

22 July 2024

Exceptional boulder rock chip samples returned from PSB, Finland

Highlights

- Exceptional grades of up to 137.7g/t Au and 10.6% Cu received from boulder rock chip samples taken from the PSB Project in Finland.
- Results of the boulder sampling, combined with previous exploration activities, confirm multiple gold-copper mineralisation trends across 2.0km, 1.6km and 1.2km.
- Based on results, Lat66 is currently re-analysing previous work undertaken in the area by the Geological Survey of Finland (“GTK”) including base of till, diamond drilling and geophysical data.
- Exploration field work continues with ongoing boulder sampling and geophysical electromagnetic surveys to be undertaken.

Latitude 66 Limited (ASX: LAT) (“Lat66” or “the Company”) is pleased to announce assay results returned from boulder rock chip samples, which returned high-grade gold-copper from the Peräpohja Schist Belt Project (“PSB Project”) in Finland. The results confirmed the presence of multiple ice flow gold-copper mineralisation trends of up to 2 km.

The PSB Project¹ is a Lat66 exploration project in northern Finland with extensive gold, copper, zinc and nickel mineralisation identified through historical exploration work by the Geological Survey of Finland. Lat66 holds a dominant land position of 412km² in the eastern basin of the PSB region.

Results from the latest boulder sampling program have further enhanced the prospectivity of the PSB region, where Lat66 believes further extensions of the mineralisation trends may occur, opening a new gold-copper system in Northern Finland.

Latitude 66’s Managing Director, Grant Coyle, commented:

“These are significant results from the boulder sampling program at the PSB Project, confirming multiple gold-copper mineralisation trends with multiple extensive strike lengths. These results give us confidence for the possibility of further extensions of the mineralisation.”

“Exploration activities will continue at the PSB Project, alongside re-analysing previous work undertaken, as we seek to better understand the geology of the region and the potential for discovery.”

¹ For details on the PSB Project, including previous boulder results released to ASX by DCX, please refer to the Prospectus dated 16 April 2024 and Supplementary Prospectus dated 22 May 2024



Figure 1: Dolerite boulder with mineralised veins from the eastern anomaly at the Petaja Prospect

Petaja Prospect - PSB Project

Sampling was completed at the Petaja Prospect¹, following up on two anomalous gold & copper trends that are coincident with favourable rock types (i.e. dolerite) (**Figure 1**). Multiple ice flow mineralised trends have been interpreted at the P4² trend, up to 2.0km in length, characterised by elevated gold and copper results including:

- **137.7g/t Au, 10.6% Cu, 0.16% Co & 73g/t Ag (23JUT0398)**
- **2.0g/t Au (23JUT0132)**
- **0.54g/t Au & 0.40% Cu (23JUT0094)**
- **0.43g/t Au (23JUT0102)**

The P3 trend, which is defined across 1.6km is characterised by additional anomalous gold, copper and cobalt results including¹:

- **3.2% Cu, 1.2g/t Au & 0.08% Co (23JUT0080)**
- **3.5% Cu, 0.48g/t Au & 0.09% Co (R21P0220)**
- **1.7% Cu, 0.68g/t Au & 0.09% Co & (23JUT0134)**
- **0.66g/t Au & 0.32% Cu (23JUT0079)**

All anomalies are located proximal to significant NW trending structural breaks or within SW trending fold closures within dolerites, both of which are favourable locations for increased fluid flow and associated mineralisation. The interpreted location of the anomalous trends has been inferred from the distribution, size and angularity of boulder samples with all samples characterised as being sourced locally and down ice-flow direction (north-west to south-east).

² Please refer to “Multiple highly prospective targets identified at the PSB Project, Finland” dated 18 July 2024.

