

## SUCCESSFUL COMPLETION OF PHASE 1 DRILL PROGRAM

### VISUAL EVIDENCE OF LARGE-SCALE ALTERATION SYSTEM

- Drilling has been completed on the first major work program to define and prioritise targets within the Mount Isa Copper Project
- Initial visual logging results are consistent with a large-scale copper-bearing alteration system at the Bambino Prospect
- The large-scale alteration styles observed in the Phase 1 drill core establish proof-of-concept for the project
- Intensive Phase 2 drilling program scheduled to commence immediately following completion of IPO
- A geochemical orientation project involving the relogging and assay of historic diamond core is putting a geochemical context to observed disseminated chalcopyrite and chalcocite
- Target generation and prioritisation continues across 13 targets within 7 identified prospects

Chalkos Metals Limited ('Chalkos Metals' or 'the Company') is pleased to announce the successful completion of the Phase 1 drill program at its Mount Isa Copper Project. This initial drilling program was designed to define and prioritise targets, with logging and assaying of four diamond drill holes underway.

Initial visual logging results are consistent with a large-scale copper-bearing alteration system at the Bambino Prospect with strong magnetite and red-rock alteration observed coincident with localised (10cm-scale) disseminations of chalcopyrite and chalcocite (<1% visually estimated).

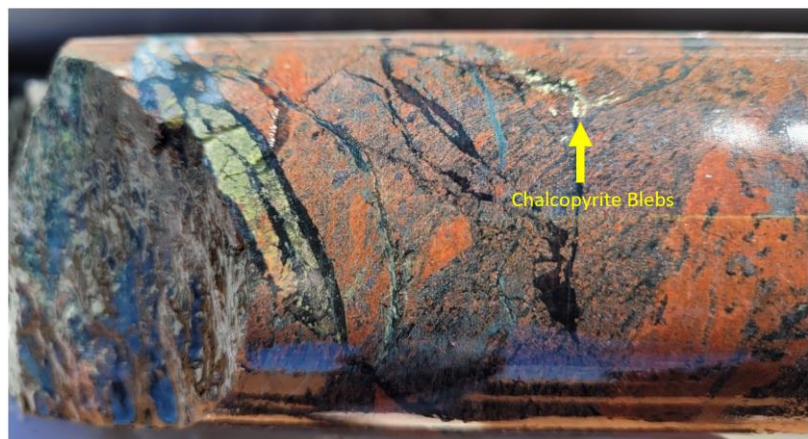


Figure 1. Chalcopyrite blebs in association with zones of intense red-rock alteration in BBDD22015.

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Importantly, the large-scale alteration styles observed in the Phase 1 drill core establish proof-of-concept ahead of the more intensive Phase 2 drill campaign scheduled to commence in July post IPO.



Figure 2. Alternating zones of magnetite and red-rock alteration from ~235m to ~253m in BBDD22015.

**Executive Chairman, Andrew Newman** commented, *“We are delighted to have completed our first major work program at our flagship Mount Isa Copper Project. Initial results are highly encouraging and establishes a proof-of-concept heading into our more intensive Phase 2 drill campaign.*

*Our Mount Isa Copper project is well advanced in terms of its underlying geological and exploration dataset. Seven prospects and 13 walk-up drill targets have been identified and the results to date validate our approach to exploring the western Mount Isa area for distinctly different copper mineralisation styles.*

*It is a credit to the Chalkos Metals team on the ground, who have delivered this program safely, on time and on budget. We look forward to providing shareholders with further updates on our progress over the coming weeks.”*

### **Phase 1 Drilling Program Summary**

The “Pre-IPO” drill program designed to begin definitive testing of the geological concepts underlying individual targets has now completed with four diamond drillholes into the first three prospects selected for the project.

