

**Metallum achieves El Roble's highest ever copper result - 35% Cu and 16.15g/t Au from San Sebastian**

**ASX ANNOUNCEMENT**

**14 October 2014**

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**Highlights**

- **Metallum's follow-up sampling at San Sebastian further improves bonanza copper grades and high-grade gold, with new results including:**
  - **0.55m @ 35.00% Cu / 4.29g/t Au**
  - **0.50m @ 18.55% Cu / 1.17g/t Au**
  - **0.60m @ 12.85% Cu / 2.81g/t Au**
  - **1.50m @ 9.15% Cu/ 1.15g/t Au**
- **San Sebastian mineralised lens defined over 30m strike length, averaging 1.60m width at 5.94% Cu and 2.10g/t Au**

Perth-based copper developer Metallum Ltd (ASX: MNE) is pleased to announce that follow-up sampling at the San Sebastian exploration tunnel has returned high grade copper and gold results. San Sebastian is part of the El Roble Copper Project in Chile, where the Company has mapped more than 60 kilometres of mineralised veins. The Company has begun work installing an exploration tunnel along the length of the San Sebastian vein, and these assays have defined high-grade copper and gold mineralisation over more than 30 metres.

Metallum entered an option to acquire the San Sebastian concession in August 2014 (ASX announcement 27 August 2014), adding to its portfolio at El Roble (Figure 1). It is currently mining and trucking material from the Panga mine and awaiting permits to commence similar operations at the nearby Paraguay mine, as well as San Sebastian.

San Sebastian covers a major mineralised structure within the El Roble vein system, and the Company has installed an exploration tunnel along the mineralised vein to assess the vein for future mining. To date, Metallum has installed approximately 35 metres of tunnel along the vein on the 1040 Level and delineated a 30 metre long high-grade copper and gold zone. The Company has completed follow-up sampling to confirm mineralisation previously reported (ASX announcement 1 October 2014) to verify results obtained from the local laboratory and to test for gold content.

Metallum Managing Director Zeff Reeves said: "These results demonstrate the very high-grade nature of mineralisation at San Sebastian. We have just obtained the highest ever copper result from any work we have done at El Roble, which is 35% copper over 0.55m width.

"In addition, the vein contains good gold results, averaging more than 2.00g/t gold, with the highest grade reported to date of 16.15g/t. We've applied for a mining licence and this lens of mineralisation will provide a good zone to commence vertical mining up to the 1090 Level, approximately 40 metres above the tunnel we're installing, once we receive the permit."

## San Sebastian Exploration

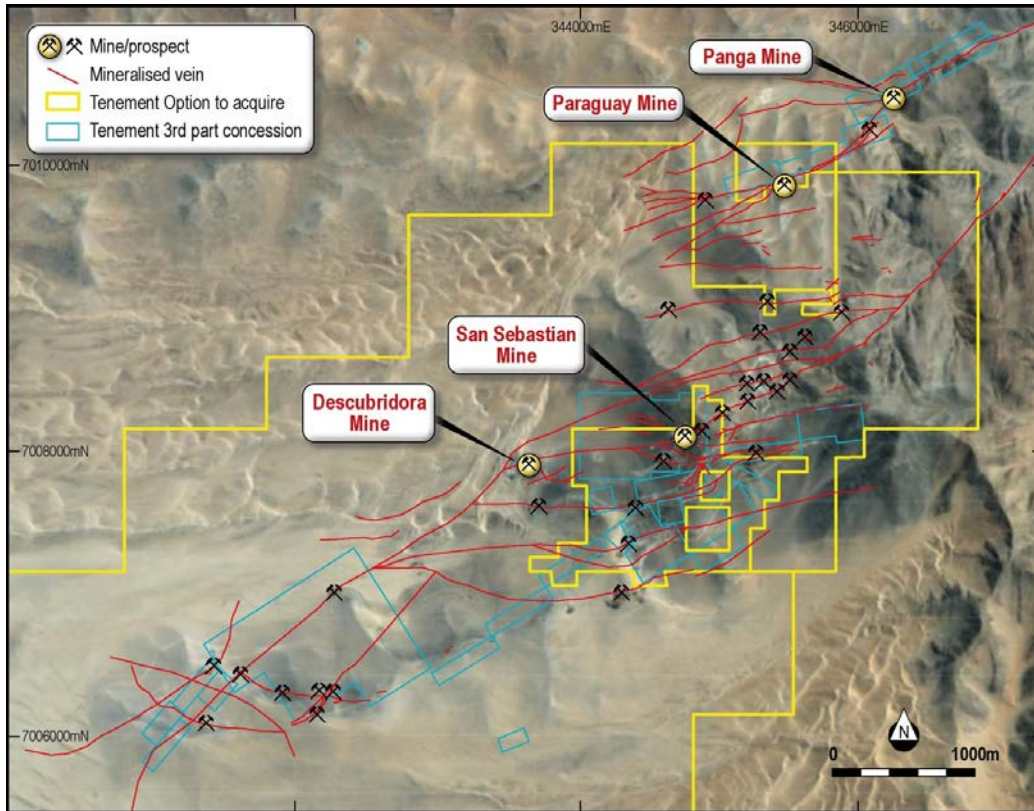
Metallum's activities at San Sebastian have included the installation of an exploration tunnel at the 1040 level within the mineralised vein, approximately 50 metres below where the vein has been mined historically along a length of approximately 300 metres and a depth of 50 metres (Figure 2).