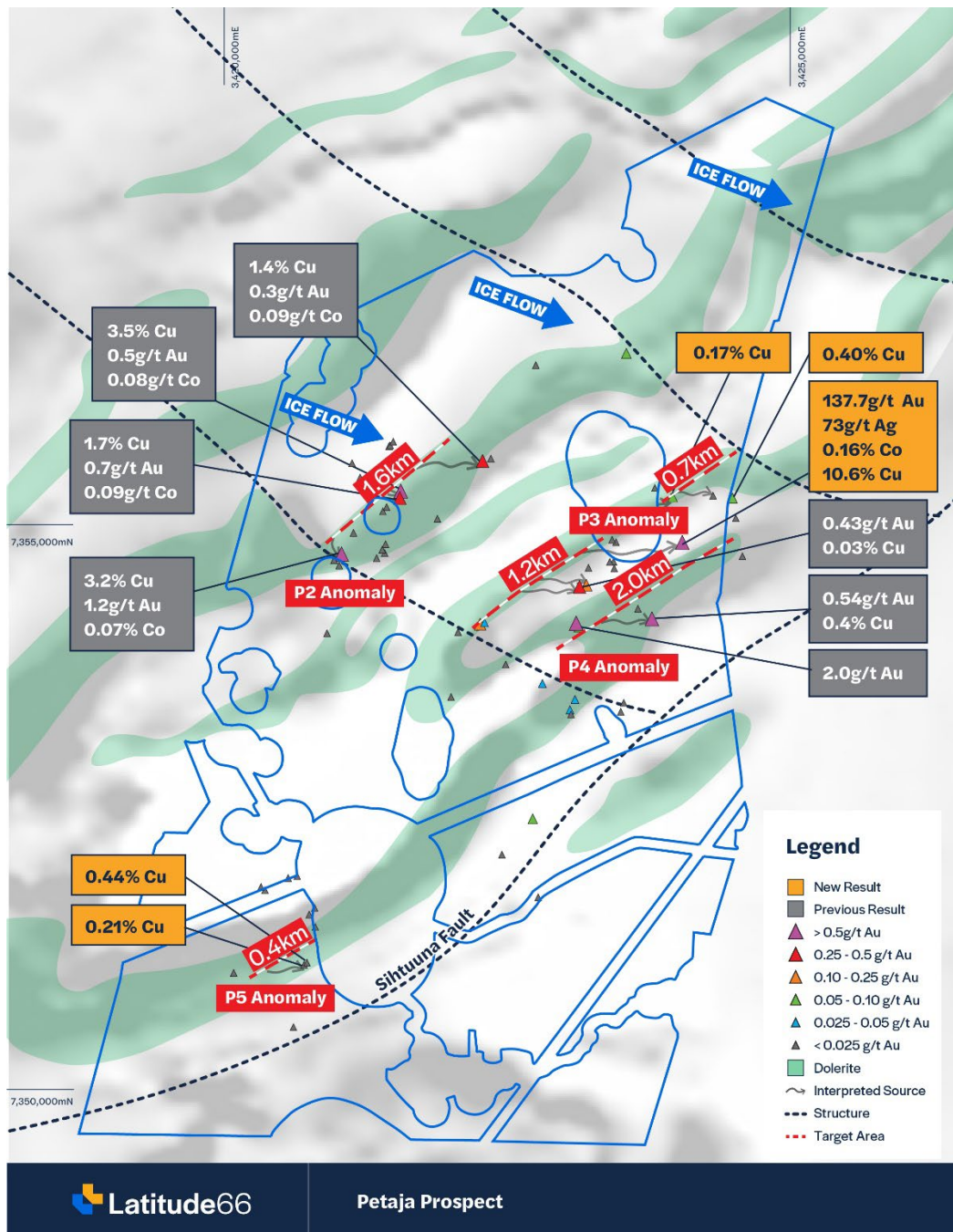


Figure 2: Plan view of the Petaja Prospect showing recent and previous boulder sampling locations. Background TMI magnetic image

This latest fieldwork program returned an outstanding result from the P4 anomaly including a single boulder sample of 137.7g/t Au, 10.6% Cu, 0.16% Co and 73g/t Ag (23JUT0398). The sample was collected from a ~10cm wide quartz-sulphide vein within a metadolerite host rock with visible pyrite and minor chalcopyrite and malachite observed in the sample specimen. Based on the size and angularity of the boulder, plus the location of interpreted metadolerite (from a magnetic image) approximately 350m to the north-west, it is likely that the boulder is local and has not travelled far. Additional elevated copper results were also returned from the P3 boulder anomaly including 0.40% Cu (23JUT0399) and 0.17% Cu (23JUT0400), both from mafic intrusive host rocks confirming the fertility of the area for Cu-Au mineralisation.

