

ASX/Media Release

17 September 2015

DOOLGUNNA PROJECT – MONTY DRILLING UPDATE

Massive sulphides intersected up-dip of lower mineralised zone

Sandfire Resources NL (ASX: SFR; "Sandfire") is pleased to provide an update on ongoing exploration drilling being undertaken at the Monty copper-gold discovery located 10km east of the DeGrussa Copper-Gold Mine on the Springfield Project, part of its farm-in with Talisman Mining Limited (ASX: TLM; "Talisman") (see Figures 1 and 2).

Step-out diamond hole TLDD0020 has intersected a narrow zone of massive sulphide mineralisation approximately 72 metres up-dip of the recently reported high-grade intercepts in TLDD0010 (refer Table 2):

• **1.2 metres of massive sulphides** from 272.6m to 273.8m down-hole (true width not known at this time, top of intercept is approximately 241 metres vertically below surface).

TLDD0020 intersected a 74 metre thick host package of siltstones and minor sandstones intruded by a number of thin dolerite sills. The sediments were strongly affected by pervasive chlorite alteration which is indicative of proximity to the hydrothermal system. The massive sulphide horizon is located in the lower portion of the interpreted host sediment package and is underlain by a well-developed zone of quartz veining and shearing.

Based on field observations the massive sulphides in TLDD0020 contain visible chalcopyrite, as has been observed in previous drilling at Monty. Diamond core from TLDD0020 will be despatched for assay. Updated collar locations are shown in Figure 2.

An updated Vertical Longitudinal Projection of the Monty Prospect showing the interpreted position of the upper and lower mineralised horizons is shown in Figure 3 attached.

Drilling is continuing at Monty with additional diamond holes underway and planned to test for further extensions of the mineralisation up- and down-plunge, up- and down-dip and along strike. Drilling is being supported by down-hole EM surveys.

Sandfire is earning a 70% interest in the Talisman Mining's Doolgunna Project, which forms part of its Greater Doolgunna Project comprising a 1,700 square kilometre package of contiguous tenements surrounding the DeGrussa Copper Mine.

ENDS

For further information contact:

Sandfire Resources NL Karl Simich – Managing Director/CEO Office: +61 8 6430 3800 Read Corporate Mobile: +61 419 929 046 (Nicholas Read) Mobile: +61 421 619 084 (Paul Armstrong)

Table 1 – Drill-hole Information Summary, Springfield Project

Details and coordinates of all relevant drill collars are provided below:

Hole ID	Depth	Dip	Azimuth	Grid_ID	East	North	RL	Lease ID	Hole Status
TLDD0001	1099	-62°	357°	MGA94_50	740146	7174150	589	E52/2313	Complete
TLDD0002A	463	-61°	110°	MGA94_50	743544	7171211	602	E52/2282	Complete
TLDD0003	658	-62°	355°	MGA94_50	740596	7174550	589	E52/2313	Complete
TLDD0004A	817	-60°	148°	MGA94_50	743588	7171281	601	E52/2282	Complete
TLDD0005	478	-62°	139°	MGA94_50	743544	7171210	602	E52/2282	Complete
TLDD0006	554	-62°	138°	MGA94_50	743469	7171174	601	E52/2282	Complete
TLDD0007	589	-62°	138°	MGA94_50	743504	7171271	601	E52/2282	Complete
TLDD0008	688	-62°	138°	MGA94_50	743441	7171223	600	E52/2282	Complete
TLDD0009	472	-62°	138°	MGA94_50	743578	7171190	602	E52/2282	Complete
TLDD0010	433	-62°	140°	MGA94_50	743514	7171138	601	E52/2282	Complete
TLDD0011	472	-60°	140°	MGA94_50	743453	7171090	598	E52/2282	Complete
TLDD0012	598	-60°	140°	MGA94_50	743403	7171155	599	E52/2282	Complete
TLDD0014	399	-60°	140°	MGA94_50	743638	7171231	603	E52/2282	Complete
TLDD0015	363	-62°	143°	MGA94_50	743561	7171073	602	E52/2282	Complete
TLDD0016	274	-62°	143°	MGA94_50	743621	7171119	604	E52/2282	Complete
TLDD0017	236	-62°	143°	MGA94_50	743686	7171166	605	E52/2282	Complete
TLDD0020	340	-62°	143°	MGA94_50	743537	7171105	602	E52/2282	Complete
TLRC0003	544	-61°	144°	MGA94_50	743720	7171393	599	E52/2282	Complete
TLRC0004	306	-62°	143°	MGA94_50	743497	7171025	600	E52/2282	Complete
TLRC0006	318	-62°	143°	MGA94_50	743430	7170973	598	E52/2282	Complete
TLRC0008	294	-60°	143°	MGA94_50	743465	7171001	599	E52/2282	Complete
TLRC0009	265	-60°	143°	MGA94_50	743529	7171049	601	E52/2282	Complete

