



Orion Minerals_{NL}

ASX RELEASE: 6 September 2017

Further Positive Drilling Results From Prieska Zinc - Copper Project

- ▶ **Maiden underground drill assays on the +105 Level Target return a high-grade supergene sulphide intersection of 3m at 5.65% Cu, 1.00% Zn, 160m along strike from previous surface drilling.**
- ▶ **The high-grade result, along strike of previous drilling, validates the strategy to delay the JORC compliant Mineral Resource estimate at the +105 Level Target to incorporate the results of the underground drill program.**
- ▶ **Further positive diamond drill results to validate historical reported data at the Deep Sulphide Target, with 11.74m at 3.11% Zn and 1.23% Cu, consistent with historically reported and modelled data.**
- ▶ **Extensional drilling beyond the limits of historic drilling at the Deep Sulphide Target has successfully intersected 15.92m at 5.55% Zn and 0.95% Cu, providing further support for material extensions to historical modelled mineralisation.**
- ▶ **Ground and down hole electromagnetic surveys are underway on the Deep Sulphide Target with encouraging initial indications for further extensions of the wide massive sulphide mineralisation.**
- ▶ **Orion's intensive drill program on both the +105 Level Target and Deep Sulphide Target are on track to deliver JORC compliant Mineral Resource estimates by Q4 CY17 and Q1 CY18 respectively.**

Orion Minerals NL (**ASX: ORN**) (**Orion** or **the Company**) is pleased to announce that the first assay results from the underground drilling testing the +105 Level Target (Open Pit) at its Prieska Zinc-Copper (**Prieska**) Project in South Africa have returned high grade supergene mineralisation. In addition, further excellent results have been received from the surface drilling testing the Deep Sulphide Target, both validating and extending the historically modelled mineralisation.

+105 Level Target summary

Underground drilling at Prieska is targeting mineralisation at the +105 Level Target (Open Pit). The program aims to infill and extend mineralisation drilled from surface in 2016 and 2017, utilising the newly re-established underground access (Figure 1). Assay results have confirmed the presence of high grade supergene mineralisation 160m along strike from mineralisation previously intersected from surface, consistent with Orion's exploration model for the +105 Level Target.

Orion Minerals NL
ASX Code: ORN
Ordinary shares on issue: 990m
Options: 217m

www.orionminerals.com.au
Suite 617, 530 Little Collins Street
Melbourne, VIC, 3000
+61 (0) 3 8080 7170

Drill hole OCOU073 intersected mineralisation over 9m from 50.00m to 59.00m with 1.18m core loss from 54.82m. Assays returned 3.00m at 5.65% Cu, 1.00% Zn, 0.34g/t Au and 17.0g/t Ag from 56m and 4.82m at 1.10%Cu, 0.63% Zn, 0.33g/t Au and 12.7g/t Ag from 50m.

Deep Sulphide Target summary

Assays have been received for a further four holes targeting the validation and extension of historically defined mineralisation drilled at the Deep Sulphide Target, with results as follows:

- 15.92m at 5.55% Zn, 0.95% Cu, 0.22g/t Au and 7.5g/t Ag from 1117.59m (OCOD052_D2, a deflection from parent OCOD052);
- 11.74m at 3.11% Zn, 1.23% Cu, 0.17g/t Au and 10.0g/t Ag from 1026.20m (OCOD054);
- 0.68m at 5.45% Zn, 0.09% Cu, 0.08g/t Au and 14.0g/t Ag from 1003.43m and 1.00m at 4.50% Zn, 0.07% Cu, 0.08g/t Au and 9.0g/t Ag from 1010.89m (OCOD059)
- 0.63m at 2.61% Zn, 5.39% Cu, 0.91g/t Au and 38g/t Ag from 1126.15m (OCOD066),
- 2.90m at 3.51% Zn, 0.74% Cu, 0.21g/t Au and 11.3g/t Ag from 1124.7m (OCOD062);
- 3.00m at 2.41% Zn, 0.43% Cu, 0.16g/t Au and 5.3g/t Ag from 1045.0m (OCOD063).

These results follow previously reported results in the current drill program including:

- 22.45m at 5.33% Zn, 1.34% Cu, 0.26g/t Au and 10.6g/t Ag from 1060.0m, including 5.7m at 10.89%Zn from 1060.8 (OCOD048); and
- 16.15m at 3.30% Zn, 1.72% Cu, 0.26g/t Au and 13.7g/t Ag from 1116.0m (OCOD052);

(refer ASX releases 17 July 2017 and 27 July 2017)

OCOD052_D2 was drilled as a deflection from OCOD052 and the excellent correlation between these holes, especially the thickness of mineralisation intersected, provides further validation of wide massive sulphide mineralisation present at the north-western extremity of the Deep Sulphide Target.

The intersection in OCOD054 confirms the expected depth, width and grade of mineralisation in a historically drilled area and therefore is an important result in verifying historic results for use in Mineral Resource estimations (as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**)).

Drill holes OCOD059, 062, 063 and 066 tested extensions of the mineralisation outside areas with historic assay results. All four holes intersected the alteration zone hosting the mineralisation with narrow zones of mineralisation, a very encouraging sign given the step out nature of this drilling. Further drill planning in these areas will be guided by down hole electromagnetic (**EM**) results from surveys currently underway.

Further discussion on these results is included below, with results shown on plan in Figure 6 and all significant intersections included as Appendix 1.

All intersections quoted for the Deep Sulphide Target are length and specific gravity weighted following the procedure detailed in Appendix 3.

Orion's Managing Director and CEO, Errol Smart, commented on the results:

"We are very encouraged by both the drilling results and the indications from downhole EM surveying. The holes within the historically drilled area are being modelled by mine geologists and are providing strong validation for the historic results and modelling. This, together with strong progress from engineering, environmental studies and the social and labour plan bodes well for the outcome of the BFS currently underway. Furthermore, the drilling testing strike and dip extensions is providing encouragement for extensions of wide high-grade mineralisation and consequently, presents an opportunity to further strengthen the Prieska Project."

+105 Level Target (Open Pit) drilling

The underground drilling program at the +105 Level Target is designed to confirm, in-fill and extend the historical drilling, targeting mineralisation expected to be amenable to open pit mining.

The underground drill program is intended to build on the open pit drill program which previously highlighted the potential for a high grade open pit project to commence the restart of Prieska, in parallel with the development of the larger Deep Sulphide Target. Orion has mobilised three underground drill rigs to infill drill and extend mineralisation drilled from surface and obtain samples for metallurgical test work (Figures 1, 2, 3 and 4).



Figure 1: Photograph showing underground drill rig on OCOU071.

Orion has completed a 3,197.7m surface drill program on the +105 Level Target over the past 12 months. Currently, 240m has been drilled in 3 holes from underground. A further 6 holes are planned, including holes which will be drilled to obtain samples for metallurgical testwork. The underground drilling is designed to test mineralisation in an area affected by sinkholes making drilling from surface problematic.

