

**Table 1 – Number of holes and total metres drilled by prospect**

Prospect	No. holes drilled	Drill metres
Skandia	25	1,712
Maximus	26	1,853
AC75	41	2,515
<b>Total</b>	<b>92</b>	<b>6,080</b>

## SKANDIA PROSPECT

AC drilling at the Skandia Prospect tested a 600m strike length of gold, arsenic and molybdenum in-soil anomalism that is coincident with favourable aeromagnetic features and minor outcropping feldspar-phyrlic porphyry lithologies, see Figure 3. The AC drilling did not intersect significant porphyry lithologies but has highlighted a thick shale/siltstone sediment unit in between two ultramafic units with moderate quartz brecciation and sulphidation observed in EOH chips. The most significant results from this drilling are listed below and shown in Figure 3:

- **8m @ 1.01 g/t Au** from 96m including 3m @ 2.45g/t Au (hole GRA0454); and
- **12m @ 0.50 g/t Au** from 60m (hole GRA0388)

Results from the current programme are encouraging and suggest potential for significant gold mineralisation, especially to the west and along the interpreted strike of mineralisation intersected in GRA0454. The target is 3km south and along strike of the Golden Ridge Gold Deposit (ASX:HRZ) and coincident with a large >20ppb Au soil anomaly with peak values to 174ppb Au. The best intercepts from previous drilling (see Table 3 for hole details) include:

- 20m @ 0.62 g/t Au from 38m including 8m @ 1.16g/t Au (GOC1322); and
- 4m @ 0.38 g/t Au from 12m (hole ABR0435); and
- 4m @ 0.32 g/t Au from 52m – to End of Hole (hole ABR0433); and
- 2m @ 0.25 g/t Au from 75m (hole GOD0401); and
- 1m @ 0.48 g/t Au from 53m (hole GOD0404)

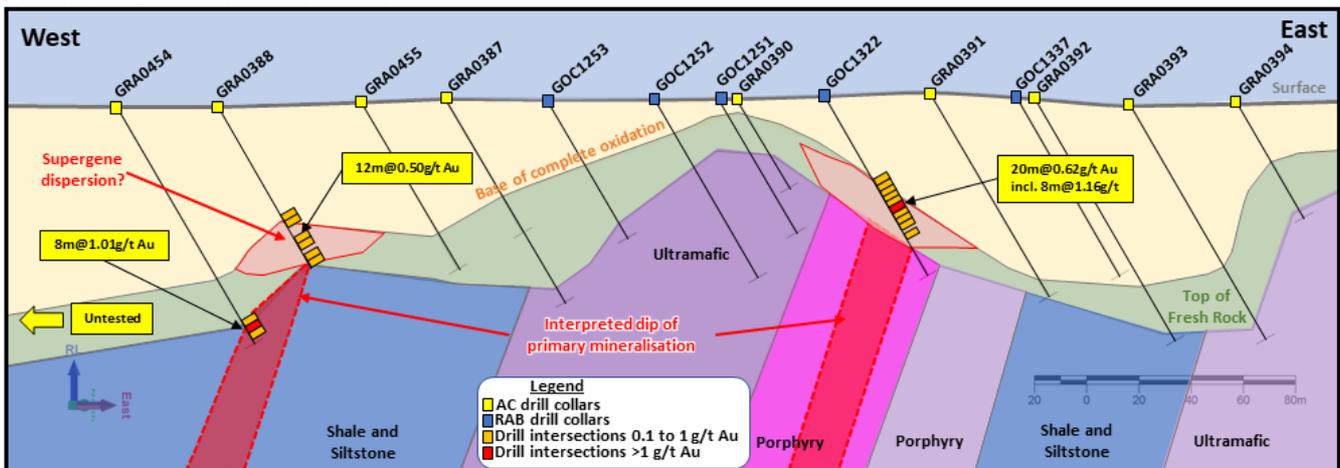


Figure 2 - Cross-section through the middle line of Skandia AC drilling with the interpreted mineralised primary structures, supergene dispersion and bedrock lithologies. Note: west of section is prospective untested sediment

