

# MINERALISED ZONE EXTENDED TO 11 KM AT OPUWO COBALT PROJECT

# **HIGHLIGHTS**

- Cobalt-copper mineralisation now confirmed by assays over approximately 11 km of strike.
- Drilling in progress at the Western Zone, where higher grade cobalt mineralisation (up to 4,300 ppm, or 0.43%) has been identified at surface.
- Highest grade cobalt intercept to date in DOFR12. Results include:
  - 5 m @ 0.20% cobalt and 0.52% copper (DOFR12)
  - 6 m @ 0.13% cobalt and 0.37% copper (DOFR14)
  - 5 m @ 0.12% cobalt and 0.66% copper (DOFR19)
- Mineralisation continues to return low levels of deleterious elements such as arsenic, cadmium and uranium.
- Reverse Circulation (RC) drilling continuing across 30 km of prospective strike extent. Further assay results pending.
- Diamond drilling to commence later this month, providing samples for first pass metallurgical testing.
- Metallurgical testing program, preliminary mining studies and resource definition drilling planned to provide input into Project Scoping Study, with completion before the end of 2017.



Celsius Resources Limited ("Celsius" or "the Company") is pleased to announce continuing encouraging assay results from drilling at the Opuwo Cobalt Project ("Project") in Namibia. New sample assays have extended cobalt-copper mineralisation across a distance of approximately 11 km (Figure 1).

Celsius Managing Director, Brendan Borg commented:

"The assay results from Opuwo continue to demonstrate that an extensive mineralised system is present at the Project. Drilling is underway in the western sector of the Project, where the highest grades of cobalt were identified in surface samples and trenches."

## **Discussion of Results**

Significant intercepts from the latest batch of drilling assays, using a cutoff grade of 0.05% (500ppm) cobalt (Appendix 1), include:

- 5 m @ 0.20% cobalt and 0.52% copper, from 80 m (DOFR12)
- 6 m @ 0.13% cobalt and 0.37% copper, from 56 m (DOFR14)
- 5 m @ 0.12% cobalt and 0.66% copper, from 87 m (DOFR19)

These results are consistent with previous batches of results received (refer ASX releases from 20 and 27 April 2017), and importantly continue to show potential for higher grade zones within the extensive mineralised system at Opuwo.

- 19 m @ 0.13% cobalt, 0.62% copper and 0.71% zinc, from 87 m (DOFR04)
- 7 m @ 0.17% cobalt, 0.49% copper and 0.61% zinc, from 66 m (DOFR06)
- 7 m @ 0.16% cobalt, 0.64% copper and 0.61% zinc, from 88 m (DOFR08)
- 7 m @ 0.13% cobalt, 0.53% copper and 0.62% zinc, from 54 m (DOFR10)
- 6 m @ 0.12% cobalt, 0.55% copper and 0.39% zinc, from 46 m (DOFR03)
- 5 m @ 0.15% cobalt, 0.44% copper and 0.48% zinc, from 57 m (DOFR11)
- 5 m @ 0.14% cobalt, 0.53% copper and 0.45% zinc, from 76 m (DOFR09)
- 4 m @ 0.15% cobalt, 0.80% copper and 0.62% zinc, from 41 m (DOFR07)
- 4 m @ 0.13% cobalt, 0.57% copper and 0.45% zinc, from 44 m (DOFR05)

The mineralisation extends to surface and outcrops in many places and, based on the assay data to date, grades appear to increase with depth. This is currently considered to be due to near surface weathering of the sulphides hosting the mineralisation. Further drilling will be conducted to test for down dip extensions and confirm the true thickness of the mineralisation.

Several of the nine holes reported in this release were designed to test structural targets where potentially thicker and/or repeat zones of mineralisation could be present. Some holes in areas of shallow cover missed the targeted DOF horizon or intersected it near surface where grades were interpreted to be affected by weathering and/or deformation. A total of four wide spaced drill fences were completed, with significant intercepts reported at each location, confirming that the mineralised horizon remains continuous along the full 11 km of strike. Additional drilling is planned to further define the mineralisation in these areas.