The exploration tunnel has nominal dimensions of 2.20 metres wide by 2.20 metres high and has encountered high-grade copper and gold mineralisation over 30 metres of exposed vein. The vein width varies from 0.50 metres to 3.00 metres and averages 1.60 metres (Figure 3). One series of samples from the tunnel was sent to ALS Laboratories in Santiago and a second series was sent to a local laboratory in Copiapo (CEMSEC), which Metallum is using as a grade control laboratory due to its ability to deliver 24-hour turnaround of results. The CEMSEC laboratory only provides assay for copper and does not have the capability to assay for gold. This announcement presents assays from the ALS laboratory, which includes gold results and confirms the high grade nature of the exposed vein in the 1040 Level tunnel. Significant results are presented in Table 1, with full results presented in Appendix 1.

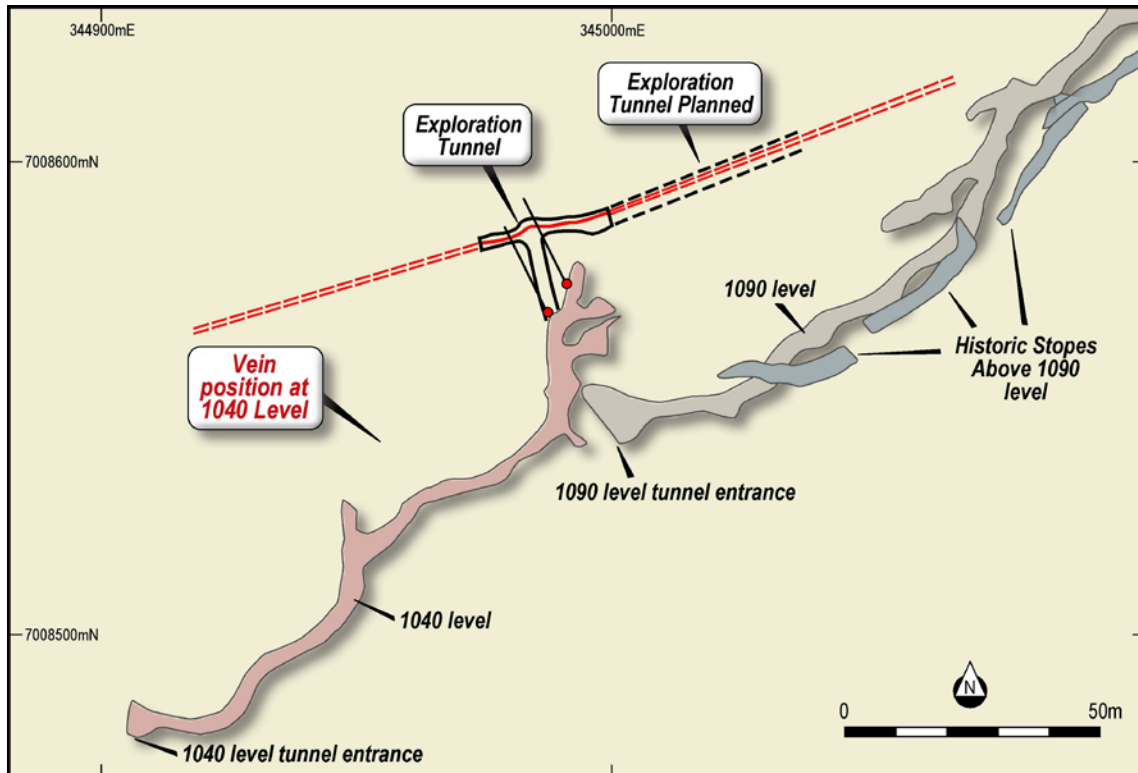
Hole_ID	Depth_From	Depth_to	Interval	Cu %	Au ppm
RCPCH00659	1.00	2.50	1.50	9.15	1.91
RCPCH00660	0.00	2.09	2.09	5.39	2.04
RCPCH00661	0.00	0.80	0.80	12.50	4.12
RCPCH00662	0.00	0.75	0.75	7.27	16.15
RCPCH00666	0.00	0.55	0.55	35.00	4.29
RCPCH00667	0.00	0.50	0.50	18.55	1.17
RCPCH00669	0.00	0.60	0.60	12.85	2.81

