

## NEWS RELEASE



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### BHP copper exploration program update

BHP today confirmed identification of a potential new iron oxide, copper, gold (IOCG) mineralised system, located 65 kilometres to the south east of BHP's operations at Olympic Dam in South Australia.

As part of BHP's ongoing copper exploration program, four diamond drill holes, totalling 5346 metres, intersected copper, gold, uranium and silver mineralisation of IOCG style on BHP's exploration licence 5941.

Laboratory assay results show downhole mineralisation intercepts ranging from 0.5 per cent to six per cent copper with associated gold, uranium and silver metals. The results are shown in the table below.

This exploration project is at an early stage and there is currently insufficient geological information to assess the size, quality and continuity of the mineralised intersections. BHP is evaluating and interpreting the results reported and planning a further drilling program, to commence in early 2019.

BHP's copper exploration program has targeted the Stuart Shelf in South Australia as part of a focused global program which includes Ecuador, Canada, Peru, Chile and the south west of the United States.

Copper and oil are the main focus of BHP's exploration programs in order to replenish our resource base and enhance our portfolio.

Hole ID	From	To	Length <sup>1</sup> m	Cu %	Au g/t	U ppm	Ag g/t
AD-22	936	1060.5	124.5	0.52	0.48	85	3.37
AD-23	1063	1488.7	425.7	3.04	0.59	346	6.03
AD-23 inc.	1070	1250	180	6.07	0.92	401	12.77
AD-24	848	1254	406	0.66	0.35	266	2.09
AD-25	1193	1270	77	2.11	0.54	327	2.94

(1) Not true widths

Appendix 1 contains further information in relation to this exploration project.

Further information on BHP can be found at: [bhp.com](http://bhp.com)

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## Appendix 1

### *Project Summary*

The project is located within the Exploration Licence 5941, 65km south-east from BHP's Olympic Dam and 45km north-east from Carrapateena, in South Australia (Figure 1). The project has a long exploration history with initial exploratory drilling completed by Western Mining Corporation in 1976 and several subsequent drilling campaigns since. Historic drilling has, however, been focused on the easternmost geophysical anomaly in the project area shown in Figure 1, with only three drill holes drilled to test the larger western anomaly between 1983 and 1985 (AD4, 7 and 13, shown in Figure 2).

Recent target definition completed in 2018 included re-interpretation of historic drill hole geology, geochemistry and geophysics of the prospect and collection of new high resolution gravity. The re-assessment was followed by four drill holes to further test the geophysical anomaly (Figure 2).

### *Geology and Mineralisation*

The project has a similar regional setting as the Olympic Dam deposit and is located in the eastern margin of the Gawler Craton, within the Olympic IOCG (iron oxide, copper, gold) metallogenic province.

The project is overlain by between 700m and 950m of post mineral, consolidated, sedimentary rocks of meso-Proterozoic age and younger. Pre-mineral basement in AD4 comprises iron rich hematite breccias and sedimentary rocks and is barren of mineralisation (max Cu 0.03%). AD7 to the east intersected iron rich conglomerates and breccias at the expected base of post mineral cover in fault contact with moderately brecciated and sericite altered granite and is also barren of mineralisation (max Cu 0.01%). AD13 to the north west ended at 852m in post mineral cover. Accurate down hole survey information for historic drilling is unavailable and drill holes are assumed to be vertical.

Recent drilling in 2018 has intersected IOCG-style alteration and mineralisation. The main Cu sulphide species are chalcocite, bornite and chalcopyrite. Copper sulphides occur primarily as disseminated accumulations and are associated with iron oxide rich breccias. AD22 and 24 to the south have intersected iron oxide and siderite altered, brecciated granites and chalcopyrite dominant mineralisation. AD23 and 25 in the north have intersected: pervasively altered iron oxide rich breccias and fine grained sedimentary clastic rocks, generally barren of copper mineralisation; massive hematite breccias with high grade chalcocite-bornite mineralisation; and both holes end in moderate to weakly hematite altered, brecciated granites dominated by chalcopyrite mineralisation in AD23 and pyrite mineralisation in AD25. Detailed, significant assays are provided in Table 2 and cross sections with simplified geology are shown in Figure 2.

### *Further Work*

BHPs copper exploration team is currently evaluating and interpreting the results reported here and planning suitable follow up drilling.