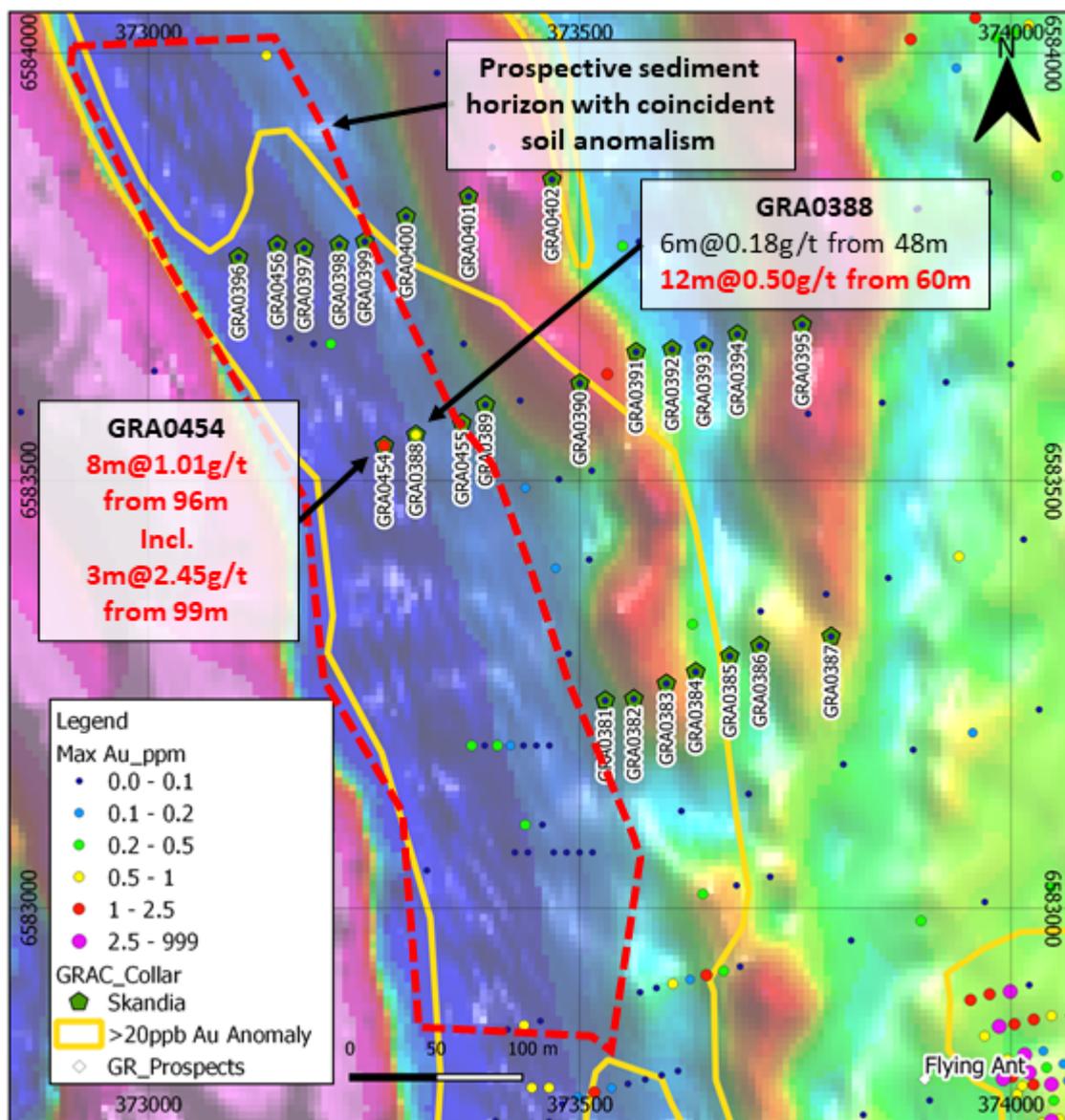


Figure 3 - Location of the Skandia AC drilling (green pentagons), prospective interpreted sediment horizon (red dashed area), maximum Au (ppm) in drilling (coloured as per the legend) and area of >20ppb Au soil anomaly (yellow polygon).

## MAXIMUS PROSPECT

AC drilling at the Maximus prospect tested a 600m strike length of interpreted north-west south-east trending structures in an area of coincident >20ppb Au-in-soils anomalism, see Figure 4. Samples taken from mullock heaps of the old Maximus workings that are located in the vicinity GRA0369 (Figure 4) returned gold values up to 14.89g/t Au (13 mullock samples returned an average of 1.68g/t Au). This mineralised zone is interpreted to be parallel to the Flying Ant trend.

The best AC drill results returned are as follows:

- 3m @ 3.0 g/t Au from 30m including 1m @ 6.07g/t Au (hole GRA0375); and
- 5m @ 0.75 g/t Au from 57m (hole GRA0369); and
- 3m @ 0.89 g/t Au from 24m and 6m @ 0.17g/t Au (hole GRA0368)