Table 2 – Significant Drill-hole Assay Intersections, Springfield Project

Details of all relevant intersections are provided below:

	Int	F	T	Downhole Width	Intersection		
Hole ID	Int	From	То		Cu (%)	Au (g/t)	Zn (%)
TLDD0004A		409.5	426.0	16.5	18.9	2.1	1.5
TLDD0005		417.0	426.2	9.2	11.8	2.9	2.3
TLDD0008		574.2	579.3	5.1	1.4	0.1	0.0
TLDD0009	1	343.0	344.0	1.0	8.6	0.3	0.1
	2	363.1	371.0	7.9	8.3	2.4	2.1
	3	385.8	390.6	4.8	4.9	1.1	1.4
TLDD0010	1	355.6	356.1	0.5	1.2	1.4	0.2
	2	359.7	370.2	10.5	18.9	3.1	1.1
	3	373.6	378.2	4.7	12.8	2.5	0.8
TLRC0004	1	107.0	125.0	18.0	5.7	2.4	3.2
	2	158.0	162.0	4.0	4.2	0.7	0.1

Figure 1 – Sandfire's Greater Doolgunna Project, showing the Springfield Project (farm-in) and location of the Monty and Homer prospects

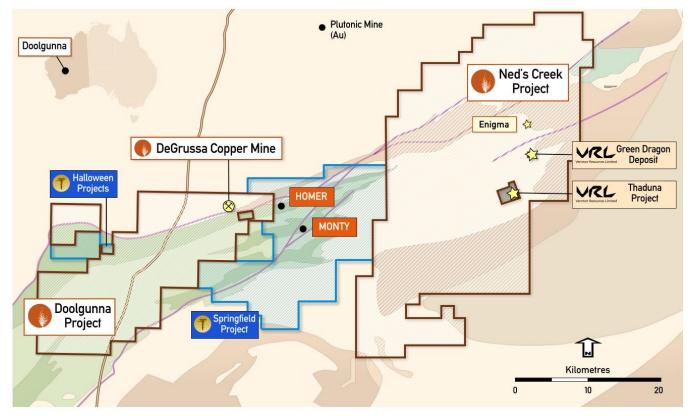


Figure 2 – Monty Prospect showing drill-hole collar locations and interpreted schematic geology

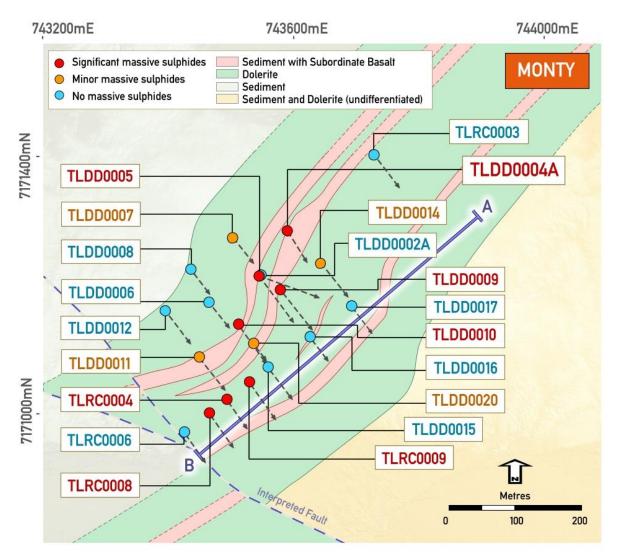
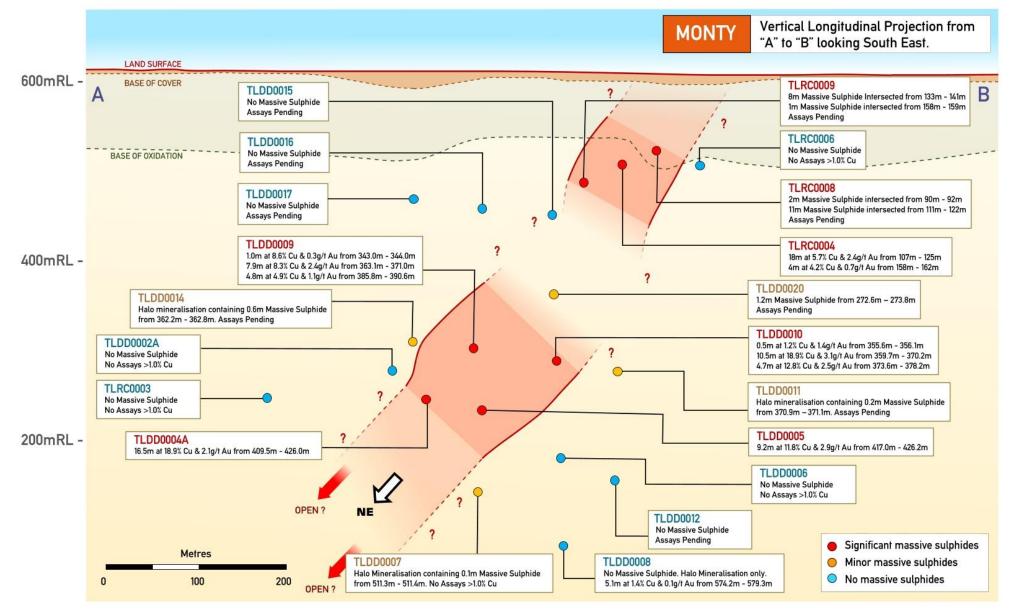


