

ASX RELEASE 6 September 2021

PREMIUM NICKEL AND COPPER CONCENTRATES PRODUCED IN ANDOVER METALLURGICAL TESTWORK

Recoveries up to 93.5% of nickel and 94.7% of copper achieved

- Initial metallurgical testwork confirms Andover Ni-Cu sulphide ore has excellent response to conventional sulphide flotation
- Separate marketable nickel and copper concentrates achieved by selective flotation, producing high-grade concentrates of:
 - Nickel concentrate: 15.7% Ni & 0.57% Co; and
 - Copper concentrate: 25.5% Cu
- Internationally marketable bulk concentrate containing a combined grade of 12.4% (Ni% + Cu%) was also produced
- Clean nickel and copper concentrates containing low levels of deleterious elements make both concentrates attractive to market

Azure Minerals Limited (ASX: AZS) ("Azure" or "the Company") is pleased to deliver excellent results from initial metallurgical testwork of nickel and copper sulphide ore from the Company's flagship Andover Project (60% Azure / 40% Creasy Group), located in the West Pilbara region of Western Australia.



Plate 1: Nickel Cleaner Flotation Test



Plate 2: Copper Cleaner Flotation Test



Azure engaged Strategic Metallurgy Pty Ltd ("Strategic Metallurgy") to design and undertake a metallurgical testwork program focused on developing an economic processing flowsheet for ore from the VC-07 East Ni-Cu deposit ("VC-07") by producing saleable nickel and copper sulphide concentrates in either separate or combined form.

Stage 1 of the metallurgical testwork program comprised both sulphide flotation and comminution (crushing and grinding) testwork.

Importantly, the program was able to achieve excellent recoveries and produce high-grade nickel-cobalt and copper concentrates, with low levels of deleterious elements. Additionally, an internationally marketable bulk concentrate containing a combined grade of 12.4% (Ni% + Cu%) was also produced.

Commenting on the success of the testwork program at Andover, Azure's Managing Director, Mr Tony Rovira noted, "These very positive results from the Stage 1 testwork program indicate that we will be able to produce high quality, high grade, clean concentrates with excellent recoveries and I am confident that further optimisation studies will continue to deliver additional improvements.

"Metallurgical factors and results play a critical role in evaluating project viability, and to have produced marketable nickel and copper concentrates using a relatively simple and robust industry-standard flow sheet, at such an early stage, bodes well for the project as we move through the development studies process."

FLOTATION TESTWORK

Flotation testwork was completed on a composite sample containing sulphide mineralisation and internal waste material obtained from drill holes ANDD0004 (ASX: 10 December 2020) and ANDD0014 (ASX: 27 April 2021). This sample is considered to be representative of the grade and physical characteristics of the mineralisation comprising the VC-07 East deposit.

The head assays for the composite sample is provided in **Table 1**.

Table 1: Composite Sample Head Assays

	Ni (%)	Cu (%)	Co (%)	Fe (%)	S (%)	SiO ₂ (%)	MgO (%)
Head Assay	1.20	0.58	0.05	17.6	9.00	38.1	8.44

Two options for producing marketable nickel and copper concentrates were assessed as part of the Stage 1 testwork program:

- To produce separate nickel-cobalt and copper sulphide concentrates; and
- To produce a bulk nickel, cobalt and copper sulphide concentrate.

For each of the flowsheet options, the flotation kinetics, reagent regime and grind size were investigated over several stages of testwork. Each testwork iteration built on the knowledge obtained from the previous testwork that had been completed, with 10 tests being completed as part of the split concentrate testwork (see **Plates 1 & 2**) and four tests for the bulk concentrate testwork program.

The final concentrate grades and recoveries are presented in **Table 2** and demonstrate that two separate nickel-cobalt and copper concentrates can be produced from VC-07 ore, as well as a bulk nickel, cobalt and copper concentrate. All concentrates contain metal grades favourable for international marketing.