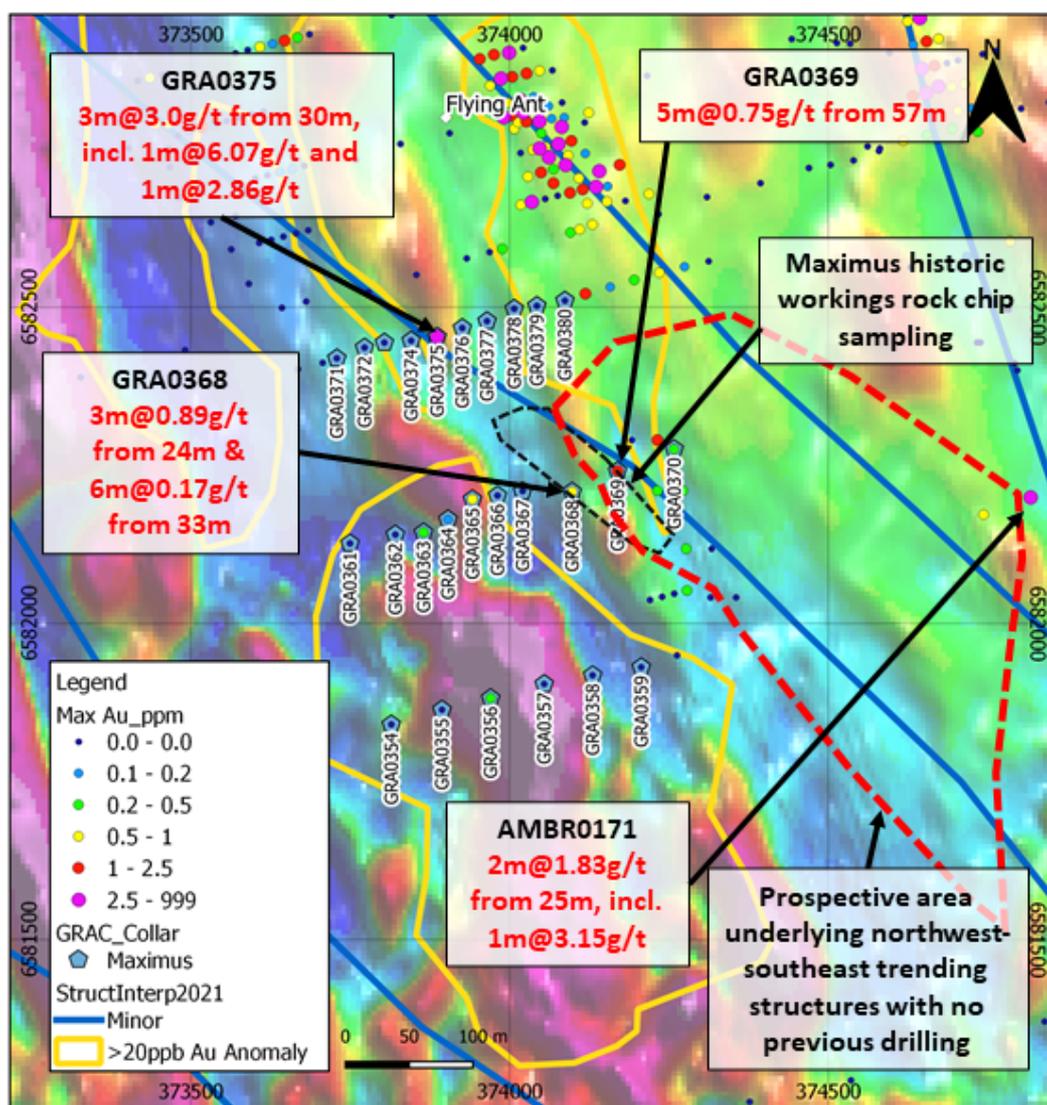


Figure 4 - Location of the Maximus AC drilling (blue pentagons), maximum Au (ppm) from drilling (coloured as per the legend) and area of >20ppb Au-in-soil anomalism (yellow polygon), prospective area to the northeast of AC drilling (red dashed shape), interpreted northwest trending structures (blue lines) and area of Maximus workings (black dashed outline).



The anomalous zones intersected correlate with intervals of massive or brecciated quartz veining hosted in siltstone or adjacent ultramafic or within ferruginous upper saprolite. An interpreted north-west south-east trending structure is coincident with anomalous intercepts and importantly there has been no previous drilling over the 1km long strike length of this structure to the south-east.

Previous drilling (see Table 3 for hole details) adjacent to the Maximus workings and proximal to the interpreted structures returned intercepts of:

- 2m @ 1.83 g/t Au from 25m including 1m @ 3.15g/t Au (hole AMBR0171); and
- 2m @ 0.38 g/t Au from 43m (hole AMBR0172); and
- 4m @ 0.43 g/t Au from 68m including 1m @ 1.06 g/t Au (hole GOD0250); and
- 2m @ 0.27 g/t Au from 69m (hole GOD0248)

### AC75 PROSPECT

AC drilling at the AC75 prospect tested a 650m long zone of north-south oriented, medium to large scale >20ppb Au gold-in-soil anomalism, in an area of minimal previous exploration activities – see Figure 5.

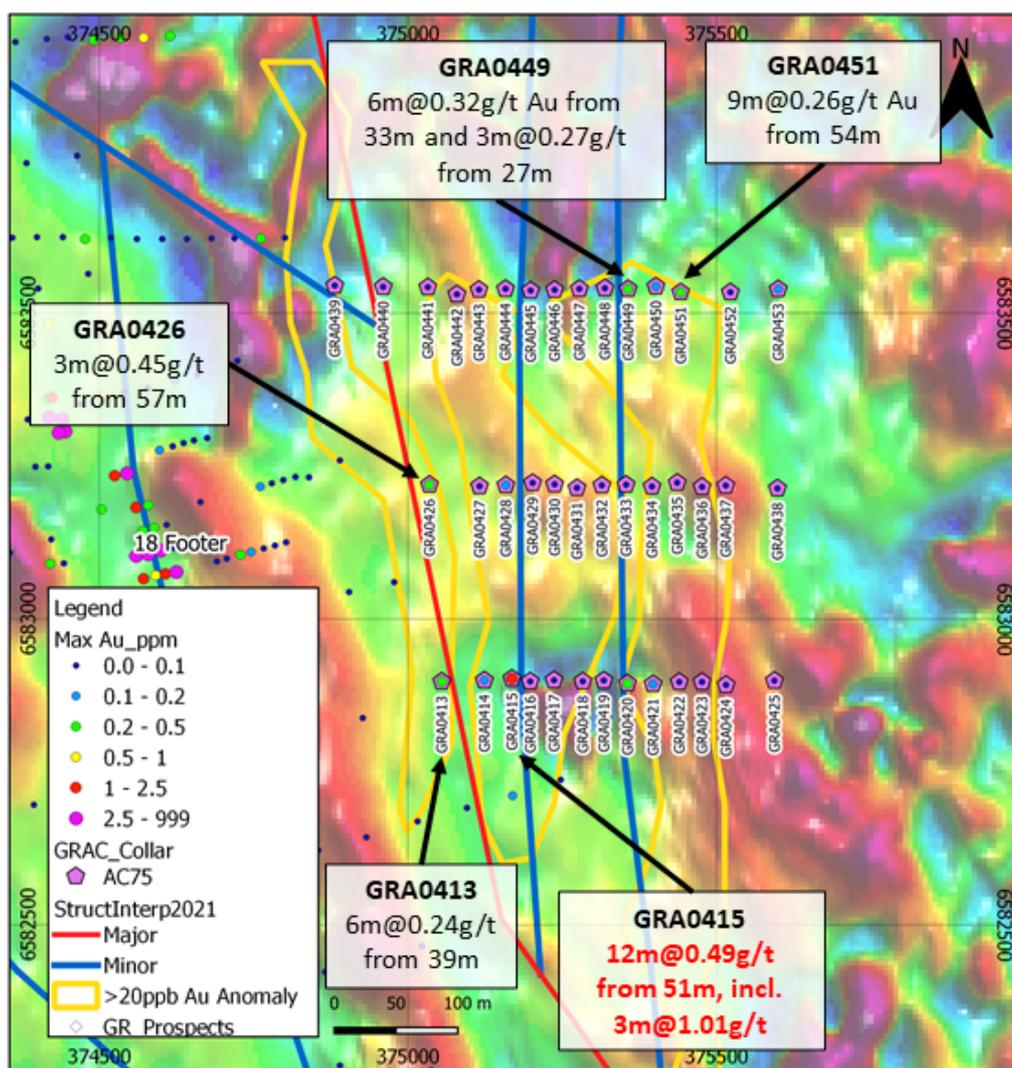


Figure 5 - Location of the AC75 AC drilling (pink pentagons), maximum Au (ppm) in drilling, area of >20ppb Au soil anomalism (yellow polygons) and interpreted structures from aeromagnetic (blue lines)

Drilling intersected basalt and ultramafic lithologies with minor bands of chert and shale. The mineralisation intersected correlates with a roughly north-south oriented band of weakly brecciated shale and chert, interpreted as a narrow interflow sedimentary unit. Further interpretive work is required to determine the future exploration activities, if warranted.

