ESSENTIALMETALS

for a sustainable future

ASX Code: ESS

Corporate Profile

Shares on issue: 200,817,300
Cash: $6.7m (31 Dec 2020)
Debt: Nil

KEY PROJECTS

LITHIUM Pioneer Dome

GOLD Golden Ridge

GOLD Juglah Dome

Joint Ventures - Free Carried to a Decision to Mine

1 x lithium project
2 x nickel projects
4 x gold projects

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1 April 2021

Drilling underway at Juglah Dome with Golden Ridge to follow

Air-core drilling has commenced at the Gards gold prospect within the Juglah Dome Project with drill testing of three new gold targets at Golden Ridge to follow in early May

HIGHLIGHTS

- Drilling at the Gards prospect located within the Juglah Dome Project will test the strike extension to the 475m long zone of gold mineralisation defined during the December 2020 drill programme[(1)]. Drilling will target the interpreted **700m of strike extension** to the south.

- The air-core holes are also designed to target the intersection of the Gards porphyry and an interpreted NE-SW structure, which has the potential to host a **much broader zone of mineralisation**.

- Following completion of drilling at Gards, **three new gold targets** at the Golden Ridge project will be tested in May with assay results expected in June (pending laboratory turnouts).

- The three Golden Ridge targets, named AC75, Skandia and Maximus, have been identified coincident to magnetic breaks and dislocations and **medium to large scale soil anomalies**. They are also proximal and/or along strike from the Flying Ant and Fireblade prospects where earlier drilling included intersections such as:
  - 21m @ 2.5g/t Au from 59m (GOC0288) [(2)]
  - 19m @ 2.21g/t Au from 51m (GOC0259) [(2)]

Essential Metals Managing Director, Tim Spencer, said: *"The results of the drilling at Gards are much anticipated, particularly if it confirms near surface gold mineralisation of over a strike length exceeding 1km and also intersects the interpreted broad mineralised cross-structure zones.*

"The three gold targets to be drilled at Golden Ridge are very compelling and are close to known prospects, so the information generated will help to better understand the geological setting and gold dispersion in the area. Demand for drilling and laboratory services mean the results are expected to be received in June."

References to previous ASX announcements:

(1) 10 February 2021 - Encouraging drill results at Juglah Dome
(2) 6 July 2020 - Golden Ridge compelling gold targets

This ASX release has been approved by the Board of Directors

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ABOUT ESSENTIAL METALS LIMITED

Essential Metals is a well-funded and active explorer focused on key global demand-driven commodities, looking for its next opportunity to create 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 LCT 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% Li_2O.
- **GOLD:** The **Juglah Dome Project** is located 60km east-southeast 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 SSE 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 in the West Pilbara: A farmin & JV agreement with Novo Resources Corp (TSXV.NVO) and Sumitomo Corporation (TYO:8053) will fully fund 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 (gold only) in the **Larkinville** Project 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. 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 with Maximus Resources Ltd (ASX:MXR).

GARDS SOUTH

A total of 23 AC holes for ~ 700m are planned on 300x25m spacing to south-east of the Gards prospect, see Figure 1. The programme is designed to test a further 700m strike extent of mineralisation to the southeast of that intersected in 20GDRC035, under an area of shallow alluvial cover. The AC holes are planned to target the intersection of the Gards Porphyry and interpreted NE-SW oriented structures that are interpreted to control the drainage channel.