**Table 1 – Significant sampling results from the San Sebastian exploration tunnel**

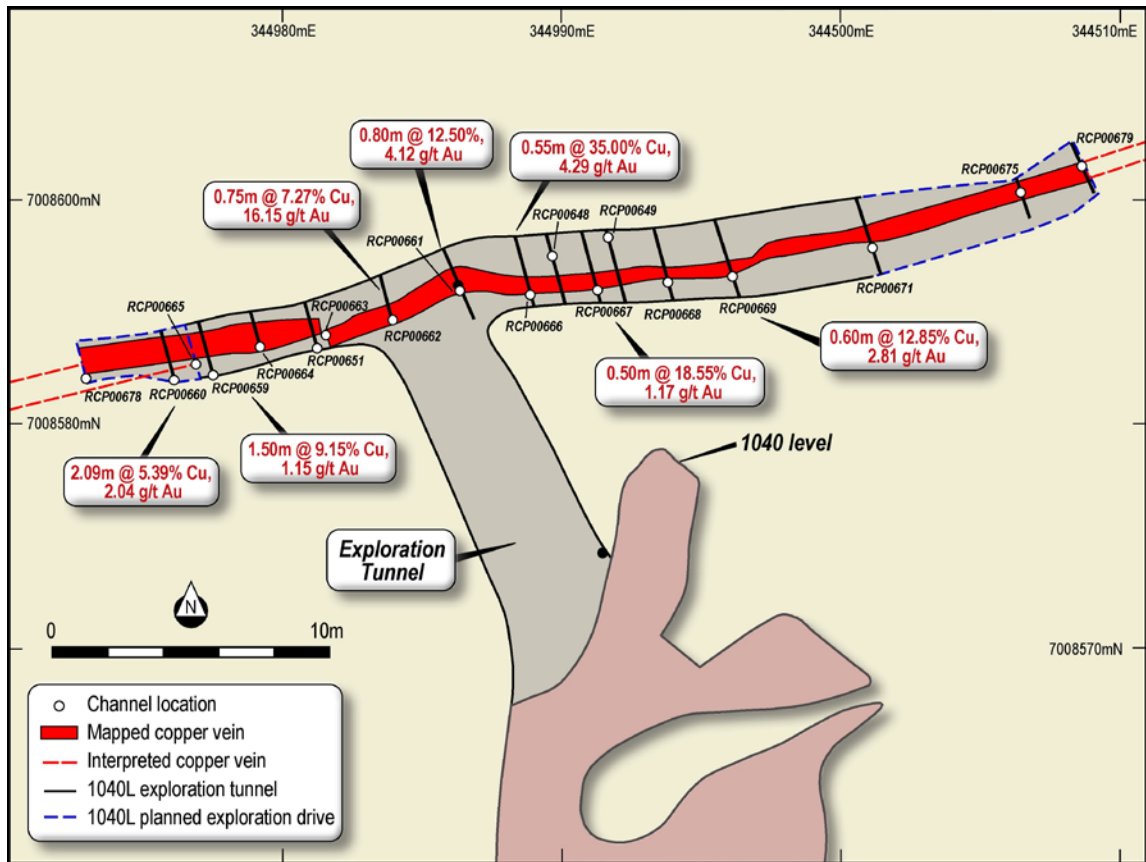
Metallum plans to continue the tunnel to the north along the vein until it reaches the position below the historic mine area, which is expected to be encountered within 25 metres of further development. Once this tunnel has been installed, it is envisaged that this will provide access to additional vertical stope areas, as soon as a mining permit is granted.



