

# Significant Copper-Nickel-Cobalt Discovery at Mt Venn

*Initial assays of up to 4.3% copper and 0.1% cobalt confirm significant mineralised system*

Great Boulder Resources (ASX: GBR) is pleased to announce that initial reconnaissance RC drilling at the Mt Venn prospect, within its Yamarna Project east of Laverton in WA, has intersected broad zones of shallow copper-nickel-cobalt mineralisation over an extensive strike length.

Results from the first nine holes reveal the presence of a wide zone of primary, near-surface copper-nickel-cobalt sulphide mineralisation which remains open in all directions.

Mineralisation is copper-dominant with discrete nickel-cobalt-rich zones. The cobalt grades are considerably higher than anticipated based on previous Gold Road drilling and Great Boulder geochem drilling ([Link](#)), with assay results returning grades up to 0.1% cobalt.

Significant intersections are tabled below and detailed in Appendix 2:

Hole ID	From m	To m	Interval M	Cu %	Ni %	Co %	Mineralisation Zone
<b>17MVRC001</b>	187	205	<b>18</b>	<b>0.82</b>	<b>0.07</b>	<b>0.02</b>	
-including	187	189	2	1.00	0.05	0.02	Copper
-including	190	191	1	1.71	0.03	0.01	Copper
-including	191	192	1	4.34	0.04	0.01	Copper
<b>17MVRC002</b>	68	78	<b>10</b>	<b>0.51</b>	<b>0.19</b>	<b>0.06</b>	
-including	71	72	1	0.89	0.12	0.04	Copper
-including	72	76	4	0.40	0.25	0.08	Nickel-Cobalt
<b>17MVRC007</b>	86	147	<b>61</b>	<b>0.50</b>	<b>0.15</b>	<b>0.05</b>	
-including	92	94	2	1.12	0.16	0.05	Copper
-including	94	100	6	0.34	0.22	0.07	Nickel-Cobalt
-including	100	103	3	1.09	0.10	0.04	Copper
-including	117	129	12	0.80	0.17	0.05	Copper
<b>17MVRC015</b>	103	153	<b>48</b>	<b>0.75</b>	<b>0.20</b>	<b>0.07</b>	
-including	105	108	3	1.27	0.11	0.04	Copper
-including	111	116	5	1.02	0.20	0.07	Mixed
-including	116	122	6	0.68	0.27	0.09	Nickel-Cobalt
-including	128	129	1	2.48	0.14	0.07	Mixed
-including	130	131	1	1.92	0.20	0.07	Mixed
-including	144	150	6	0.66	0.27	0.10	Nickel-Cobalt

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Great Boulder Managing Director Stefan Murphy said the results showed the Company has made a significant discovery at Mt Venn.

“To achieve such intersections of cobalt, copper and nickel from the first nine holes is simply outstanding,” Mr Murphy said.

“Given that we are conducting scout drilling over a strike length of 7.5km, it is remarkable to have intersected such widths and grades from these initial holes.

“As with any initial drilling program over such a vast area, it is a needle-in-a-haystack exercise. The potential at Mt Venn is becoming very apparent, with knowledge gained from recent drilling and an improved understanding of the ore-forming systems further confirming the prospectivity of the project.”

“We look forward to receiving the remaining results and have commenced down hole EM ahead of our next phase of targeted diamond and RC drilling in December,” he said.

Mr Murphy also acknowledged the Exploration Incentive Scheme established by the Government of Western Australia, which provided co-funding for the Mt Venn project. The EIS has allowed Great Boulder to fund exploration in a greenfield area and deliver on the EIS objectives of making new mineral discoveries which create employment opportunities.

## Drilling Details

The maiden RC drilling program is now complete with a total of 20 holes drilled. Results have been returned from nine drill holes (17MVR001-008 & 015) with results from the remaining eleven holes expected in approximately 2 weeks. Additional holes were drilled around the main central mineralised zone to verify the EM plate modeling, however several holes had to be abandoned due to difficulty in drilling the paleochannel clays.

Mineralisation is copper-dominant, with distinct nickel-cobalt rich zones. Copper grades up to 4.3% have been returned within the more chalcopyrite-rich copper zones. Copper mineralisation is intermingled with a more nickel-cobalt rich phase which has a strong association with increased sulphide content. The nickel and cobalt grades up to 0.3% Ni and 0.1% Co respectively within the massive sulphide zones and were much higher than anticipated based on previous Gold Road drilling and Great Boulder aircore geochem.

The dominant copper mineralisation suggests a highly fractionated magmatic system at Mt Venn. While only limited assay data has been returned from the maiden RC program, there is sufficient variation in the sulphide nickel tenor to suggest a less fractionated, more nickel-rich part of the system may exist. Analysis from the silicate part of the intrusion also indicates nickel depletion which suggests a more nickel-rich sulphide phase may be present within the Mt Venn intrusive complex.

The massive and semi-massive sulphide zones are dominated by highly magnetic pyrrhotite. There is a very strong correlation between the mineralised zones and the large western magnetic trend which is also supported by magnetic susceptibility readings taken from the drill samples. This trend was considered important but secondary to the EM plate modelling when designing the maiden RC drill program.

However, drilling results have shown that the mineralisation is much wider and steeper than modelled and that the magnetic zone represents a very good proxy for the mineralised zone. Several holes targeting the conductor plates were either collared into the footwall and drilled away from the magnetic zone or did not reach the magnetic zone. The low levels of sulphide mineralisation seen in these holes also suggests some holes may not have reached the primary source given the strong EM response seen in the ground based moving loop survey.

A downhole EM (DHEM) survey has now commenced with the objective of identifying off-hole conductors along the main mineralised trend. This information will be used with the drill hole data to better constrain the EM plate modelling. In addition, given the strong correlation between mineralisation and the western magnetic zone, a magnetic inversion model is being undertaken to generate a 3-dimensional model of the interpreted sulphide zone. This modeling will be constrained by the magnetic susceptibility data from the drill hole samples. Results from the inversion model and updated EM plate modelling will be used for planning the next phase of RC and diamond drilling.