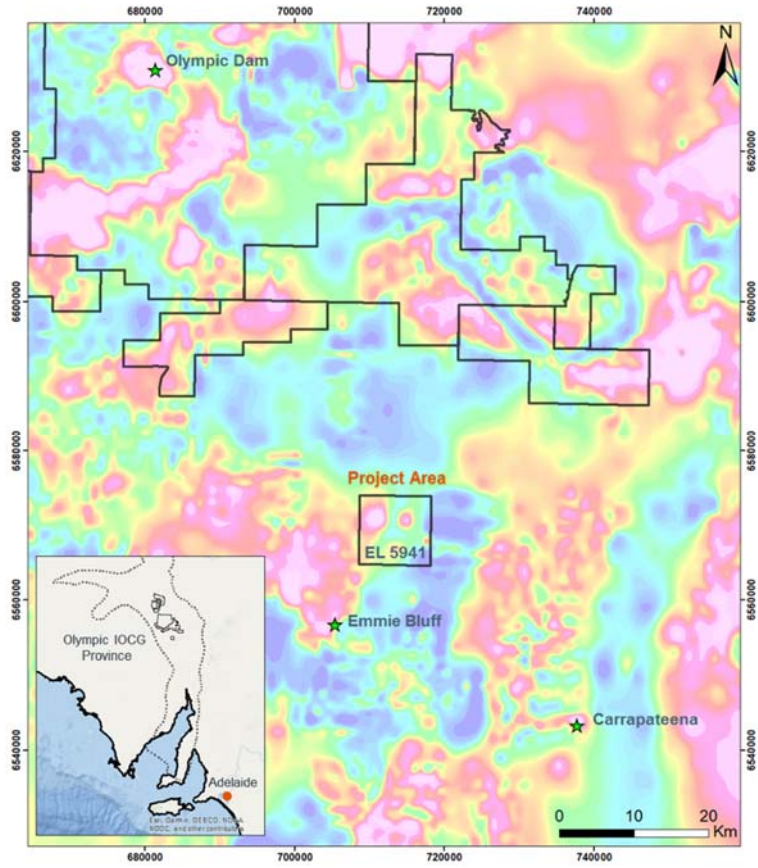


Figure 1 – Location map of project within EL 5941 over public domain gravity map.