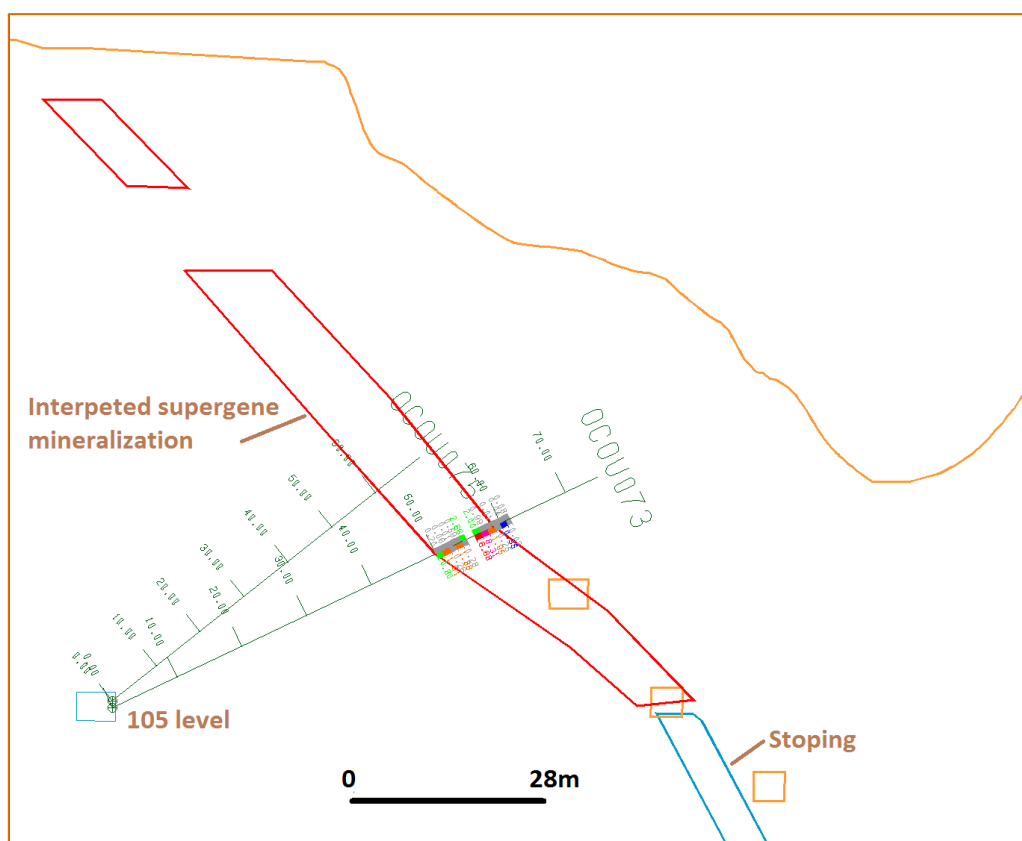


Figure 2: Section showing results from hole OCOU073 at the Prieska Project.

All significant intersections from surface drilling have been released in previous ASX releases (refer Appendix 1) with best results including:

- 22m at 10.8% Zn, 1.38% Cu and 0.3g/t Au from 57m, including:
7m at 17.8% Zn and 1.41% Cu (OCOR016);
- 20m at 8.58% Zn, 2.21% Cu and 0.3g/t Au from 48m, including:
17m at 9.98% Zn and 2.01% Cu (OCOR023);
- 42m at 4.41% Zn, 2.36% Cu and 0.42g/t Au from 55m, including:
5m at 9.28% Cu from 55m & 6m at 12.4% Zn from 75m (OCOR027);
- 9.3m at 4.0% Zn, 1.4% Cu, 0.13g/t Au and 9.0g/t Ag from 170m (OCOD033);
- 29.4m at 3.06% Zn + 1.52% Cu, 0.36g/t Au and 9.0g/t Ag from 112.6m, including:
8.5m at 4.33% Zn + 2.17% Cu from 115m and 3m at 7.13% Zn from 139m (OCOD036);
- 12m at 4.14% Cu, 1.89% Zn and 0.29g/t Au from 57m, including:
3m at 7.4% Cu and 4.34% Zn (OCOR017);
- 11.53m at 3.23% Zn, 0.97% Cu, and 0.22g/t Au from 187.76m, including:
3.34m at 5.26% Zn, 1.51% Cu and 0.36g/t Au (OCOD043); and
- 20.6m at 1.36% Zn, 0.63% Cu, and 0.1g/t Au from 156.1m, including:
2.6m at 5.2% Zn (OCOD035).

The first significant intersections from underground drilling are:

- 4.82m at 1.10% Cu, 0.63% Zn, 0.33g/t Au and 12.7g/t Ag from 50m, and
3m at 5.65% Cu, 1.00% Zn, 0.34g/t Au and 17.0g/t Ag from 56m (OCOU073,
note core loss occurs from 54.82m to 56.00m).

The current program is the next step in the process to define a maiden Mineral Resource estimate, which is anticipated to be completed by Q4 CY17 and then fed in to the Bankable Feasibility Study (**BFS**) which is currently underway.

Importantly, historical production records at Prieska, reviewed and compiled by the Company, demonstrate the mine consistently produced high quality zinc and copper concentrates from a blended oxide, intermediate and sulphide mill feed, utilising a conventional flotation flowsheet (refer ASX release 7 August 2017). The recently awarded BFS will build on historical data with fresh metallurgical test work and mine scheduling to optimise the flowsheet.

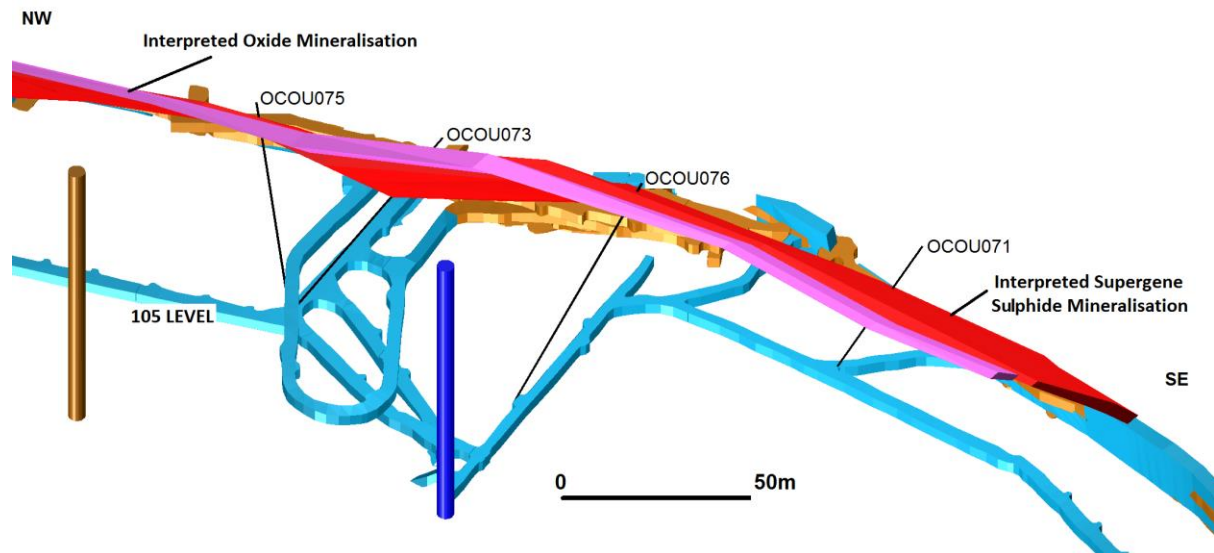


Figure 3: Oblique view showing current underground drilling at the Prieska Project.

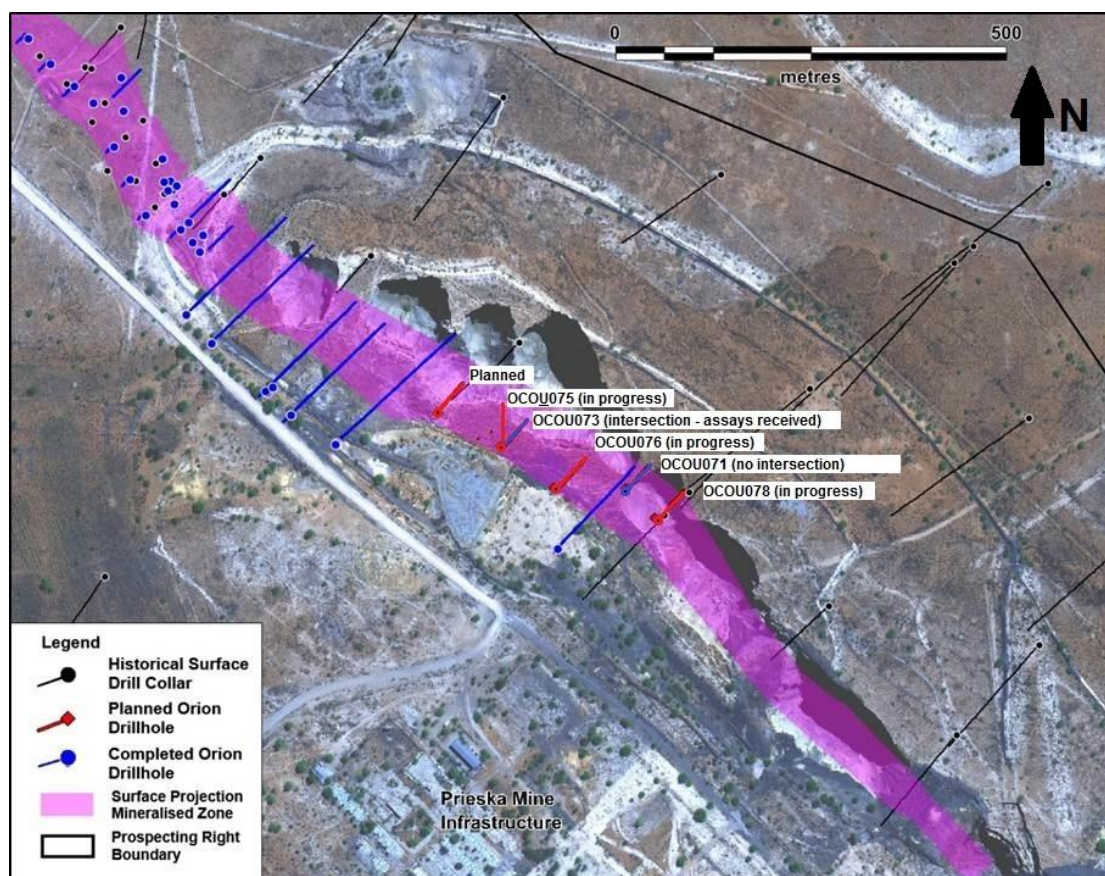


Figure 4: Plan showing current underground drilling at the Prieska Project along with completed surface drilling.