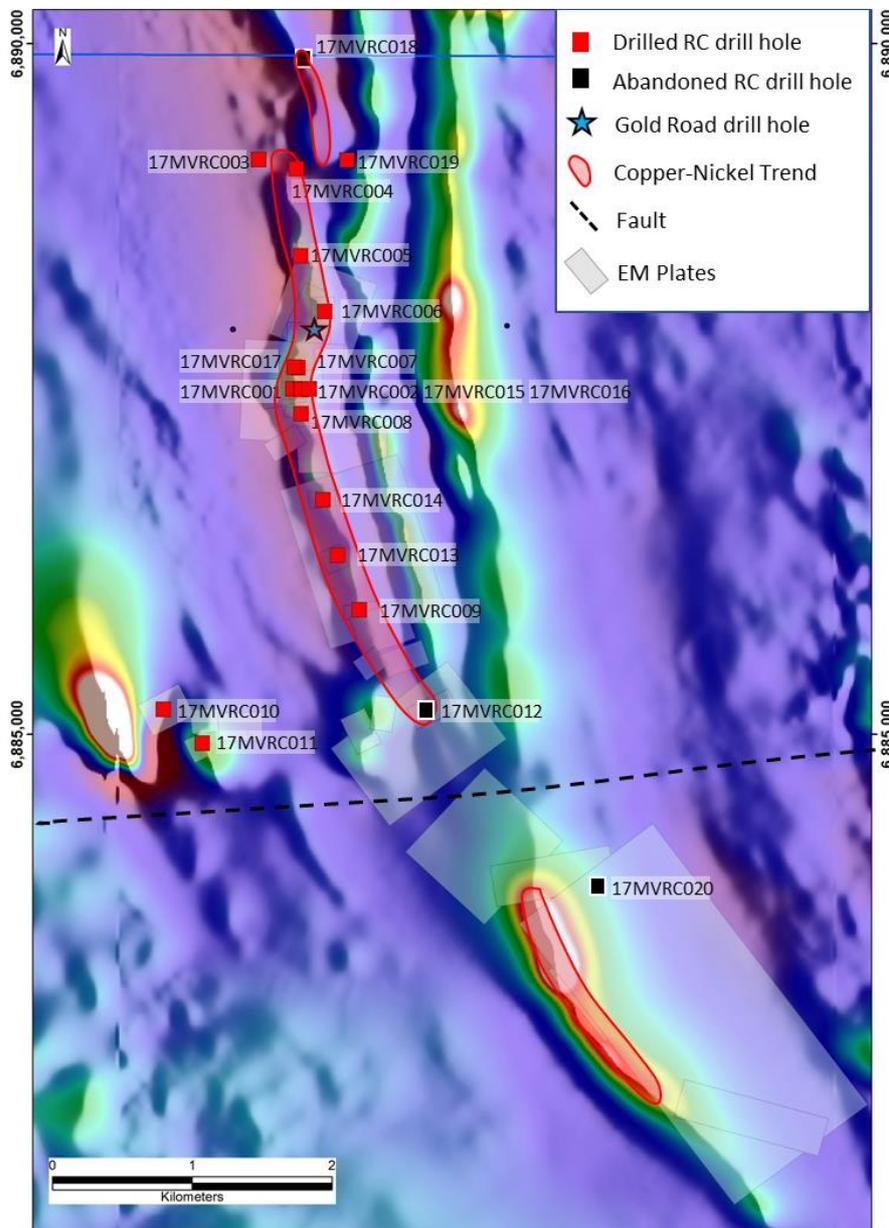


Figure 1. RC drill hole location map

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Wide copper-nickel-cobalt mineralisation has been identified within a central zone at Mt Venn over two lines spaced 160m apart. Results from drill holes 17MVRC001, 2, 7 & 15 are reported in this release, with results from 17MVRC016 & 017 pending. As discussed above, there is a very strong correlation between mineralisation and the western magnetic trend, and within this trend are intermingled copper and nickel-cobalt dominant zones.

Drill hole 17MVRC001 intersected a more fractionated, copper rich part of the system that is different to that intersected along the line in holes 17MVRC002 and 15. The upper modelled conductors were not intersected in 17MVRC001, however there is a good correlation with the lower conductor. Copper mineralisation in 17MVRC001 remains open in all directions and will be tested in the next phase of drilling.

Mineralisation in hole 17MVRC002 is shallower and much broader than the EM plate modelling. 17MVRC015 was drilled from the same pad as 17MVRC002 but at a steeper angle to test the dip orientation and mineralisation continuity. Results show exceptional copper and nickel-cobalt mineralised zones in both holes but at a much steeper dip than the EM plate modelling.

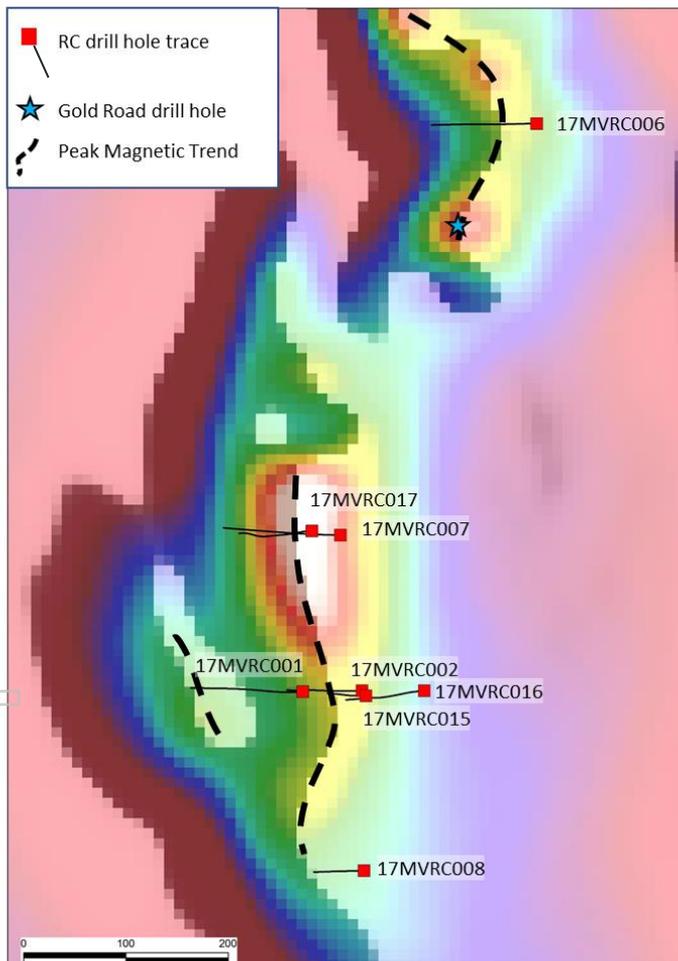


Figure 2. Central mineralised zone showing magnetic trend and drill hole traces

Hole 17MVRC007, which was drilled 160m to the north of drill hole 17MVRC002, intersected similar mineralization. This intersection is considered the northern strike continuation along the same magnetic trend. A wide 61m zone of mixed copper and nickel-cobalt mineralisation is intersected in 17MVRC007. Drill hole 17MVRC017 was collared 30m west of 17MVRC007 to test the up-dip extension. Significant sulphide mineralisation is encountered from 22m to 100m which again suggests a much steeper dip than modelled, consistent with the line 160m south. Results for drill hole 17MVRC017 are pending.

Drill hole 17MVRC008 was collared 180m south of 17MVRC002 to test the southern strike extension. While the hole hit the modelled EM plate it did not intersect the target magnetic trend. DHEM will be undertaken on all holes drilled in the central mineralised zone to test for off-hole conductors.

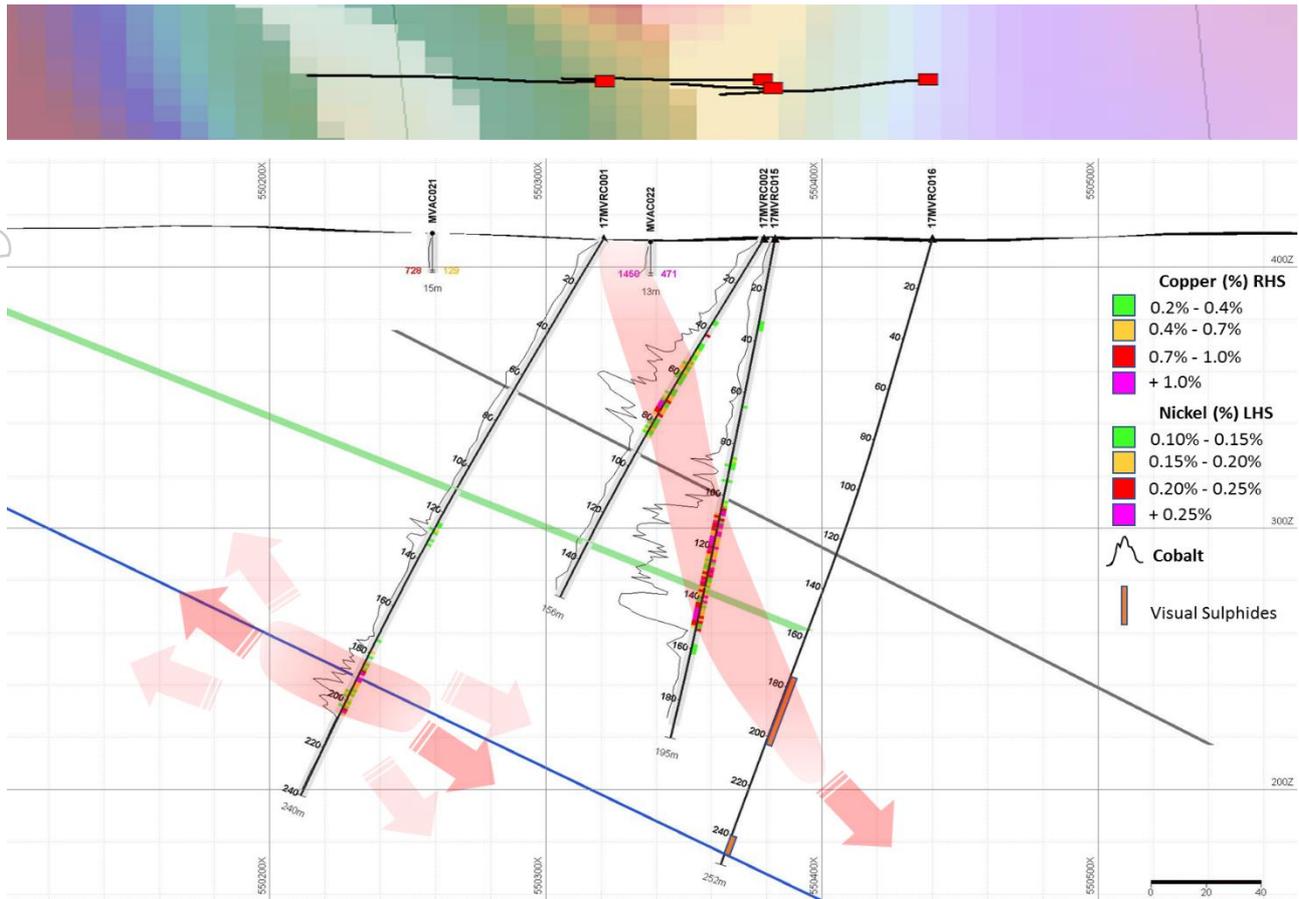


Figure 3. X-Section 6887500mN with modelled EM conductor plates (TMI-1VD magnetic image top)