Next Steps

Field activities to be completed in July to further investigate the prospective geological units (dolerites & other mafic intrusive rocks) at the Petaja, Reutu and Vinsa prospects, all of which have thin glacial till cover obscuring their exact locations. Ground-based prospecting, including traversing the interpreted outcrop positions of the dolerites, will be completed, with boulder and outcrop sampling to continue, together with investigation of structures, EM, IP and/or magnetics surveys to be completed at Petaja. Data acquired from the GTK, inclusive of base of till, diamond drilling and geophysics will also be processed and added to the PSB dataset.



Figure 3: Latitude 66 PSB and KSB Project locations

- Ends -

This announcement has been authorised for release by the Board of Latitude 66 Limited.

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About Latitude 66

Latitude 66 is a Finnish and Australian based company, focusing on the exploration and development of gold and critical minerals. The Company's primary focus lies in the Kuusamo Schist Belt Project (KSB Project) situated in Northern Finland. This flagship project boasts a substantial high-grade gold-cobalt mineral resource, with over 85% categorised as Indicated, totalling 650,000 ounces of gold at 2.7 grams per tonne (g/t) and 5,800 tonnes of cobalt at 0.08%.

Beyond the KSB, Latitude 66 is conducting regional exploration activities in Finland at the highly prospective Peräpohja Schist Belts (PSB), Kainuu Schist Belts (Kainuu) and Central Lapland Greenstone Belt (Kola and Kolari).

Latitude 66 holds a 17.5% free-carried interest in Carnaby Resources' Greater Duchess Project, strategically located in the Mt Isa Copper district in Australia. Furthermore, Latitude 66 is actively engaged in the exploration of two promising gold projects in Western Australia: the Sylvania and Edjudina Projects.

Forward Looking Statement

The forward-looking statements in this announcement are based on the Company's current expectations about future events. They are, however, subject to known and unknown risks, uncertainties and assumptions, many of which are outside the control of the Company and its Directors, which could cause actual results, performance or achievements to differ materially from future results, performance or achievements expressed or implied by the forward looking.

Competent Persons Statement

The information in this announcement that relates to Exploration Results is based on and fairly represents information and supporting documentation compiled by Mr Toby Wellman, a competent person who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM). Mr Wellman 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 (the "JORC Code"). Mr Wellman is the Technical Director of Latitude 66 Limited and consents to the inclusion in this announcement of the Exploration Results in the form and context in which they appear.

Appendix A – Boulder sample coordinates

SampleID	Northing	Easting	RL	Comments
23JUT0398	7354840	3424065	350	Locally sourced dolerite boulder
23JUT0399	7355223	3424504	350	Mafic intrusive with veined sulphides
23JUT0400	7355232	3423975	350	Mafic volcanic with epidote-carbonate-sulphide
23JUT0401	7351110	3420716	350	Local dolerite boulder with abundant py +/- cpy associated with quartz-carbonate veining
23JUT0403	7351131	3420729	350	Pervasively py +/- cpy altered mafic amphibolite
23JUT0419	7367345	3440094	350	Pale coloured mafic boulder (silicified with pyrite)

Appendix B – Assay Results

SampleID	Au (g/t)	Co (%)	Cu (%)	Ag (g/t)	Te (ppm)	Bi (ppm)	Comments
23JUT0398	137.7	0.16	10.6	73.7	13.6	21.0	
23JUT0399	0.1	0.06	0.40	0.19	2.1	1.23	
23JUT0400	0.06	NSA	0.17	0.26	0.2	0.33	
23JUT0401	0.02	0.02	0.21	0.11	1.3	0.32	
23JUT0403	0.02	0.02	0.44	0.24	2.4	0.51	
23JUT0419	0.01	NSA	0.15	0.05	1.8	0.3	