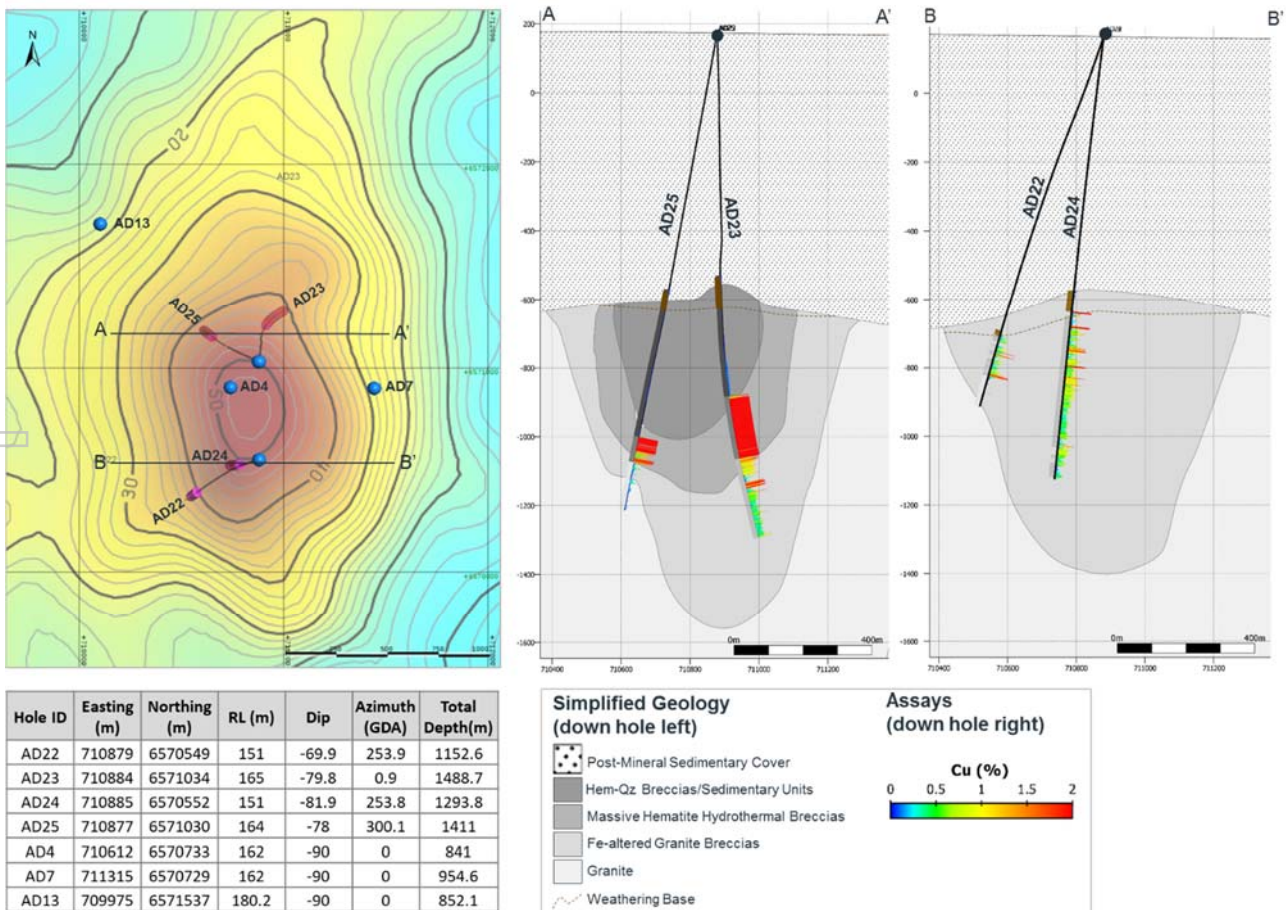


Figure 2 – Left: Drill hole with mineralising intersects projected to surface over high resolution gravity map and cross-sections location. Right: Cross-sections with simplified geology and Cu assays. Bottom left: Coordinates in Geocentric Datum of Australia (GDA 94, zone 53).

Hole ID	From	To	Length m	Cu %	Au g/t	U ppm	Ag g/t	SG
AD22	936	1060.5	124.5	0.52	0.48	85	3.37	3.04
breakdown	936	955	19	0.38	0.23	110	3.40	2.92
	955	966	11	0.05	0.27	58	1.21	2.98
	966	995.4	29.4	0.66	0.52	89	2.95	3.04
	inc 991	995.4	4.4	<b>1.42</b>	1.00	90	3.18	3.37
	995.4	1009	13.6	0.17	0.22	63	1.30	2.86
	1009	1060.5	51.5	0.67	0.64	86	4.51	3.17
	inc 1050.6	1060.5	9.9	<b>1.58</b>	0.79	118	8.38	3.72
AD23	1063	1488.7	425.7	3.04	0.59	346	6.03	3.94
breakdown	1063	1070	7	<b>1.20</b>	0.58	1578	3.02	4.25
	1070	1250	180	<b>6.07</b>	0.92	401	12.77	4.08
	inc 1125	1228	103	<b>7.37</b>	1.03	458	15.57	4.25
	1250	1488	238	0.67	0.33	262	0.73	3.83
	inc 1250	1301	51	<b>1.08</b>	0.37	370	0.35	3.70
	inc 1301	1323	22	<b>0.20</b>	0.90	103	0.34	3.57
	inc 1323	1342	19	<b>1.74</b>	0.97	542	1.77	3.89
	inc 1342	1488.7	146.7	<b>0.46</b>	0.15	213	0.77	3.91
AD24	848	1254	406	0.66	0.35	266	2.09	3.33
breakdown	848	856	8	<b>2.04</b>	0.39	596	5.33	3.48
	856	904	48	0.48	0.29	245	1.59	3.11
	904	928	24	<b>1.15</b>	0.38	185	2.30	3.20
	inc 911	923	12	<b>1.48</b>	0.43	201	3.45	3.27
	928	945	17	0.31	0.26	122	0.91	3.03
	945	1061	116	0.83	0.44	330	1.98	3.31
	inc 945	969	24	<b>1.00</b>	0.83	244	4.11	3.20
	inc 969	997	28	0.57	0.43	212	2.30	2.99
	inc 997	1022	25	<b>1.07</b>	0.65	280	1.72	3.38
	inc 1022	1061	39	0.75	0.12	479	0.76	3.57
	1061	1254	193	0.47	0.30	234	2.21	3.47
AD25	1193	1270	77	2.11	0.54	327	2.94	3.39
breakdown	1193	1235	42	<b>2.81</b>	0.60	401	2.96	3.41
	inc 1193	1213	20	<b>3.54</b>	0.62	242	3.00	3.48
	inc 1213	1235	22	<b>2.12</b>	0.58	551	2.93	3.35
	1235	1255	20	0.82	0.25	111	1.29	3.42
	1255	1270	15	<b>1.82</b>	0.77	408	5.10	3.35

Table 1 – Length and density weighted mineralised intercepts for 2018 drilling reported as apparent (down hole) widths. The complete breakdown of each reported intersection is shown and includes high and low grade intervals to demonstrate grade. Intervals with assays not reported here have no consistent samples >0.2% Cu.

### Drilling Techniques

- All drilling was diamond drilling from surface.
- Holes were HWT collared down to 6m and started with PQ drilling, followed by HQ and NQ2 to the end of the hole (EOH).
- Directional surveys using a north seeking gyroscope were completed on each hole inside the NQ2 rods.