The Bambino, Eldorado East and Goya North Dolerites prospects have each had at least one drillhole completed. The presence of pervasive magnetite alteration zones and overprinting and adjacent red-rock alteration (haematite alteration and haematite-stained albite) with chalcopyrite and chalcocite disseminations (<1% visually estimated) in fresh rock validates the Chalkos Metals approach of exploring the Western Mount Isa area for distinctly different copper mineralisation styles more typical of the Cloncurry area, the potential for which has been under appreciated by previous explorers of the area.

HoleId	Prospect	Date Drilled	Hole Type	Easting	Northing	RL	EOH (m)	Collar Dip	Collar Azimuth
BBDD22015	Bambino	29/03/22	HQ	335287	7712542	358	379.2	-60	060
EEDD22010	Eldorado East	02/05/22	HQ	338311	7710375	362	349.6	-60	068
GNDD22007	Goya North	21/05/22	HQ	335174	7710434	366	216.6	-55	075
GNDD22006	Dolerites	28/05/22	HQ	335231	7710196	369	180.8	-55	075

Table 1. Completed drillholes of the Phase 1 diamond drilling program.

The Eldorado East drillhole returned minor magnetite alteration patches, but no notable red-rock alteration, only local blebs and disseminations of chalcopyrite, indicating it is distal to the target system. While Goya North returned localised red-rock alteration and blebs of chalcopyrite, the most encouraging core from visual logging comes from the Bambino hole where intense magnetite and red-rock alteration alternates over many tens of metres downhole.

Sampling and assaying are underway for the program. Ore grades and widths are not expected from the Phase 1 drill program results; this drilling campaign was a proof-of-concept program designed to establish the geological context of observed geophysical features and surface copper expressions and thereby enabling quick efficient and decisive testing of targets post IPO.

The presence of chalcopyrite and trace chalcocite in weak crackle breccias at ~216m and ~220m in the Bambino drillhole further reinforces the concept being tested. In these two 30cm-wide zones sulphides are less than 2% and 5% of the total rockmass respectively, but although small, these breccias demonstrate the magnetite and red-rock alteration are related to copper-bearing hydrothermal activity and not occurring in isolation.



Figure 1. Small crackle breccia zones within Bambino drillhole BBDD22015 are infilled with chalcopyrite and trace chalcocite (<2% sulphides on the left) and chalcopyrite and pyrrhotite (~5% total sulphides on the right).

The large-scale alteration styles observed in the Phase 1 drill core establish proof-of-concept heading into our upcoming more intensive Phase 2 drill campaign. The pending multi-element geochemical assays will guide future targeting and drill program design, but visual results are sufficient to confirm proof-of-concept for the project.

### Geochemical Orientation Project

Separate from the Phase 1 drill program, a geochemical orientation program is being conducted involving relogging and assaying historic diamond core which has recently been located and recovered. This drill core from the late 2000's was drilled by Deep Yellow Limited and was never assayed for copper or other base metals, and whilst this core did not directly intersect copper targets and will not return ore-grade intercepts, the geochemical information will greatly assist targeting and interpretation of future drill programs. The recovered core to date has returned alternating magnetite and red-rock alteration zones on a many tens of metres scale with some of those zones having a ten-centimetre-scale chalcopyrite and chalcocite disseminations (<1% total sulphides over the sample interval). All recovered holes have been relogged from a copper perspective, but sampling and assaying are pending.



Figure 2. Notable chalcopyrite occurs in association with the extensive red-rock alteration in some of the recovered historical core drilled within what is now the Chalkos Metals Mount Isa Project (BBDC001 at approximately 50m depth).