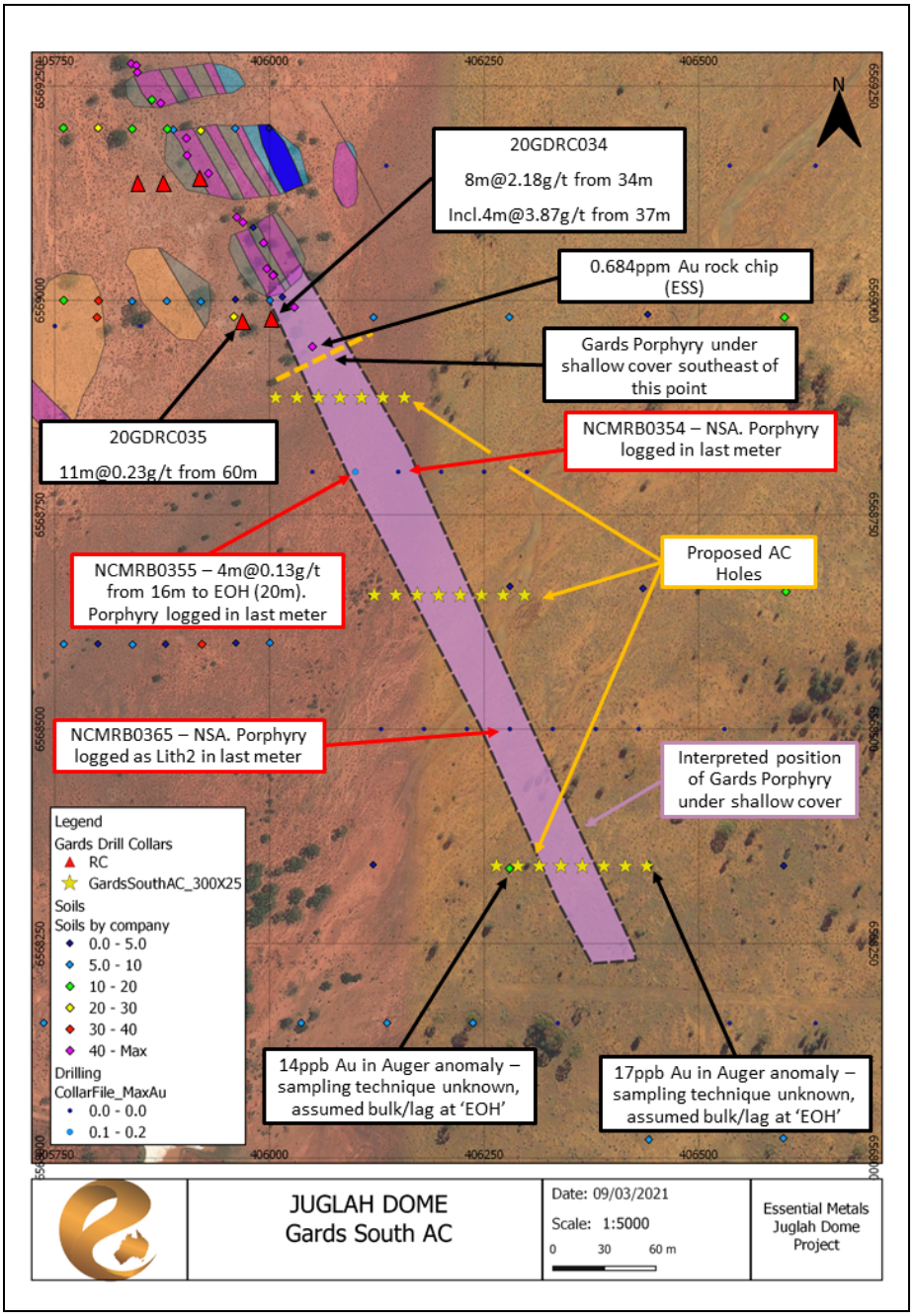

Figure 1 – Satellite Imagery, planned Gards South AC holes (yellow stars), interpreted position of the Gards Porphyry (purple polygon), soil and Max Au by drillhole as per legend.

AC75

Air-Core (AC) traverses on a nominal 320m x 40 to 80m spacing are planned to test for significant Au anomalism in the regolith, see Figure 2. The tighter spaced holes along the traverses will be drilled at the peak of the anomalies A total for 42 holes for ~2,500m are planned (nominal drill bit refusal depth estimated to be 60m). The programme will aim to better define the bedrock Au target for follow up RC drilling.