Assay results continue to indicate that the mineralisation at Opuwo is low in deleterious elements such as arsenic, cadmium and uranium. Field observations and previous mineralogical studies indicate simple sulphide mineralogy for the elements of interest, including cobalt present as cattierite (CoS<sub>2</sub>).

# **Current Drill Program**

This initial phase of drilling is designed to test a 20 km (of a total 30 km) strike length of the cobalt-copper mineralised DOF horizon. Wide spaced drilling has been completed across approximately 11 km of strike, with the mineralised horizon confirmed by assays in each drill fence to date (Figures 1 and 2). Drilling is now proceeding to the west of the currently defined area, where higher grade cobalt mineralisation (up to 0.43%, or 4,300 ppm) has been identified in surface sampling and trenching.

Diamond drilling will commence later this month, providing samples for first pass metallurgical testing. The planned metallurgical studies, along with preliminary mining studies and resource definition drilling, will contribute to a Scoping Study for the Project, planned to be completed before the end of 2017.

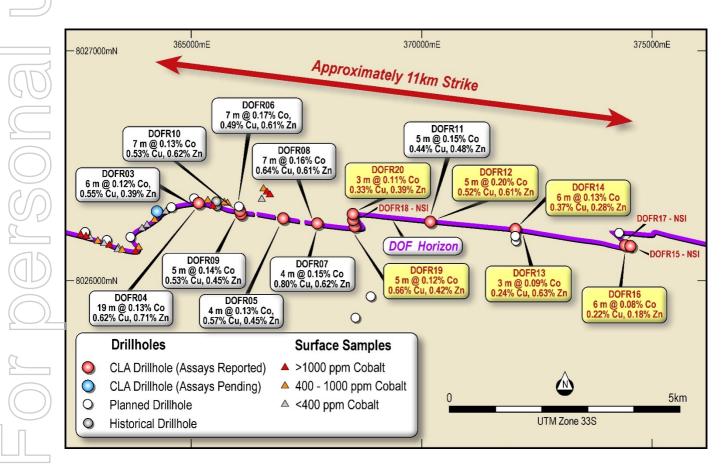


Figure 1: Drilling Assay Results extending mineralised strike to 11 km



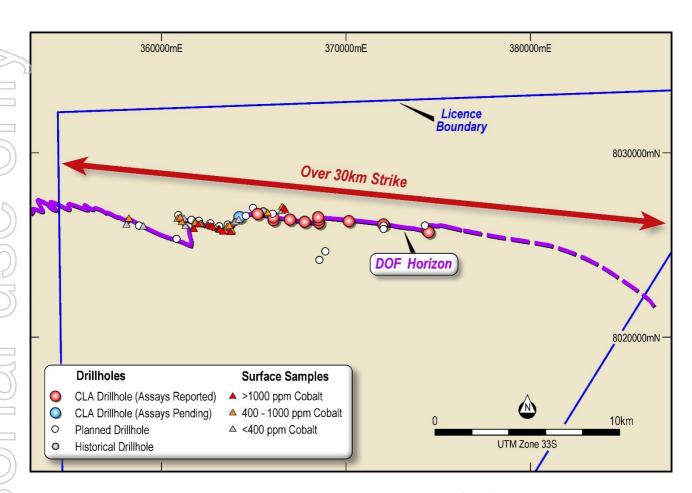


Figure 2: Strike length of mapped and interpreted dolomite ore formation (DOF) at the Project

## Background on the Opuwo Cobalt Project

The Opuwo Cobalt Project is located in northwestern Namibia, approximately 800 km by road from the capital, Windhoek, and approximately 750 km from the port at Walvis Bay (Figure 4). The Project has excellent Infrastructure, with the regional capital of Opuwo approximately 30 km to the south, where services such as accommodation, fuel, supplies, and an airport and hospital are available. Good quality bitumen roads connect Opuwo to Windhoek and Walvis Bay. The Ruacana hydro power station (320 MW), which supplies the majority of Namibia's power, is located nearby, and a 66 kV transmission line passes through the eastern boundary of the Project.