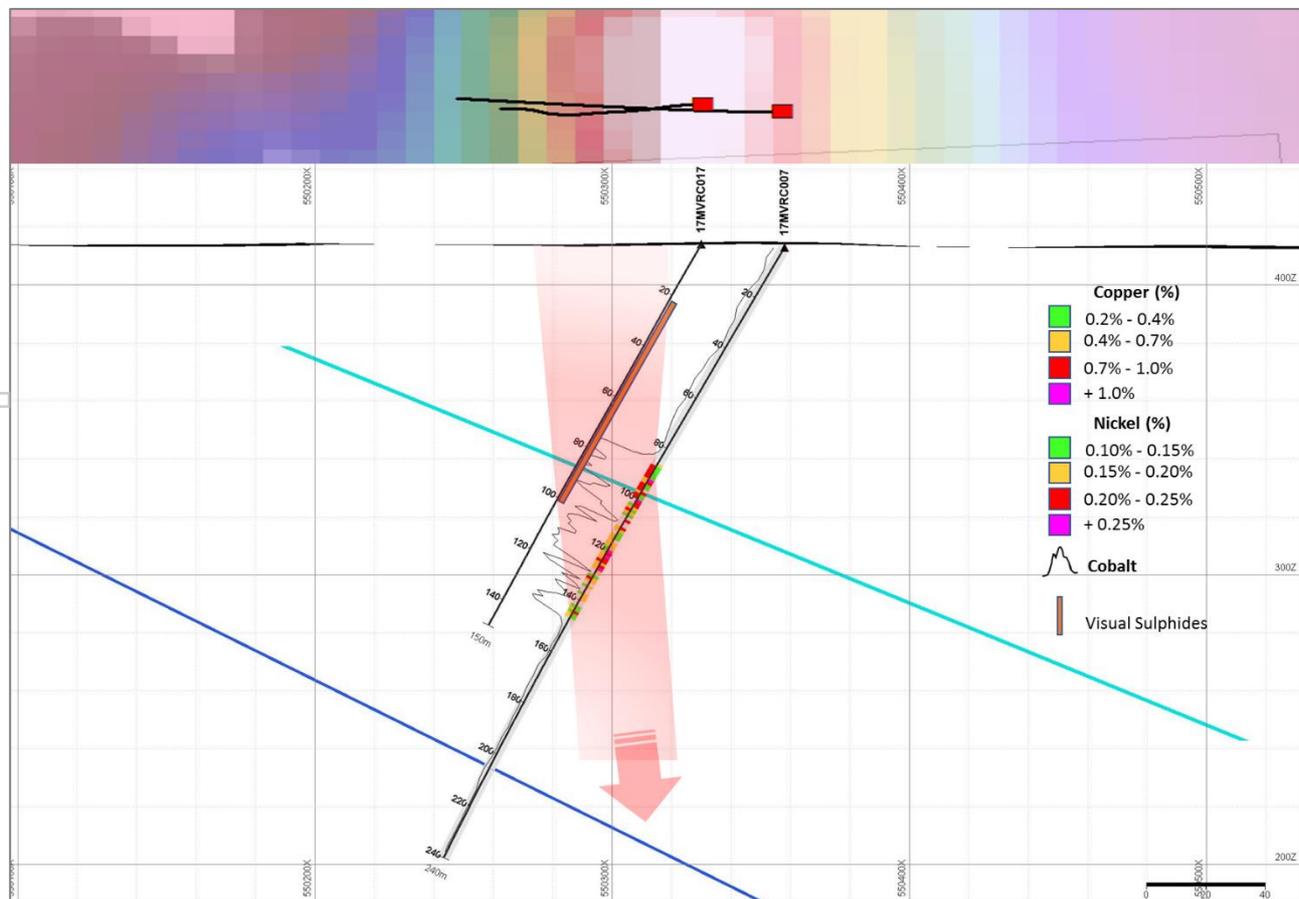


Figure 4. X-Section 6887660mN with modelled EM conductor plates (TMI-1VD magnetic image top)

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EM conductor plates were tested north of the central mineralised zone and the Gold Road drill hole. 17MVR006 was drilled 120m northeast of the Gold Road hole, testing three conductor plates. The hole intersected an upper copper zone (1m at 0.8% Cu from 108m) and two lower zones of copper mineralisation (2m at 0.8% Cu from 150m and 1m at 2.1% Cu from 158m).

The hole was drilled into a relatively subdued magnetic response along strike from the Gold Road hole. DHEM will be undertaken shortly to locate the conductor continuity south to the Gold Road hole and further north where a more pronounced magnetic response is located.

Hole 17MVR005 was drilled 450m northwest of 17MVR006, testing a very discrete conductor plate. Two zones of moderate copper-nickel-cobalt mineralisation were intersected, an upper zone of 3m at 0.4% Cu, 0.07% Ni and 308ppm Co from 45m; and a lower zone of 1m at 0.2% Cu, 0.2% Ni and 404ppm Co from 54m. Hole 17MVR005 was also cased and a DHEM survey will be undertaken to identify any off-hole conductors.

Holes 17MVR009, 013 & 014 tested conductor plates south of the central mineralised zone. Results are still pending, however only disseminated and stringer sulphide mineralisation is intersected. All holes have been cased and DHEM will be conducted to test for off-hole conductors associated with the main magnetic trend.