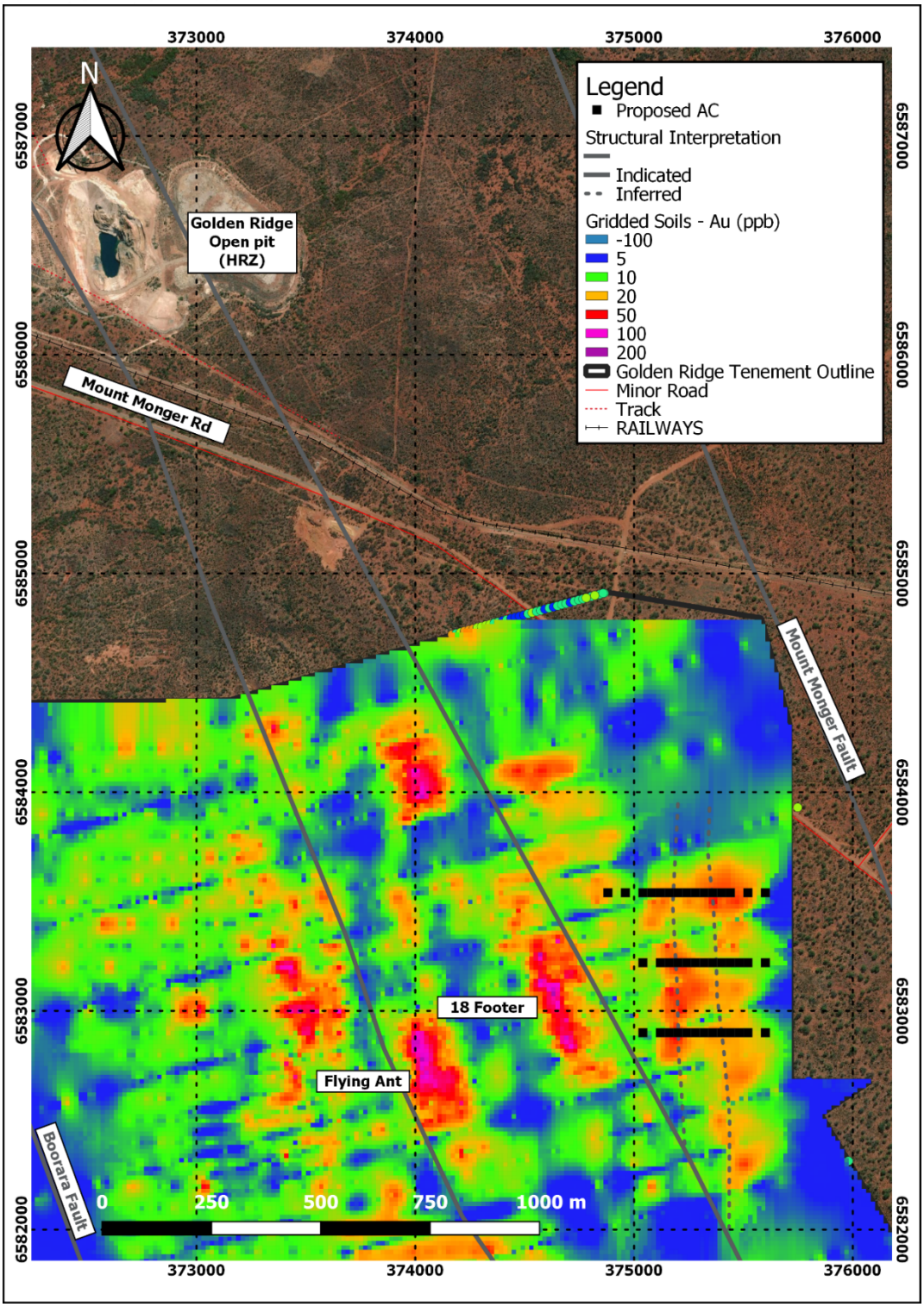

Figure 2 – Gridded Au-in-soil values (coloured according to the legend), tenement outline (black polygon), interpreted major structures (dark grey lines) and planned Air-Core drilling (black squares).

MAXIMUS & SKANDIA

A total of 51 AC holes for ~4,000m are planned over six traverses on a 300x40 to 80m spacing at the newly named Skandia and Maximus prospects, see Figure 3. The drill programme is designed to locate Au anomalism associated magnetic breaks/dislocations that are coincident with medium to large scale gold-in-soil anomalism and As, Zn, Pb and Mo anomalism in soils, rock chips and drill spoil sampling. Furthermore, the planned AC drilling aims to test directly along strike of old shallow workings and/or adjacent to anomalous previous drilling that was carried out for nickel exploration.

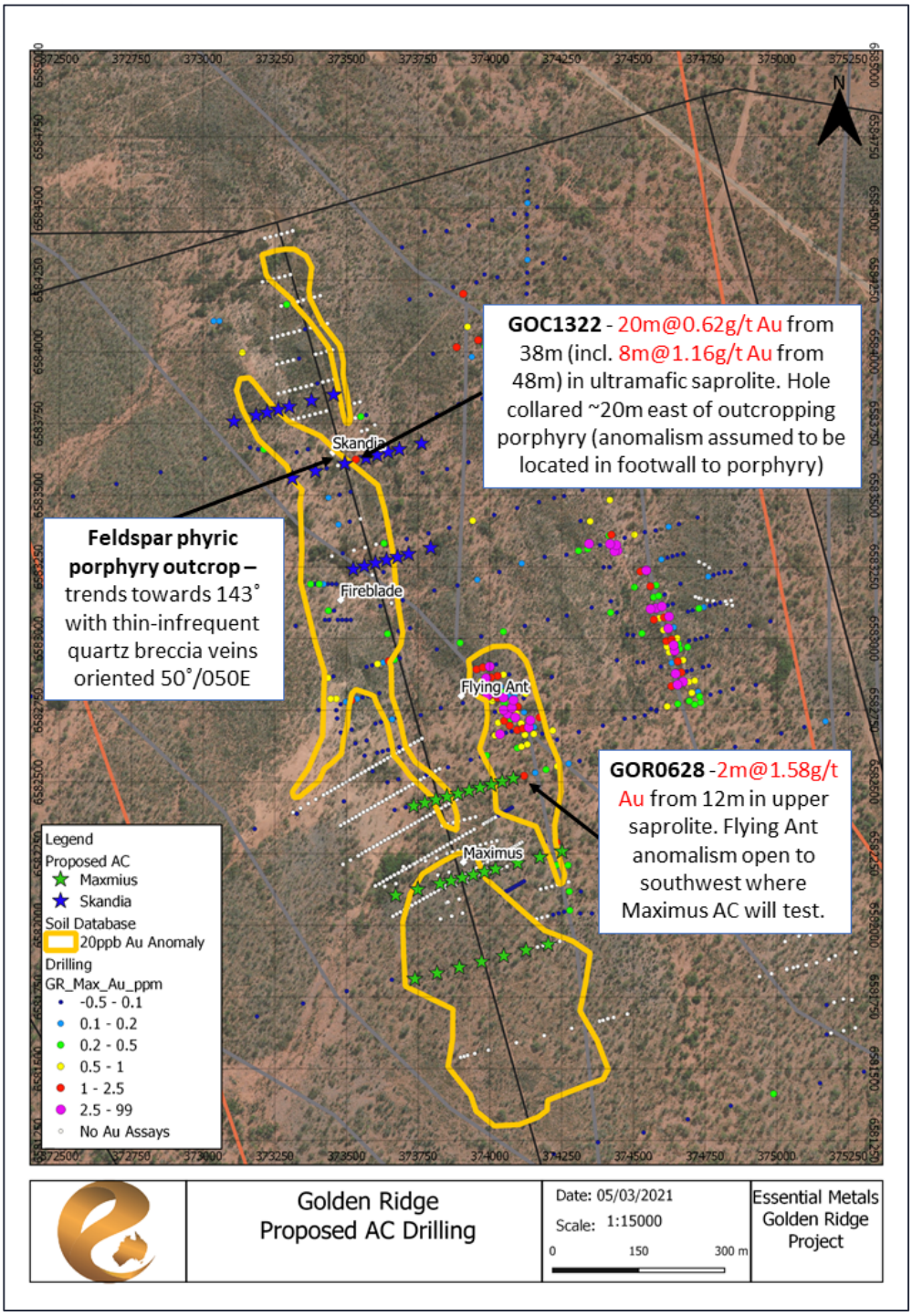

Figure 3 - Satellite imagery, planned AC drilling (dark blue and green stars), Au-in-soil anomalism outline (yellow polygons) and Max Au in drilling with points coloured as per legend (note: white points are holes which contain no Au sampling/assaying.