HoleId	Date Drilled	Easting	Northing	RL	EOH	Collar Dip	Collar Azi	Drill metres recovered and logged	
								From	To
TGDC001	9/07/2009	336834	7712511	351	90.2	60	61	0	90.2
TGDC002	11/07/2009	336830	7712564	350	90.2	61	64	0	90.2
TGDC003	15/07/2009	336880	7712416	351	90.2	60	70	0	90.2
TGDC004	20/07/2010	336556	7712406	360	495.7	79	56	175.5	495.7
BBDC001	18/07/2009	335573	7712368	355	90	60	63	0	90.2
BBDC002	20/07/2009	335542	7712456	352	93.2	60	67	0	93.2
BBDC003	24/07/2009	335518	7712490	352	117.2	60	93	0	117.2
BBDC004	25/07/2009	335515	7712464	352	129.2	59	92	0	129.2
BBDC005	2/07/2010	335256	7712415	358	465.6	66	75	77.8	465.6

Table 2. Diamond drillholes recovered for the geochemical orientation project.

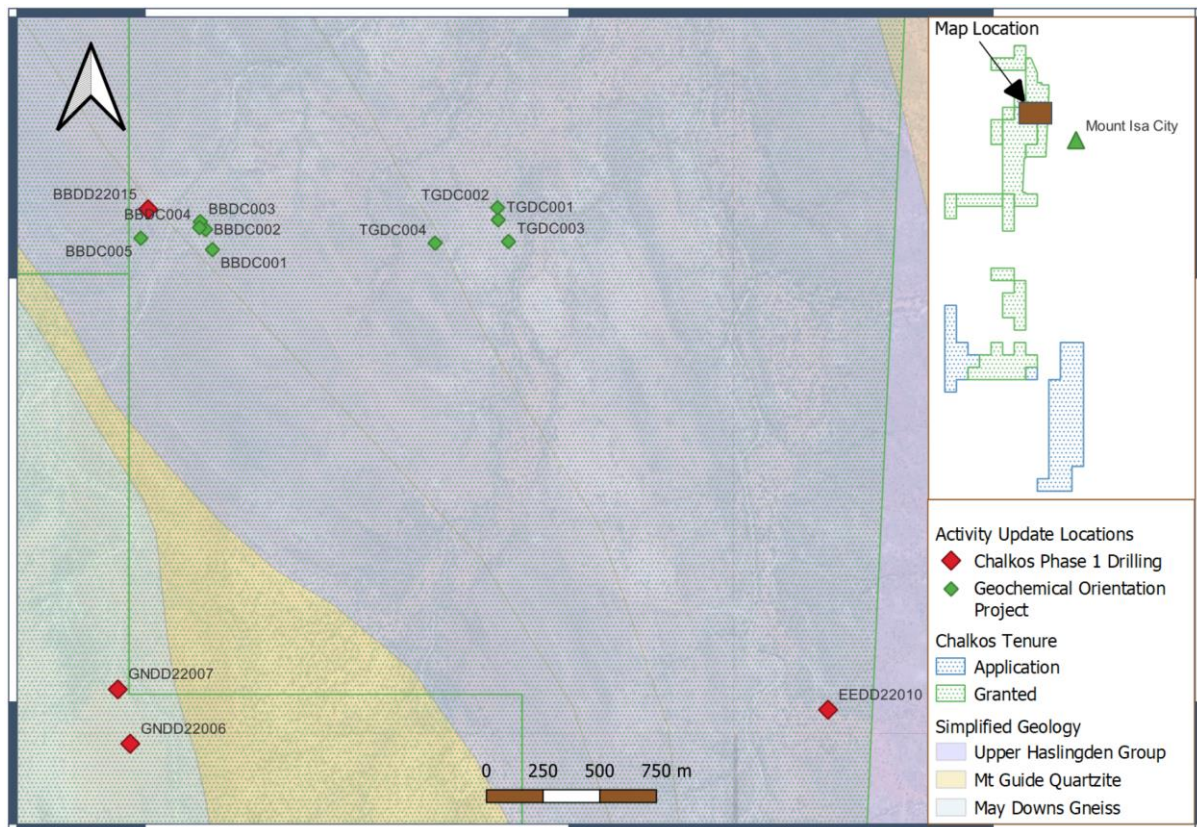


Figure 3. The collar locations of the Chalkos Metals Phase 1 drill program showing also recovered drillhole locations for the geochemical orientation project.