	N	ickel	Co	opper	Cobalt	
Concentrate Type	Grade (%)	Recovery (%)	Grade (%)	Recovery (%)	Grade (%)	Recovery (%)
Nickel Concentrate	15.7	79.4	2.0	20.0	0.57	67.7
Copper Concentrate	0.8	1.1	25.5	70.4	0.04	1.19
Bulk Concentrate	8.0	87.3	4.4	92.7	0.30	80.3

Table 2: Concentrate Grades and Recoveries

The nickel-cobalt and copper concentrates were assayed for deleterious elements that could impact marketability. Assay results indicate that both concentrates contain very low levels of deleterious elements (**Table 3**) and are not expected to be subject to any penalties when sold.

Table 3: Deleterious Elemental Analyses of Concentrates

As	Bi	Cd	Cl	Hg	Мо	U	V	F
(%)	(%)	(ppm)	(%)	(ppm)	(ppm)	(ppm)	(%)	(ppm)
<0.01	<0.002	<5	<0.01	<0.1	<5	<0.1	0.004	<50
< 0.01	<0.002	<5	<0.01	<0.1	10	<0.1	0.003	<50
Note:								
	(%) <0.01	(%) (%) <0.01 <0.002	(%) (ppm) <0.01	(%) (ppm) (%) <0.01	(%) (%) (ppm) (%) (ppm) <0.01	(%) (%) (ppm) (%) (ppm) (ppm) <0.01	(%) (%) (%) (ppm) (ppm) (ppm) (ppm) <0.01	(%) (%) (ppm) (ppm) (ppm) (ppm) (ppm) (%) <0.01

1. Arsenic (As), Bismuth (Bi), Cadmium (Cd), Chlorine (Cl), Mercury (Hg), Molybdenum (Mo), Uranium (U), Vanadium (V) and Fluorine (F).

value is below the detection limit of the assay technique used.

Separate Nickel-Cobalt and Copper Sulphide Concentrates

The production of separate nickel-cobalt and copper sulphide concentrates was assessed using a split rougher to separate cleaner circuits (**Figure 1**).

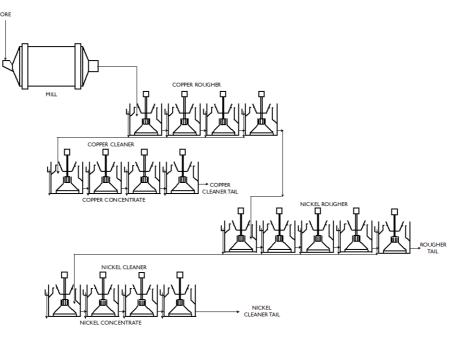


Figure 1: Split Concentrate Testwork Flowsheet

Selective flotation of nickel and cobalt into a separate marketable concentrate was successful with high intermediate concentrate grades greater than 20% nickel achieved with good recoveries. To maximise recovery while still producing a marketable nickel concentrate, it is likely that a concentrate grade of 13%



nickel will be targeted. To achieve the target saleable concentrate grade of 13% nickel, interpolation from the nickel grade-recovery curve demonstrates a recovery of nickel to the final concentrate of 82.4%.

Selective flotation of copper into a separate marketable concentrate was also successfully completed, with intermediate concentrate grades as high as 28% copper. Final copper grade for this concentrate was 25.5% copper.

Further optimisation work will be undertaken to improve the 70.4% copper recovery to the final concentrate. This optimisation was outside the scope of work for Stage 1 and will occur as part of the Stage 2 testwork program scheduled for Q4 2021 and Q1 2022.

Importantly, both the nickel-cobalt and copper concentrates have very low levels of deleterious elements and high Fe:MgO ratios (>16 in the nickel concentrate and >7 in the copper concentrate), making both concentrates very attractive for international marketing.

Bulk Nickel-Copper Concentrate

Production of a bulk concentrate was assessed using the flowsheet shown in **Figure 2**. The objective of the bulk concentrate flowsheet was to achieve total sulphide flotation during roughing, followed by pyrrhotite and pyrite rejection in the cleaner stage. Recoveries in the rougher stage were as high as 94.7% and 93.5% for copper and nickel respectively, with a final recovery of 92.7% and 87.3% for copper and nickel following cleaning, resulting in a bulk concentrate grade of 12.4% (Cu% + Ni%). This combined grade is acceptable in international markets.

