**ASX ANNOUNCEMENT** 

13<sup>th</sup> October 2021

# TECHGEN METALS

# **BLUE ROCK VALLEY**

# **ASHBURTON COPPER PROJECT**

#### **INVESTMENT HIGHLIGHTS**

- 3D MODELLING OF VTEM TARGETS COMPLETED AT THE HISTORIC BLUE ROCKS COPPER MINE
- STUNNING ROCK CHIP COPPER ASSAYS OF 49.9% CU & 36.4% CU RECEIVED
- XRD ANALYSIS HAS HIGHLIGHTED THE PRESENCE OF PRIMARY CU SULPHIDES FIRST REPORTED OCCURRENCE OF SULPHIDES AT THE BLUE ROCK VALLEY PROJECT
- INAUGURAL RC DRILLING BOOKED AT TWO KEY TARGETS
- BLUE ROCK VALLEY HAS A RICH HISTORY OF HIGH-GRADE COPPER OXIDE (>16% CU) PRODUCTION IN THE EARLY TO MID 1900'S WITH NO TO LIMITED MODERN EXPLORATION

**TechGen Metals Limited** (ACN 624 721 035) ("TechGen" or the "Company") is pleased to provide an update on exploration activities at the Company's 100% owned Blue Rock Valley (BRV) Ashburton Copper project.



Figure 1: BRV Project (E08/3030) showing VTEM plate modelling over magnetics and satellite images.



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The 5 rock chip samples were collected during the recent heritage clearance surveys and average an impressive **26.03 % Cu** (copper) and **4.23 g/t Ag** (silver; Table 2). Sample **BRR011** (image 1.) assayed at **49.9% Cu**, this particular sample was collected ~127m from the historical shafts in an area most likely where the high-grade ores were treated or stockpiled for transport.

XRD analysis successfully highlighted the presence of three sulphide minerals (Digenite, Covellite & Chalcocite) and two sulphate minerals (Brochantite & Antlerite) refer to Table 1 below. Copper oxide minerals azurite and malachite were also confirmed by XRD analysis. The Company views these results as significant as there have been no previous recordings of copper sulphide minerals within the rich copper oxide workings at Blue Rock Valley.

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Mineral or mineral group	BRR011	BRR012	BRR013	BRR014	BRR015
	Mass %				
Digenite	10	0	0	0	0
Covellite	2	0	0	0	0
Chalcocite	0	3	0	0	0
Brochantite	70	0	2	2	0
Antlerite	4	0	0	0	0
Jarosite	1	0	0	0	0
Malachite	0	1	1	1	1
Azurite	0	72	32	32	0
Clay mineral	1	0	0	0	0
Kaolinite	2	9	5	8	9
Micas and/or illite	< 1	< 1	< 1	1	1
Quartz	10	15	61	58	89

Table 1: Semi-quantitative XRD analysis by ALS Metallurgy.



*Image 1:* Rock sample BRR011 assayed at 49.9% copper and 4.93 g/t silver.

Three overlapping VTEM plates are immediately adjacent to the historical Blue Rocks Cu workings (Figures 1 and 3) and trending in a northwest to southeast direction adjacent to a second order exposed fault slightly west of the primary Talga Fault.

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FLTEM target area #1 lies to the northwest in E08/3030 and is modelled as steep to moderate plunging and strategically adjacent to a flexure within the primary Talga Fault. Ground FLTEM has measured the EM plate to be of significant size, 600 x 600m in aerial view and the top of target depth is ~150m below surface. The bed rock conductance is within range for a copper and base metal style massive sulphide target. The Glen Florrie historic lead working are approximately 2.3km to the northeast, however appear to be unrelated to this target.

Sample ID	Easting	Northing	Grid	Cu %	Ag g/t	S %
BRR011	396659	7455026	MGA94_Z50	49.9	4.93	9.82
BRR012	396623	7455143	MGA94_Z50	37.6	6.69	2.75
BRR013	396634	7455019	MGA94_Z50	16.05	4.34	0.32
BRR014	396632	7455138	MGA94_Z50	14.85	2.82	0.07
BRR015	396634	7455121	MGA94_Z50	11.75	2.37	0.01

Table 2: Assay data from rock chip samples BRR011 to BRR015

**TechGen's Managing Director and Blue Rock Valley vendor, Mr Ashley Hood commented:** "After many months since listing back on the 7<sup>th</sup> April earlier this year our dedicated technical teams have delivered two robust and exceptionally well located drill ready targets, with each having their own favourable structural complexities. The very recently discovered high grade copper sulphide bearing rock chip samples have added another favourable layer to this historic mining area where only oxide copper material has previously been recorded.

On behalf of the Company, we look forward to keeping our valued shareholders updated as we progress exploration of our exciting copper portfolio."