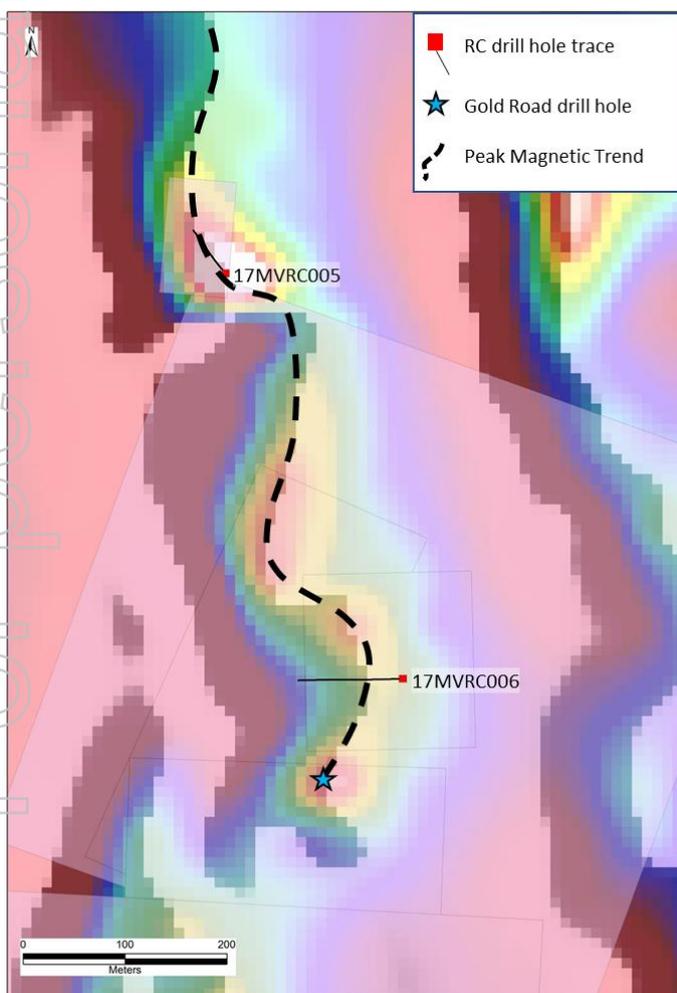


Figure 5. Northern extension to central mineralised zone

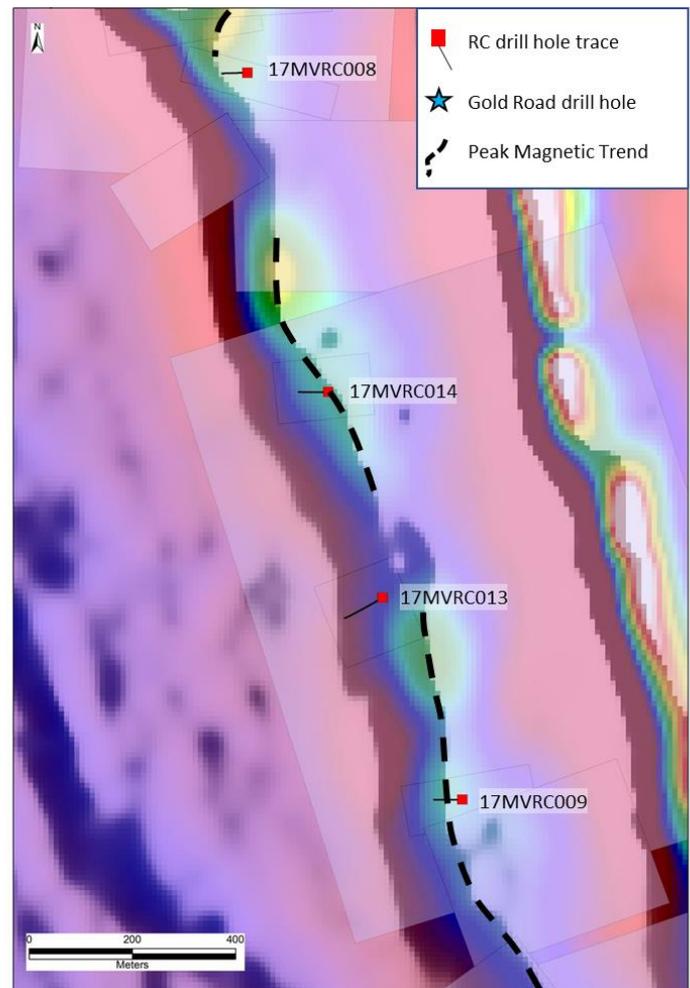


Figure 6. Southern extension to central mineralised zone

Two holes were drilled north of the survey area to test the zinc, lead and silver anomaly. 17MVRC004 was drilled under the main zinc-lead aircore anomaly and returned a highly encouraging **2m at 2.1% Zn from 58m**. Above the zinc-lead zone is a silver rich horizon of **8m at 8.9g/t Ag from 40m** and a lower copper zone of 2m at 0.2% Cu from 84m.

17MVRC003 was drilled 280m west of 17MVRC004 under a high silver aircore anomaly. Silver enrichment is intersected, with 8m at 6.5g/t Ag from surface but no other significant mineralisation is seen in the drilling.

Given the early-stage and wide spaced drilling, these results are very encouraging and confirm the presence of a different primary base metal association. Both 17MVRC003 & 004 have been cased and DHEM will be undertaken to locate potential sources of the base metal enrichment.

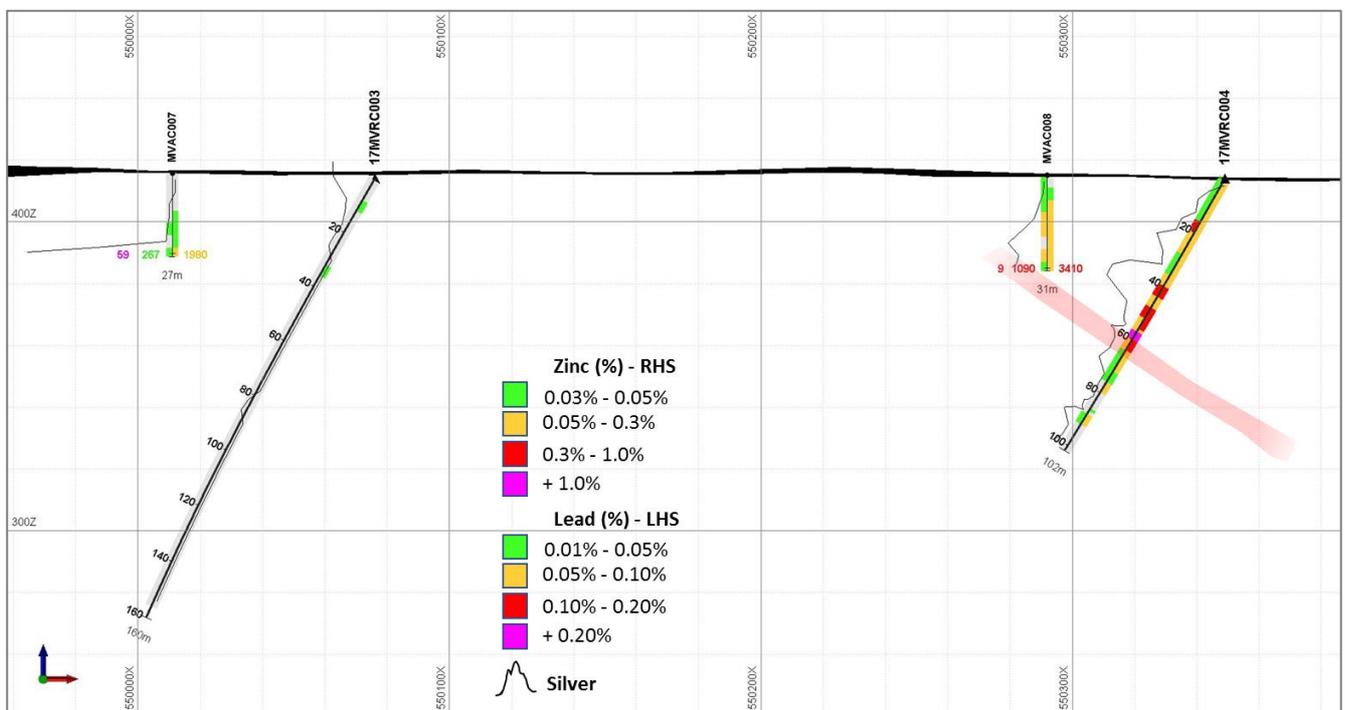


Figure 7. X-Section 6889100mN

Two holes, 17MVRC010 & 011, were drilled into the western conductor trend. The drilling intersected intermediate to mafic gneiss with wide bands of semi-massive pyrite and minor graphite. No chalcopyrite was visually logged and the pyrite bands correlate well with the modelled conductor plates. The pyrite bands are considered the likely source of the conductors and the rock type suggests the holes were drilled outside of the Mt Venn intrusion and as such no DHEM survey will be undertaken on these holes.

Drill holes 17MVRC012, 018 and 020 were drilled through thick paleochannel sediments and encountered significant water and swelling clays that resulted in the holes being abandoned above the target depth. These holes were not able to be cased however they will be assessed for re-entry and if possible diamond tails will be drilled to test the magnetic and conductor targets.