The best results of the program are as follows:

- **12m @ 0.49 g/t Au from 51m** including **3m @ 1.01 g/t Au** (hole GRA0415); and
- **9m @ 0.26 g/t Au** from 54m (hole GRA0451); and
- **6m @ 0.32 g/t Au** from 33m (hole GRA0449); and
- **6m @ 0.24 g/t Au** from 39m (hole GRA0413)

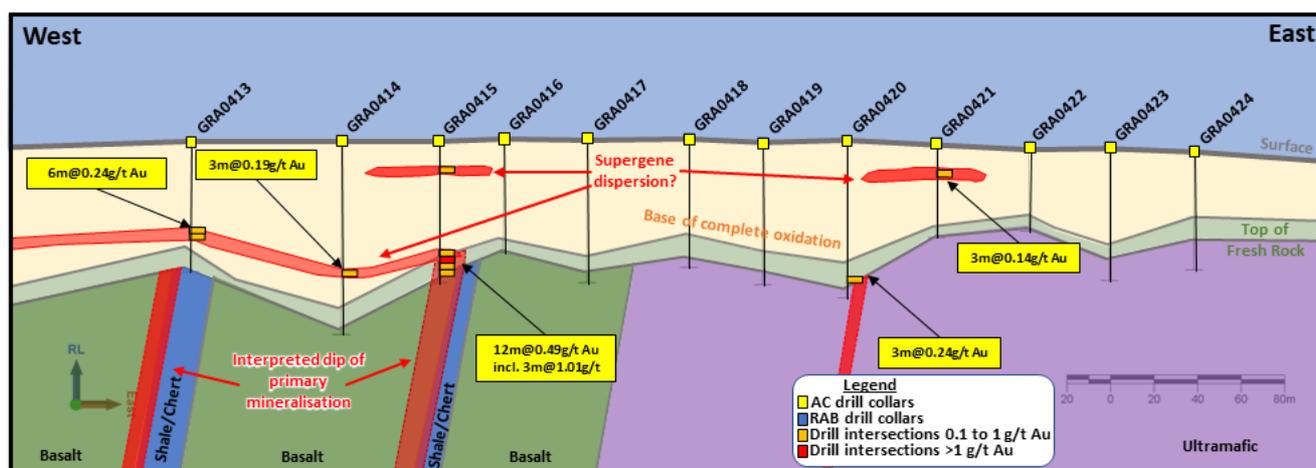


Figure 6 - Cross-section through the southern line of AC75 AC drilling with the interpreted mineralised primary structures, supergene dispersion and bedrock lithologies

## NEXT STEPS

During the September quarter the following steps will be undertaken with follow up and infill drilling expected to take place in the December quarter:

- Resample composite samples >0.1g/t Au for individual metre samples.
- Complete a detailed interpretation of the results and formulate the next phase of exploration.
- Infill soil programme over priority targets.
- Field checking and geological mapping of remaining priority gold targets.

*This ASX release has been approved by the Board of Directors.*

### For further information:

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## ABOUT ESSENTIAL METALS LIMITED

Essential Metals is a well-funded and active explorer focused on key global demand-driven commodities, focussed on the creation of shareholder wealth through exploration and project development. The Company operates **three strategically located lithium and gold projects** in Western Australia.

### 100% OWNED AND MANAGED PROJECTS:

- **LITHIUM:** The **Pioneer Dome Lithium Project** is highly prospective for lithium-caesium-tantalum (LCT) mineral systems and includes the **Dome North Lithium Mineral Resource** of 11.2 million tonnes @ 1.21% lithium (Li<sub>2</sub>O).
- **GOLD:** The **Juglah Dome Project** is located 60km east-south-east of Kalgoorlie and is considered to be highly prospective for gold and has potential for VHMS style polymetallic deposits.
- **GOLD:** The **Golden Ridge Project** is located ~20km south-east of Kalgoorlie, WA. Our activities are focussed on reappraising known prospects as well as identifying new areas within the large land tenure.

### JOINT VENTURE INTERESTS:

- **LITHIUM:** The Company holds a 51% Project interest in the **Mavis Lake** Project, Ontario, Canada where drilling has intersected spodumene.
- **GOLD:** The **Acra** Project is near Kalgoorlie. Northern Star Resources Limited (ASX:NST) has earned a 75% Project Interest and continues to fully fund exploration programmes until approval of a Mining Proposal by DMIRS is received with Essential Metals holding a 25% interest.
- **GOLD:** The **Kangan** Project is in the West Pilbara and part of a joint venture with Novo Resources Corp (TSXV:NVO) and Sumitomo Corporation (TYO:8053), who will jointly fund 100% of gold exploration programmes until a decision to mine is made, with Essential Metals holding a 30% interest.
- **GOLD:** The **Balagundi** Project is subject to a farmin & JV agreement where Black Cat Syndicate Limited (ASX:BC8) is earning a 75% interest in the Project located at Bulong, near Kalgoorlie. Black Cat will then fully fund gold exploration programmes until a decision to mine is made, with Essential Metals retaining a 25% interest.
- **GOLD:** The Company holds a 25% free-carried interest (20% for nickel rights) in the **Larkinville** Project near Kambalda, WA, with Maximus Resources Ltd (ASX:MXR).
- **NICKEL:** The nickel mineral rights on the **Blair-Golden Ridge** Project, which includes the suspended Blair Nickel Sulphide Mine, are subject to a Farmin/Joint Venture with Crest Investment Group, a nickel exploration specialist which is earning up to a 75% interest. The Company will retain a 25% free-carried interest up to a decision to mine.
- **NICKEL:** The Company holds a 20% free-carried interest (nickel only) in the **Wattle Dam** project near Kambalda, WA, with Maximus Resources Ltd (ASX:MXR).