Deep Sulphide Target drill holes and results received

The primary focus of drilling on the Deep Sulphide Target is to confirm and in-fill historical drilling results. In addition, holes will also test extensions of mineralisation outside areas with historic drilling or with incomplete data available. Since the commencement of the drilling program in June 2017, Orion has drilled a total of 18,212m, including pre-collar holes on the Deep Sulphide Target. Drilling is ongoing with 9 surface diamond drill rigs in operation and 2 more set to commence drilling shortly. All results are shown in Appendix 2.

OCOD054 is the third infill hole to reach the target depth at the Deep Sulphide Target (refer ASX release 27 July 2017). The hole intersected mineralisation in an area with historic drill results and compares favourably with neighbouring historic intersections, F2028: 14.76m at 0.58% Cu and 2.99% Zn and F1712: 8.85m at 0.90% Cu and 4.96% Zn. The intersections in F2028 and F1712 are respectively 20m and 48m from the intersection in OCOD054. Importantly, the intersection in OCOD054 confirms the expected depth below surface, width of mineralisation and grade in this area and therefore is an important result in verifying historic results for usage in Mineral Resource Estimations.

Assay results for OCOD054 returned a length and specific gravity (**SG**) weighted intersection of 11.74m at 3.11% Zn, 1.23% Cu, 0.17g/t Au and 10.0g/t Ag from 1026.20m down hole depth (refer Appendices 2 and 3, Figures 5 and 6). As OCOD054 intersected the mineralisation at a high angle, the thickness reported is anticipated to approximate the true thickness of the mineralised zone.

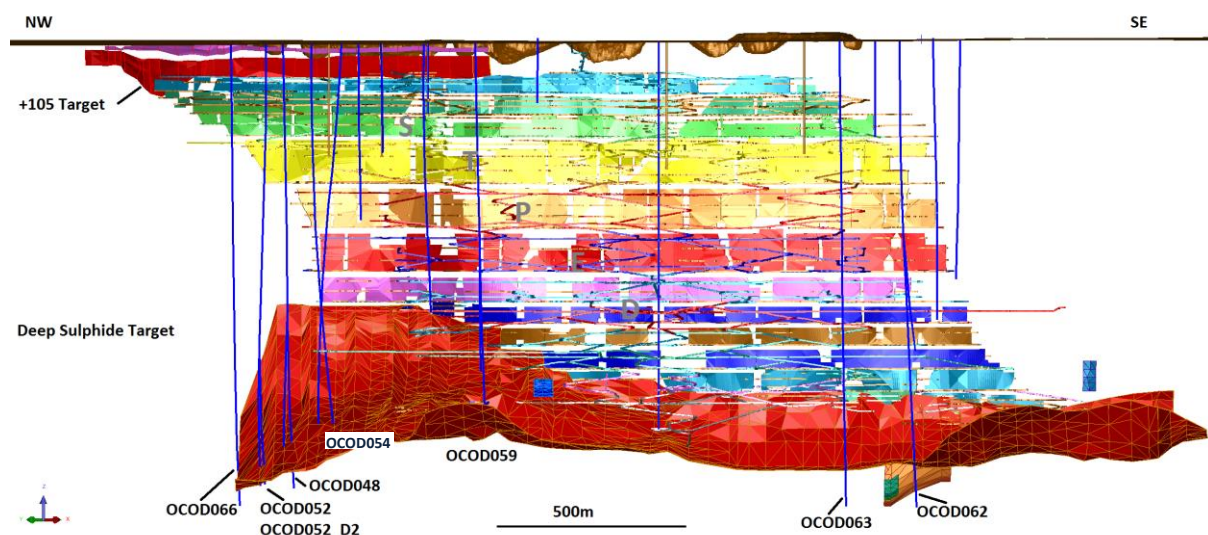


Figure 5: Longitudinal projection showing Orion drilling at the Prieska Project.

Drill hole OCOD052_D2 was drilled as a deflection from hole OCOD052 and intersected the mineralisation 13.5m from OCOD052. The hole intersected 15.92m at 5.55% Zn, 0.95% Cu, 0.22g/t Au and 7.5g/t Ag from 1117.59m down hole depth (refer Figures 5 and 6, Appendices 2 and 3) compared to 16.15m at 3.30% Zn, 1.72% Cu, 0.26g/t Au and 13.72g/t Ag from 1116m in OCOD052 (refer ASX release 27 July 2017). The excellent correlation between these holes, especially the thickness of mineralisation intersected, provides further validation of mineralisation present at the north-western extremity of the Deep Sulphide Target.

Drill holes OCOD059, 062, 063 and 066 tested extensions to the Deep Sulphide mineralisation, outside areas with historic assay results. All four holes intersected the alteration zone which hosts the mineralisation at the Prieska Project, as well as intersecting narrow zones of mineralisation, a very encouraging sign given the step out nature of this drilling.