Figure 3 – Vertical Longitudinal Projection and initial interpretation of the Monty Prospect showing drill-hole piercepoints at the top of the mineralised zone. All intercepts are down-hole widths



Competent Person's Statement – Exploration Results

The information in this report that relates to Exploration Results is based on information compiled by Mr. Shannan Bamforth who is a Member of The Australasian Institute of Mining and Metallurgy. Mr. Bamforth is a permanent employee of Sandfire Resources and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bamforth consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Exploration and Resource Targets

Any discussion in relation to the potential quantity and grade of Exploration Targets is only conceptual in nature. While Sandfire is confident that it will report additional JORC compliant resources for the DeGrussa Project, there has been insufficient exploration to define mineral resources in addition to the current JORC compliant Mineral Resource inventory and it is uncertain if further exploration will result in the determination of additional JORC compliant Mineral Resources.

Forward-Looking Statements

Certain statements made during or in connection with this statement contain or comprise certain forward-looking statements regarding Sandfire's Mineral Resources and Reserves, exploration operations, project development operations, production rates, life of mine, projected cash flow, capital expenditure, operating costs and other economic performance and financial condition as well as general market outlook. Although Sandfire believes that the expectations reflected in such forward-looking statements are reasonable, such expectations are only predictions and are subject to inherent risks and uncertainties which could cause actual values, results, performance or achievements to differ materially from those expressed, implied or projected in any forward looking statements and no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, delays or changes in project development, success of business and operational risk management. Except for statutory liability which cannot be excluded, each of Sandfire, its officers, employees and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in this statement and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this statement or any error or omission. Sandfire undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events other than required by the Corporations Act and ASX Listing Rules. Accordingly you should not place undue reliance on any forward looking statement.

JORC Compliance Statement

A summary of the information used in this release is as follows.

The DeGrussa VHMS (volcanic-hosted massive sulphide) copper-gold deposit is located 900 kilometres north of Perth and 150 kilometres north of Meekatharra in the Peak Hill Mineral Field. The system is hosted within a sequence of metasediments and mafic intrusions situated in the Bryah Basin that have been metamorphosed and structurally disrupted.

The sulphide mineralisation consists of massive sulphide and semi-massive sulphide mineralisation. Primary sulphide minerals present are pyrite, chalcopyrite, pyrrhotite and sphalerite, together with magnetite. The sulphide mineralisation is interpreted to be derived from volcanic activity. The deposit shares characteristics with numerous VHMS deposits worldwide.