Appendix 1 – Drilling information

Table 1 – Significant* intersections from historic drilling in the area of AC75, Skandia and Maximus targets.

Hole_ID	Hole Type	GDA94_z51 North	GDA94_z51 East	RL	Depth (m)	Azimuth	Dip	Depth From	Depth To	Interval (m)	Au (g/t)
AMBR0045	RAB	373959	6584041	360	101	0	-90	43	44	1	2.36
AMBR0045	RAB	373959	6584041	360	101	0	-90	71	73	2	1.29
AMBR0046	RAB	373884	6584016	360	48	0	-90	25	26	1	0.56
AMBR0046	RAB	373884	6584016	360	48	0	-90	33	35	2	1.07
AMBR0064	RAB	374082	6582785	362	81	256	-60	33	37	4	1.82
AMBR0066	RAB	374062	6582737	361	77	256	-60	25	26	1	1.05
AMBR0066	RAB	374062	6582737	361	77	256	-60	47	49	2	1.58
AMBR0066	RAB	374062	6582737	361	77	256	-60	51	52	1	0.81
AMBR0067	RAB	374092	6582740	361	76	256	-60	19	20	1	0.54
AMBR0069	RAB	374069	6582696	361	87	256	-60	56	57	1	2.45
AMBR0070	RAB	374109	6582704	361	80	256	-60	69	70	1	0.65
AMBR0070	RAB	374109	6582704	361	80	256	-60	77	78	1	0.67
AMBR0071	RAB	374141	6582715	361	97	256	-60	32	33	1	6.58
AMBR0071	RAB	374141	6582715	361	97	256	-60	96	97	1	0.72
AMBR0072	RAB	374173	6582725	361	111	256	-60	65	67	2	1.25
AMBR0072	RAB	374173	6582725	361	111	256	-60	76	77	1	1.71
AMBR0073	RAB	374122	6582664	358	100	256	-60	97	98	1	0.63
AMBR0074	RAB	374153	6582667	358	81	256	-60	24	25	1	0.9
AMBR0076	RAB	374219	6582679	358	117	256	-60	68	69	1	0.95
AMBR0076	RAB	374219	6582679	358	117	256	-60	71	72	1	0.87
AMBR0077	RAB	374419	6583332	371	117	76	-60	46	47	1	0.67
AMBR0077	RAB	374419	6583332	371	117	76	-60	49	50	1	0.68
AMBR0079	RAB	374504	6583362	371	117	76	-60	60	65	5	0.73
AMBR0079	RAB	374504	6583362	371	117	76	-60	75	80	5	0.68
AMBR0095	RAB	374618	6582763	363	81	76	-60	79	80	1	0.56
AMBR0138	RAB	373940	6583411	373	58	76	-60	25	26	1	0.68
AMBR0161	RAB	374786	6582604	360	90	76	-60	71	72	1	0.52
AMBR0171	RAB	374818	6582199	363	68	76	-60	25	27	2	1.83
AMBR0172	RAB	374744	6582172	363	104	76	-60	44	45	1	0.62
AMRC024	RC	374633	6582834	371	120	76	-60	70	73	3	0.74
AMRC024	RC	374633	6582834	371	120	76	-60	85	86	1	0.95
AMRC024	RC	374633	6582834	371	120	76	-60	92	93	1	1.19
AMRC024	RC	374633	6582834	371	120	76	-60	111	112	1	0.52
AMRC025	RC	374617	6582972	378	100	76	-60	50	51	1	0.66
AMRC026	RC	374560	6583103	379	100	76	-60	15	17	2	0.72
AMRC026	RC	374560	6583103	379	100	76	-60	65	74	9	2.44
AMRC027	RC	374525	6583234	378	100	76	-60	89	91	2	0.93
GOC0018	RC	374445	6583306	371.59	40	75	-60	30	35	5	1.5
GOC0019	RC	374441	6583326	372.13	40	75	-60	33	36	3	3.09
GOC0019	RC	374441	6583326	372.13	40	75	-60	39	40	1	0.71
GOC0020	RC	374423	6583362	373.71	40	75	-60	33	35	2	1.25