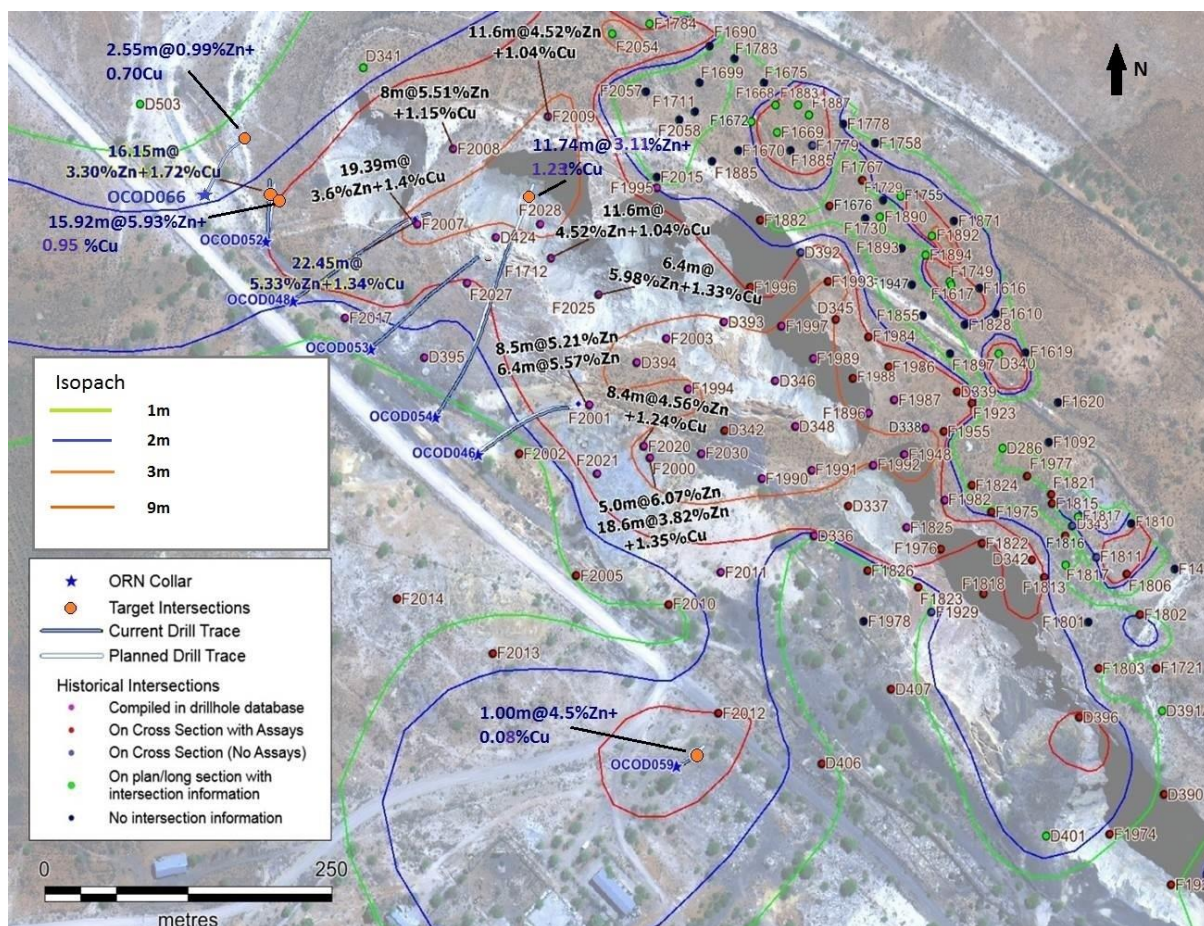


Figure 6: Plan showing drilling underway to test the Deep Sulphide Target at the Prieska Project.

Down hole EM surveys are currently being conducted in these holes to test for off-hole conductors which may indicate massive sulphide ore lenses. Following the completion of the downhole surveying, a high powered surface EM survey will be carried out to test for potential responses in locations away from the defined and interpreted mineralisation at the Deep Sulphide Target.

Drill hole OCOD066 explored mineralisation 100m along strike to the northwest of mineralisation intersected in OCOD052 and OCOD052-D2 and in an area not previously tested by drilling. The hole intersected a 90m zone of alteration with thin zones of massive sulphide. Significant intersections from these zones included 0.63m at 2.61% Zn, 5.39% Cu, 0.91g/t Au and 38g/t Ag from 1126.15m. Providing further encouragement are the results of a down hole EM survey on OCOD066 detected a strong conductor in an area to the north-northeast of OCOD066 (Figure 7). This area has not been tested by historical drilling and follow-up drilling, in the form of a deflection from OCOD066, is planned to test the conductor.

Drill hole OCOD059 intersected sulphide mineralisation but the usual mineralisation zone was disrupted by pegmatite intrusives at the target depth. Assays reveal thin, high grade zones of mineralisation including 0.68m at 5.45% Zn, 0.09% Cu, 0.08g/t Au and 14g/t Ag from 1003.43m and 1.00m at 4.50% Zn, 0.07% Cu, 0.08g/t Au and 9g/t Ag from 1010.89m down hole. Hole OCOD062 intersected 2.90m at 3.51% Zn, 0.74% Cu, 0.21g/t Au and 11.3g/t Ag from a down hole depth of 1124.7m and 1.04m at 7.93% Zn, 0.20% Cu, 0.08g/t Au and 3.0g/t Ag from 1122.26m. Drill hole OCOD063 intersected 3m at 2.41% Zn, 0.43% Cu, 0.16g/t Au and 5.30g/t Ag from 1045.0m downhole. Further drill planning in these areas will be guided by down hole EM results, with surveys currently underway.

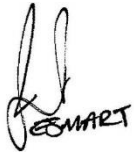


Figure 7: Plan showing position of the down hole EM conductor detected in OCOD066.

The results from drilling continue to report associated gold and silver mineralisation (refer Appendix 2). Previous owners did not routinely analyse for precious metals and the Company will be undertaking metallurgical test work to confirm that gold and silver can be economically extracted and potentially provide additional by-product credits to the concentrate produced.

Drilling of the Deep Sulphide Target to further extend and validate the mineralisation along strike continues with nine diamond core drill holes currently in progress (Figure 6) to systematically test and confirm the extensive historical drilling data. Results are anticipated to provide statistical validation of historic drilling that intersected unmined mineralised zones and add to infill data so that the resultant data spacing meets the requirements for a JORC compliant Mineral Resource estimate.

Orion remains on target with its aspiration to report a maiden JORC compliant Mineral Resource estimate for the Deep Sulphide Target by Q1 CY18. This will be fed into the recently commenced BFS (refer ASX release 11 July 2017).



Errol Smart
Managing Director and CEO

ENQUIRIES

Investors

Errol Smart – Managing Director & CEO
Denis Waddell – Chairman
T: +61 (0) 3 8080 7170
E: info@orionminerals.com.au

Media

Michael Vaughan
Fivemark Partners, Australia
T: +61 (0) 422 602 720
E: michael.vaughan@fivemark.com.au

Emily Fenton
Tavistock, UK
T: +44 (0) 207 920 3150
E: orion@tavistock.co.uk

Competent Persons Statement

The information in this report that relates to Orion's Exploration Results at the Prieska Project complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and has been compiled and assessed under the supervision of Mr Errol Smart, Orion Minerals Managing Director. Mr Smart (PrSciNat) is registered with the South African Council for Natural Scientific Professionals, a ROPO for JORC purposes and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Smart consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. The Exploration Results are based on standard industry practises for drilling, logging, sampling, assay methods including quality assurance and quality control measure as detailed in Appendix 4.

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Appendix 1: Significant Intersections from +105 Level Target drilling at the Prieska Project.

Drill hole	East (UTMz34S)	North (UTMz34S)	Depth (m)	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)
OCOR012A	624166	6686808	39	23	31	8	0.31	0.92	0.03	0.5
				36	39	3	0.50	1.36	0.02	0.6
OCOR013A	624199	6686776	42	15	20	5	0.92	1.56	0.04	0
				36	42	6	0.60	0.68	0.03	0.3
OCOR014	624228	6686776	42	35	40	5	2.10	0.34	0.01	0
OCOR015	624228	6686744	108	83	86	3	0.40	1.40	0.05	2.3
OCOR016	624340	6686653	108	57	79	22	1.38	10.8	0.30	9.7
			incl.	62	69	7	1.41	17.8	0.26	6.9
OCOR017	624361	6686618	77	57	69	12	4.14	1.89	0.29	9.9
			incl.	63	66	3	7.40	4.34	0.08	1.3
OCOR020	624300	6686626	38	10	20	10	0.39	1.13	0.16	1.0
OCOR023	624347	6686621	85	48	68	20	2.21	8.58	0.36	12.1
			incl.	63	66	17	2.01	9.98	0.37	2.3
OCOR025	624378	6686544	49	8	25	17	0.86	1.00	0.55	8.1
OCOR027	624393	6686556	110	55	97	42	2.36	4.41	0.42	13.6
			incl.	55	60	5	9.28	0.10	0.65	31.6
			incl.	75	81	6	0.90	12.4	0.29	6.7
OCOR028	624363	6686561	43	7	24	14	0.94	0.56	0.09	0.9
OCOR029	624394	6686534	46	5	25	20	0.53	0.65	0.10	1.5
OCOR030	624292	6686713	103	71	77	6	1.90	0.85	0.39	8.2
OCOR031	624252	6686723	61	17	20	3	1.22	0.26	0.03	1.0
				46	60	14	0.30	0.71	0.01	0.6
OCOD033	624503	6686323	186.14	161	163	2	0.14	1.02	0.14	7.0
				170.71	180.05	9.34	1.40	4.00	0.13	9.0
OCOD035	624477	6686355	184.7	156.1	176.7	20.6	0.63	1.36	0.11	8.9
			incl.	167.9	170.5	2.6	0.49	5.20	0.11	13.9
OCOD036	624375	6686455	149.25	103	105	2	3.25	0.52	0.37	20.1
				112.6	142	29.4	1.52	3.06	0.36	9.0
			incl.	115	123.5	8.5	2.17	4.33	0.35	11.3
			incl.	129.06	131.11	2.05	1.09	4.86	0.24	7.4
			incl.	134	137.35	3.35	3.82	3.31	0.47	23.5
			incl.	139	142	3	0.44	7.13	0.13	2.9
OCOD037	624406	6686417	157.29	147.53	152.75	5.22	1.42	4.95	0.38	15.6
OCOD038	624406	6686417	141.21	103.8	106.5	2.70	1.20	1.02	0.21	2.7
				110.98	111.90	0.92	3.04	0.06	0.14	4.0
				113.80	115.63	1.83	1.38	0.50	0.07	3.3
				126.44	130.88	4.44	1.46	3.03	0.13	4.2
				132.28	137.17	4.89	1.19	1.78	0.16	5.7
OCOD040	624553	6686302	149	119.48	123.60	4.12	2.83	0.35	0.01	0.5
OCOD043	624563	6686287	202.3	187.76	199.29	11.53	0.97	3.23	0.22	8.8
			incl.	189.22	192.56	3.34	1.51	5.26	0.36	8.3
OCOD044	624483	6686360	94.6	59.56	65.50	5.94	0.58	1.16	0.01	0.9
OCOD047	624844	6686154	117.8	143.70	147.47	3.07	0.47	1.06	0.09	1.3
OCO073	624777	6686284	75	50.00	54.82	4.82	1.10	0.63	0.33	12.7
				56.00	59.00	3.00	5.65	1.00	0.34	17.0