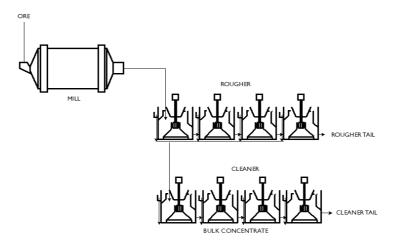


Figure 2: Bulk Concentrate Testwork Flowsheet



FUTURE WORK

Stage 2 of the metallurgical testwork program is planned to be undertaken in Q4 2021 and Q1 2022. The focus of this next stage of testwork will be:

- Assessment of flotation response to variability of the orebody across different geological domains;
- Optimising to maximise recovery of copper into the copper concentrate;
- Reducing the amount of nickel reporting to the copper concentrate in the split concentrate circuit. If achieved, this will improve both the nickel recovery and grade of the nickel concentrate, as well as the increasing copper grade in the copper concentrate;
- Refinement of the reagent regime for each of the proposed flowsheets; and
- Locked cycle testwork to assess recovery in a closed flowsheet.

Table 4: Location data for holes AND0004, AND0014 and ANDD0046

TARGET	HOLE No.	EAST (mE)	NORTH (mN)	ELEVATION (mASL)	AZIMUTH	DIP	TOTAL DEPTH (m)	COMMENT
VC-07	ANDD0004	512174	7694114	71.8	160	-65	432.1	NQ size
VC-07	ANDD0014	512100	7694160	78.1	210	-74	650.1	NQ size
VC-07	ANDD0046	512170	7694170	77.0	174	-62	419.9	HQ size
Note: Drill hole	Note: Drill hole ANDD0046 was used for the comminution testwork.							

Authorised for release by the Board of Directors of Azure Minerals Limited.

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COMPETENT PERSON STATEMENT

The metallurgical information in this report is based on information compiled by Mr Nick Vines. Mr Vines is a Member of the Australasian Institute of Mining and Metallurgy and a Director of metallurgical consultancy Strategic Metallurgy Pty Ltd. Mr Vines has sufficient experience that is relevant to the styles of mineralisation and types 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" (JORC Code). Mr Vines consent to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Information in this report that relates to previously reported Exploration Results has been crossed-referenced in this report to the date that it was reported to ASX. Azure Minerals Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcements.



JORC Code, 2012 Edition – Table 1

	Section 1: Sampling	g Techniques and Data		
Criteria	JORC Code Explanation	Commentary		
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement	Samples are taken from diamond drill core (HQ or NQ2) that is saw cut (half or quarter). Sample intervals are determined according to the geology logged in the drill holes.		
	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.	Sample preparation was undertaken at Bureau Veritas Minerals, Canning Vale laboratory, where the samples received were sorted and dried. Primary preparation crushed each whole sample to 10mm and then to 3mm. The samples were then split with a riffle splitter to obtain a sub-fraction which was pulverised via robotic pulveriser. The resultant pulverised material was placed in a barcoded sample packet for analysis. The barcoded packet is scanned when weighing samples for their respective analysis. Internal screen QAQC is done at 90% passing 75um.		
	Aspects of the determination of	All samples were analysed by methods:		
	mineralisation that are Material to the Public Report.	 FA0002 – lead collection fire assay/ICP-AES for Au, Pd and Pt 		
	In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to	 ICP102 – 4-acid digest/ICP-OES for Al, Ca, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, P, S, Sc, Ti, V and Zn, and 		
	obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation	 ICP302 – 4-acid digest/ICP-MS for Ag, As, Ba, Cd, LI, Mo, Pb, Sr, Y and Zr. 		
	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.	These techniques are considered a total digest for all relevant minerals.		
Drilling Techniques	Drill type (eg core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core	Drilling technique for all holes, bar one, was diamond drilling with HQ-size (63.5mm diameter) from surface to fresh bedrock and NQ2-size (50.6mm diameter) core to the final depth.		
	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).	The one exception to the above statement is ANDD0046 which was drilled as an HQ (63.5mm diameter) hole for its entire length. ANDD0046 was drilled specifically for material characterisation as part of the metallurgical and comminution testwork program described in the body of the report.		
		Drill holes are angled and core is oriented for structural interpretation.		
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature	Diamond core was reconstructed into continuous runs. Depths were measured from the core barrel and checked against marked depths on the core blocks. Core recoveries were logged and recorded in the database.		
	of the samples. Whether a relationship exists between	Core recoveries are very high with >90% of the drill core having recoveries of >98%.		
	sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	There is no discernible relationship between recovery and grade, and therefore no sample bias.		