Hole_ID	Hole Type	GDA94_z51 North	GDA94_z51 East	RL	Depth (m)	Azimuth	Dip	Depth From	Depth To	Interval (m)	Au (g/t)
GOC0021	RC	374418	6583483	374	40	75	-60	35	36	1	0.6
GOC0253	NR	374021	6584033	380	80	75	-60	9	10	1	0.51
GOC0257	RC	374049	6582713	361.16	80	75	-60	56	57	1	1.31
GOC0258	RC	374029	6582706	360.97	80	75	-60	49	51	2	0.64
GOC0259	RC	374022	6582808	363.73	80	75	-60	0	1	1	0.88
GOC0259	RC	374022	6582808	363.73	80	75	-60	28	30	2	1.76
GOC0259	RC	374022	6582808	363.73	80	75	-60	51	67	16	2.53
GOC0259	RC	374022	6582808	363.73	80	75	-60	69	70	1	1.06
GOC0260	RC	374002	6582802	363.5	80	75	-60	54	55	1	1.32
GOC0262	RC	374641	6582977	373.92	53	75	-60	21	22	1	0.53
GOC0262	RC	374641	6582977	373.92	53	75	-60	24	27	3	2.91
GOC0262	RC	374641	6582977	373.92	53	75	-60	42	43	1	1.58
GOC0264	RC	374625	6583077	380.27	80	75	-60	0	7	7	2.81
GOC0265	RC	374607	6583074	380.67	60	75	-60	20	26	6	1.03
GOC0267	RC	374667	6582882	365.22	80	75	-60	11	12	1	0.59
GOC0267	RC	374667	6582882	365.22	80	75	-60	14	15	1	0.5
GOC0267	RC	374667	6582882	365.22	80	75	-60	65	67	2	1.41
GOC0267	RC	374667	6582882	365.22	80	75	-60	69	70	1	0.78
GOC0275	RC	374434	6583304	371.8	80	75	-60	49	51	2	3.12
GOC0276	RC	374419	6583330	372.97	80	75	-60	54	60	6	3.05
GOC0278	RC	373999	6582902	369.02	80	75	-60	14	16	2	0.72
GOC0278	RC	373999	6582902	369.02	80	75	-60	70	71	1	0.52
GOC0279	RC	373976	6582899	368.13	80	75	-60	49	50	1	0.64
GOC0279	RC	373976	6582899	368.13	80	75	-60	61	63	2	0.98
GOC0279	RC	373976	6582899	368.13	80	75	-60	66	70	4	0.88
GOC0280	RC	374027	6582870	366.56	80	75	-60	31	35	4	1.03
GOC0281	RC	374004	6582864	366.96	80	75	-60	4	6	2	0.78
GOC0281	RC	374004	6582864	366.96	80	75	-60	9	10	1	0.67
GOC0281	RC	374004	6582864	366.96	80	75	-60	16	17	1	1.03
GOC0281	RC	374004	6582864	366.96	80	75	-60	27	28	1	0.95
GOC0282	RC	373987	6582862	366.37	80	75	-60	7	9	2	2.45
GOC0282	RC	373987	6582862	366.37	80	75	-60	47	48	1	0.7
GOC0282	RC	373987	6582862	366.37	80	75	-60	50	51	1	3.89
GOC0284	RC	374016	6582829	364.52	80	75	-60	2	3	1	0.5
GOC0284	RC	374016	6582829	364.52	80	75	-60	5	6	1	0.88
GOC0284	RC	374016	6582829	364.52	80	75	-60	10	11	1	1.52
GOC0284	RC	374016	6582829	364.52	80	75	-60	22	30	8	1.38
GOC0284	RC	374016	6582829	364.52	80	75	-60	59	60	1	1.13
GOC0285	RC	373997	6582823	364.47	80	75	-60	50	51	1	0.83
GOC0288	RC	374047	6582794	362.84	80	75	-60	59	80	21	2.5
GOC0289	RC	374026	6582793	363.07	80	75	-60	2	3	1	0.58
GOC0289	RC	374026	6582793	363.07	80	75	-60	60	61	1	0.5
GOC0289	RC	374026	6582793	363.07	80	75	-60	65	69	4	0.81
GOC0290	RC	374008	6582782	362.82	80	75	-60	51	52	1	0.54
GOC0291	RC	374077	6582758	361.83	80	75	-60	30	32	2	2.19
GOC0291	RC	374077	6582758	361.83	80	75	-60	49	51	2	0.61