1. All intersections > 1m and >0.3% copper or > 0.5% zinc are quoted.
2. Holes prefixed with OCOD are drilled from surface, those with the prefix OCOU have been drilled from underground.
3. New results are shown in bold type.
4. Holes abandoned due to excess deviation or drilling issues are not shown in the table.
5. It is recommended that the supporting information contained in Appendix 4 is read in conjunction with these results.

Appendix 2: Significant Intersections from Deep Sulphide Target drilling at the Prieska Project.

Drill hole	Deflection	East (UTMz34S)	North (UTMz34S)	Depth (m)	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)
OCOD048	Parent	624452	6686375	1179	1060.00	1082.45	22.45	1.34	5.33	0.26	10.60
		<i>including</i>			1060.80	1066.50	5.70	0.54	10.89	0.07	3.45
	D2	From 702m downhole parent			Completed – assay results awaited						
OCOD052	Parent	624419	6686406	1164	1089	1091	2	0.08	1.40	0.39	5.51
					1116.00	1132.15	16.15	1.72	3.30	0.26	13.72
		<i>including</i>			1119.55	1123.55	4.00	1.35	5.34	0.26	8.45
	D2	From 785m downhole parent			1117.59	1133.51	15.92	0.95	5.55	0.22	7.5
OCOD054	Parent	624576	6686282	---	1026.20	1037.94	11.74	1.23	3.11	0.17	10
OCOD059	Parent	624824	6686282	---	1003.43	1004.11	0.68	0.09	5.45	0.08	14.0
					1010.89	1011.89	1.00	0.07	4.5	0.08	9.0
	D1	From m downhole parent			In Progress – Core Drilling						
OCOD062	Parent	625647	6685275	---	1122.26	1123.30	1.04	0.20	7.93	0.08	3.0
					1124.70	1127.60	2.90	0.74	3.51	0.21	11.3
OCOD063	Parent	625400	6685250	---	1045.00	1048.00	3.00	0.43	2.41	0.16	5.3
OCOD064	Parent	624685	6686165	---	In Progress – Core Drilling						
OCOD065	Parent	624520	6686338	---	Hole completed, assay results awaited						
OCOD066	Parent	624349	6686476	---	1111.95	1114.50	2.55	0.70	0.99	0.05	4.9
					1126.15	1126.78	0.63	5.39	2.61	0.91	38.0

1. All intersections > 1m and >0.3% copper or > 0.5% zinc are quoted.
2. New results are shown in bold type.
3. Holes abandoned due to excess deviation or drilling issues are not shown in the table.
4. It is recommended that the supporting information contained in Appendix 4 is read in conjunction with these results.

Appendix 3: Drill hole down hole assay and SG results.

Drill hole Number	Sample Number	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (%)	Ag (%)	Specific Gravity
OCOD052-D2	OM0302	1085	1086	1	0.005	0.01	0.07	0.5	3.14
OCOD052-D2	OM0303	1086	1087	1	0.006	0.02	0.01	0.5	2.87
OCOD052-D2	OM0304	1087	1087.35	0.35	0.032	0.02	0.1	0.5	2.50
OCOD052-D2	OM0305	1087.35	1088.3	0.95	0.075	0.02	0.09	0.5	3.25
OCOD052-D2	OM0306	1088.3	1088.71	0.41	0.011	0.01	0.03	0.5	2.49
OCOD052-D2	OM0307	1088.71	1090	1.29	0.0025	0.02	0.08	0.5	3.79
OCOD052-D2	OM0308	1090	1091	1	0.014	0.15	0.04	0.5	2.63
OCOD052-D2	OM0309	1091	1091.73	0.73	0.091	1.93	0.69	13	2.68
OCOD052-D2	OM0310	1091.73	1092.3	0.57	0.149	3.21	15.7	13	2.92
OCOD052-D2	OM0312	1092.3	1093	0.7	0.119	1.3	0.19	3	2.77
OCOD052-D2	OM0313	1093	1094.25	1.25	0.042	1.3	0.33	2	2.93
OCOD052-D2	OM0314	1094.25	1094.74	0.49	0.039	0.05	0.27	0.5	2.53
OCOD052-D2	OM0315	1094.74	1096	1.26	0.031	0.01	0.4	0.5	2.94
OCOD052-D2	OM0316	1096	1097	1	0.008	0.01	0.06	0.5	2.99
OCOD052-D2	OM0317	1097	1098	1	0.009	0.02	0.03	0.5	2.46
OCOD052-D2	OM0318	1098	1099	1	0.014	0.02	0.01	0.5	2.97
OCOD052-D2	OM0319	1099	1100	1	0.013	0.01	0.02	4	2.93
OCOD052-D2	OM0320	1100	1101	1	0.011	0.02	0.01	0.5	3.09
OCOD052-D2	OM0322	1101	1101.84	0.84	0.016	0.02	0.02	0.5	2.89
OCOD052-D2	OM0323	1101.84	1103	1.16	0.024	0.03	0.02	0.5	2.60
OCOD052-D2	OM0324	1103	1104	1	0.0025	0.01	0.01	1	2.70
OCOD052-D2	OM0326	1104	1104.34	0.34	0.0025	0.02	0.01	0.5	2.46
OCOD052-D2	OM0327	1104.34	1105	0.66	0.017	0.03	0.01	1	2.78
OCOD052-D2	OM0328	1105	1106	1	0.018	0.02	0.01	1	2.97
OCOD052-D2	OM0329	1106	1107	1	0.009	0.02	0.02	3	2.97
OCOD052-D2	OM0330	1107	1107.64	0.64	0.019	0.02	0.04	0.5	2.87
OCOD052-D2	OM0332	1107.64	1108.31	0.67	0.087	0.02	0.04	0.5	2.82
OCOD052-D2	OM0333	1108.31	1109	0.69	0.086	0.01	0.02	1	2.84
OCOD052-D2	OM0334	1109	1110	1	0.064	0.01	0.02	3	3.01
OCOD052-D2	OM0335	1110	1110.64	0.64	0.045	0.01	0.02	0.5	2.82
OCOD052-D2	OM0336	1110.64	1111.4	0.76	0.016	0.02	0.04	0.5	2.61
OCOD052-D2	OM0337	1111.4	1112.4	1	0.151	0.02	0.02	3	2.46
OCOD052-D2	OM0338	1112.4	1113.4	1	0.028	0.01	0.05	0.5	3.11
OCOD052-D2	OM0339	1113.4	1114.2	0.8	0.08	0.02	0.02	1	2.75
OCOD052-D2	OM0340	1114.2	1114.86	0.66	0.321	1.45	0.14	13	2.89
OCOD052-D2	OM0342	1114.86	1116	1.14	0.216	0.48	0.1	1	3.07
OCOD052-D2	OM0343	1116	1117	1	0.167	0.16	0.06	1	3.02
OCOD052-D2	OM0344	1117	1117.59	0.59	0.061	0.19	0.03	1	2.35
OCOD052-D2	OM0345	1117.59	1118.35	0.76	0.658	4.76	0.09	3	3.55
OCOD052-D2	OM0346	1118.35	1119	0.65	1.76	2.46	0.21	13	3.04
OCOD052-D2	OM0347	1119	1120	1	3.39	1.88	0.48	21	2.98
OCOD052-D2	OM0348	1120	1120.85	0.85	0.878	0.7	0.16	5	3.18