#### Three sulphide mineral descriptions from Table 1.

**Digenite:** Digenite occurs in the transitional zone of supergene oxidation of primary sulfide ore deposits, at the interface between the upper and lower saprolite ore zones. It is rarely an important mineral for copper ores, as it is more usually replaced by chalcocite further up in the weathering profile, and is a minor weathering product of primary chalcopyrite. Natural digenite always contains a small amount of iron and is considered to be stable only in the Cu-Fe-S system. <u>https://en.wikipedia.org/wiki/Digenite</u>

**Covellite:** Covellite's occurrence is widespread around the world, with a significant number of localities in Central Europe, China, Australia, Western United States, and Argentina.[3] Many are found close to orogenic belts, where orographic precipitation often plays a role in weathering. An example of primary mineral formation is in hydrothermal veins at depths of 1,150 m found in Silver Bow County, Montana.[3] As a secondary mineral, covellite also forms as descending surface water in the supergene enrichment zone oxidizes and redeposits covellite on hypogene sulfides (pyrite and chalcopyrite) at the same locality.[3] An unusual occurrence of covellite was found replacing organic debris in the red beds of New Mexico. <a href="https://en.wikipedia.org/wiki/Covellite">https://en.wikipedia.org/wiki/Covellite</a>

**Chalcocite:** Chalcocite is sometimes found as a primary vein mineral in hydrothermal veins. However, most chalcocite occurs in the supergene enriched environment below the oxidation zone of copper deposits as a result of the leaching of copper from the oxidized minerals. It is also often found in sedimentary rocks.

It has been mined for centuries and is one of the most profitable copper ores. The reasons for this is its high copper content (66.7% atomic ratio and nearly 80% by weight) and the ease at which copper can be separated from sulfur. <u>https://en.wikipedia.org/wiki/Chalcocite</u>

### Two sulphate mineral descriptions from Table 1.

**Brochantite:** Brochantite is a sulfate mineral, one of a number of cupric sulfates. Its chemical formula is Cu4SO4(OH)6.[1][2][3] Formed in arid climates or in rapidly oxidizing copper sulfide deposits, it was named by Armand Lévy for his fellow Frenchman, geologist and mineralogist A. J. M. Brochant de Villiers.[3]

Crystals of brochantite can range from emerald green to black-green to blue-green, and can be acicular or prismatic. Brochantite is often associated with minerals such as malachite, azurite, and chrysocolla, and may form pseudomorphs with these minerals. <u>https://en.wikipedia.org/wiki/Brochantite</u>

Antlerite: Antlerite is a greenish hydrous copper sulfate mineral, with the formula Cu3(SO4)(OH)4. It occurs in tabular, acicular, or fibrous crystals with a vitreous luster. Originally believed to be a rare mineral, antlerite was found to be the primary ore of the oxidised zones in several copper mines across the world, including the Chuquicamata mine in Chile, and the Antler mine in Arizona, US from which it takes its name. It is chemically and optically similar in many respects to other copper minerals such as malachite and brochantite, though it can be distinguished from the former by a lack of effervescence in hydrochloric acid. https://en.wikipedia.org/wiki/Antlerite

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TechGen is an Australian registered exploration Company with a primary focus on exploring and developing its 100% owned gold and copper projects in Western Australia (regarded as the top jurisdiction in the world for mining investment). The Company's objective is to create wealth for its shareholders through commercial exploration success.

TechGen holds a portfolio of thirteen exploration licences strategically located in three highly prospective geological regions of Western Australia; the Yilgarn Craton, Paterson Orogen and Ashburton Basin.

The Yilgarn Craton and Paterson Orogen are both proven world class gold and base metal provinces whilst the Ashburton Basin is considered highly prospective yet under explored and has the potential for major new gold and base metal discoveries. The spread of projects across these three geological regions provides the Company with geographical and operational diversification.

TechGen has an experienced board and management team, with a broad range of exploration, development, management, legal, finance, commercial and technical skills in the resource industry. The Company's Managing Director and Technical Director are project vendors and substantial holders, driven to actively manage projects and deliver value to shareholders.

For more information, please visit our website: www.techgenmetals.com.au

#### Authorisation

For the purpose of Listing Rule 15.5, this announcement has been authorised for release by the Board of Directors of TechGen Metals Limited.

#### **Competent Person Statement**

The information in this announcement that relates to Exploration Results is based on and fairly represents information compiled and reviewed by Andrew Jones, a Competent Person who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Andrew Jones is employed as a Director of TechGen Metals Limited. Andrew Jones has sufficient experience that is relevant to to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Andrew Jones consents to the inclusion in this announcement of the matters based on his work in the form and context in which it appears.

#### **Previously Reported Information**

The information in this announcement that references previous exploration results is extracted from the Company's Prospectus dated 17 February 2021 and from ASX Announcements made on the 19th April 2021 and the 8th July 2021.