**Forward Looking Statement**

This announcement may contain forward-looking statements which involve a number of risks and uncertainties. These forward looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.

**Exploration Work - Competent Person Statement**

Mr Andrew Dunn (MAIG), Exploration Manager who is employed full-time by Essential Metals Limited, compiled the technical aspects of this Report. Mr Dunn is eligible to receive equity-based securities in Essential Metals Limited under the Company's employee incentive schemes. Mr Dunn is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to this style of mineralization and type of deposit under consideration and to the activity that is being reported on to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Dunn consents to the inclusion in the report of the matters in the form and context in which it appears.



**Table 2: Significant results from Golden Ridge AC drilling**

Prospect	Hole_ID	GDA94 z51 East	GDA94 z51 North	RL	Hole Depth (m)	Azimuth	Dip	Incl.	From (m)	To (m)	Downhole Width (m)	Au (g/t)
Maximus	GRA0354	373815	6581840	345	83	70	-60					NSA
Maximus	GRA0355	373894	6581863	343	59	70	-60					NSA
<b>Maximus</b>	<b>GRA0356</b>	<b>373970</b>	<b>6581881</b>	<b>352</b>	<b>64</b>	<b>70</b>	<b>-60</b>		<b>33</b>	<b>39</b>	<b>6</b>	<b>0.17</b>
Maximus	GRA0357	374055	6581904	345	26	70	-60					NSA
Maximus	GRA0358	374130	6581918	345	69	70	-60					NSA
Maximus	GRA0359	374207	6581931	358	96	70	-60					NSA
Maximus	GRA0361	373750	6582126	350	108	70	-60					NSA
Maximus	GRA0362	373821	6582140	350	86	70	-60					NSA
<b>Maximus</b>	<b>GRA0363</b>	<b>373865</b>	<b>6582144</b>	<b>348</b>	<b>77</b>	<b>70</b>	<b>-60</b>		<b>0</b>	<b>3</b>	<b>3</b>	<b>0.14</b>
									<b>45</b>	<b>48</b>	<b>3</b>	<b>0.32</b>
									<b>56</b>	<b>60</b>	<b>4</b>	<b>0.26</b>
<b>Maximus</b>	<b>GRA0364</b>	<b>373904</b>	<b>6582164</b>	<b>351</b>	<b>34</b>	<b>70</b>	<b>-60</b>		<b>0</b>	<b>3</b>	<b>3</b>	<b>0.11</b>
<b>Maximus</b>	<b>GRA0365</b>	<b>373942</b>	<b>6582196</b>	<b>358</b>	<b>74</b>	<b>70</b>	<b>-60</b>		<b>43</b>	<b>46</b>	<b>3</b>	<b>0.39</b>
Maximus	GRA0366	373981	6582202	358	80	70	-60					NSA
Maximus	GRA0367	374021	6582209	355	57	70	-60					NSA
<b>Maximus</b>	<b>GRA0368</b>	<b>374098</b>	<b>6582208</b>	<b>355</b>	<b>77</b>	<b>70</b>	<b>-60</b>		<b>24</b>	<b>27</b>	<b>3</b>	<b>0.89</b>
									<b>33</b>	<b>39</b>	<b>6</b>	<b>0.17</b>
									<b>45</b>	<b>46</b>	<b>1</b>	<b>0.19</b>
<b>Maximus</b>	<b>GRA0369</b>	<b>374170</b>	<b>6582241</b>	<b>369</b>	<b>98</b>	<b>70</b>	<b>-60</b>		<b>57</b>	<b>62</b>	<b>5</b>	<b>0.75</b>
								incl	<b>61</b>	<b>62</b>	<b>1</b>	<b>2.29</b>
<b>Maximus</b>	<b>GRA0370</b>	<b>374258</b>	<b>6582275</b>	<b>356</b>	<b>47</b>	<b>70</b>	<b>-60</b>		<b>33</b>	<b>36</b>	<b>3</b>	<b>0.22</b>
Maximus	GRA0371	373729	6582419	357	82	70	-60					NSA
Maximus	GRA0372	373773	6582436	358	64	70	-60					NSA
Maximus	GRA0373	373804	6582444	355	85	70	-60					NSA
Maximus	GRA0374	373846	6582447	351	41	70	-60					NSA
<b>Maximus</b>	<b>GRA0375</b>	<b>373887</b>	<b>6582453</b>	<b>351</b>	<b>109</b>	<b>70</b>	<b>-60</b>		<b>30</b>	<b>33</b>	<b>3</b>	<b>3.00</b>
								incl	<b>30</b>	<b>33</b>	<b>3</b>	<b>3.00</b>
								with	<b>32</b>	<b>33</b>	<b>1</b>	<b>6.07</b>
Maximus	GRA0376	373926	6582467	353	77	70	-60					NSA
Maximus	GRA0377	373965	6582478	357	72	70	-60					NSA
Maximus	GRA0378	374008	6582497	343	67	70	-60					NSA
Maximus	GRA0379	374043	6582502	348	31	70	-60					NSA
Maximus	GRA0380	374087	6582510	357	90	70	-60					NSA
Skandia	GRA0381	373530	6583243	360	54	70	-60					NSA
Skandia	GRA0382	373563	6583244	363	47	70	-60					NSA
Skandia	GRA0383	373601	6583262	360	57	70	-60					NSA
Skandia	GRA0384	373635	6583276	367	59	70	-60					NSA
Skandia	GRA0385	373674	6583295	359	59	70	-60					NSA
Skandia	GRA0386	373709	6583307	363	51	70	-60					NSA
<b>Skandia</b>	<b>GRA0387</b>	<b>373792</b>	<b>6583317</b>	<b>364</b>	<b>77</b>	<b>70</b>	<b>-60</b>		<b>76</b>	<b>77</b>	<b>1</b>	<b>0.10</b>