## Appendix 1 – RC drill hole collar locations

Hole ID	Easting	Northing	Azimuth	Dip	EoH (m)
17MVRC001	550321	6887500	268	-60	240
17MVRC002	550379	6887501	270	-60	156
17MVRC003	550076	6889161	268	-60	156
17MVRC004	550349	6889094	270	-60	102
17MVRC005	550376	6888464	315	-60	108
17MVRC006	550550	6888062	270	-60	198
17MVRC007	550358	6887655	270	-60	240
17MVRC008	550381	6887323	270	-60	95
17MVRC009	550798	6885902	270	-60	114
17MVRC010	549394	6885181	236	-60	150
17MVRC011	549672	6884938	234	-60	174
17MVRC012	551278	6885178	250	-60	114
17MVRC013	550643	6886297	240	-60	162
17MVRC014	550538	6886699	268	-60	120
17MVRC015	550383	6887496	270	-80	195
17MVRC016	550440	6887501	265	-75	252
17MVRC017	550330	6887659	270	-60	150
17MVRC018	550400	6889902	260	-60	102
17MVRC019	550710	6889157	285	-60	150
17MVRC020	552510	6883900	268	-60	87

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Appendix 2 – Significant Cobalt-Nickel-Copper Intercepts

Hole = 17MVR001						
From	To	Co ppm (max graph 1000ppm)	Ni % (max graph 0.3 %)	Cu % (max graph 3%)		
120	124	126	0.04	0.12		
124	125	100	0.03	0.30		
125	126	140	0.04	0.32		
126	127	98	0.03	0.11		
127	128	324	0.10	0.58		
128	129	185	0.06	0.29		
129	130	55	0.02	0.03		
130	131	68	0.02	0.07		
131	132	102	0.03	0.25		
132	133	228	0.07	0.08		
133	134	240	0.07	0.27		
134	135	250	0.08	0.16		
135	136	147	0.04	0.16		
179	180	157	0.04	0.67		
180	181	91	0.02	0.16		
181	182	247	0.07	0.21		
182	183	225	0.05	0.14		
183	184	162	0.05	0.16		
184	185	196	0.05	0.23		
185	186	113	0.03	0.63		
186	187	252	0.07	0.24		
187	188	227	0.07	0.91		
188	189	112	0.02	1.09		
189	190	229	0.05	0.08		
190	191	128	0.03	1.71		
191	192	167	0.04	4.34		
192	193	314	0.10	0.65		
193	194	208	0.06	0.45		
194	195	128	0.04	0.66		
195	196	309	0.09	0.29		
196	197	400	0.13	0.54		
197	198	476	0.16	0.23		
198	199	338	0.11	0.17		
199	200	79	0.02	0.41		
200	201	77	0.02	0.40		
201	202	280	0.07	0.47		
202	203	326	0.10	0.33		
203	204	203	0.06	0.82		
204	205	183	0.05	1.23		
205	206	230	0.07	0.55		

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Hole = 17MVR002						
From	To	Co ppm (max graph 1000ppm)	Ni % (max graph 0.3 %)	Cu % (max graph 3%)		
42	43	92	0.03	0.75		
43	44	207	0.03	0.17		
44	45	148	0.05	0.16		
45	46	179	0.06	0.18		
46	47	251	0.09	0.24		
47	48	222	0.08	0.34		
48	49	205	0.07	0.20		
49	50	248	0.09	0.41		
50	51	269	0.09	0.64		
51	52	239	0.08	0.31		
52	53	220	0.06	0.26		
53	54	229	0.08	0.55		
54	55	264	0.08	0.26		
55	56	317	0.10	0.47		
56	57	563	0.19	0.23		
57	58	499	0.16	0.32		
58	59	289	0.09	0.51		
59	60	346	0.11	0.34		
60	61	358	0.11	0.31		
61	62	445	0.14	0.36		
62	63	304	0.09	0.22		
63	64	277	0.08	0.22		
64	65	294	0.08	0.14		
65	66	249	0.07	0.14		
66	67	224	0.06	0.33		
67	68	276	0.08	0.35		
68	69	447	0.13	0.37		
69	70	315	0.09	0.41		
70	71	502	0.15	0.48		
71	72	427	0.12	0.89		
72	73	838	0.25	0.29		
73	74	875	0.26	0.29		
74	75	886	0.27	0.41		
75	76	787	0.23	0.62		
76	77	693	0.21	0.41		
77	78	655	0.19	0.93		
78	79	294	0.09	0.16		
79	80	319	0.10	0.21		
80	81	348	0.10	0.23		
81	82	433	0.13	0.29		
82	83	200	0.05	0.34		
83	84	379	0.11	0.57		
84	85	598	0.18	0.21		
85	86	355	0.10	0.28		
86	87	196	0.05	0.41		

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Hole = 17MVR005						
From	To	Co ppm (max graph 1000ppm)	Ni % (max graph 0.3 %)	Cu % (max graph 3%)		
40	44	250	0.06	0.12		
44	45	346	0.10	0.13		
45	46	933	0.09	0.12		
46	47	443	0.08	0.34		
47	48	315	0.09	0.32		
48	49	168	0.05	0.51		
49	50	49	0.01	0.12		
50	51	219	0.08	0.17		
51	52	130	0.04	0.10		
52	53	147	0.05	0.11		
53	54	79	0.03	0.04		
54	55	404	0.15	0.21		
55	56	134	0.05	0.28		
56	57	102	0.04	0.13		
Hole = 17MVR006						
From	To	Co ppm (max graph 1000ppm)	Ni % (max graph 0.3 %)	Cu % (max graph 3%)		
108	109	88	0.02	0.78		
138	139	56	0.02	0.29		
139	140	102	0.03	0.27		
140	141	120	0.04	0.29		
141	142	220	0.07	0.33		
150	151	206	0.07	0.59		
151	152	275	0.09	0.98		
152	153	248	0.09	0.22		
158	159	77	0.03	2.09		
159	160	46	0.02	0.26		

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Hole = 17MVRC007						
From	To	Co ppm (max graph 1000ppm)	Ni % (max graph 0.3 %)		Cu % (max graph 3%)	
86	87	316	0.09		0.43	
87	88	646	0.20		0.30	
88	89	769	0.24		0.21	
89	90	744	0.23		0.31	
90	91	705	0.22		0.32	
91	92	755	0.23		0.29	
92	93	542	0.16		1.43	
93	94	544	0.16		0.81	
94	95	698	0.22		0.26	
95	96	741	0.23		0.25	
96	97	776	0.24		0.16	
97	98	633	0.20		0.76	
98	99	722	0.23		0.28	
99	100	688	0.22		0.30	
100	101	340	0.09		1.50	
101	102	383	0.08		0.94	
102	103	521	0.12		0.83	
103	104	538	0.18		0.46	
104	105	716	0.23		0.21	
105	106	586	0.16		0.57	
106	107	339	0.12		0.29	
107	108	332	0.10		0.17	
108	109	225	0.07		0.99	
109	110	67	0.02		0.19	
110	111	92	0.03		0.12	
111	112	511	0.16		0.72	
112	113	566	0.18		0.46	
113	114	268	0.08		0.32	
114	115	485	0.15		0.25	
115	116	586	0.19		0.27	
116	117	587	0.19		0.14	
117	118	520	0.16		0.68	
118	119	535	0.17		0.50	
119	120	418	0.13		0.48	
120	121	416	0.13		1.08	
121	122	614	0.20		0.70	
122	123	579	0.19		1.31	
123	124	573	0.18		0.99	
124	125	639	0.20		0.77	
125	126	540	0.18		0.61	
126	127	560	0.19		0.85	
127	128	557	0.19		1.07	
128	129	227	0.08		0.61	
129	130	44	0.01		0.05	
130	131	412	0.14		0.29	
131	132	619	0.21		0.43	
132	133	517	0.18		0.55	
133	134	112	0.03		0.13	
134	135	331	0.11		0.56	
135	136	139	0.05		0.07	
136	137	55	0.02		0.05	
137	138	356	0.12		0.55	
138	139	296	0.10		0.66	
139	140	184	0.06		0.54	
140	141	75	0.02		0.17	
141	142	272	0.09		0.19	
142	143	352	0.12		0.33	
143	144	477	0.16		0.31	
144	145	383	0.13		0.95	
145	146	501	0.18		0.31	
146	147	447	0.16		0.29	