Sandfire Resources are currently exploring the defined prospective sequence in its 100% held tenements and within the Talisman Mining earn in and joint Venture agreement

JORC 2012 TABLE 1 – EXPLORATION RESULTS

Section 1: Sampling 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 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.	Sampling is guided by Sandfire protocols as per industry standard.
	 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. 	 second stage reduction via Boyd crusher to -4mm. Representative subsamples are split and pulverised through LM5. RC sample are crushed to -4mm through a Boyd crusher and representative subsamples pulverised via LM5.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).	 DD is completed using NQ2 size coring equipment. RC drilling is with sampling hammer of nominal 140mm hole. All drill collars are surveyed using RTK GPS with downhole surveying. All core where possible is oriented using a Reflex ACT II RD orientation tool. Downhole surveying is undertaken using a gyroscopic survey instrument.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	• Diamond core recovery is logged and captured into the database. Core recoveries are measured by drillers for every drill run. The core length recovered is physically measured for each run and recorded and used to calculate the core recovery as a perecentage core recovered.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	• Appropriate measures are taken to maximise sample recovery and ensure the representative nature of the samples. This includes diamond core being

Criteria	JORC Code Explanation	Commentary
		 reconstructed into continuous intervals on angle iron racks for orientation, metre marking and reconciled against core block markers. RC sampling is good with almost no wet sampling in the project area. Samples are routinely weighed and captured into the central secured database.
	• Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	 No sample recovery issues have impacted on potential sample bias.
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.	 Geological logging is completed for all holes and representative across the orebody. The lithology, alteration and structural characteristics of core are logged directly to a digital format following procedures and using Sandfire NL geologic codes. Data is imported into Sandfire NL's central database after validation in LogChief[™].
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	 Logging is both qualitative and quantitative depending on field being logged. All cores are photographed.
	The total length and percentage of the relevant intersections logged.	All drillholes are fully logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	• Core orientation are completed where possible and all are marked prior to sampling. Half core samples are produced using Almonte Core Saw. Samples are weighed and recorded.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	• RC samples are split using a cone or riffle splitter. A majority of RC samples are dry. On occasions that wet samples are encountered they are dried prior to splitting with a riffle splitter.
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	 All samples are sorted, dried at 80° for up to 24 hours and weighed. DD samples are then crushed through Jaques crusher to nominal -10mm. A second stage crushing is through Boyd crusher to nominal -4mm. All RC samples are only Boyd crushed to -4mm. Sample splits are weighed at a frequency of 1:20 and entered into the job results file. Pulverising is completed using LM5 mill to 90% passing 75%µm using wet sieving technique.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	 1:20 grind quality checks are completed for 90% passing 75%µm criteria to ensure representativeness of sub-samples.

Criteria	JORC Code Explanation	Commentary
	• 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.	 Sampling is carried out in accordance with Sandfire protocols as per industry best practice. No field duplicates have been taken.
	Whether sample sizes are appropriate to the grain size of the material being sampled	 The sample sizes are considered appropriate for the VHMS and Gold mineralisation types.
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. 	 Samples are assayed using Mixed 4 Acid Digest (MAD) 0.3g charge and MAD Hotbox 0.15g charge methods with ICPOES or ICPMS. The samples are digested and refluxed with a mixture of acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric acids and conducted for multi elements including Cu, Pb, Zn, Ag, As, Fe, S, Sb, Bi, Mo, Re, Mn, Co, Cd, Cr, Ni, Se, Te, Ti, Zr, V, Sn, W and Ba. The MAD Hotbox method is an extended digest method that approaches a total digest for many elements however some refractory minerals are not completely attacked. The elements S, Cu, Zn, Co, Fe, Ca, Mg, Mn, Ni, Cr, Ti, K, Na, V are determined by ICPOES, and Ag, Pb, As, Sb, Bi, Cd, Se, Te, Mo, Re, Zr, Ba, Sn, W are determined by ICPMS. Samples are analysed for Au, Pd and Pt by firing a 40g of sample with ICP AES/MS finish. Lower sample weights are employed where samples have very high S contents. This is a classical FA process and results in total separation of Au, Pt and Pd in the samples.
	• 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.	 No geophysical tools are used in the analysis.
	 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. 	 Sandfire DeGrussa QAQC protocol is considered industry standard with standard reference material (SRM) submitted on regular basis with routine samples. SRMs and blanks are inserted at a minimum of 5% frequency rate.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections have been verified by alternative company personnel.
	The use of twinned holes.	None of the drillholes in this report is twinned.