	Section 1: Sampling	g Techniques and Data
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.Whether logging is qualitative or	Detailed core logging was carried out with recording of weathering, lithology, alteration, veining, mineralisation, structure, mineralogy, RQD and core recovery. Drill core logging is qualitative. Drill core was photographed, wet and dry without flash, in core
	quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	trays prior to sampling. Core from the entire drill hole was logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled	 Drill core was sawn in half or quarter using a core saw. All samples were half or quarter core and were collected from the same side of the core. The sample preparation followed industry best practice. Sample preparation was undertaken at Bureau Veritas Minerals, Canning Vale laboratory, where the samples received were sorted and dried. Primary preparation crushed each whole sample to 10mm and then to 3mm. The samples were then split with a riffle splitter to obtain a sub-fraction which was pulverised via robotic pulveriser. The resultant pulverised material was placed in a barcoded sample packet for analysis. The barcoded packet is scanned when weighing samples for their respective analysis. Internal screen QAQC is done at 90% passing 75um. The sample sizes are considered appropriate to the grain size of the material being sampled.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	 All samples were analysed by methods: FA0002 – lead collection fire assay/ICP-AES for Au, Pd and Pt ICP102 – 4-acid digest/ICP-OES for Al, Ca, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, P, S, Sc, Ti, V and Zn, and ICP302 – 4-acid digest/ICP-MS for Ag, As, Ba, Cd, Ll, Mo, Pb, Sr, Y and Zr. These techniques are considered a total digest for all relevant minerals. Duplicate, standard and blank check samples were submitted with drill core samples.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Senior technical personnel from the Company (Project Geologists +/- Exploration Manager) logged and verified significant intersections. Primary data was collected by employees of the Company at the project site. All measurements and observations were recorded digitally and entered into the Company's database. Data verification and validation is checked upon entry into the database.



	Section 1: Sampling	g Techniques and Data
	Discuss any adjustment to assay data	Digital data storage is managed by an independent data management company.
		No adjustments or calibrations have been made to any assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	Drill holes were pegged by Company personnel using a handheld GPS, accurate to <u>+</u> 3m. The grid system used is MGA94 Zone 50 for easting, northing and RL. Available state contour data and GPS recorded RL has been used which is adequate given the early stage of the project.
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied	 Holes were individually drilled into electromagnetic targets and were not setup on a regular spacing. Downhole sample interval spacings are selected based on identification of intersected mineralisation. The project is at early exploration drilling stage, geological and grade continuity is not yet established. No sample compositing has been applied.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Drilling was designed to intersect the modelled EM targets and geological features were not factored at this early stage of exploration. No sampling bias has been identified due to the early stage of the project.
Sample security	The measures taken to ensure sample security	Assay samples were placed in calico sample bags, each is pre- printed with a unique sample number. Calico bags were placed in a poly weave bag and cabled tied closed at the top. Poly weave bags were placed inside a large bulka bag prior to transport. Samples were picked up and delivered to the laboratory by a transport contractor.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been completed. Review of QAQC data has been carried out by company geologists