## **IPO Update**

The Company is currently making an IPO offer of Shares under a Prospectus dated 12 May 2022 as supplemented by a Supplementary Prospectus dated 21 June 2022 (**Offer**). The IPO Offer period is currently scheduled to close on 1 July 2022. The Board reserves the right to extend the Offer or close early without notice. A person should consider and rely only on the Prospectus and Supplementary Prospectus in deciding whether to acquire the Shares. Anyone who wishes to acquire Shares pursuant to the Offer will need to complete an application form that accompanies the Prospectus. The Prospectus, Supplementary Prospectus and application form can be accessed and downloaded for viewing via the link provided below.

[www.chalkosmetals.com.au/prospectus/](http://www.chalkosmetals.com.au/prospectus/)

## **Competent Person Statement**

The information in this announcement relating to Exploration Results is based on, and fairly represents, information and supporting documentation compiled by Dr Rick Gordon who is a Member of the Australian Institute of Geoscientists and has sufficient exploration experience which is relevant to the style of mineralisation 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 Gordon is a non-executive director of Chalkos Metals and consents to the inclusion in the announcement of the matters that are based on and fairly represent information and supporting documentation prepared by him in the form and context in which it appears.

Certain information in this announcement contains references to visual results with assays pending. The Company draws attention to the inherent uncertainty in reporting visual results which may only be confirmed through laboratory analysis.

This announcement has been approved for release by the Board.

-ENDS-

## Appendix 1: JORC Table 1.

### Section 1 Sampling Techniques and Data

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

Criteria	Explanation
Sampling techniques	Sampling is not yet complete, but has begun under the following protocol. Diamond drill core is sampled on nominal one metre core lengths which are adjusted to ensure samples do not cross major geological boundaries. The core lengths are sawn longitudinally in an automated core saw. The remaining half of the drill core is archived for future reference. Half core (and quarter core) samples are considered representative of the entire drill metre.
Drilling techniques	Drillholes drilled by Chalkos Metals are all HQ diameter (61mm) with triple tube used in areas or broken or rubbly core. Drill core from the late 2000s used for the geochemical orientation project was also HQ diameter, with some holes drilled from surface and others drilled as tails on RC collars.
Drill sample recovery	The use of triple tube drilling has resulted in excellent recoveries across the entire drill program. Zones of core loss are marked with core blocks by the drilling crew at the time of drilling and later validated by technicians when metre-marking the core. The small zones of core loss encountered have not compromised the representativity of the samples and have not produced a bias in the results.
Logging	All diamond drill core is qualitatively logged in entirety with primary lithology, alteration, mineralisation, veining, and structural orientation data collected digitally and uploaded into a MS SQL Server database. Exploration drill core (all core logged to date) has quantitative measurements of magnetic susceptibility taken at regular intervals.
Sub-Sampling techniques	Half core samples are taken for routine drilling by cutting the core longitudinally with an automated core saw. Historical or resampled core may use quarter core samples as required to ensure that an archive sample is retained where practical. Both half core and quarter core samples are considered representative of the entire sample interval and submitted to the laboratory. Sampling for assays is selective. Any zone with the potential for copper mineralisation (even if very low grade) is sampled for copper assay along with an adjacent shoulder zone of not visibly mineralised samples. The shoulder zone may be a single metre sample or up to ten metres of sampling depending on the width and magnitude of mineralisation being investigated. Geochemical samples are taken as one metre samples on a nominal ten metre spacing in non-mineralised zones. That nominal spacing may be expanded or reduced as required. The second half (or remaining quarter in some cases) is retained in archive for future reference, which may include second half duplicate sampling as required. Half core duplicates are not routinely taken for drillholes at the exploration stage.
Quality of assay data and laboratory tests	The drillholes in question have not yet been assayed. Laboratory preparation has begun for some samples. The assay protocol that will be used is as follows.