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Hole = 17MVRC015						
From	To	Co ppm (max graph 1000ppm)	Ni % (max graph 0.3 %)	Cu % (max graph 3%)		
85	86	248	0.07	0.25		
86	87	314	0.09	0.48		
87	88	219	0.06	0.21		
88	89	488	0.14	0.28		
89	90	288	0.08	0.25		
102	103	469	0.08	0.33		
103	104	236	0.07	0.67		
104	105	298	0.07	0.31		
105	106	278	0.07	0.92		
106	107	288	0.08	1.87		
107	108	656	0.19	1.02		
108	109	803	0.23	0.17		
109	110	696	0.19	0.84		
110	111	933	0.27	0.23		
111	112	728	0.21	1.17		
112	113	748	0.21	1.02		
113	114	797	0.23	0.50		
114	115	572	0.16	1.07		
115	116	795	0.20	1.36		
116	117	913	0.26	0.40		
117	118	956	0.27	0.44		
118	119	953	0.27	0.64		
119	120	938	0.27	0.60		
120	121	825	0.24	1.33		
121	122	985	0.28	0.68		
122	123	759	0.22	0.52		
123	124	586	0.17	0.62		
124	125	665	0.19	0.43		
125	126	540	0.14	1.36		
126	127	766	0.20	0.30		
127	128	507	0.13	0.68		
128	129	723	0.14	2.48		
129	130	683	0.19	0.78		
130	131	729	0.20	1.92		
131	132	738	0.19	0.92		
132	133	812	0.24	0.25		
133	134	866	0.26	0.27		
134	135	796	0.24	0.62		
135	136	813	0.24	0.33		
136	137	659	0.19	0.48		
137	138	895	0.25	0.39		
138	139	629	0.18	0.45		
139	140	599	0.16	1.12		
140	141	426	0.11	0.68		
141	142	428	0.11	1.10		
142	143	737	0.21	0.55		
143	144	839	0.24	0.38		
144	145	969	0.28	0.67		
145	146	977	0.28	0.51		
146	147	978	0.28	0.56		
147	148	980	0.28	0.78		
148	149	957	0.27	0.63		
149	150	839	0.24	0.79		
150	151	781	0.23	0.34		
151	152	643	0.19	0.32		
152	153	272	0.07	0.89		

## Appendix 3 – Significant Zinc-Silver-Lead Intercepts

Hole = 17MVRC003							
From	To	Interval	Zn %	Ag g/t	Pb %	Cu %	
0	4	4		7.20			
4	8	4		5.90			
8	12	4		2.40			
Hole = 17MVRC004							
From	To	Interval	Zn %	Ag g/t	Pb %	Cu %	
36	40	4	0.14	6.8	0.05		
40	44	4	0.33	8.9	0.11		
44	48	4	0.23	8.8	0.08		
48	52	4	0.69	3.9	0.11		
52	56	4	0.35	3.2	0.07		
56	57	1	0.16	2.1	0.05		
57	58	1	0.98	2.3	0.35		
58	59	1	2.01	3.1	0.45		
59	60	1	2.24	4.1	0.32		
60	64	4	0.31	2.6	0.06		
64	68	4	0.14	2.4	0.03		
68	72	4	0.11	3.2	0.02		
84	85	1		1.6		0.26	
85	86	1		1.5		0.21	
86	87	1		1.4		0.17	
87	88	1		0.9		0.12	
88	92	4		3.7		0.11	

## Competent Person's Statement- Exploration Results

Exploration information in this Announcement is based upon work undertaken by Stefan Murphy whom is a Member of the Australasian Institute of Geoscientists (AIG). Mr Stefan Murphy has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which 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 Resources and Ore Reserves' (JORC Code). Mr Stefan Murphy is Managing Director of Great Boulder and consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

## Forward Looking Statements

This Announcement is provided on the basis that neither the Company nor its representatives make any warranty (express or implied) as to the accuracy, reliability, relevance or completeness of the material contained in the Announcement and nothing contained in the Announcement is, or may be relied upon as a promise, representation or warranty, whether as to the past or the future. The Company hereby excludes all warranties that can be excluded by law. The Announcement contains material which is predictive in nature and may be affected by inaccurate assumptions or by known and unknown risks and uncertainties, and may differ materially from results ultimately achieved.

The Announcement contains "forward-looking statements". All statements other than those of historical facts included in the Announcement are forward-looking statements including estimates of Mineral Resources. However, forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to, copper, nickel, cobalt, gold and other metals price volatility, currency fluctuations, increased production costs and variances in ore grade recovery rates from those assumed in mining plans, as well as political and operational risks and governmental regulation and judicial outcomes. The Company does not undertake any obligation to release publicly any revisions to any "forward-looking statement" to reflect events or circumstances after the date of the Announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws. All persons should consider seeking appropriate professional advice in reviewing the Announcement and all other information with respect to the Company and evaluating the business, financial performance and operations of the Company. Neither the provision of the Announcement nor any information contained in the Announcement or subsequently communicated to any person in connection with the Announcement is, or should be taken as, constituting the giving of investment advice to any person.

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## Mt Venn Background

Great Boulder's Yamarna Project hosts the Mt Venn igneous complex, where recent drilling established the presence of a mineralised magmatic sulphide system.

In late 2015 Gold Road drilled and assayed an RC drill hole on the edge of an EM anomaly identified from an airborne XTEM survey, identifying copper-nickel-cobalt mineralisation. Great Boulder subsequently re-assayed the hole and confirmed primary bedrock sulphide mineralisation, with peak assay results of 1.7% Cu, 0.2% Ni, 528ppm Co (over 1m intervals) over two distinct lenses.

Zone	From (m)	To (m)	Interval (m)	Cu (%)	Ni (%)	Co (ppm)
Upper	67	73	6	0.54	0.08	244
	<i>including</i>		1	1.53	0.12	341
Lower	85	88	3	0.85	0.12	360
	<i>including</i>		1	1.71	0.07	235

Great Boulder completed a ground based moving loop EM survey in September 2017 and reported extensive strong EM conductors and co-incident copper-nickel mineralisation from aircore geochemistry (refer to announcement dated 5 October 2017 - [link](#)).

The conductors extend over the 7.5km-long survey area of the Mt Venn intrusion and show a strong late-time response indicative of a bedrock source. Aircore drilling also identified sulphide mineralisation and no carbonaceous or graphitic shales have been encountered along the main conductor trend.

EM plate modelling in the northern survey areas show a series of stacked, near surface conductors along a 3.6km strike length immediately north of an interpreted east-west striking fault. Assay results from this area show a strong correlation between the EM response and copper, nickel and cobalt in the end-of-hole geochemistry.

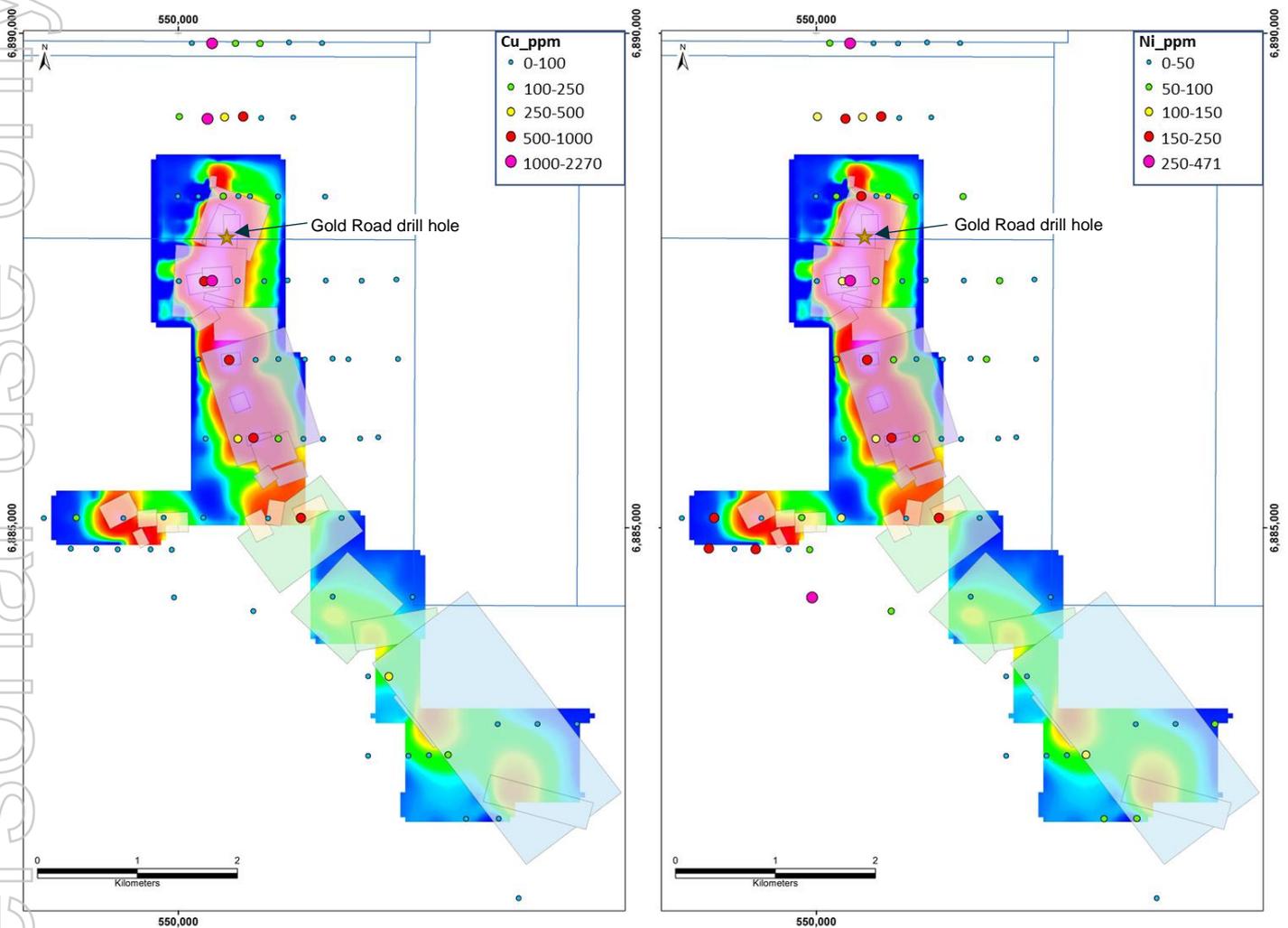
Aircore drilling defined a very discrete copper-nickel-cobalt bedrock trend (end of hole) associated with the peak conductor trend in the northern area. The geochemical anomaly extends a further 1.2km north of the survey area where some of the strongest copper results, and associated zinc, lead and silver were returned.