The identification of the geological similarities of the DOF horizon with the "Ore Shale" of the Central African Copperbelt and the discovery of Namibia's first significant cobalt mineralisation at the Opuwo Cobalt Project goes back to exploration activities led by Dr. Rainer Ellmies. Despite intensive surface exploration by previous explorers, only seven drill holes had tested the DOF horizon prior to the current phase of exploration. Only the recently drilled holes, DOF01 and DOF02, were assayed for cobalt, with significant results comprising:

- 8 m @ 1137 ppm cobalt, 0.54% copper and 0.53% zinc, from 60.4 m (DOF02)
- 4.65 m @ 1153 ppm cobalt, 0.55% copper, 0.59% zinc, from 106.65 m (DOF01)



Celsius is gaining exposure to the Project via the following stages of expenditure on exploration:

- An initial 30% interest will be earned by expenditure of \$500,000 within 6 months of exercising the option to proceed,
- a further 30% to be earned following expenditure of a further \$1,000,000 within 12 months of completing the stage 1 earn in, and
- a final 16% to be earned following expenditure of a further \$1,000,000 within 6 months of completing the stage 2 earn in.

Following the earning of the 76% interest all parties will be required to contribute to exploration.

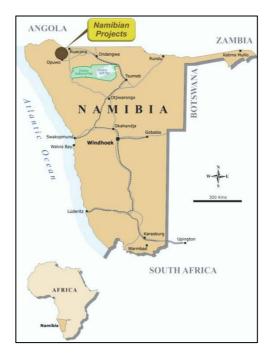


Figure 3: Location of the Opuwo Cobalt Project, Namibia

# **Background on Cobalt**

Cobalt has a diverse range of metallurgical and chemical uses ranging from aircraft engines to rechargeable batteries. Strong demand for rechargeable batteries has been the biggest growth driver for cobalt consumption and demand is forecast to continue to increase as batteries are increasingly adopted in households and vehicles. Cobalt cathode chemistry continues to be the product of choice for applications requiring thin, flexible and high energy density batteries with the best possible cycle life. Furthermore, automotive related demand for cobalt containing battery materials is expected to rapidly increase in coming years with increasing sales of plug in hybrid and fully electric vehicles.



In its 2016 market outlook respected industry group CRU stated: "The refined cobalt market will fall into a 3,000 tonne deficit this year following seven years of overcapacity and oversupply. CRU anticipates prices to increase onward into 2017 as global demand for refined cobalt exceeds the 100,000 tonne mark and mine and refined supply tightens."

Cobalt resources and production are concentrated in the Democratic Republic of Congo, which has close to half of the world's cobalt reserves and accounts for more than half of the world's production. The balance of the world's cobalt is concentrated in Australia, Cuba, Zambia, New Caledonia, Canada, Russia and Brazil. Notably, the United States has no domestic resources of cobalt ore. As a result of the industrial importance of cobalt and the concentration of supply, cobalt is classed as a strategic mineral by the USGS and as a critical raw material by the EU.

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## **Competent Persons Statement**

Information in this report relating to Exploration Results is based on information reviewed by Mr. Brendan Borg, who is a Member of the Australasian Institute of Mining and Metallurgy and Managing Director of Celsius Resources. Mr. Borg has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Borg consents to the inclusion of the data in the form and context in which it appears. The Exploration Results are based on standard industry practices for drilling, logging, sampling, assay methods including quality assurance and quality control measures as detailed in Appendix 2.