Prospect	Hole_ID	GDA94 z51 East	GDA94 z51 North	RL	Hole Depth (m)	Azimuth	Dip	Incl.	From (m)	To (m)	Downhole Width (m)	Au (g/t)
Skandia	GRA0388	373310	6583553	354	72	70	-60		48	54	6	0.18
									60	72	12	0.50
Skandia	GRA0389	373391	6583589	371	91	70	-60					NSA
Skandia	GRA0390	373500	6583614	359	40	70	-60					NSA
Skandia	GRA0391	373566	6583650	365	91	70	-60					NSA
Skandia	GRA0392	373607	6583653	366	108	70	-60					NSA
Skandia	GRA0393	373644	6583658	362	105	70	-60					NSA
Skandia	GRA0394	373683	6583671	370	52	70	-60					NSA
Skandia	GRA0395	373758	6583682	365	48	70	-60					NSA
Skandia	GRA0396	373104	6583761	369	54	70	-60					NSA
Skandia	GRA0397	373181	6583772	372	86	70	-60					NSA
Skandia	GRA0398	373221	6583776	377	88	70	-60					NSA
Skandia	GRA0399	373251	6583779	378	38	70	-60					NSA
Skandia	GRA0400	373299	6583809	380	60	70	-60					NSA
Skandia	GRA0401	373371	6583832	376	45	70	-60					NSA
Skandia	GRA0402	373468	6583852	369	75	70	-60					NSA
AC75	GRA0413	375055	6582898	364	60	0	-90		39	45	6	0.24
AC75	GRA0414	375124	6582899	362	90	0	-90		60	63	3	0.19
AC75	GRA0415	375169	6582902	366	66	0	-90		12	15	3	0.10
									51	63	12	0.49
								incl	57	60	3	1.01
AC75	GRA0416	375199	6582898	373	53	0	-90					NSA
AC75	GRA0417	375237	6582900	373	67	0	-90					NSA
AC75	GRA0418	375284	6582898	369	60	0	-90					NSA
AC75	GRA0419	375318	6582899	357	66	0	-90					NSA
AC75	GRA0420	375356	6582894	360	73	0	-90		63	66	3	0.24
AC75	GRA0421	375398	6582893	363	44	0	-90		12	15	3	0.14
AC75	GRA0422	375440	6582897	356	39	0	-90					NSA
AC75	GRA0423	375477	6582897	359	62	0	-90					NSA
AC75	GRA0424	375516	6582892	360	55	0	-90					NSA
AC75	GRA0425	375594	6582899	357	20	0	-90					NSA
AC75	GRA0426	375035	6583219	356	100	0	-90		57	60	3	0.45
AC75	GRA0427	375116	6583217	360	76	0	-90					NSA
AC75	GRA0428	375159	6583219	360	81	0	-90		54	60	6	0.17
AC75	GRA0429	375202	6583222	362	54	0	-90					NSA
AC75	GRA0430	375238	6583220	363	61	0	-90					NSA
AC75	GRA0431	375274	6583214	361	36	0	-90					NSA
AC75	GRA0432	375315	6583218	358	32	0	-90					NSA
AC75	GRA0433	375354	6583219	356	31	0	-90					NSA
AC75	GRA0434	375396	6583216	362	27	0	-90					NSA
AC75	GRA0435	375437	6583223	360	33	0	-90					NSA
AC75	GRA0436	375477	6583216	353	22	0	-90					NSA



Prospect	Hole_ID	GDA94 z51 East	GDA94 z51 North	RL	Hole Depth (m)	Azimuth	Dip	Incl.	From (m)	To (m)	Downhole Width (m)	Au (g/t)
AC75	GRA0437	375516	6583218	355	13	0	-90					NSA
AC75	GRA0438	375599	6583213	355	55	0	-90					NSA
AC75	GRA0439	374882	6583545	365	100	0	-90					NSA
AC75	GRA0440	374960	6583543	365	105	0	-90					NSA
AC75	GRA0441	375033	6583542	365	96	0	-90					NSA
AC75	GRA0442	375080	6583531	365	60	0	-90					NSA
AC75	GRA0443	375115	6583538	363	50	0	-90					NSA
AC75	GRA0444	375158	6583539	363	45	0	-90					NSA
AC75	GRA0445	375199	6583537	365	47	0	-90					NSA
AC75	GRA0446	375238	6583538	364	68	0	-90					NSA
AC75	GRA0447	375278	6583539	362	58	0	-90					NSA
AC75	GRA0448	375320	6583541	362	62	0	-90					NSA
<b>AC75</b>	<b>GRA0449</b>	<b>375357</b>	<b>6583539</b>	<b>362</b>	<b>56</b>	<b>0</b>	<b>-90</b>		<b>27</b>	<b>30</b>	<b>3</b>	<b>0.27</b>
									<b>33</b>	<b>39</b>	<b>6</b>	<b>0.32</b>
AC75	GRA0450	375402	6583543	357	106	0	-90		84	93	9	0.15
AC75	GRA0451	375442	6583534	356	89	0	-90		54	63	9	0.26
AC75	GRA0452	375523	6583534	357	93	0	-90					NSA
AC75	GRA0453	375601	6583539	354	104	0	-90		93	96	3	0.11
Skandia	GRA0454	373274	6583541	364	106	70	-60		96	104	8	1.01
								incl	99	102	3	2.45
Skandia	GRA0455	373364	6583567	367	75	70	-60					NSA
Skandia	GRA0456	373149	6583776	373	74	70	-60					NSA

- Results are based upon three metre composites and available returned one metre samples.
- NSA= No significant assays. Intersections calculated using 0.1g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres of internal dilution. The 'Including' portion of intersections are calculated using 1.0g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres internal dilution. The 'With Intersections' are calculated using 5.0g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres internal dilution.