Hole_ID	Hole Type	GDA94_z51 North	GDA94_z51 East	RL	Depth (m)	Azimuth	Dip	Depth From	Depth To	Interval (m)	Au (g/t)
GOC0291	RC	374077	6582758	361.83	80	75	-60	55	56	1	6.8
GOC0291	RC	374077	6582758	361.83	80	75	-60	61	68	7	1.77
GOC0292	RC	374056	6582753	361.93	80	75	-60	13	14	1	0.88
GOC0292	RC	374056	6582753	361.93	80	75	-60	17	18	1	0.63
GOC0293	RC	374037	6582749	361.82	80	75	-60	16	17	1	0.57
GOC0295	RC	374088	6582725	361.34	80	75	-60	30	31	1	3.65
GOC0295	RC	374088	6582725	361.34	80	75	-60	48	49	1	1.07
GOC0295	RC	374088	6582725	361.34	80	75	-60	51	52	1	6.2
GOC0295	RC	374088	6582725	361.34	80	75	-60	79	80	1	5
GOC0296	RC	374115	6582686	360.95	80	75	-60	22	28	6	1.07
GOC0296	RC	374115	6582686	360.95	80	75	-60	50	51	1	1.12
GOC0297	RC	374095	6582681	360.89	80	75	-60	62	63	1	0.53
GOC0297	RC	374095	6582681	360.89	80	75	-60	65	66	1	1.76
GOC0300	RC	374035	6582666	360.2	80	75	-60	55	56	1	0.52
GOC0300	RC	374035	6582666	360.2	80	75	-60	79	80	1	2.96
GOC0301	RC	374018	6582662	360.04	61	75	-60	2	3	1	0.52
GOC0302	RC	374130	6582631	359.98	80	75	-60	12	13	1	0.55
GOC0303	RC	374110	6582623	360.04	80	75	-60	73	74	1	0.93
GOC0307	RC	374560	6583182	373.44	80	75	-60	40	41	1	2.05
GOC0313	RC	374600	6583112	378.46	69	75	-60	14	18	4	1.25
GOC0314	RC	374579	6583106	376.98	60	75	-60	47	50	3	4.86
GOC0315	RC	374592	6583071	379.23	45	75	-60	24	25	1	0.58
GOC0316	RC	374572	6583066	377.2	71	75	-60	24	25	1	1.13
GOC0318	RC	374622	6583035	379.93	80	75	-60	11	12	1	0.67
GOC0318	RC	374622	6583035	379.93	80	75	-60	16	17	1	2.58
GOC0318	RC	374622	6583035	379.93	80	75	-60	21	25	4	0.82
GOC0319	RC	374605	6583030	378.29	61	75	-60	9	10	1	0.85
GOC0319	RC	374605	6583030	378.29	61	75	-60	12	13	1	0.62
GOC0320	RC	374653	6583001	377.22	80	75	-60	2	5	3	0.79
GOC0321	RC	374634	6582996	376.48	80	75	-60	17	20	3	1.48
GOC0322	RC	374615	6582991	374.37	60	75	-60	23	24	1	0.76
GOC0322	RC	374615	6582991	374.37	60	75	-60	31	32	1	1.48
GOC0322	RC	374615	6582991	374.37	60	75	-60	40	41	1	0.59
GOC0324	RC	374644	6582957	371.52	80	75	-60	30	36	6	2.72
GOC0324	RC	374644	6582957	371.52	80	75	-60	38	39	1	0.9
GOC0325	RC	374625	6582952	370.33	73	75	-60	62	63	1	0.94
GOC0326	RC	374673	6582925	367.48	80	75	-60	41	42	1	0.91
GOC0327	RC	374655	6582920	367.71	80	75	-60	15	18	3	1.48
GOC0332	RC	374647	6582877	365.11	80	75	-60	26	27	1	3.07
GOC0332	RC	374647	6582877	365.11	80	75	-60	62	63	1	1.01
GOC0333	RC	374714	6582853	363.49	60	75	-60	0	1	1	0.81
GOC0334	RC	374694	6582848	363.48	80	75	-60	2	3	1	0.68
GOC0335	RC	374674	6582849	363.76	80	75	-60	41	42	1	1.19
GOC0335	RC	374674	6582849	363.76	80	75	-60	47	48	1	0.7
GOC0335	RC	374674	6582849	363.76	80	75	-60	50	54	4	2.7
GOC0335	RC	374674	6582849	363.76	80	75	-60	63	66	3	2.09