Appendix 1. CLA Drilling at the Opuwo Cobalt Project

Hole ID	Easting (UTM Zone 33S)	Northing (UTM Zone 33S)	Dip	Azimuth (mag)	Final Depth (m)	Intercept From (m)	Intercept To (m)	Interval (m)	Cobalt (ppm)	Copper (%)	Zinc (%)	Manganese (%)
DOFR03	365148	8026718	-55	180	58	46	52	6	0.12	0.55	0.39	1.43
DOFR04	365148	8026720	-90	180	112	87	106	19	0.13	0.62	0.71	1.75
including						87	94	7	0.13	1.11	1.10	1.53
DOFR05	366981	8026370	-55	180	55	44	48	4	0.13	0.57	0.45	1.69
DOFR06	366981	8026373	-90	180	86	66	73	7	0.17	0.49	0.61	1.92
including						69	71	2	0.31	0.41	1.13	3.17
DOFR07	367745	8026254	-55	180	50	41	45	4	0.15	0.80	0.62	1.91
DOFR08	367742	8026266	-90	180	99	88	95	7	0.16	0.64	0.61	1.69
DOFR09	366049	8026549	-55	180	87	76	81	5	0.14	0.53	0.45	1.59
DOFR10	366060	8026497	-90	180	66	54	61	7	0.13	0.53	0.62	1.57
DOFR11	370176	8026304	-55	180	70	57	62	5	0.15	0.44	0.48	1.58
DOFR12	370176	8026305	-90	180	90	80	85	5	0.20	0.52	0.61	1.83
DOFR13	372034	8026137	-55	180	50	37	40	3	0.09	0.24	0.63	1.17
DOFR14	372034	8026138	-85	180	70	56	62	6	0.13	0.37	0.28	1.8
DOFR15	374531	8025781	-55	200	130		No Si	gnificant In	tercept (mis	sed DOF h	orizon)	
DOFR16	374421	8025771	-55	200	70	11	17	6	0.08	0.22	0.18	0.83
and						19	21	2	0.09	0.28	0.13	1.39
DOFR17	374422	8025788	-90	200	70	No Significant Intercept (below 500ppm reporting cutoff grade)						
DOFR18	368497	8026351	-55	180	117		No Si	gnificant In	tercept (mis	sed DOF h	orizon)	
DOFR19	368526	8026224	-55	180	99	87	92	5	0.12	0.66	0.42	1.53
DOFR20	368497	8026469	-55	180	80	29	32	3	0.11	0.33	0.39	2.08
DOFR21	364229	8026530	-55	180	87	Results Pending						
DOFR22	364232	8026504	-90	180	81	Results Pending						
DOFR23	363667	8025977	-55	135	41	Results Pending						
DOFR24	363667	8025980	-90	135	40			R	esults Pendi	ing		

Notes: Significant intersections reported using a cutoff grade of 0.05% cobalt (500 ppm) Previous announcements reported cobalt in ppm (1,000 ppm = 0.1%)



Appendix 2. The following tables are provided to ensure compliance with the JORC Code (2012) requirements for the reporting of Exploration Results for the Opuwo Cobalt Project

# Section 1 Sampling Techniques and Data

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

	his section apply to all succeeding sections.)	Commentary
Sampling technique	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> <li>Reverse Circulation (RC) drilling using standard equipment.</li> <li>Sampling was undertaken at one metre intervals.</li> <li>Drilling designed to intersect the DOF horizon based on mapped or interpreted location.</li> </ul>
Drilling technique	Drill type (eg core, reverse circulation, open-hole hammer rotary)	Reverse circulation percussion.
Drill samp recovery		Recovery generally recorded as good, with poor recovery in a small number of samples due to groundwater.