Section 2: Reporting of Exploration Results					
Criteria	JORC Code Explanation	Commentary			
Mineral tenement and land tenure	Type, reference name/number, location and ownership including agreements or material issues with third parties such	Exploration Licence E47/2481 is a Joint Venture between Azure Minerals Ltd (60%) and Croydon Gold Pty Ltd (40%), a private subsidiary of the Creasy Group.			
status	as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The tenement is centred 35km southeast of the major mining/service town of Karratha in northern WA. The tenement is approximately 12km x 6km in size with its the northern boundary located 2km south of the town of Roebourne.			
	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.	Approximately 30% of the tenement area is subject to either pre-existing infrastructure, Class "C" Reserves and registered Heritage sites. Written permission is required to access these areas which are outside the current areas of exploration focus.			
		The tenement has been kept in good standing with all regulatory and heritage approvals having been met. There are no known impediments to operate in the area.			
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Limited historical drilling has been completed within the Andover Complex. The following phases of drilling works with results have been undertaken:			
		1986-1987: Greater Pacific Investment; 6 core holes. Intersected elevated values of nickel (up to 1.0% Ni) and copper (up to 0.41% Cu). No PGEs were detected.			
		1996-1997: Dragon Mining; Stream sediment sampling, 5 RC holes in the NE at Mt Hall Ni-Cu target. Zones of noted sulphides (in sediments & gabbro) were selectively sampled with no anomalous results. Rare intervals of ultramafics were sampled.			
		1997-1998: BHP Minerals; 2 RC/DD holes were drilled within the Andover project area. Both holes intersected strongly magnetic serpentinite containing elevated values of nickel (up to 0.29% Ni), copper (up to 0.26% Cu) and cobalt (up to 332ppm Co) but no anomalous PGE's.			
		2012-2018: Croydon Gold; VTEM Survey, soil, and rock chip sampling, 7 RC holes tested 4 geophysical / geological targets. Significant Ni-Cu-Co sulphide mineralisation was intersected in two locations.			
Geology	Deposit type, geological setting and style of mineralisation.	The Andover Complex is an Archean-age layered mafic- ultramafic intrusion covering an area of about 200km ² that intruded the West Pilbara Craton.			
		The Andover Complex comprises a lower layered ultramafic zone 1.3km thick and an overlying 0.8km gabbroic layer intruded by dolerites.			
		Ni-Cu-Co sulphide mineralisation occurs at lithological boundaries, either between different types of gabbro's, or between mafics and ultramafics.			
		The current interpretation of the mineralized sulphides suggests a magmatic origin heavily overprinted by one or several hydrothermal events.			



	Section 2: Reporting of	of Exploration Results
Drill hole information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • 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 • 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.	Refer to tables in the report and notes attached thereto which provide all relevant details.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	Length weighted average grade calculations have been applied to reported assay intervals. No maximum and/or minimum grade truncations (eg cutting of high grades) or cut-off grades were applied. High grade intervals internal to broader mineralised zones are reported as included zones - refer to drill intercept and detail tables. No metal equivalents were reported. Reported nickel and copper mineralised intersections for the drilling are based on intercepts using a lower grade cut-off of 0.4% Ni for the overall mineralised zones and 1.0% Ni for the included high grade mineralised zones.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	Geological controls and orientations of the mineralised zone are unconfirmed at this time and therefore all mineralised intersections are reported as "intercept length" and may not reflect true width. Drilling was designed to intersect the modelled EM targets and geological features have not been factored at this early stage of exploration. The true direction of mineralisation is not determined at this stage.



Section 2: Reporting of Exploration Results						
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to figures in the report.				
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	The Company believes that the ASX announcement is a balanced report with all material results reported.				
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Everything meaningful and material is disclosed in the body of the report. Geological observations have been factored into the report. Metallurgical testwork and data has been provided in the body of the report.				
Further work	The nature and scale of planned further work (eg tests for lateral extensions or large-scale step out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Additional diamond drilling to follow-up the sulphide intersections. Downhole EM and surface fixed-loop EM surveying. Further metallurgical testwork is planned to test the variability of the orebody, and to optimise the grade and recovery of metals into the concentrates.				