Drill hole Number	Sample Number	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (%)	Ag (%)	Specific Gravity
OCOD052-D2	OM0349	1120.85	1121.5	0.65	0.132	10.8	0.07	4	2.63
OCOD052-D2	OM0352	1121.5	1122	0.5	0.584	5.59	0.15	4	3.42
OCOD052-D2	OM0353	1122	1123	1	0.409	5.64	0.09	3	3.86
OCOD052-D2	OM0354	1123	1124.25	1.25	0.618	6.33	0.15	4	3.61
OCOD052-D2	OM0356	1124.25	1125	0.75	0.832	0.9	0.34	17	2.77
OCOD052-D2	OM0357	1125	1125.37	0.37	1.07	1.41	1.21	16	2.80
OCOD052-D2	OM0358	1125.37	1126	0.63	1.095	7.8	0.12	6	3.64
OCOD052-D2	OM0359	1126	1127	1	0.423	9.9	0.15	4	4.32
OCOD052-D2	OM0360	1127	1128	1	0.692	6.62	0.33	5	3.76
OCOD052-D2	OM0363	1128	1129	1	1.435	5.37	0.15	19	4.25
OCOD052-D2	OM0364	1129	1130	1	0.956	6.15	0.19	5	4.45
OCOD052-D2	OM0365	1130	1131	1	0.877	5.03	0.31	6	4.85
OCOD052-D2	OM0366	1131	1132	1	1.3	6.31	0.29	9	4.40
OCOD052-D2	OM0367	1132	1133	1	0.538	5.78	0.09	4	3.66
OCOD052-D2	OM0368	1133	1133.51	0.51	0.469	6.43	0.1	3	3.92
OCOD052-D2	OM0369	1133.51	1134	0.49	0.01	0.05	0.01	0.5	2.72
OCOD052-D2	OM0370	1134	1135	1	0.006	0.03	0.01	1	2.79
OCOD052-D2	OM0372	1135	1136	1	0.0025	0.02	0.0005	0.5	2.55
OCOD052-D2	OM0373	1136	1137	1	0.0025	0.02	0.0005	0.5	2.95
OCOD054	OM0376	1024	1025	1	0.016	0.02	0.02	1	2.62
OCOD054	OM0377	1025	1025.7	0.7	0.008	0.02	0.02	0.5	2.54
OCOD054	OM0378	1025.7	1026.2	0.5	0.847	0.13	0.09	21	2.59
OCOD054	OM0379	1026.2	1027	0.8	0.778	3.89	0.19	7	2.97
OCOD054	OM0380	1027	1027.57	0.57	2.34	5.34	0.53	14	3.02
OCOD054	OM0382	1027.57	1028.43	0.86	0.247	0.7	0.03	0.5	2.23
OCOD054	OM0383	1028.43	1029	0.57	0.0025	0.08	0.02	0.5	2.45
OCOD054	OM0384	1029	1029.7	0.7	0.966	0.32	0.11	6	3.16
OCOD054	OM0385	1029.7	1030.7	1	2.66	4.4	0.16	20	4.28
OCOD054	OM0386	1030.7	1031.7	1	1.055	4.11	0.21	7	3.65
OCOD054	OM0388	1031.7	1032.5	0.8	0.804	5.45	0.11	5	3.80
OCOD054	OM0389	1032.5	1033	0.5	0.745	0.82	0.35	6	2.63
OCOD054	OM0390	1033	1034	1	0.337	0.09	0.1	8	2.81
OCOD054	OM0392	1034	1035	1	0.256	0.07	0.15	5	2.66
OCOD054	OM0393	1035	1035.4	0.4	1.015	2.96	0.23	32	2.68
OCOD054	OM0394	1035.4	1036	0.6	1.735	3.89	0.14	13	3.70
OCOD054	OM0395	1036	1037	1	1.055	5.31	0.19	7	3.68
OCOD054	OM0397	1037	1037.94	0.94	2.56	4.83	0.21	14	4.17
OCOD054	OM0398	1037.94	1039	1.06	0.168	0.22	0.02	1	2.60
OCOD054	OM0399	1039	1040	1	0.006	0.03	0.01	0.5	2.84
OCOD054	OM0400	1040	1041	1	0.0025	0.01	0.0005	0.5	3.05
OCOD054	OM0402	1041	1042	1	0.0025	0.01	0.0005	0.5	2.19
OCOD059	OM0243	1000.00	1001.00	1	0.018	0.01	0.01	0.5	3.42
OCOD059	OM0244	1001.00	1002.00	1	0.011	0.0005	0.01	0.5	1.95
OCOD059	OM0245	1002.00	1003.00	1	0.143	0.08	0.02	1	2.07

Drill hole Number	Sample Number	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (%)	Ag (%)	Specific Gravity
OCOD059	OM0246	1003.00	1003.43	0.43	0.03	0.02	0.01	1	2.71
OCOD059	OM0247	1003.43	1004.11	0.68	0.091	5.45	0.08	14	3.18
OCOD059	OM0248	1004.11	1005.00	0.89	0.085	0.5	0.07	17	2.41
OCOD059	OM0249	1005.00	1006.00	1	0.101	0.04	0.03	3	3.35
OCOD059	OM0250	1006.00	1007.00	1	0.01	0.03	0.0005	1	1.92
OCOD059	OM0252	1007.00	1008.00	1	0.009	0.03	0.01	0.5	3.43
OCOD059	OM0253	1008.00	1009.00	1	0.028	0.01	0.02	18	4.73
OCOD059	OM0254	1009.00	1010.00	1	0.007	0.01	0.0005	0.5	2.95
OCOD059	OM0255	1010.00	1010.89	0.89	0.006	0.03	0.0005	0.5	2.51
OCOD059	OM0256	1010.89	1011.89	1	0.073	4.5	0.08	9	3.15
OCOD059	OM0257	1003.43	1004.11	0.68	0.0025	0.04	0.01	0.5	2.23
OCOD059	OM0258	1011.89	1012.89	1	0.005	0.02	0.0005	0.5	2.16
OCOD059	OM0259	1012.89	1013.89	1	0.0025	0.01	0.02	1	2.49
OCOD059	OM0260	1013.89	1014.89	1	0.0025	0.01	0.02	0.5	2.92
OCOD062	OM0459	1101.00	1101.50	0.5	0.007	0.01	0.005	0.5	2.60
OCOD062	OM0460	1101.50	1102.00	0.50	0.038	1.75	0.05	0.5	2.52
OCOD062	OM0462	1102.00	1103.00	1.00	0.005	0.02	0.005	0.5	2.94
OCOD062	OM0463	1103.00	1104.00	1.00	0.005	0.01	0.01	0.5	2.81
OCOD062	OM0464	1104.00	1105.00	1.00	0.005	0.01	0.01	0.5	2.74
OCOD062	OM0465	1105.00	1106.00	1.00	0.005	0.01	0.005	0.5	3.00
OCOD062	OM0466	1106.00	1106.50	0.50	0.134	4.97	0.03	2	2.58
OCOD062	OM0467	1106.50	1107.00	0.50	0.006	0.02	0.04	0.5	2.55
OCOD062	OM0469	1120.00	1121.00	1.00	0.006	0.01	0.01	0.5	3.14
OCOD062	OM0470	1121.00	1121.88	0.88	0.861	0.12	0.2	8	3.41
OCOD062	OM0472	1121.88	1122.26	0.38	0.173	0.02	0.05	2	2.57
OCOD062	OM0473	1122.26	1122.75	0.49	0.229	8.43	0.09	3	3.60
OCOD062	OM0474	1122.75	1123.30	0.55	0.165	7.47	0.08	3	3.47
OCOD062	OM0477	1123.30	1124.00	0.70	0.016	0.005	0.03	1	2.83
OCOD062	OM0478	1124.00	1124.70	0.70	0.116	0.18	0.03	1	3.17
OCOD062	OM0479	1124.70	1125.20	0.50	2.31	1.9	0.42	21	3.05
OCOD062	OM0480	1125.20	1126.00	0.80	0.478	3.24	0.17	17	3.23
OCOD062	OM0482	1126.00	1126.60	0.60	0.488	4.34	0.26	6	3.24
OCOD062	OM0483	1126.60	1127.20	0.60	0.316	6.42	0.06	4	2.94
OCOD062	OM0484	1127.20	1127.60	0.40	0.304	0.37	0.13	6	2.88
OCOD063	OMO404	1042	1043	1	0.01	0.01	0.01	0.5	2.83
OCOD063	OMO405	1043	1044	1	0.034	0.01	0.02	0.5	2.87
OCOD063	OMO406	1044	1045	1	0.185	0.02	0.19	2	2.66
OCOD063	OMO407	1045	1046	1	0.437	3.5	0.18	7	3.76
OCOD063	OMO408	1046	1048	2	0.417	1.58	0.14	4	2.45
OCOD066	OM0410	1092.00	1093.00	1	0.036	0.02	0.01	0.5	3.38
OCOD066	OM0412	1093.00	1094.00	1	0.069	0.02	0.01	0.5	2.70
OCOD066	OM0413	1094.00	1095.00	1	0.018	0.01	0.01	0.5	3.01
OCOD066	OM0414	1095.00	1096.00	1	0.601	0.2	0.1	3	2.81
OCOD066	OM0415	1096.00	1097.00	1	1.15	0.46	0.26	7	2.97