0	Criteria	JORC Code explanation	Commentary
	Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Drilling logged in detail on a metre by metre basis.</li> <li>Lithology, alteration and oxidation logged qualitatively.</li> <li>Sulphide and quartz vein content logged quantitatively.</li> </ul>
$\begin{bmatrix} t \\ a \end{bmatrix}$	Sub-sampling dechniques and sample oreparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>RC drill samples split using a rig mounted cone splitter.</li> <li>Field duplicates collected to confirm representivity of sampling.</li> </ul>
	Quality of assay data and laboratory ests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias)</li> </ul>	<ul> <li>Samples were assayed prepared at Activation Laboratories Limited (ACTLABS) Windhoek laboratory, and assayed at ACTLABS in Ancaster, Canada. A total acid digestion sample preparation method and ICP finish were utilised.</li> <li>No geophysical tools were used to determine any element concentration in these results.</li> <li>The drilling program included field duplicates, standards and blanks that were inserted into the drill sequence, in addition to the standard QA/QC samples and procedures used by the laboratory. No abnormalities were detected.</li> </ul>
s	Verification of sampling and assaying	<ul> <li>and precision have been established.</li> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification,</li> </ul>	<ul> <li>Mineralised zones reported in assays correspond approximately with the zones as logged in the field, and the tenor of grades is consistent with previous drilling and surface sampling.</li> <li>No twin holes have yet been drilled, however, several of the RC holes will be twinned by diamond holes in the coming months.</li> </ul>



Criteria	JORC Code explanation	Commentary
	data storage (physical and electronic) protocols.  Discuss any adjustment to assay data.	<ul> <li>An electronic database containing collars, geological logging and assays i maintained by the Company.</li> <li>No adjustment to assay data has been made.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All sampling located by hand held GPS.</li> <li>UTM grid WGS84 Zone 33 (South).</li> <li>Holes will be surveyed using Differential GPS (DGPS) prior to potential resource modelling.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drill spacing approximately every 500 – 1,000 metres along the strike of the DOF horizon (based on mapping / interpretation).</li> <li>Optimum drill spacing to delineate a Mineral Resource not yet known. To be determined from assay data / assessment of grade variability.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Drilling of angled holes aimed to test perpendicular to DOF horizon. Some holes were designed to be oblique to mineralisation.</li> <li>Further drilling will better determine the orientation of the geological features and mineralisation and enable any biases to be determined.</li> </ul>
Sample security	The measures taken to ensure sample security.	Drill samples delivered to laboratory by senior Celsius or Gecko Namibia staff.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No review has been carried out.

# Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary				
Mineral tenement and land tenure status	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> <li>The Opuwo Cobalt Project comprises a single Exclusive Prospective License EPL4346 owned by Kunene Resources (Pty) Ltd.</li> <li>The license is undergoing the renewal process for a further two year term from June 2017.</li> </ul>				



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous work carried out by Kunene Resources includes geological mapping, outcrop sampling, soil sampling, high resolution magnetic and radiometric data and hyperspectral data. Two holes were drilled in 2015, which intersected cobalt, copper and zinc mineralisation.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Copper-cobalt mineralisation is developed in a sedimentary package of likely Nosib succession. Arkose quartzitic sandstones and conglomerates the footwall Nosib Formation are exposed to the west and southwest</li> <li>The upper Nosib or Ombombo Formation consists of a sequence of finely intercalated siltstones and shales with minor sandstone, marlstone, limestone and dolostone layers.</li> </ul>
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.	All information detailed in Appendix 1.
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	Simple length weighted averages were used for reporting of significant intercepts. Significant intercepts were reported using a cutoff grade of 0.05% (or 500 ppm) cobalt.
Relationship between mineralisation widths and	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.	<ul> <li>Orientation of drilling vs dip of DOF horizon likely means that the downhol length reported for the DOF is not true width.</li> <li>Determination of the orientations and thickness of mineralisation will be possible with further drilling, and in particular, diamond drilling, which is scheduled to commence in May, 2017.</li> </ul>



Criteria	JORC Code explanation	Commentary
intercept lengths	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').	
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 Figures 1 and 2. Sectional views will be compiled once an accurate assessment can be made of the geometry of the mineralisation.
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.	All holes have been 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.	Geophysical and geological datasets detailed in previous releases.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the	Planned further work detailed in this, and previous releases, and in figures. This work includes comprises drill testing along a significant portion of the mapped/interpreted mineralised unit.
	areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	