Criteria	Explanation
	<p>For copper mineralised zones the minimum standard assay method is an aqua regia digest and ICP-AES/OES finish assay for copper only. Aqua regia is considered a partial digest and may slightly underrepresent the copper content in some cases but is a suitable method for ore-grade samples.</p> <p>Geochemical samples are assayed for a 48-element suite using a four-acid digest with a high precision ICP-MS finish. The four-acid digest is a near complete digest method and is suitable for trace concentrations through to ore grade samples up to 50% copper.</p>
<p>Verification of sampling and assaying</p>	<p>No quantitative drill intersections have yet been reported.</p> <p>Sulphide intersections discussed have visually-based, semi-quantitative estimates of the sulphide abundance included as per AIG guidance <i>“Reporting Sulphide Mineral Observations in Drilling Intersections”</i> dated 29 Oct 2015. The reported intersections are relevant to the geological context of sulphide minerals and other alteration only. The drillholes in this announcement will not produce ore grade or width intercepts and the quantification of sulphide abundance with visual estimates should not be interpreted as an indicator of copper grade.</p> <p>As per the AIG guidance: <i>“Visual estimates of sulphide mineral abundance should, however, never be considered a proxy or substitute for laboratory analyses where metal concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding potential impurities or deleterious physical properties relevant to valuations of some mineral commodities...”</i></p> <p>No twin holes are planned at the exploration stage</p> <p>Logging and sampling data is recorded in MS Excel spreadsheets and uploaded into a MS SQL Server database. All original digital records are retained independent of the database.</p> <p>Assay data is uploaded from the laboratory supplied CSV file directly into the database via a script with no adjustment or alteration of the original laboratory file. <i>Note: This assay loading process applies to previous grab sample assays from the project. No assays have yet been received for the drillholes in this report.</i></p>
<p>Location of data points</p>	<p>Drillhole collars are pegged before drilling with a hand-held GPS using the GDA94 datum. After completion, the final collar position is again picked up with a hand-held GPS. The four-metre accuracy achieved is sufficient at the exploration stage.</p> <p>Topographic control is achieved by overlaying points on regional DEM of the project area.</p>
<p>Data Spacing and Distribution</p>	<p>The Chalkos Metals Phase 1 drill program is designed to validate geological concepts for each prospect and refine and assist further targeting. As such, there is no prescribed or regular drill spacing. The position of each drillhole is dictated by the geological concept being tested.</p> <p>These drillholes do not relate to an existing mineral resource or ore reserve estimation.</p> <p>No sample compositing has been applied since no quantitative results have yet been returned.</p>
<p>Orientation of data in relation to geological structure</p>	<p>The Chalkos Metals Phase 1 drill program is designed to validate geological concepts for each prospect and refine and assist further targeting. All holes are oriented in the most practical orientation to achieve this objective.</p> <p>The orientation of drillholes used does not introduce a sampling bias. Alteration zones intersected and discussed in this report were intersected at a high angle, but the true width of such zones cannot be definitively determined at this stage.</p>



Criteria	Explanation
Sample Security	Samples are processed at the Chalkos Metals core processing facility which is in a secure yard. Samples are taken directly from that facility to the laboratory.
Audits or reviews	No reviews or audits of sampling techniques and data have been undertaken at this stage.