Drill hole Number	Sample Number	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (%)	Ag (%)	Specific Gravity
OCOD066	OM0416	1097.00	1097.90	0.9	0.09	0.09	0.02	0.5	2.61
OCOD066	OM0417	1097.90	1098.84	0.94	0.877	1.27	0.31	5	3.41
OCOD066	OM0418	1098.84	1100.00	1.16	0.008	0.06	0.01	0.5	2.68
OCOD066	OM0419	1100.00	1101.00	1	0.07	0.06	0.07	1	1.07
OCOD066	OM0420	1101.00	1102.00	1	0.179	0.24	0.05	1	3.81
OCOD066	OM0423	1102.00	1102.88	0.88	0.09	0.05	0.01	0.5	4.02
OCOD066	OM0424	1102.88	1103.60	0.72	0.478	0.17	0.03	2	2.87
OCOD066	OM0426	1103.60	1105.00	1.4	0.336	1.5	0.11	4	3.71
OCOD066	OM0427	1105.00	1106.00	1	0.169	0.03	0.09	1	2.97
OCOD066	OM0428	1106.00	1107.00	1	0.059	0.05	0.03	0.5	3.03
OCOD066	OM0429	1107.00	1108.00	1	0.018	0.01	0.01	0.5	2.93
OCOD066	OM0430	1108.00	1109.00	1	0.005	0.01	0.02	0.5	3.77
OCOD066	OM0432	1109.00	1110.00	1	0.007	0.01	0.01	0.5	4.37
OCOD066	OM0433	1110.00	1111.00	1	0.005	0.03	0.04	0.5	4.41
OCOD066	OM0434	1111.00	1111.95	0.95	0.088	0.09	0.03	0.5	3.75
OCOD066	OM0435	1111.95	1112.55	0.6	1.295	3.12	0.12	8	3.39
OCOD066	OM0436	1112.55	1113.95	1.4	0.05	0.04	0.01	0.5	3.38
OCOD066	OM0437	1113.95	1114.50	0.55	1.875	1.1	0.1	14	2.90
OCOD066	OM0438	1114.50	1115.00	0.5	0.056	0.02	0.01	0.5	5.61
OCOD066	OM0439	1115.00	1116.00	1	0.023	0.02	0.01	0.5	3.87
OCOD066	OM0440	1116.00	1117.00	1	0.019	0.01	0.01	0.5	3.92
OCOD066	OM0442	1117.00	1118.00	1	0.009	0.01	0.005	0.5	4.72
OCOD066	OM0443	1118.00	1119.00	1	0.005	0.005	0.03	0.5	5.67
OCOD066	OM0444	1119.00	1120.00	1	0.005	0.01	0.01	0.5	4.68
OCOD066	OM0445	1120.00	1121.00	1	0.005	0.01	0.02	0.5	4.62
OCOD066	OM0446	1121.00	1122.00	1	0.012	0.01	0.01	0.5	5.28
OCOD066	OM0447	1122.00	1123.00	1	0.005	0.01	0.005	0.5	4.87
OCOD066	OM0448	1123.00	1124.00	1	0.006	0.02	0.005	0.5	4.24
OCOD066	OM0449	1124.00	1125.00	1	0.015	0.02	0.01	0.5	3.59
OCOD066	OM0450	1125.00	1126.15	1.15	0.065	0.02	0.01	0.5	4.36
OCOD066	OM0452	1126.15	1126.78	0.63	5.39	2.61	0.91	38	3.24
OCOD066	OM0453	1126.78	1128.00	1.22	0.028	0.04	0.01	0.5	3.54
OCOD066	OM0454	1128.00	1129.00	1	0.172	0.45	0.03	2	2.47
OCOD066	OM0455	1129.00	1130.15	1.15	0.046	0.42	0.07	0.5	3.24
OCOD066	OM0456	1130.15	1130.55	0.4	1.52	1.8	0.42	11	3.55
OCOD066	OM0457	1130.55	1131.55	1	0.007	0.01	0.005	0.5	3.78
OCOU073	OM0486	50.00	51.00	1	0.802	0.2	0.16	2	2.58
OCOU073	OM0487	51.00	52.15	1.15	1.91	0.06	0.15	4	2.60
OCOU073	OM0488	52.15	53.00	0.85	0.264	0.01	0.01	0.5	2.36
OCOU073	OM0489	53.00	54.00	1	1.875	0.59	0.86	42	2.38
OCOU073	OM0490	54.00	54.82	0.82	0.278	2.66	0.46	15	2.81
OCOU073	OM0492	56.00	57.00	1	6.68	2	0.32	33	3.45
OCOU073	OM0493	57.00	58.00	1	8.31	0.99	0.52	14	2.91
OCOU073	OM0494	58.00	59.00	1	1.95	0.01	0.17	4	3.86

Drill hole Number	Sample Number	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (%)	Ag (%)	Specific Gravity
OCO073	OM0495	59.00	60.00	1	0.254	0.01	0.06	0.5	4.18
OCO073	OM0496	60.00	60.80	0.8	0.353	0.04	0.38	4	2.38
OCO073	OM0497	60.80	61.50	0.7	0.019	0.08	0.06	0.5	2.66

Appendix 4: The following tables are provided to ensure compliance with the JORC Code (2012) requirements for the reporting of Exploration Results for the Prieska Project.

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> Diamond core cut at core yard and half core taken as sample. Diamond core sampled on 1m intervals where possible, sample lengths adjusted to ensure samples do not cross geological boundaries or other features. Drilling at the Deep Sulphide Target carried out aiming to define an approximate 100m x 100m pattern by use of "mother" holes and deflections from these holes. Drilling at the +105 Level Target carried out aiming to define an approximate 45m x 45m pattern. Percussion / reverse circulation pre collars (where used) sampled on a composite basis. Mineralized zones are drilled using core drilling. Sampling carried out under supervision using procedures outlined below including industry standard QA/QC. Samples submitted for analysis to ALS is pulverized in its entirety at ALS and split to obtain a 0.2g sample for digestion and analysis. Downhole EM survey carried out using standard techniques.
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> Diamond core drilling using NQ and BQ sized core. Pre collar drilled using percussion drilling on certain holes (above mineralisation).
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> All mineralised intersections are done with core drilling. Core stick-ups reflecting the depth of the drill hole are recorded at the rig at the end of each core run. A block with the depth of the hole written on it is placed in the core box at the end of each run. At the core yard, the length of core in the core box is measured for each run. The measured length of core is subtracted from the length of the run as recorded from the stick-up measured at the rig to determine the core lost. No grade variation with recovery noted.