Criteria	JORC Code Explanation	Commentary
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	 Primary data are captured on field tough book laptops using Logchief[™] Software. The software has validation routines and data is then imported into a secure central database.
	Discuss any adjustment to assay data.	• The primary data is always kept and is never replaced by adjusted or interpreted data.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	 Sandfire Survey team undertakes survey works under the guidelines of best industry practice. All drill collars are accurately surveyed using RTK GPS system within +/-50mm of accuracy (X,Y,Z). Downhole survey completed by gyroscopic downhole methods at regular intervals.
	Specification of the grid system used.	Coordinate and azimuth are reported in MGA 94 Zone 50.
	Quality and adequacy of topographic control.	Topographic control was established LiDar laser imagery technology.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	• Drill spacing is currently defined by geological criteria regarded as appropriate to determine the extents of mineralisation. This is nominally a 80m by 80m spacing. Spacing is shown by in the accompanying tables and collar plans
	• 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.	Drilling is preliminary in its spacing and distribution and is not sufficient to at this stageto support Mineral Resources or Ore Reserves
	Whether sample compositing has been applied.	No sample compositing have been applied to the Exploration Results.
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.	• The drillhole may not necessarily be perpendicular to the orientation on the intersected mineralisation.
	• 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.	 No significant orientation based sampling bias is known at this time. The drillholes may not neccessarily be perpendicular to the orientation of the intersected minerlisation. All reported intervals are downhole intervals not true widths. This will be established with additional drilling
Sample security	The measures taken to ensure sample security.	• Appropriate security measures are taken to dispatch samples to the laboratory. Chain of custody of samples is being managed by Sandfire Resources NL.

Criteria	JORC Code Explanation	Commentary
		Samples are stored onsite and transported to laboratory by a licence transport company in sealed bulker bags. The laboratory receipts received samples against the sample dispatch documents and issues a reconciliation report for every sample batch.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	 No external audits or reviews of the sampling techniques and data have been completed.

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 Talisman project encompasses E52/2282, E52/2313 and E52/2466 which are wholly owned by Talisman Mining Ltd, with no known third party encumberances. Sandfire is currently farming into the project on a staged basis with the right to earn 70% interest in the project area.
	• 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.	 All tenements are current and in good standing. The Talisman tenements are currently subject to a Native Title Claim by the Yungunga-Nya People (WAD6132/98). Sandfire currently has a Land Access Agreement in place with the Yungunga-Nya Native Title Claimants and have assumed management of Heritage Agreements which were executed by Talisman. These agreements allow Sandfire to carry out mining and exploration activities on their traditional land.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 Aside from Sandfire Resources and Talisman Mining Limited there has been no recent exploration undertaken on the Talisman Project. Exploration work completed prior to Talisman's tenure included geochemical soil and rock chip sampling combined with geological mapping. Some targeted RC was completed over gold and diamond targets.
Geology	• Deposit type, geological setting and style of mineralisation.	 The Doolgunna Talisman's Project lies within the Proterozoic-aged Bryah rift basin enclosed between the Archaean Marymia Inlier to the north and the Proterozoic Yerrida basin to the south. The principal exploration targets at the Doolgunna Projects are the Volcanogenic Massive Sulphide (VMS) deposits located with the Proterozoic Bryah Basin of Western Australia.
Drill hole	A summary of all information material to the understanding of	Refer to Appendix 1 of this accompanying document.

Information	 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. 	
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.	 Significant intersections are based on greater than 0.5% Cu and may include up to a maximum of 3.0m of internal dilution, with a minimum composite grade of 1.0% Cu. Cu grades used for calculating significant intersections are uncut.
	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.	 Minimum and maximum DD sample intervals used for intersection calculation are 0.3m and 1.2m respectively subject to location of geological boundaries. RC reported intersections are based on a regular 1m sample intervals.
	• The assumptions used for any reporting of metal equivalent values should be clearly stated.	 No metal equivalents are used in the intersection calculation. Where core loss occurs; the average length-weighted grade of the two adjacent samples are attributed to the interval for the purpose of calculating the intersection. The maximum interval of missing core which can be incorporated with the reported intersection is 1m.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	 Downhole intercepts of mineralisation reported in this release are from a drillhole orientated perpendicular to a modelled EM plate. The drillhole may not necessarily be perpendicular to the mineralised zone. All widths reported are downhole intervals.
	• If the geometry of the mineralisation with respect to the drill- hole angle is known, its nature should be reported.	• The geometry of the mineralisation, relative to the drillhole, is unknown at this stage.
	• 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').	All intersections reported in this release are downhole intervals. True widths are 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. 	
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. 	
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. 	at this stage. Further data collection will be reviewed and reported when considered material.
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 areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	continue on 160m x 80m x 80m grid pattern subject to geological and geophysical interpretation.