**Table 3: Selected significant results from past drilling**

Drill Type	Hole_ID	GDA94 z51 East	GDA94 z51 North	RL	Hole Depth (m)	Azimuth	Dip	Incl.	From (m)	To (m)	Downhole Width (m)	Au (g/t)
Perc	GOC1322	373532	6583624	345	80	75	-60		38	58	20	0.62
								Incl.	48	58	8	1.16
RAB	ABR0433	373375	6583190	370	56	90	-60		52	56	4	0.32
RAB	ABR0435	373405	6583190	370	32	90	-60		12	16	4	0.38
RAB	AMBR0171	374818	6582199	363	68	75	-60		25	27		1.83
								Incl.	26	27	1	3.15
RAB	AMBR0172	374744	6582172	363	104	75	-60		43	45	2	0.38
RC	GOD0248	374307	6582237	360	80	270	-60		69	71	2	0.27
RC	GOD0250	374267	6582317		84	270	-60		68	69	1	1.06
RC	GOD0401	373212	6583660	367	82	90	-60		75	77	2	0.25
RC	GOD0404	373437	6583097	367	82	90	-60		53	54	1	0.48

- NSA= No significant assays. Intersections calculated using 0.1g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres of internal dilution. The Including portion of intersections are calculated using 0.5g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres internal dilution. RAB = Rotary Air Blast, RC = Reverse Circulation and Perc = Percussion drilling.



## Appendix 1 - JORC CODE, 2012 Edition – Table 1 Report

### Section 1 - Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p>Nature and quality of sampling (eg cut Faces, 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.</p> <p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>Aspects of the determination of mineralisation that are Material to the Public Report.</p> <p>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</p>	<p>The Company has recently undertaken reconnaissance sampling activities at Golden Ridge by industry standard Air-Core (AC) drilling, using a face sampling blade bit.</p> <p>Composite samples up to three metres were collected using the scoop method and placed in prenumbered calico bags. The last metre of the hole was not composited but collected using the scoop method for both Au and multi-element analysis.</p> <p>Anomalous composite intervals returning &gt;0.1g/t Au were resampled or planned to be as individual one-metre samples from individual drill spoil piles and were submitted for laboratory analysis.</p> <p>Portable X-ray Fluorescence (pXRF) analysis was carried out for each one metre sample utilising a Bruker S1 Titan 600 handheld portable XRF analyser. This data was used internally only and is not reported herein.</p> <p>Sampling return was dominantly dry to moist with the exception of where significant ground water was intersected. This resulted in wet samples.</p> <p>Certified reference standards and blank/barren material were inserted at regular intervals to provide quality checks and assurance for assay batches returned from the lab. The QAQC associated with AC drilling is within acceptable limits.</p> <p>These samples were pulverised by pulp mill to a nominal 85% passing through 75um mesh to produce a 50-gram aliquot for Au analysis.</p> <p>A sample charge of 50 grams was used in lead collection fire assay and gold grades were determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES; Intertek assay code FA50/OE04). The quoted detection limits for this method are a lower detection limit of 0.005ppm and upper limit of 175ppm.</p>



Criteria	JORC Code explanation	Commentary
Drilling techniques	<p>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</p>	<p>AC drilling was conducted using a 90mm diameter face-sampling blade bit and 87mm face sampling hammer bit.</p>
Drill sample recovery	<p>Method of recording and assessing core and chip sample recoveries and results assessed.</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>	<p>During AC drilling the geologist recorded the occasions when sample quality was poor, sample return was low, when the sample was wet or compromised in another way.</p> <p>Sample recovery was good during the drilling.</p> <p>There has been no correlation recognised between sample recovery and grade.</p>
Logging	<p>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.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, Face, etc) photography.</p> <p>The total length and percentage of the relevant intersections logged.</p>	<p>Geological information was captured during drilling. This included lithology, mineralogy, sulphide abundance, alteration, texture, recovery, weathering/oxidation and colour.</p> <p>The details captured were considered appropriate.</p> <p>Logging has primarily been qualitative, but it includes quantitative estimates on mineral abundance.</p> <p>A representative sample of each AC drill metre was sieved and retained in chip trays for future reference.</p> <p>The entire length of the drill holes was geologically logged.</p>
Sub-sampling techniques and sample preparation	<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</p>	<p>AC drilling – Three metre composites were collected with the exception of the EOH and the preceding sample that was between one and two metres, to align with the hole depth. Composite samples were achieved by taking approximately equal amounts from the individual one metre piles using the scoop method. Majority of the samples were dry exception where significant</p>



Criteria	JORC Code explanation	Commentary
	<p>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p> <p>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.</p> <p>Whether sample sizes are appropriate to the grain size of the material being sampled.</p>	<p>groundwater was intersected. Individual sample weight were approximately 3.0kg.</p> <p>Both individual and composite samples were submitted to Intertek laboratory for analysis. The entire hole was sampled.</p> <p>The sample for the AC drilling used is considered standard industry practise.</p> <p>The cyclone was routinely cleaned including at the completion of each drill hole and immediately after the intersection of any groundwater.</p> <p>Geologist recorded any evidence of sample contamination when present.</p> <p>Laboratory quality control samples were inserted by the laboratory with the performance of these control samples monitored by the laboratory and the Company.</p> <p>Analysis of the aforementioned measures indicated that the sampling was representative and reliable.</p> <p>The sample size is considered appropriate for the stage of exploration and style of deposit.</p>
<p>Quality of assay data and laboratory tests</p>	<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>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.</p> <p>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</p>	<p>The sample preparation and assay method used is considered standard industry practice and appropriate for the deposit style.</p> <p>Standard Reference Materials were inserted at a rate of 1 per 20 samples.</p> <p>Duplicate field samples were routinely taken at a rate of 1 per 30 samples for AC drilling.</p> <p>Blank/barren material was taken on average at 1 per 50 samples for AC drilling, however, additional blank samples were included proximal to expected mineralised intervals.</p> <p>Laboratory quality control samples were inserted by the laboratory with the performance of these control samples monitored by the laboratory and the Company.</p> <p>Analysis of the aforementioned measures indicated that the sampling was representative and reliable.</p>