**Figure 1 – Map of the north east sector of the El Roble Project showing the location of the San Sebastian mine within a strike continuous mineralised corridor where Metallum has mapped more than 60km of prospective veins.**



**Figure 2 – Plan view of the San Sebastian mine showing existing footwall drive (1040 Level) and newly installed exploration tunnel in relation to the historic mine workings approximately 50m above. Historic workings have been mapped for more than 300m along strike. Dashed line shows planned position of the exploration tunnel along the vein on the 1040 Level.**



**Figure 3 – Plan view of San Sebastian 1040 Level exploration tunnel and high grade copper and gold results. Assays remain outstanding for RCPCH00671, 675, 678 and 679.**



**Figure 4 – San Sebastian mine and vein looking north. Note favorable topography for access, vertical distance between the 1040 Level and 1090 Level entrances is approximately 50m.**

Metallum is focused on achieving growth and shareholder value through the development of near-term, small-scale mining operations at El Roble to enable self-funded growth.

For more information visit the Metallum website at [www.metallum.com.au](http://www.metallum.com.au) or contact:

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#### **About Metallum Limited**

Metallum Limited (ASX: MNE) is an Australian-based company that acquires and develops copper and gold projects around the world with a focus on Chile. The Company has an interest in the highly prospective, high grade El Roble Copper Project in Region III of Chile, targeting IOCG-style copper and gold mineralisation. The Company is focused on achieving growth and shareholder value through the development of near-term, small-scale mining operations at El Roble which will enable self-funded growth into the future. El Roble is ideally located 25km from the port of Caldera and within 80km of two copper toll treatment plants within the world class Atacama IOCG region, which has a history of high-grade copper production. The Company has commenced trucking copper-bearing material from the Panga mine at El Roble for processing at a nearby plant.

Metallum Limited also has an interest in the Comval Copper Project in the Philippines, and its Australian-based project, Teutonic, is prospective for gold and base metals.

Metallum Limited has a strong Board and management team with considerable technical, commercial and corporate experience in the resources sector.

For more information visit the Metallum Limited website at [www.metallum.com.au](http://www.metallum.com.au)

#### **Competent Person's Statement**

The information in this report that relates to Exploration Results is based on information compiled by Mr Zeffron Reeves (B App Sc (Hons) (Applied Geology) MBA, MAIG), a member of the Australian Institute of Geoscientists. Mr Reeves 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 a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Reeves is a full time employee and Managing Director of Metallum Limited. Mr Reeves consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

## Appendix 1 Sampling Data

### 1) Location Data

hole_id	northing	easting	rl	max_depth	dip	utm_azimuth
RCPCH00648	7008587.4	344989.6	1031.5	1.7	0	170
RCPCH00649	7008588.2	344991.6	1031.3	2.25	0	170
RCPCH00651	7008583.3	344981.2	1031.91	2.2	31	335
RCPCH00654	7008582.9	344979.89	1031.91	1.6	25	340
RCPCH00659	7008582.14	344977.45	1031.91	2.5	36	340
RCPCH00660	7008581.9	344976.06	1031.91	2.09	36	340
RCPCH00661	7008585.8	344986.3	1031.91	0.8	0	347
RCPCH00662	7008584.6	344983.9	1031.91	0.75	0	347
RCPCH00663	7008583.9	344981.5	1031.91	0.6	0	347
RCPCH00664	7008583.4	344979.15	1031.91	1.4	0	347
RCPCH00665	7008582.6	344976.8	1031.91	1.2	0	347
RCPCH00666	7008585.7	344988.8	1031.78	0.55	0	354
RCPCH00667	7008585.9	344991.24	1031.65	0.5	0	354
RCPCH00668	7008586.2	344993.74	1031.52	0.4	0	354
RCPCH00669	7008586.4	344996.08	1031.39	0.6	0	354
RCPCH00671	7008587.7	345001.1	1031.13	0.5	0	354
RCPCH00675	7008590.13	345006.42	1031.05	1.9	43	150
RCPCH00678	7008582.03	344972.91	1031.91	2.03	33	340
RCPCH00679	7008591.4	345008.6	1031.05	1.55	36	160