In the southern area, the paleochannel cover was extensive and up to 120m deep in places. The ground-based EM was able to penetrate the paleochannel sediments and identify late-time bedrock conductors. The modelled conductor plates are much deeper than the northern area, with assay results still showing a copper-nickel trend but much more moderate than the north.

The average depth to top of conductor in the northern area is 30-50m, whereas the southern conductors beneath the paleochannel sediments are modelled at ~150m below surface.

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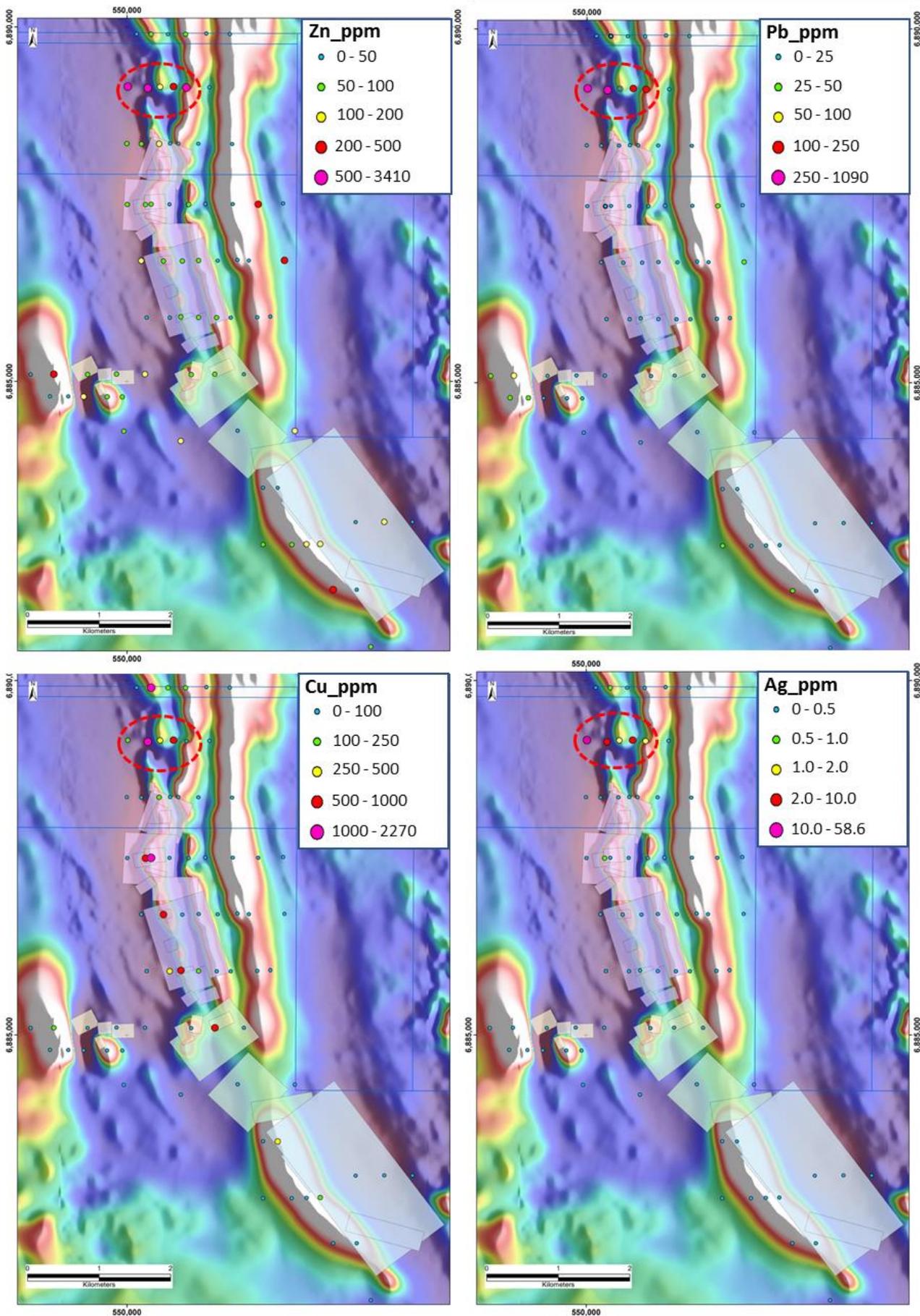
The northern survey area exhibits a very strong correlation between the modelled conductors and copper-nickel in the aircore geochemistry results. This strong EM-geochemical association provides further evidence that the EM response is associated with bedrock sulphide mineralisation, consistent with the previously reported Gold Road drill hole that intersected massive and semi-massive sulphides with up to 1.7% Copper.



**Figure 8.** End of hole copper (LHS) and nickel (RHS) grades shown over Channel 30 EM response. Note the EM survey does not cover the northern extension of the Cu-Ni anomaly

In addition to the primary copper-nickel trend, there is a unique multi-element anomaly north of the EM survey area that is particularly anomalous in zinc, lead and silver. The EM survey was not extended to this area, primarily as the XTEM data showed it to be relatively dead. Figure 5 below shows the coincident zinc-lead-silver trend along with copper.

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**Figure 9.** End of hole zinc, lead, silver and copper on RTP magnetic image and modelled EM plates. Red circle highlights discrete zinc-lead-silver anomaly

## JORC Code, 2012 Edition Table 1

The following table relates to activities undertaken at Great Boulder's Tarmoola projects.

## Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg 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> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<p>Reverse circulation drilling (RC) was used to produce a 1m bulk sample and representative 1m split samples (nominally a 12.5% split) were collected using a cone splitter.</p> <p>Geological logging was completed and mineralised intervals were determined by the geologists to be submitted as 1m samples. In intervals assessed as unmineralised 4m composite (scoop) samples were collected for laboratory for analysis. If these 4m composite samples come back with anomalous grade the corresponding original 1m split samples are then routinely submitted to the laboratory for analysis.</p> <p>The samples were crushed and split at the laboratory, with up to 3kg pulverised, with a 50g samples analysed by Industry standard methods.</p> <p>The sampling techniques used are deemed appropriate for the style of exploration.</p>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<p>Reverse Circulation drilling used 140 to 130mm diameter drill bits. RC drilling employed face sampling hammers ensuring contamination during sample extraction is minimised.</p>