#### For further information, please contact:

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## JORC Code, 2012 Edition – Table 1 report template

#### **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>XRD analysis was undertaken on the same 5 samples submitted as rock chip samples.</li> <li>The samples were submitted to ALS Metallurgy in Perth for semi-quantitative XRD analysis and ALS Laboratories for gold and multi-element assay.</li> <li>Five rock chip samples were taken of oxide copper material present close to the Blue Rocks Cu Mine. Samples from trenches or surface sample waste piles.</li> <li>Sample weights ranged between 0.18kg to 0.92kg.</li> <li>The rock chip samples were delivered to ALS Laboratories in Perth.</li> <li>Samples were assayed by ICP-MS for Au and by ICP-AES for a multi-element suite of elements.</li> <li>The laboratory used internal standards to ensure quality control.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	Not applicable as no drilling was undertaken or reported.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Not applicable as no drilling was undertaken or reported.</li> </ul>
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>	Chip sample had comments recorded in the field.
Sub-sampling techniques and sample preparation	<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>Sample preparation technique for XRD analysis appropriate.</li> <li>No quality control procedures were adopted by the company as only five samples were analysed.</li> <li>The samples was pressed into a back-packed sample holder to minimise preferred orientation of the particles.</li> <li>Powder X-ray diffraction (XRD) was used to analyse the sample.</li> <li>Five rock chip samples were taken of oxide copper material present close to the Blue Rocks Cu Mine. Samples from trenches or surface sample waste piles.</li> </ul>

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<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) and precision have been established.</li> </ul>	<ul> <li>The rock chip samples were delivered to ALS Laboratories in Perth.</li> <li>Samples were crushed and pulverised.</li> <li>Samples were assayed by ICP-MS (Au) and ICP-AES (Multi-element suite).</li> <li>The laboratory used internal standards to ensure quality control.</li> <li>All work is to industry standard.</li> <li>Powder X-ray diffraction (XRD) was used to analyse the sample.</li> <li>A combination of matrix flushing and reference intensity ratio (RIR) constants was used in the quantification of the minerals identified in the sample.</li> </ul>
Verification of sampling and assaying	<ul> <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, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Not applicable as no drilling was undertaken or reported.
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>A handheld Garmin GPS unit was used to record Easting and Northing data.</li> <li>Grid GDA94/MGA94 Zone 50 grid system.</li> <li>Topographic control considered adequate.</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>Five samples were submitted for analysis.</li> <li>No Mineral Resources are present at the project.</li> <li>No compositing has been applied.</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>Five surface samples were submitted for analysis.</li><li>No drilling data discussed.</li></ul>
Sample security	The measures taken to ensure sample security.	Sample was delivered to the laboratory by company personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No formal audit has been completed on the data being reported.

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	The <b>Blue Rock Valley Project</b> comprises a granted Exploration Licence, namely E08/3030 and a pending Exploration Licence, namely E08/3276. The licences cover an area of 165km <sup>2</sup> . Blue Rock Valley Pty Ltd is the registered holder of E08/3030 and TechGen is the registered holder of E08/3276. TechGen has entered into a term sheet with Blue Rock Valley Pty Ltd to acquire a 100% interest in E08/3030. The Project lies on the Glen Florrie (PL N050594) Wyloo (PL N050360) and Nanutarra (PL N049833) Pastoral Leases.

Criteria	JORC Code explanation	Commentary
		Tenement E08/3030 is subject to the Thudgari People native title determination (WCD2009/002) (as to 94.77% of the area of the tenement) and the Combined Thiin-Mah, Warriyangka, Tharrikari and Jiwarli native title determination (as to 1.91% of the area of the tenements) each of which incorporate Indigenous Land Use Agreements (ILUA). Tenement E08/3030 overlies areas described as an "Other Heritage Place" being Carlamurlyanggu (reference 6753) affecting the western portion of the tenement and Glen Florrie Station (reference 11031) covering less than 1% of the area of the tenement.
		Tenement E08/3276 is subject to the Puutu Kunti Kurrama People and Pinikura people #1 and #2 native title determination (WCD2015/003) with multiple Indigenous Land Use Agreements (ILUA); and the Thudgari People native title determination (WCD2009/002) (as to 32.62% of the area of the tenement).
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Ashburton Mineral Field has a long history of gold, copper, silver, lead and zinc exploration and is among the oldest in the state.
		In the 1970s and 1980s, majors like BHP, Newmont Corporation and BP Minerals began to explore the Ashburton Basin. This early exploration resulted in the initial identification of some significant deposits, namely Mt Clement and Mt Olympus.
Geology	Deposit type, geological setting and style of mineralisation.	The Project is located within the Ashburton Basin which forms the northern part of the Capricorn Orogen.
Drill hole Information	<ul> <li>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: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole clusion 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.</li> </ul> </li> </ul>	Not applicable as no drilling was undertaken or reported.
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>	There has been no data aggregation.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	Not applicable as no drilling reported.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be	Suitable maps and diagrams have been included in the body of the report.

Criteria	JORC Code explanation	Commentary
	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	<ul> <li>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.</li> </ul>	<ul><li>All XRD exploration results are discussed.</li><li>All rock chip sample results are discussed.</li></ul>
Other substantive exploration data	<ul> <li>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.</li> </ul>	All historic data has been previously discussed and no new exploration data is known.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Drill testing of targets.