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> All percussion holes are logged on 1m intervals using visual inspection of washed drill chips and both full. Core is logged by geology and recorded between geological contacts by qualified geologists. Qualitative logging of colour, grainsize, weathering, structural fabric, lithology, alteration type and sulphide mineralogy carried out. Quantitative estimate of sulphide mineralogy and quartz veining. Logs are recorded at the core yard and entered into digital templates at the project office.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> BQ and NQ core cut at core yard and half core taken as sample. Samples from percussion pre collars are collected by spear sampling. Sampling on site aims to generate a < 2kg sub sample to enable the entire sample to be pulverised without further splitting. Water is used in the dust depression proses during percussion drilling, resulting in wet chip samples. With core samples, the entire sample length is cut and sampled. Sample preparation is undertaken at ALS Laboratory Johannesburg, an ISO accredited laboratory. ALS utilises industry best practise for sample preparation for analysis involving drying of samples, crushing to <5mm if required and then pulverising so that +85% of the sample passes 75 microns. CRM's, blanks and replicates are inserted every 30 samples and analysed with each batch. Lab supplied CRM's, blanks and replicates are analysed with each batch. Specific gravity measurements are made over the full length of each individual sample on split core where possible. Where not possible due to crushed or broken core, a minimum of 80% of the core sample is used. The specific gravity is determined by measuring and subtracting the wet weight from the dry weight using an electronic density scale. Care is taken to clean and zero the scale between each weighing. The sample is first weighed in air and the weight recorded. The sample is then weighed, while completely submerged in clean water within a measuring beaker. The mass of beaker and water are deducted for net submerged weight and volume displacement read on measuring beaker. The sample is then removed and placed back into the core tray in the correct position and orientation. The procedure is repeated for each geological sample interval. The data is recorded in the Specific Gravity Data Sheet. The specific gravity is calculated for each sample using the formula:

Criteria	JORC Code explanation	Commentary
		$SG = \frac{\text{weight of sample}}{(\text{weight of sample in air minus the weight of the sample in water})}$
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Samples from drilling were submitted to ALS Chemex in Johannesburg. Samples were analysed for base metals using a four acid digest and ICP-OES and for gold by fire assay with AAS finish. External quality assurance of the laboratory assays is monitored by the insertion of blanks, duplicates and certified reference materials (CRM) Coarse field duplicates consisting of a split sub-sample of the original crushed sample material. Three CRMs are alternated through the sample stream and where possible matched to the material being drilled. Two blanks are used (pulp and chips). No external laboratory checks have been carried out at this stage. Down hole EM surveys are carried out using a 3 component Digi-Atlantis probe and ultra high power transmitter. Loop size of 1800m x 600m are used with continuous measurements taken as the probe travels into the hole and out again. Surface TDEM surveys are carried out using a Supracon Jesse Beep squid sensor and ultra high power transmitter with a Smartem 24 receiver.
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> Orion's executive geologist is personally supervising the drilling and sampling along with a team of experienced geologists. The Managing Director and the executive geologist have reviewed the raw laboratory data and confirmed the calculation of the significant intersections. For the EM survey data is collected on site and validated by geophysical technician daily. Data (raw and processed) sent to consultant geophysicist for review and quality control.
Location of data points	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Collar data has been laid out using a handheld GPS and these coordinates are reported here. All of the Orion drill hole collars are surveyed by a qualified surveyor using a differential GPS which may result in minor adjustments to coordinate data. Downhole surveys are completed using a North-Seeking Gyro instrument. The historic mine survey data is in the old national Clarke 1880 coordinate system. All data is collected the surveyor is in Clarke 1880 and in UTM WGS84 Zone 34 (Southern Hemisphere). UTM WGS84 Zone 34 coordinates are reported above.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> At the Deep Sulphide Target drill holes aim to intersect mineralisation on approximately 100m x 100m spacing with infill drilling to be carried out in areas of interest as determined by results. At the +105 Level Target drill holes aim to intersect mineralisation on approximately 45m x 45m spacing with infill drilling to be carried out in areas of interest as determined by results. Variography studies were carried out on the historic data set for both Targets to determine the drill spacing for Mineral Resource estimates.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Drilling is oriented perpendicular, or at a maximum achievable angle to, the attitude of the mineralisation. As a result most holes intersect the mineralisation at an acceptable angle. Where surface access or geotechnical conditions do not allow access to optimal drill collar positions, holes may be inclined. The intersections will be corrected once the mineralised zone is modelled in three dimensions and local attitude can be accurately determined. No sampling bias is anticipated as a result of hole orientations. EM surveys are completed in an orientation perpendicular to the interpreted or intersected mineralisation.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Chain of custody is managed by the Company. Samples were stored on site in a secure locked building and then freighted directly to the lab.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> No audits or reviews have been carried out at this stage.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> The Prospecting Right is held by a subsidiary company of Agama Exploration and Mining (Pty) Ltd (Agama), which is a wholly owned subsidiary of Orion. As such, Orion effectively holds a 73.33% interest in the project. The Prospecting Right covers a strike of 2200m for the Deep Sulphide mineralisation out of a total interpreted strike of 2800m. The Prospecting Right covers the complete known strike of the +105 Level Target. All of the required shaft infrastructure and lateral access underground development is available within the Prospecting Right.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<p><u>Deep Sulphide Target</u></p> <ul style="list-style-type: none"> All exploration and life of mine drilling (V, D and F holes) was done by Anglovaal, resulting in a substantial amount of hard copy data from which the Company has been able to assess the prospectivity of the remaining mineralisation. The Anglovaal exploration resulted in the delineation and development of a large mine. <p><u>+105 Level Target</u></p> <ul style="list-style-type: none"> The 2012 drilling of the NW section of the +105 Level Target was carried out by the previous owners of the Subsidiary (Orion acquired the subsidiary in March 2017).
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The Copperton deposit is a Volcanogenic Massive Sulphide deposit. The deposit is contained in the Areachap Group, which also hosts the Boks Puts, Areachap, Kielder, Annex Vogelstruisbult and Kantienpan deposits. The historically mined section of the deposit is confined to a tabular, stratabound horizon in the northern limb of a refolded recumbent synform which plunges at approximately 45° to the southeast. It is hosted within deformed gneisses of the Copperton Formation, which have been dated at 1285 Ma and forms part of the Namaqualand Metamorphic Complex. The mineralised zone outcrop has a strike of 2400m, was oxidised and or affected by leached and supergene enrichment to a depth of approximately 100m, and outcrops as a well developed gossan. It has a dip of between 55° and 80° to the northeast at surface and a strike of 130° to the north. The width of the mineralised zone exceeds 35m in places but averages between 7m and 9m. The mineralised zone persists to a depth of 1100m (as deep as 1200m in one section) after which it is upturned. The +105 Level Target area comprises the oxide / supergene / mixed zone (and a zone of remnant primary sulphides) situated from above the upper limit of mining at approximately 100m depth up to surface.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> All Significant Intersections, location data and other drill hole information is tabulated in Appendix 1 and Appendix 2.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Significant Intersections for the Deep Sulphide Target are calculated by average of assays result > 0.3% copper or 0.5% zinc and weighted by the sample width and specific gravity of each sample. • Significant Intersections for the +105 Level Target are calculated by average of assays result > 0.3% copper or 0.5% zinc and weighted by the sample width of each sample only. • In general, the significant intersections correspond strongly to geological boundaries (massive sulphides) and are clearly distinguishable from country rock / surrounding samples. • No truncations have been applied at this stage for either Target.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • 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'). 	<ul style="list-style-type: none"> • All intersection widths quoted are down hole widths. • Most holes intersected the mineralisation perpendicular or at high angle to the attitude of the mineralisation. • The mineralisation has complex geometry and mineralisation widths need to be estimated based on interpretation of surrounding intercepts.
Diagrams	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Appropriate diagrams (plan, cross section and long section) are shown in the announcement text.
Balanced reporting	<ul style="list-style-type: none"> • Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	<ul style="list-style-type: none"> • All drill holes are listed in Appendix 1, including those with no mineralisation.
Other substantive exploration data	<ul style="list-style-type: none"> • Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. 	<ul style="list-style-type: none"> • Hardcopy maps are available for a range of other exploration data. This includes mine survey plans, geological maps, airborne magnetics, ground magnetics, electromagnetics, gravity and induced polarisation. All available exploration data has been viewed by the Competent Person. • The mine operated from 1972 to 1991 and is reported to have milled a total of 45.68 Mt of ore at a grade of 1.11% copper and 2.62% zinc, recovering 0.43 Mt of copper and 1.01 Mt of zinc. Detailed production and metallurgical results are available for the life of the mine. • In addition, 1.76 Mt of pyrite concentrates and 8,403 t of lead

Criteria	JORC Code explanation	Commentary
		<p>concentrates as well as amounts of silver and gold were recovered.</p> <ul style="list-style-type: none"> • Copper and zinc recoveries averaged 84.9% and 84.3% respectively during the life of the mine.
Further work	<ul style="list-style-type: none"> • <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <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> 	<ul style="list-style-type: none"> • Drilling is ongoing to test the Deep Sulphide Target with planned holes shown on relevant figures in this release. • Downhole and surface EM surveys are also in progress aimed at delineating targets away from the historically drilled areas.