### Location of data points

- Drill hole collar locations have been surveyed with handheld Garmin GPS64S and manually entered into acquire database.
- All coordinates provided are measured and provided in Geocentric Datum of Australia 1994 (GDA94 Zone 53).
- AD22, 23, 24, 25 have been surveyed with a North seeking gyro and collar azimuths are provided from these surveys in GDA94.
- The accuracy of data provided for historic datapoint locations (AD 4, 7, 13) cannot be confirmed.



### **Geological Logging**

- 100% of drill holes were logged in qualitative detail for the basement rocks.
- The following observations were recorded: lithology composition and texture, alteration minerals and sulphide distribution.
- Structural measurements have been recorded.
- Core was photographed both wet and dry.

### **Sampling Techniques**

- Sample recoveries are visually estimated to be >97%.
- Sample recovery is not considered material to reported grades.
- Diamond core was split by core saw with half the core submitted for assay and the other half stored in trays at Olympic Dam. Samples are submitted as 1m or 2m intervals.
- Specific gravity measurements were taken for all assayed samples.
- 6-8kg samples were submitted to an analytical laboratory for final drying, staged crushing to 2mm, splitting to approximately 3 kg portion, followed by pulverisation to 90% passing 75 micron particle size pulp.
- Duplicate samples were collected at each preparation stage where a reduction in sample mass occurred.

### **Quality of assay data and laboratory tests**

- All samples were submitted to Intertek/Genalysis Laboratory in Adelaide.
- 63 elements were analysed using 4-acid digest, total fusion, fire assay and induction furnace digestions followed by ICP-OES/MS or infrared methods.
- Four acid digestion followed by ICP-OES/MS was used to measure Cu, Ag, As, Bi, Cd, Co, Ge, In, Li, Re, Se, Te, Tl, Zn, Ni, Pb.
- Lithium borate fusion followed by ICP-OES/MS was used to measure Al, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sc, Si, Ti, V, Ba, Be, REE, Cs, Ga, Hf, Mo, Nb, Rb, Sb, Sn, Sr, Ta, Th, U, W, Y, Zr.
- 25g fire assay with an ICP-OES finish was used to measure Au.
- Induction furnace combustion followed by infrared analyser was used to measure C and S.
- Quality control samples consisted of duplicates (1:25), analytical blanks (1:50) and certified standards (1:25). QC results reviewed when results are received, all performed within acceptable accuracy and precision limits.

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

- Significant intersections were validated via visual inspection of drill core, followed up by optical microscopy by BHP personnel not involved with the initial geological logging of the drill core. There has been no adjustments to the assay data that is electronically uploaded to the database from the commercial laboratory.
- All drill hole data is managed internally using computerised geological logging, a comprehensive SQL server relational database, and strict validation rules.
- The database has a security model which requires user access to have supervisor approval. The database is backed up regularly by standard backup procedures.
- No twinned holes have been drilled.

### **Sample security**

- A reconciliation is completed between the sampling request and drilling plods to ensure that any lost core is accurately recorded prior to sampling. Sample numbers are automatically generated directly from the database once the sampling request is visually validated against the drill core. Laboratory sample receipt is recorded in the database. The laboratory reconciles samples received against samples requested on the assay request sheet.

### **Audits or reviews**

- The drill hole database is periodically and independently audited. No material issues or risks have been identified.

### **Orientation of data in relation to geological structure**

- Mineralization at this stage is not well defined as per the irregular nature in IOCG-type deposits and lack of data.
- Holes have been angled to different directions to the south-west, north-west, and north-east to avoid biased samples by structure trends.

### **Data aggregation methods**

- All intersections are length and density weighted represented in apparent (downhole) widths, true widths of intersections are unknown.

### **Data spacing and distribution**

- There is insufficient drilling to provide any mineral inventory estimate (including Exploration Target).

### **Mineral tenement and land tenure status**

- The project is located within the Exploration Licence 5941 (EL 5941), 100% owned by BHP.
- All BHP exploration tenure is in 'good standing' with recent historic minimum expenditure met or exceeded.
- Business as usual 2 year renewal of EL5941 is required in February 2019.

### **Exploration done by other parties**

- The project has a long exploration history, dating back to 1976 by Western Mining Corporation and BHP.
- All drilling information prior to 2018 has not been through the same quality control and processes described in this release and uncertainties exist in respect to the survey (dip, azimuth).
- Historic drillholes are currently being re-sampled using the same methodologies and processes as the 2018 drill holes described in this release

*The information in the report to which this statement is attached that relates to Exploration Results is based on information compiled by Dr Kathy Ehrig, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Ehrig is a full-time employee of BHP. Dr Ehrig 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Ehrig consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.'*

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