## Section 2 Reporting of Exploration Results

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

Criteria	Explanation
<p><b>Mineral tenement and land tenure status</b></p>	<p>Chalkos Metals holds six granted Exploration Permits for Minerals (EPMs) through its two wholly owned subsidiaries Nova Strategic Minerals Pty Ltd and May Downs Resources Pty Ltd. All tenements are wholly owned, in good standing and there are no joint ventures or private royalties applicable to the tenure.</p> <p>The drilling reported here falls within the scope of an 'Ancillary Agreement for Exploration' and further 'Deed of Variation' with the Kalkadoon Native Title holders. This agreement presents no material issues with the ongoing mineral exploration of the area and clarifies protocols around aboriginal heritage management in the area.</p> <p>The Chalkos Metals tenure is also subject to two other stakeholder agreements relating to the Vast Solar and to the May Downs Pastoral Lease. Neither of these agreements present any material issues with the ongoing mineral exploration of the area.</p> <p>No environmental restrictions are applicable beyond standard environmental regulation and management practices applicable to mineral exploration in Queensland.</p> <p>There are no known impediments to obtaining a licence to operate in the area.</p>
<p><b>Exploration done by other parties</b></p>	<p>The May Downs Project was found to host minor uranium mineralisation in 1954 and since then uranium has dominated exploration activity, but with sporadic attention by Mount Isa Mines searching for copper-gold systems. The margins of the Sybella Granite have also received some attention for tin, tungsten and tantalum, but mostly prior to the mid-1980s.</p> <p>The primary tenement holder for many years, Mount Isa Mines, farmed out uranium rights to Deep Yellow limited who intensely drilled radiometric anomalies over the May Downs area between 2008-2010 totalling over 24 000 RC drill meters from 228 holes and a further ten holes with diamond tails totalling 1736m. This drill dataset was only assayed for uranium species and despite the large amount of drill metres, only the downhole geology logging is directly useful for further copper exploration of the area.</p> <p>Copper exploration across the Western Fold Belt of Mt Isa has focussed on analogues of the giant Mount Isa Copper orebody, epigenetic replacement-style sediment hosted massive sulphide deposits (SHMS). The rocks west of the Mt Isa Fault are deeper older rocks and the carbonate-rich host lithologies able to host SHMS deposits are rare, which has resulted in significantly less copper exploration. There are however somewhat common copper occurrences in these older rocks and one small mine, the King Prospect (338370mE 7685415mN) which operated in 1968.</p> <p>Prior to Chalkos Metals and its subsidiary Nova Strategic Metals, the only modern copper exploration of the area was by Mount Isa Mines Limited (MIM) and its various parent companies. Initially MIM based their exploration on a gold-copper skarn mineralisation model associated with the Sybella Granite, however the more recent exploration and the vast majority of activity, was based around target models variably referred to as structurally controlled copper-gold, metasomatic copper-gold or iron oxide-copper-gold (IOCG), all of which are subtle variants of the same general concept. The Ernest Henry and Olympic Dam deposits were touted as analogues of the target.</p>