Hole_ID	Hole Type	GDA94_z51 North	GDA94_z51 East	RL	Depth (m)	Azimuth	Dip	Depth From	Depth To	Interval (m)	Au (g/t)
GOC0335	RC	374674	6582849	363.76	80	75	-60	69	70	1	0.62
GOC0336	RC	374654	6582839	363.9	70	75	-60	36	37	1	1.46
GOC0336	RC	374654	6582839	363.9	70	75	-60	53	54	1	5.9
GOC0336	RC	374654	6582839	363.9	70	75	-60	56	57	1	0.7
GOC0336	RC	374654	6582839	363.9	70	75	-60	64	68	4	2.17
GOC0338	RC	374704	6582810	362.52	80	75	-60	76	77	1	0.76
GOC0341	RC	374096	6582618	359.91	60	75	-60	21	22	1	0.5
GOC0344	RC	374545	6583238	374.86	60	75	-60	44	48	4	2.29
GOC0344	RC	374545	6583238	374.86	60	75	-60	50	52	2	0.69
GOC0347	RC	374047	6582874	365.84	80	75	-60	63	65	2	0.71
GOC0348	RC	373970	6582850	365.53	80	75	-60	70	71	1	0.61
GOC0350	RC	374124	6582807	362.61	100	255	-60	68	69	1	0.53
GOC0351	RC	374097	6582763	361.78	80	75	-60	71	73	2	1.43
GOC0351	RC	374097	6582763	361.78	80	75	-60	77	80	3	0.74
GOC0353	RC	374136	6582690	360.82	60	75	-60	51	53	2	3.43
GOC0941	NR	373550	6583774	379.39	112	75	-60	52	54	2	0.5
GOC1322	NR	373532	6583624	370	80	75	-60	48	56	8	1.17
GOD0091	RC	373953	6582892	368.03	150	90	-60	90	91	1	1.21
GOD0092	RC	373991	6582800	363.56	130	90	-60	39	40	1	8.4
GOD0092	RC	373991	6582800	363.56	130	90	-60	52	53	1	0.55
GOD0093	RC	374013	6582792	363.06	136	90	-60	58	59	1	0.94
GOD0094	RC	374047	6582751	361.81	120	90	-60	13	14	1	0.67
GOD0094	RC	374047	6582751	361.81	120	90	-60	26	28	2	0.63
GOD0094	RC	374047	6582751	361.81	120	90	-60	31	35	4	8.33
GOD0250	RC	374232	6582290	360	84	270	-60	71	72	1	1.06
GOD0256	RC	374349	6583409	379.51	70	90	-60	32	33	1	0.58
GOD0257	RC	374346	6583330	376.45	120	90	-60	37	38	1	2.93
GOD0277	AC	374572	6583950	380	114	0	-90	64	66	2	0.56
GOD0277	AC	374572	6583950	380	114	0	-90	112	114	2	0.85
GOD0308	RC	373907	6584202	380	120	90	-60	2	3	1	0.8
GOD0308	RC	373907	6584202	380	120	90	-60	7	10	3	1.66
GOD0309	RC	373922	6584087	380	120	90	-60	52	54	2	0.66
GOD0309	RC	373922	6584087	380	120	90	-60	62	63	1	0.53
GOD0399	RC	373137	6583997	367	82	270	-60	58	59	1	0.8
GOD0399	RC	373137	6583997	367	82	270	-60	70	71	1	0.86
GOD0402	RC	373465	6582790	367	82	90	-60	42	43	1	0.51
GOD0406	RC	373445	6582790	367	82	90	-60	71	73	2	0.77
GOD0531	AC	374895	6580574	360	68	0	-90	26	28	2	4.69
GOR0505	NR	373436	6582863	368.92	80	75	-60	52	54	2	1
GOR0512	NR	373517	6582784	368.34	80	75	-60	46	50	4	1.19
GOR0515	NR	373647	6582921	370	80	75	-60	48	50	2	1.2
GOR0517	NR	373608	6582911	370	80	75	-60	20	24	4	0.85
GOR0625	RAB	374235	6582554	358.51	80	75	-60	66	68	2	0.72
GOR0628	RAB	374119	6582521	358.78	80	75	-60	12	14	2	1.58
GRA0217	AC	374814	6580542	334	101	75	-60	57	58	1	1.45

* = Intersections are calculated with 0.5g/t Au lower cut-off and a maximum of 2 consecutive metres of internal dilution.
NR = Not recorded.

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	• 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. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (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.	• Juglah Dome RC sampling was covered in ASX release: Encouraging drill results at Juglah Dome. • The majority of drilling comprised RC and RAB drilling completed by previous operators in multiple campaigns. A small number of diamond holes were also completed. • RC, RAB and diamond drilling was completed by previous holders to industry standard at the time. • For historic drilling, sampling in mineralised zones comprised 1m samples however historic sampling methodology was not documented. • Sample preparation procedures were not documented for historic drilling. • Historic RAB drilling was assayed by aqua regia digest. • Western Mining Corporation (WMC) completed systematic tenement wide surface geochemical sampling by sieving the surface lag material to obtain a 1kg sample of the +2mm -6mm fraction, which was analysed for Ni, As, Co, Cr, Cu, Zn and Au by Aqua Regia with Atomic Absorption Spectrometry AAS finish. • Pioneer Resources soil samples: From 2012 onwards, Pioneer Resources collected grids of -250µm soil fraction primarily for Ni exploration with some selected areas submitted for Au analysis by Aqua Regia digestion with ICP-MS finish. Several sample grids completed by Pioneer were analysed by XRF only and were not submitted by for laboratory analysis. • Portable X-ray Fluoresence (pXRF) analysis was carried out for each Pioneer Resources' soil sample utilising a Bruker S1 Titan 600 handheld portable XRF analyser. This data was used for internal usage only and is not reported herein.
Drilling techniques	• 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).	• Historic drilling includes RC, RAB, air core and diamond techniques. Details on hole diameter and sampling methods are not known.
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	• There is no indication of a relationship between sample recovery and grade.

Criteria	JORC Code explanation	Commentary
	preferential loss/gain of fine/coarse material.	
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, Face, etc) photography. • The total length and percentage of the relevant intersections logged.	• Geological logging from historic drilling is being compiled and it is likely that the holes were logged in full.
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.	• For historic RC and RAB drilling, the sampling technique is unknown other than 1m samples were taken through mineralised zones and 2-5m composite samples outside of mineralised zones common. • Due to the industry standard drilling and sampling methods employed in historic drilling, it is assumed that RC sample size is appropriate for samples being analysed. • Sample sizes are considered appropriate.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • 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. • 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.	• Quality control procedures adopted for historic drilling are unknown.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• No independent validation of historic drill data has been carried out and no twinning of historic holes has yet been carried out as yet. • Data from historic drilling will have been captured using either handwritten logging sheets or electronic capture;

Criteria	JORC Code explanation	Commentary
	• Discuss any adjustment to assay data.	
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. • Specification of the grid system used. • Quality and adequacy of topographic control.	• Juglah Dome RC holes have been picked up by a handheld GPS. • Historic holes were located either by GPS or total station methods. Located on local grids, AMG-84 or GDA-94 and have now all been transformed to GDA-94. Evidence of the drill holes can be seen on high resolution aerial images and collars have been cross checked to verify locations.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied.	• The nominal drill spacing for the RC program was 40m (easting) by 160m (northing) that is considered appropriate for the exploration stage of the project. Closer spaced drilling would be required to confirm grade continuity. • RC and DD drilling in the main prospects was drilled at 20m hole spacing on cross sections spaced between 20m and 40m apart. • The data is not currently sufficient to establish geology and grade continuity for a Mineral Resource Estimate. • Sample compositing has not been applied prior to reporting intersections.
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 orientation of the intersected mineralisation is not fully understood due to the early stage of exploration.
Sample security	• The measures taken to ensure sample security.	• Measures taken to ensure sample security of historic samples are unknown
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or reviews of the sampling techniques and data have been carried out.