<p><b>Drill sample recovery</b></p>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<p>Drilling techniques to ensure adequate RC sample recovery and quality included the use of “booster” air pressure. Air pressure used for RC drilling was 700-800psi.</p> <p>Logging of all samples followed established company procedures which included recording of qualitative fields to allow discernment of sample reliability. This included (but was not limited to) recording: sample condition, sample recovery, sample split method.</p> <p>Of the 3,065m of RC drilling, overall logging of all sample recovery recorded 87% “good”, 3% “moderate”, 10% poor. Logging of the sample condition recorded 85% “dry”, 3% “moist”, 12% “wet”.</p> <p>RC sample intervals recorded 39% 1m split samples, and 61% 4m composite samples (note: generally composite samples are in unmineralised zones)</p> <p>No quantitative analysis of samples weights, sample condition or recovery has been undertaken.</p> <p>No quantitative twinned drilling analysis has been undertaken at the project.</p>
<p><b>Logging</b></p>	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<p>Geological logging of samples followed established company and industry common procedures. Qualitative logging of samples included (but was not limited to) lithology, mineralogy, alteration and weathering.</p>
<p><b>Sub-sampling techniques and sample preparation</b></p>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> </ul>	<p>Splitting of RC samples occurred via cone splitter by the RC drill rig operators. Cone splitting of RC drill samples occurred regardless of the sample condition.</p> <p>Samples taken were typically between 1.5-3.3kg.</p>

- *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.*

All samples were submitted to ALS Minerals (Kalgoorlie) for analyses. The sample preparation included:

- Samples were weighed, crushed (such that a minimum of 70% pass 2mm) and pulverised (such that a minimum of 85% pass 75um) as per ALS standards.
- Analysis was undertaken for gold, platinum and palladium using, 30g charge for fire assay and ICP-AES (ALS method; PGM-ICP23)
- A 4 acid digest and ICP-AES (ALS method; MS-ICP61) was used for 33 multi-elements. This also included Co, Cu, Ni, Zn.
- For elements that reported over range, ALS used ore grade 4 acid digest and ICP-AES methods; (nickel) Ni-OG62, (copper) Cu-OG62, (sulphur)
- Sulphur over range used ALS method S-IR08 (Leco Sulphur analyzer).

Sample collection, size and analytical methods are deemed appropriate for the style of exploration.

#### **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 (ie lack of bias) and precision have been established.*

• All samples were assayed by industry standard methods through commercial laboratories in Australia (ALS Minerals, Kalgoorlie).

Typical analysis methods are detailed in the previous section and are consider 'near total' values.

- Routine 'standard' (mineralised pulp) Certified Reference Material (CRM) was inserted by Great Boulder at a nominal rate of 1 in 50 samples. Routine 'blank' material (unmineralised sand) was inserted at a nominal rate of 1 in 100 samples. No significant issues were noted.
- No duplicate or umpire checks were undertaken.
- The analytical laboratories provided their own routine quality controls within their own practices. No significant issues were noted.

#### **Verification of sampling and assaying**

- *The verification of significant intersections by either independent or alternative company personnel.*

• No verification of sampling and assaying has been undertaken in this exploration programme. No twinned drilling has been undertaken.

	<ul style="list-style-type: none"> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>
<p><b>Location of data points</b></p>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul> <ul style="list-style-type: none"> <li>• Great Boulder has strict procedures for data capture, flow and data storage, and validation.</li> <li>• Limited adjustments were made to returned assay data; values returned lower than detection level were set to the methodology's detection level, and this was flagged by code in the database.</li> </ul>
<p><b>Data spacing and distribution</b></p>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul> <p>The spacing and location of the majority of the drilling in the projects is, by the nature of early exploration, variable.</p> <p>The spacing and location of data is currently only being considered for exploration purposes.</p> <p>In intervals qualitatively logged as unmineralised, 4 metre composite (scoop) samples were taken from the RC drill holes. RC sample intervals recorded 39% in 1m splits, and 61% 4m composite sample.</p>
<p><b>Orientation of data in relation to geological structure</b></p>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul> <p>Drilling was nominally perpendicular to regional mineralisation trends where interpreted and practical. True width and orientation of intersected mineralisation is currently unknown.</p> <p>A list of the drillholes and orientations are reported with significant intercepts is provided as an appended table.</p> <p>The spacing and location of the data is currently only being considered for exploration purposes.</p>

<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<p>Great Boulder has strict chain of custody procedures that are adhered to for drill samples.</p> <p>All sample bags are pre-printed and pre-numbered. Sample bags are placed in a polyweave bags (up to 5 samples) and closed with a zip tie such that no sample material can spill out and no one can tamper with the sample once it leaves the company's custody.</p>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	None completed.

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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 license to operate in the area.</li> </ul>	<p>Great Boulder Resource Ltd (GBR) is comprised of several projects with associated tenements; Yamarna tenements and details;</p> <p>Exploration licences E38/2685, E38/2952, E38/2953, E38/5957, E38/2958, E38/2320 and prospecting licence P38/4178 where,</p> <p>GBR has executed a JV agreement to earn 75% interest through exploration expenditure of \$2,000,000 AUD over five years. Following satisfaction of the minimum expenditure commitment by GBR, EGMC (current tenement owner) will have the right to contribute to expenditure in the project at its 25% interest level or choose to convert to a 2% Net Smelter Royalty (NSR). Should EGMC choose to convert its remaining interest into a 2% NSR, then GBR will have a 100% interest in the project.</p>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<p>Previous explorers included:</p> <ul style="list-style-type: none"> <li>1990's. Kilkenny Gold NL completed wide-spaced, shallow, RAB drilling over a limited area. Gold assay only.</li> <li>2008. Elektra Mines Ltd (now Gold Road Resources Ltd) completed two shallow RC holes targeting extension to Mt Venn igneous complex. XRF analysis only, no geochemical analysis completed.</li> <li>2011. Crusader Resources Ltd completed broad-spaced aircore</li> </ul>

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		<p>drilling targeting extensions to Thatcher's Soak uranium mineralisation. XRF analysis only, no geochemical analysis completed.</p> <ul style="list-style-type: none"> <li>- In late 2015 Gold Road drilled and assayed an RC drill hole on the edge of an EM anomaly identified from an airborne XTEM survey, identifying copper-nickel-cobalt mineralisation.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p>Great Boulder's Yamarna Project hosts the southern extension of the Mt Venn igneous complex. This complex is immediately west of the Yamarna greenstone belt.</p> <p>The mineralisation encountered in the Mt Venn drilling suggests that sulphide mineralisation is prominent along a EM conductor trend, and shows a highly sulphur-saturated system within metamorphosed dolerite and gabbro sequence.</p> <p>Visual logging of sulphide mineralogy shows pyrrhotite dominant with chalcopyrite.</p>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>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.</i></li> </ul>	<p>A complete list of the reported significant results from Great Boulder's drilling is provided in the body of the report.</p> <p>A list of the drillhole coordinates, orientations and metrics are provided as an appended table.</p>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high</i></li> </ul>	<p>No weight averaging techniques, aggregation methods or grade truncations were applied to these exploration results.</p>

	<p><i>grades) and cut-off grades are usually Material and should be stated.</i></p> <ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<p>All significant intercept lengths were from 1m splits. No length weighting was applied.</p> <p>No metal equivalents are used.</p>
<p><b>Relationship between mineralisation widths and intercept lengths</b></p>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>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').</i></li> </ul>	<p>The orientation of structures and mineralisation is not known with certainty but drilling was conducted using appropriate orientations for interpreted mineralisation.</p> <p>Preliminary analysis of drilling and EM survey results suggest that mineralisation may be shallow dipping which suggests that intersection widths are broadly representative of the true width of mineralisation.</p>
<p><b>Diagrams</b></p>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<p>Refer to figures in announcement.</p>
<p><b>Balanced reporting</b></p>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<p>It is not practical to report all exploration results. Low or non-material grades have not been reported.</p> <p>All drill hole locations are reported and a table of significant intervals is provided in the announcement.</p>
<p><b>Other substantive</b></p>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited</i></li> </ul>	<p>In late 2015 Gold Road drilled and assayed an RC drill hole on the edge of an EM anomaly identified from an airborne XTEM survey,</p>

<p><b>exploration data</b></p>	<p><i>to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></p>	<p>identifying copper-nickel-cobalt mineralisation. Great Boulder subsequently re-assayed the hole and confirmed primary bedrock sulphide mineralisation, with peak assay results of 1.7% Cu, 0.2% Ni, 528ppm Co (over 1m intervals) over two distinct lenses.</p> <p>Great Boulder completed a ground based moving loop EM survey in September 2017 and reported extensive strong EM conductors and co-incident copper-nickel mineralisation from aircore geochemistry (refer to announcement dated 5 October 2017)</p>
<p><b>Further work</b></p>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<p>Potential work across the project may include detailed additional geological mapping and surface sampling, additional geophysical surveys (either surface or downhole), and potentially additional confirmatory or exploratory drilling.</p>