## 2) Assays

Hole_ID	Sample_ID	Depth_From	Depth_to	Cu %	Au_ppm
RCPCH00648	MGC04907	0	0.7	14.8	2.29
RCPCH00648	MGC04908	0.7	1.1	3.0	0.204
RCPCH00648	MGC04909	1.1	1.7	0.5	0.042
RCPCH00649	MGC04910	0	0.48	1.3	0.419
RCPCH00649	MGC04911	0.48	1.04	18.8	3.73
RCPCH00649	MGC04912	1.04	2.25	0.7	0.041
RCPCH00651	MGC04920	0	1	0.3	0.008
RCPCH00651	MGC04921	1	1.85	0.3	0.186
RCPCH00651	MGC04922	1.85	2.2	1.1	0.089
RCPCH00654	MGC04932	0	0.6	3.1	0.162
RCPCH00654	MGC04933	0.6	1.2	2.2	0.316
RCPCH00654	MGC04934	1.2	1.6	1.7	0.076
RCPCH00659	MGC04950	0	1	0.5	0.097
RCPCH00659	MGC04951	1	1.3	2.5	0.276
RCPCH00659	MGC04952	1.3	1.8	21.1	4.12
RCPCH00659	MGC04953	1.8	2.1	4.6	2.18
RCPCH00659	MGC04954	2.1	2.5	2.7	0.164
RCPCH00660	MGC04955	0	0.95	0.7	0.081
RCPCH00660	MGC04956	0.95	1.47	18.7	2.1
RCPCH00660	MGC04957	1.47	1.73	2.4	10.6
RCPCH00660	MGC04958	1.73	2.09	0.7	0.941
RCPCH00661	MGC04972	0	0.8	12.5	4.12
RCPCH00662	MGC04973	0	0.75	7.3	16.15
RCPCH00663	MGC04974	0	0.6	1.5	3.4
RCPCH00664	MGC04975	0	0.25	1.2	0.093
RCPCH00664	MGC04976	0.25	1.2	0.6	0.327
RCPCH00664	MGC04977	1.2	1.4	1.2	0.445
RCPCH00665	MGC04978	0	1.2	4.2	1.02
RCPCH00666	MGC04979	0	0.55	35.0	4.29
RCPCH00667	MGC04980	0	0.5	18.6	1.17
RCPCH00668	MGC04981	0	0.4	2.9	2.64
RCPCH00669	MGC04982	0	0.6	12.9	2.81
RCPCH00671	MGC04984	0	0.5	5.9	0.995

**APPENDIX 2: JORC Table 1, Section 1 Sampling Techniques and Data**

Criteria	Explanation
Sampling techniques	<ul style="list-style-type: none"> <li>• Minimum sample interval was 0.25m and maximum of 1.00m are collected from core, sampled to geological boundaries.</li> <li>• Rock chip samples collected are of a minimum 2kg weight.</li> <li>• Minimum sample interval was 0.50m and maximum of 2.00m were collected along installed channels.</li> <li>• Samples sent to ALS Laboratories, Copiapo, Chile and to Cesmec laboratory, Copiapo Chile</li> <li>• Samples submitted to ALS were pulverised to obtain a 30g charge for fire assay for gold</li> <li>• ALS samples used a 0.5g charge was digested by four acid near total digest and analyses using ICP-OES for multi-element analysis, including copper</li> <li>• ALS Ore grade copper samples over 10,000ppm (10%) are re-assayed using AAS</li> <li>• High grade gold samples over 10 g/t are re-assayed using a fire assay fusion and gravimetric finish.</li> <li>• Samples submitted to Cesmec Laboratory used a 0.5g charge, aqua regia digest and ICPMS finish</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>• NA - No drill results are presented in this announcement</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>• NA - No drill results are presented in this announcement</li> </ul>
Logging	<ul style="list-style-type: none"> <li>• All drill holes and rock samples are geologically logged by qualified geologists.</li> <li>• Geological data is recorded in the Company's geological database.</li> <li>• Logging is qualitative in nature and describes lithology, alteration, structure and mineralisation visually observed by the logging geologist.</li> <li>• Total length of each sample interval has been logged.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>• The sample collection and preparation technique is deemed suitable and industry standard for drill core and rock sampling.</li> <li>• Samples are coarse crushed to 70% passing 2mm and then split produce a 30g sample for gold assay and 0.5g sample for multi-element assay. Sub samples are then pulverised to 85% passing 75 microns prior to assay.</li> <li>• No duplicate samples have been carried out.</li> <li>• Sample size is deemed appropriate.</li> <li>• Samples may be subject to nonuniform grade distribution and nugget effect in relation to copper grade due to geological and mineralogical characteristics.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• Assay techniques are deemed suitable and accurate for the elements being tested.</li> <li>• Standard reference materials have been submitted in each sample run every 20 samples.</li> <li>• Blank reference materials are submitted in each sample run every 50 samples.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>• All significant intersections have been calculated using weighted averaging to sample length.</li> <li>• All significant intersections have been checked by alternative company geological personnel.</li> <li>• No duplicate sampling or twinned holes have been completed</li> <li>• All data collected is done so in accordance with the Company's written data collection procedures and is kept within the Company's electronic database. Original sample logs and written data collection forms are also retained in the Company's data library.</li> <li>• No adjustment to data has been done.</li> </ul>
Locations of data points	<ul style="list-style-type: none"> <li>• All drill holes and channels have been surveyed using a measurement from known survey points in underground areas with appropriate control points used and referenced to ensure accuracy of survey information.</li> <li>• Collar locations for channels RCPCH00375-RCPCH00381 have not been surveyed and have been located using measurements from known survey points. No elevation data is available until survey has been completed.</li> <li>• Co-ordinates have an error of +/-10cm.</li> <li>• Co-ordinates are recorded in WGS84 co-ordinate system</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>• The current drill and channel spacing is deemed appropriate for the current early stage of exploration</li> </ul>
Orientation of data in relation to	<ul style="list-style-type: none"> <li>• Wherever possible drill holes and channels have been planned to intersect mineralised structures perpendicular to the structure.</li> </ul>