Figure 3: Hand specimens of reported Boulder Samples

Appendix C – JORC Table 1

Section 1. Sampling Techniques and Data

Criteria	Explanation	Commentary
Sampling Techniques	Nature and quality of sampling (e.g., 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. Aspects of the determination of mineralisation that are Material to the Public Report.	Boulder samples are typically hand specimen size (300g – 1kg) isolated by rock hammer and secured in a 2L plastic zip lock bag or calico bag.
Drilling Techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., 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).	No drilling activities completed within this announcement.
Drill Sample Recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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 drilling activities completed within this announcement. No drilling activities completed within this announcement.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	Boulder samples were logged for geology, structure, alteration and veining with information stored in the company database. Qualitative: Lithology, alteration, mineralisation etc. No drilling activities completed within this announcement.
Sub-Sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.	No drilling activities completed within this announcement. Boulder samples are typically hand specimen size (300g – 1kg) isolated by rock hammer and secured in a 2L plastic zip lock bag or calico bag. Samples prepared by being crushed to >70% passing - 2mm, rifle split 450g and pulverise split to better than 85% passing 75 microns. No duplicate or replicate samples were taken at the individual crush or grind stages of the sample preparation process. Due to the selective nature of boulder/rock chip sampling, a natural bias is not uncommon. Field duplicates in the form of additional samples from host rock are often completed.
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.	All analyses to date have been sent to MSALABS (Canada). Multi-element analyses by four-acid digest and a ICP-MS analysis. Gold results have been analysed by a 30g Fire Assay with an AA finish (FAS-111). Overlimit multielement analysis includes ICP-240. The gold analysis is considered a total digest. The nature and quality of sampling procedures and analyses adopted are of industry standard.

	<p>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.</p> <p>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (e.g., lack of bias) and precision have been established.</p>	<p>No geophysical tools were used.</p> <p>No standards, blanks or duplicates were completed by Latitude 66 with all QAQC samples submitted by MSALABS including Standards inserted every 25th sample and blanks inserted every 50th sample.</p>
Verification of sampling and assaying	<p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes.</p> <p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</p> <p>Discuss any adjustment to assay data.</p>	<p>Significant results were visually checked from photos taken by field geologists.</p> <p>No drilling activities completed within this announcement.</p> <p>Data is recorded digitally at the project within standard industry software with assay results received digitally from the laboratory.</p> <p>All data is stored within a suitable database. No assay adjustments have been made.</p>
Location of data points	<p>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.</p> <p>Specification of the grid system used</p> <p>Quality and adequacy of topographic control</p>	<p>Sample locations recorded with a handheld Garmin GPS (+/- 3m).</p> <p>KKJ3 (Finnish Coordinate System)</p> <p>No information is available on the quality or adequacy of topographic control.</p>
Data spacing and distribution	<p>Data spacing for reporting of Exploration Results.</p> <p>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.</p> <p>Whether sample compositing has been applied.</p>	<p>Samples were collected where available outcrop/subcrop/boulders was present hence the data spacing is not uniform.</p> <p>Sample spacing is insufficient to establish geological or grade continuity.</p> <p>No compositing was completed.</p>
Orientation of data in relation to geological structure	<p>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</p> <p>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.</p>	<p>Samples were collected where available outcrop/subcrop/boulders was present hence the data spacing is not uniform. Given the non-uniform nature of the sampling, a bias in results cannot be ruled out.</p> <p>No drilling activities completed within this announcement.</p>
Sample Security	<p>The measures taken to ensure sample security.</p>	<p>Chain of custody of boulder/rock chip samples is as follows: (1) samples are hand collected, carried and transported by company vehicle from the field to the Lat66 regional field base where they are stored under cover in a locked shed, (2) at the end of each day, samples are counted, and data entry is carried out to verify there are no errors in sample numbering, (3) individual samples are grouped into 20L plastic bags of 20 samples and then transported by Lat66 personnel to Lat66 Posio or Kuusamo base, (4) samples dispatched from base in enclosed within a wooden crate sealed with steel strap, ready for dispatch (5) samples are collected and transported by sub-contracted freight company organised by MSALABS, (5) samples arrive at MSALABS are registered to their system.</p>
Audits or reviews	<p>The results of any audits or reviews of sampling techniques and data.</p> <p>Aspects of the determination of mineralisation that are Material to the Public Report.</p>	<p>No review or audits of Lat66 geochemical sampling techniques have yet been carried out.</p> <p>Results above 0.1g/t Au or 0.1% Cu were deemed to be material.</p>