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 planned Juglah Dome is entirely within the Juglah Dome Project on E25/585. • The tenement is located approximately 60km ESE of Kalgoorlie WA. • Western Copper 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 minerals within the tenement. • The tenement is on the Mt Monger Pastoral Lease; • At the time of this Statement, Exploration Licence E25/585 is in Good Standing. • 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. • The Golden Ridge drilling reported herein is entirely within the Golden Ridge Project on M26/222, M26/284 and E26/186; • The tenements are located approximately 25km SE of Kalgoorlie WA; • Golden Ridge North Kambalda Pty Ltd, a wholly owned subsidiary of Pioneer Resources Ltd is the registered holder of the tenements and holds a 100% unencumbered interest in all minerals within the tenements; • The tenements are on the Mount Monger Pastoral Lease; • The Marlinyu Ghoorlie Native Title Claimant Group has a registered Native Title Claim WC2017/007 that covers the Golden Ridge Project; • At the time of this report, Mining Leases M26/222, M26/284 and Exploration Licence E26/186 are in Good Standing; • To the best of the Company's knowledge, other than industry standard permits to operate there are no impediments to Pioneer's operations within the tenement.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• The majority of work on the Juglah Dome project has been completed by previous operators; • Previous work by Mt Martin Mines (WMC) began in the 1990's exploring for Au, Cu, Zn; • Further exploration was carried out by Afmeco Ltd, Croesus, Curtin Mining NL, Titan Resources NL through the 90's for Au; • Immediately prior to Pioneer Resources Ltd (now Essential Metals Ltd) gold exploration continued from 2000 - 2010 by Placer Dome Asia Pacific Ltd, Newcrest mining Ltd, Solomon (Australia) Pty Ltd, Rubicon Resources Ltd and Integra Mining Ltd.

Criteria	JORC Code explanation	Commentary
		• The majority of work on the Golden Ridge project has been completed by previous operators; • Previous work by Western Mining Corporation (WMC) began in the 1960's; • WMC explored for gold in the mid 1990's and identified most of the gold prospects on the project; • Further exploration and gold prospects were followed up by Australian Mines Limited (AUZ) in the early 2000's
Geology	• Deposit type, geological setting, and style of mineralisation.	• The Juglah Dome Project is situated within the Juglah Dome that on the southern end Bulong Anticline. The project area is comprised of a layered sequence of felsic to intermediate volcanic rocks, volcaniclastic rocks, and chert overlain by mafic to ultramafic rocks. The layered sequence has been folded and has been intruded by granite (the Juglah Monzogranite) that forms the core of the dome. Gold occurrences and prospects are typical Archean orogenic lode-gold targets of the Eastern Goldfields Terrane. • Gold mineralisation is related to NW trending, shear zones and/ or NNE-NE cross faults and is hosted by felsic volcanic rocks and felsic porphyry dykes • Base-metal mineralisation is associated with Felsic to Intermediate volcanic rocks and interpreted as being of VHMS style. • The Golden Ridge Project is situated within the Menzies-Boorara Shear Zone (MBSZ). There are currently no gold deposits on the Golden Ridge Project, gold occurrences and prospects are typical Archean orogenic lode-gold targets of the Eastern Goldfields Terrain and display styles of mineralisation typical to the nearby Golden Ridge and Boorara deposits (not Pioneer owned). • Mineralisation is related to NNW trending, parallel shear zones up to 100m wide and is hosted by a complex stratigraphy including ultramafics, chloritic sediments, volcanogenic sediments and foliated basalts. The mineralisation is controlled by a stockwork of quartz veinlets characterised by pervasive sericite-sulphide alteration showing strong similarities to other gold deposits within the MBSZ.
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, 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	• Refer to Table 1 in Appendix 1 of this announcement.

Criteria	JORC Code explanation	Commentary
	the hole, down hole length and interception depth plus 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.	
Data aggregation methods	• 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. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Highlighted intersections noted in the body of the announcement are from 1m samples using 0.5g/t Au minimum cut-off and 5g/t Au for the including intervals. • All gold intersections within the areas of interest are in Table 1 in Appendix 2 and calculated using a minimum 0.5g/t Au cut off and maximum 4m internal waste and no external dilution. • There are no metal equivalent values reported.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	• Downhole lengths are reported, true widths are unknown.
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.	• Refer to figures and tables in this 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.	• Comprehensive reporting of a selection of historic Au downhole intersections from
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	• All meaningful and material exploration data has been reported.

Criteria	JORC Code explanation	Commentary
	deleterious or contaminating substances.	
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Complete planned AC drill programmes. • Interpret results from the drilling once they have been received.