Criteria	Explanation
	<p>With that target model in mind, exploration centred around geophysics with several campaigns of updating and refining the aeromagnetic and gravity datasets. Forty-four lines of induced polarisation (IP) surveys were completed between 2001 and 2009 totalling 140 line-kilometres of survey data.</p> <p>A single diamond drillhole, SYC1 was drilled in June 2001 to 649.5m to follow up a coincident chargeability and resistivity anomaly in an IP from earlier that year that was near a two-point gold in soil anomaly from a 1994 soil survey. The drillhole intersected various phases of the Sybella Batholith and failed to identify any significant mineralisation, but also failed to identify the source of the anomaly.</p> <p>In October 2006, the Dali prospect was drilled with the 584m-deep DALI1 diamond drillhole to follow-up a strong resistivity anomaly with nearby copper-gold anomalism in outcropping rock chips (1265ppm Cu and 55ppb Au). Originally planned as a four-hole programme to test for an Olympic Dam analogue, the first hole was drilled off-centre from the modelled anomaly and returned alternating magnetite and haematite dominated zones with chalcocite occurrences '<i>restricted to redox zones between oxidised and reduced rocks</i>'. The resistivity identified by the IP survey was attributed to a zone of siliceous quartz-feldspar dominated rocks, and despite the chalcocite (and rare chalcopyrite) occurrences, the remainder of the drill programme was cancelled, presumably because the resistivity feature on which the programme was now interpreted as primary mineralogy, not secondary alteration.</p> <p>Nova Strategic Minerals Pty Ltd, now a wholly owned subsidiary of Chalkos Metals, drilled a six-hole RC drill program in 2018. That RC program and the two diamond holes drilled by MIM are the only modern drilling of the project area dedicated to copper exploration.</p> <p>Chalkos Metals completed a small-scale IP survey over the Frida Prospect in late 2021 consisting of seven acquisition lines.</p>
Geology	<p>The Proterozoic Mount Isa Inlier consists of three broadly different component belts with the slightly older rocks of the Kalkadoon-Leichhardt Belt separating the Eastern Fold Belt from the Western Fold Belt. Eastern Fold Belt is renowned for its IOCG (iron oxide copper gold) deposits, such as Ernest Henry, Osborne, Starra and Selwyn, whereas the Western Fold Belt hosts both copper and lead-zinc-silver SHMS (sediment hosted massive sulphide) deposits at George Fisher and Mount Isa.</p> <p>The exposed rocks of the Western Fold Belt accumulated in two major basin systems, the older Leichhardt Superbasin and the younger Isa Superbasin which were then intruded with three periods of magmatism, the voluminous Sybella Batholith at ~1655Ma and then two pegmatite events at ~1530Ma and ~1480Ma.</p> <p>The emplacement of the Sybella Batholith was coeval with the early extensional event that allowed for the accumulation of the Isa Superbasin rocks. The protracted polyphase Isan Orogeny multiply deformed the rock mass between 1575Ma and 1510Ma. In the Chalkos Metals project area, the Isan contraction resulted in multiple phases of reactivation of the pre-existing basin margin structures to form the Mount Isa Fault system. A large anticline, the May Downs Anticline formed to the immediate west of the fault system as deeper rocks were thrust up against it.</p> <p>The SHMS mineralisation at Mount Isa is hosted within the younger Isa Superbasin rocks and is dated at 1532Ma which puts it within error of the 1530Ma pegmatites and in the late stages of the Isan Orogeny.</p>

Criteria	Explanation
	<p>The Chalkos Metals Mount Isa Project area covers parts of the Sybella Batholith but is mostly dominated by the older Leichhardt Superbasin rocks. The May Downs Anticline exposes the May Downs Gneiss at the centre of the area where the package of metasedimentary rocks and dolerites is intruded by common pegmatites including the 1530Ma generation coeval with mineralisation on the eastern side of the Mount Isa Fault System.</p> <p>Outcropping copper expressions are common across the project area west of the Mount Isa Fault, most notably in association with pegmatite intrusions or with variably iron-oxide altered metabasalts of the Eastern Creek Volcanics.</p>
Drillhole information	Drillhole physicals are detailed in the body of this report. All holes are reported regardless of the outcome.
Data aggregation methods	No quantitative data is presented here. Assays have not been completed on the holes reported.
Relationship between Mineralisation widths and intercept lengths	No quantitative data is presented here. Alteration zones have diffuse boundaries and are described qualitatively. Assay data will allow the alteration zones to be quantified with the width and magnitude of any anomalous elements. Ore grade intercepts are not expected from this initial drill program or from the geochemical orientation project.
Diagrams	Refer to the location map in the main body of this report for the location and regional context of the holes discussed.
Balanced reporting	All holes drilled are documented in this report regardless of the result
Other substantive exploration data	Beyond drilling information contained in this report, no meaningful and material exploration data has been acquired that has not already been included in the Chalkos Metals IPO prospectus.
Further work	Sampling and assaying of the Phase 1 drill core is ongoing. Post IPO, Chalkos Metals will begin the Phase 2 drill program, which involves proof-of-concept drilling of four key prospects not yet drill tested and follow-up drilling to the success of the Phase 1 drill program pursuing the alteration system evident at Bambino.