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	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.	The PSB project is comprised of 14 tenement applications: <table border="1"> <thead> <tr> <th>Tenement ID</th> <th>Tenement Name</th> </tr> </thead> <tbody> <tr> <td>ML2021:0093-01</td> <td>Lapioaapa ML2021:0093</td> </tr> <tr> <td>ML2021:0094-01</td> <td>Muurola ML2021:0094</td> </tr> <tr> <td>ML2021:0095-01</td> <td>Petäjäinen ML2021:0095</td> </tr> <tr> <td>ML2021:0096-01</td> <td>Reutu ML2021:0096</td> </tr> <tr> <td>ML2021:0100-01</td> <td>Salmiaapa ML2021:0100</td> </tr> <tr> <td>ML2021:0101-01</td> <td>Kiviselkä ML2021:0101</td> </tr> <tr> <td>ML2021:0102-01</td> <td>Kiimajänkkä ML2021:0102</td> </tr> <tr> <td>ML2021:0103-01</td> <td>Oikarainen ML2021:0103</td> </tr> <tr> <td>ML2021:0104-01</td> <td>Niittylampi ML2021:0104</td> </tr> <tr> <td>ML2021:0105-01</td> <td>Misi ML2021:0105</td> </tr> <tr> <td>ML2021:0106-01</td> <td>Palo-Suuas ML2021:0106</td> </tr> <tr> <td>ML2023:0086-01</td> <td>Misi 2 ML2023:0086</td> </tr> <tr> <td>ML2023:0124-01</td> <td>Muikkuvaara 2 ML2023:0124</td> </tr> <tr> <td>ML2023:0125-01</td> <td>Vinsa ML2023:0125</td> </tr> </tbody> </table> <p>Lat66 carries out non-invasive prospecting-based exploration activity by every man's right, and more advanced exploration surveys, such as diamond core drilling, under landowner approval for certain properties.</p>	Tenement ID	Tenement Name	ML2021:0093-01	Lapioaapa ML2021:0093	ML2021:0094-01	Muurola ML2021:0094	ML2021:0095-01	Petäjäinen ML2021:0095	ML2021:0096-01	Reutu ML2021:0096	ML2021:0100-01	Salmiaapa ML2021:0100	ML2021:0101-01	Kiviselkä ML2021:0101	ML2021:0102-01	Kiimajänkkä ML2021:0102	ML2021:0103-01	Oikarainen ML2021:0103	ML2021:0104-01	Niittylampi ML2021:0104	ML2021:0105-01	Misi ML2021:0105	ML2021:0106-01	Palo-Suuas ML2021:0106	ML2023:0086-01	Misi 2 ML2023:0086	ML2023:0124-01	Muikkuvaara 2 ML2023:0124	ML2023:0125-01	Vinsa ML2023:0125
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	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.	The entire package of tenure is 100% owned by Latitude 66 Cobalt Oy.																														
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The PSB project comprises a multitude of historic prospects, with potential for Co, Cu, Au, W, Ni and PGEs, identified by past explorers. Established sites of metalliferous sulfide mineralization in areas such as Petäjälampi, Sadinmaa and Sotkavaara were discovered by GTK during 1998-2015. In the Misi area, Outokumpu and Rautaruukki carried out exploration for copper and iron in the 1970s to 1990s and, more recently (2000s), GTK have explored for Iron Oxide Copper Gold (IOCG) style mineralization.																														
Geology	Deposit type, geological setting and style of mineralisation.	Paleoproterozoic metasedimentary rock- and shear zone-hosted Au-Co-Cu mineralization, forming a unique "KSB-style" deposit type. Target mineralization is hosted within mixed packages of mafic to ultramafic igneous and sedimentary rocks of regionally metamorphosed and deformed Paleoproterozoic basins. Greenschist to Amphibolite facies metamorphic grades are prevalent. Characteristically intensely hydrothermally altered and sulfidised, associated with district scale brittle-ductile shear zones.																														
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: <ul style="list-style-type: none"> easting and northing of the drill hole collar 	No drilling activities completed within this announcement, however a table of boulder sample locations with relevant assay results are shown within Appendix A & B.																														

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> 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. <p>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.</p>	
Data aggregation methods	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</p> <p>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.</p> <p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	Boulder and rock chip geochemical anomalies represent single points without aggregation methods.
Relationship between mineralisation widths and intercept lengths	<p>These relationships are particularly important in the reporting of Exploration Results.</p> <p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p> <p>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., ‘down hole length, true width not known’).</p>	Mineralisation geometry is unknown due to no drilling activities completed within this announcement. Mineralization is however commonly sub-parallel to the pervasive structural grain at the sample scale but may trend oblique to this orientation at the deposit scale.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to figures in the body of the document.
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 avoiding misleading reporting of Exploration Results.	All results considered significant to the relevant document are 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.	Due to the first-pass nature of boulder sampling, no additional information has been deemed material other than that reported in the body of the document.
Further work	<p>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	Additional field activities will include boulder sampling and field mapping. Exploration data will also be purchased from the GTK and incorporated into the understanding of the mineralisation potential of the PSB.