geological structure	<ul style="list-style-type: none"> <li>• Drill Hole intercepts are downhole widths and do not indicate true widths of any mineralised structure.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>• All sampling was conducted under the supervision of the companies project manager who supervised sample collection and the chain of custody from the drill to the sample preparation and logging facility is continually monitored by the project manager. Samples are shipped to the lab by qualified couriers or Company personnel under locked bags.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• No audit or review has been conducted due to the early stage exploration nature of the work.</li> </ul>

## JORC Table 7: Section 2 Reporting of Exploration Results

Criteria	Explanation
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Metallum does not own any of the properties sampled or mapped and sampling and mapping completed was done so as part of a due diligence process in order to assess the properties.</li> <li>Metallum has entered into an option to acquire the San Sebastian concessions (refer to ASX announcement 27<sup>th</sup> August 2014)</li> <li></li> </ul>
Exploration by other parties	<ul style="list-style-type: none"> <li>No information has been used in this report from exploration by other parties.</li> </ul>
Drill hole information	<ul style="list-style-type: none"> <li>Details of channel, drill holes, depth and intercept depths are contained within this announcement (Appendix 1).</li> </ul>
Geology	<ul style="list-style-type: none"> <li>The El Roble Project and San Sebastian mine area consists of quartz and iron oxide veins, containing copper and gold mineralisation. The veins are hosted within intrusive dioritic and andesitic volcanic rocks of the Chilean Cretaceous Belt.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>Intercept widths are along channel widths, intercept calculated by length weighted average for all samples and no internal dilution was used, where length is the along channel length for each sample interval</li> <li>Intercepts comprise of aggregated length weighted average for all samples taken in each channel. Length weighted averages have been calculated using the following formula assuming 3 samples were taken from the channel, where: A=sample interval, B=sample assay value <ol style="list-style-type: none"> <li><math>A1 \times B1 = C1</math>, <math>A2 \times B2 = C2</math>, <math>A3 \times B3 = C3</math></li> <li><math>A1 + A2 + B2 = \text{total interval}</math></li> <li><math>(C1 + C2 + C3) / \text{total interval} = \text{length weighted grade average}</math></li> </ol> </li> <li>No metal equivalent values have been used.</li> </ul>
Relationship between mineralization widths and intercept lengths	<ul style="list-style-type: none"> <li>Channels were designed to be installed perpendicular to the interpreted strike of the mineralized structures unless stated.</li> <li>Intercept widths are along downhole widths and are not true geological widths.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>Pertinent maps, plans and sections are within this announcement</li> </ul>
Balanced Reporting	<ul style="list-style-type: none"> <li>Full results of all samples taken are presented in Appendix 1 of this announcement.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>No other data other than that presented has been used or relied upon.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>Further exploration work including mapping, sampling and drilling is required, on areas throughout the property.</li> <li>These areas will be identified in the future through further analysis and interpretation of results.</li> <li>Diagrams cannot be provided until areas for future exploration have been identified, other than what is presented within this notice.</li> </ul>