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes.</p> <p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</p> <p>Discuss any adjustment to assay data.</p>	<p>Significant intersections were calculated by geological staff with these intersections checked by the Exploration Manager.</p> <p>No holes were twinned as part of this drill program due to the early stage of exploration being completed.</p> <p>The geological and sampling information were uploaded to the Company's SQL drilling database.</p> <p>No adjustments or calibrations are made to any assay data.</p>
Location of data points	<p>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.</p> <p>Specification of the grid system used.</p> <p>Quality and adequacy of topographic control.</p>	<p>Golden Ridge AC holes have been picked up by a handheld GPS.</p> <p>All collar coordinates were taken using the grid system GDA 1994 MGA zone 51.</p> <p>No downhole surveys were completed due to the nature of the drilling.</p> <p>RLs have been assigned using the Shuttle Radar Topography Mission ("SRTM) digital elevation model.</p>
Data spacing and distribution	<p>Data spacing for reporting of Exploration Results.</p> <p>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.</p> <p>Whether sample compositing has been applied.</p>	<p>The nominal drill spacing for the AC program was 40m to 80m (easting) by 200 to 300m (northing) that is considered appropriate for the reconnaissance stage of the project.</p>
Orientation of data in relation to geological structure	<p>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</p> <p>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.</p>	<p>The orientation of the intersected mineralisation is not fully understood due to the early stage of exploration; however, all drilling was designed to be oriented as close as possible to perpendicular to the interpreted mineralisation.</p>



Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	The Company uses standard industry practices when collecting, transporting and storing samples for analysis.  Drilling pulps are retained by the Company off site.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The assay data and quality control samples are periodically audited internally.

## Section 2 - Reporting of Exploration Results

(Criteria listed in the preceding section also applies 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  The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Golden Ridge AC drilling reported herein is within mining leases M26/285, M26/222 and M26/284  The project tenements are located approximately 20km SE of Kalgoorlie WA.  Golden Ridge North Kambalda Pty Ltd, a wholly owned subsidiary of Essential Metals Ltd (the Company), is the registered holder of the tenement and holds a 100% unencumbered interest in all gold exploration rights.  The tenements are on the Mt Monger Pastoral Lease and Woolibar Pastoral Lease  At the time of this Statement, Mining Leases M26/285, M26/222 and M26/284 are in Good Standing.  The Marlinyu Ghoorlie Native Title Claimant Group has a registered Native Title Claim WC2017/007 that covers the Golden Ridge Project.  To the best of the Company's knowledge, other than industry standard permits to operate there are no impediments to the Company's operations within the tenement.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The majority of work on the project has been completed by previous operators.  There has been previous exploration drilling and sampling on the Golden Ridge project. Previous work by Western Mining Corporation (WMC) began in the 1960's Nickel boom and identified the project area as prospective for Ni-Sulphide systems, discovery of the Blair Ni-Sulphide Deposit led to its opening in 1990 and



Criteria	JORC Code explanation	Commentary
		<p>produced 32,900t of contained Ni treated in Kambalda before closure in 2008. WMC recognised the potential of the project to host economic gold occurrences and completed exploration activities over a number of gold prospects. Australian Mines acquired the Blair Ni Mine and surrounding tenure from WMC in 2005 prior to Pioneer (now Essential Metals Ltd).</p>
Geology	<p>Deposit type, geological setting, and style of mineralisation.</p>	<p>The Golden Ridge Project lies within the well-endowed Menzies-Boorara Shear Zone that hosts the New Boddington, Paddington, Boorara and Golden Ridge Gold Deposits.</p> <p>The geology of the project is dominated by mafic-ultramafic and sediment stratigraphy</p> <p>Gold occurrences and prospects are typical Archean orogenic lode-gold targets of the Eastern Goldfields Terrane.</p>
Drill hole Information	<p>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, including easting and northing of the drill hole collar, elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth plus hole length.</p> <p>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.</p>	<p>Refer to Tables 2 and 3 in this announcement.</p>
Data aggregation methods	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</p> <p>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of</p>	<p>More recent drilling highlighted intersections are calculated using 0.1g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres of internal dilution. The 'Including' portion of intersections are calculated using 1.0g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres internal dilution. The 'With' Intersections are calculated using 5.0g/t Au lower cut-off with</p>



Criteria	JORC Code explanation	Commentary
	<p>low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>maximum of 2 metres of consecutive and total of 4 metres internal dilution.</p> <p>Past drilling intersections calculated using 0.1g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres of internal dilution. The Including portion of intersections are calculated using 0.5g/t Au lower cut-off with maximum of 2 metres of consecutive and total of 4 metres internal dilution. RAB = Rotary Air Blast, RC = Reverse Circulation and Perc = Percussion drilling.</p> <p>There are no metal equivalent values reported.</p>
<p>Relationship between mineralisation widths and intercept lengths</p>	<p>These relationships are particularly important in the reporting of Exploration Results.</p> <p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p> <p>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</p>	<p>Downhole lengths are reported, true widths are unknown.</p>
<p>Diagrams</p>	<p>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.</p>	<p>Refer to figures and tables in this report.</p>
<p>Balanced reporting</p>	<p>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.</p>	<p>Comprehensive reporting of all recently completed drilling and a selection of old Au downhole intersections from the highlighted exploration areas has been carried out.</p>
<p>Other substantive exploration data</p>	<p>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</p>	<p>All meaningful and material exploration data has been reported.</p>



Criteria	JORC Code explanation	Commentary
	test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	<p>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	<p>Planned further work includes: investigate follow-up drilling in prospective areas at Skandia and Maximus and further interrogate results returned at AC75.</p> <p>Identified further areas for mapping and/or surface geochemical anomalies.</p>