



ASX Announcement

9 May 2023

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## Mineralised gold-copper skarn confirmed from surface sampling at Tambang Ubi

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### Highlights:

- Encouraging high-grade gold and copper results returned in mineralised skarn samples collected from local workings at Tambang Ubi:
    - 22 of 23 grab samples assayed >1 g/t Au, including 14 samples assaying from 5.28 to 39.8 g/t Au
    - 19 of 23 grab samples assayed >0.3% Cu, including 12 samples assaying from 1.02 to 17.6% Cu
  - Mapping and soil geochemical sampling are in progress with results to date interpreted to be related to a mineralised wollastonite skarn occurrence that extends over a broad area
  - Elsewhere, surface mapping and soil sampling is in progress at Hutabargot Julu to define further epithermal drill targets
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Sihayo Gold Limited (ASX:SIH – “Sihayo” or the “Company”) is pleased to announce the latest results from surface rock sampling at Tambang Ubi located in the northeast corner of the South block of the PT Sorikmas Mining Contract of Work (‘CoW’) in North Sumatra, Indonesia.

Sihayo’s Executive Chairman, Colin Moorhead commented on the exploration results:

*“The results from recent sampling at Tambang Ubi have confirmed the presence of high-grade gold-copper skarn mineralisation within our highly prospective CoW South block. These results have exceeded our expectations, and we believe indicate significant potential in the area. The occurrence of mineralised skarns is well documented in North and West Sumatra. These provide an attractive target with potential for high metal content in relatively small packages of rock. At Tambang Ubi we are invoking an exploration model analogous to the Browns Creek deposit near Blayney in the Central West region of New South Wales, Australia.”*

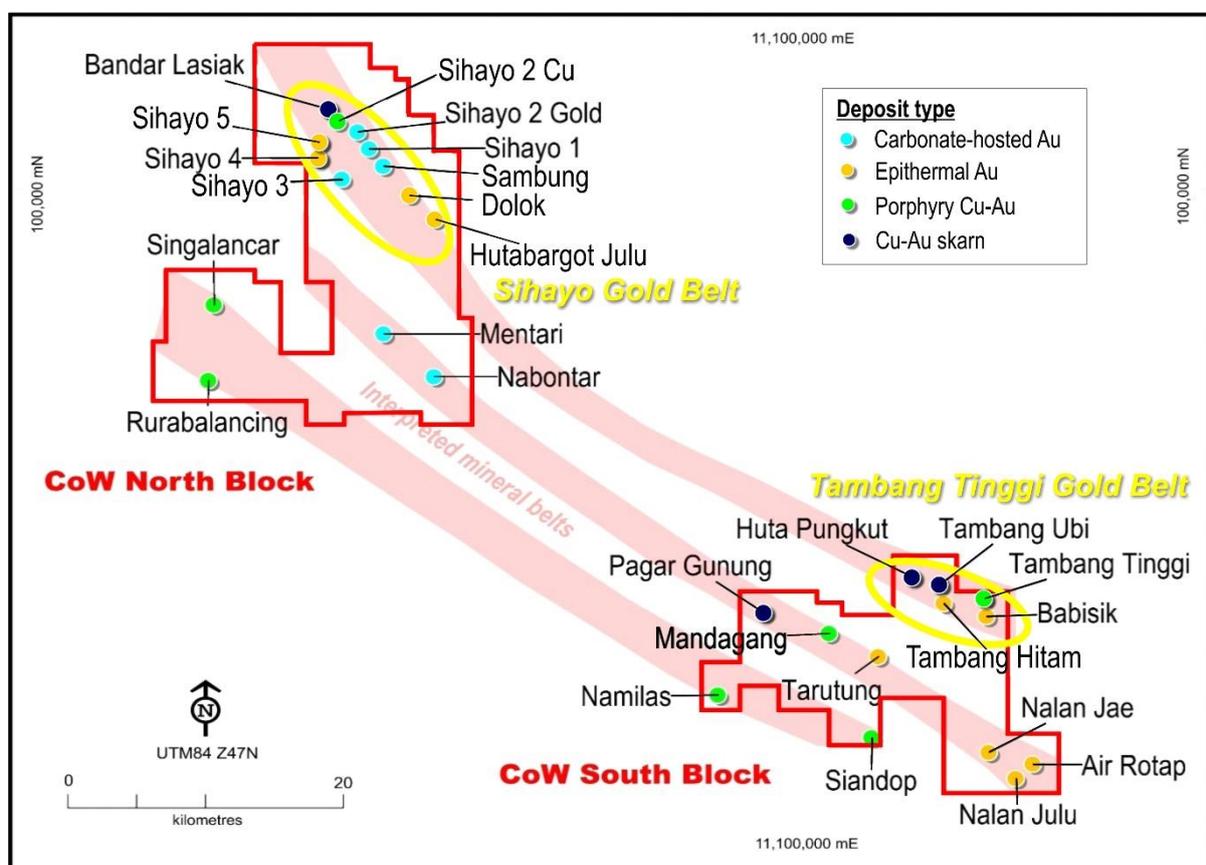
The Company has continued to conduct low impact surface prospecting and sampling on the Tambang Ubi gold-copper skarn target located on the western side of the extensive Tambang Tinggi gold field (see Figure 1). This is in parallel with the drilling program recently completed at Sihayo that is targeting high-grade jasperoid-hosted mineralisation beneath the planned Sihayo-1 pit (refer to SIH:ASX announcements dated 9 March 2023, 24 March 2023 and 9 May 2023).

Earlier encouraging results from prospecting and sampling at Tambang Ubi have previously been reported (refer to SIH:ASX announcements dated 25 January 2022 and 6 April 2022).

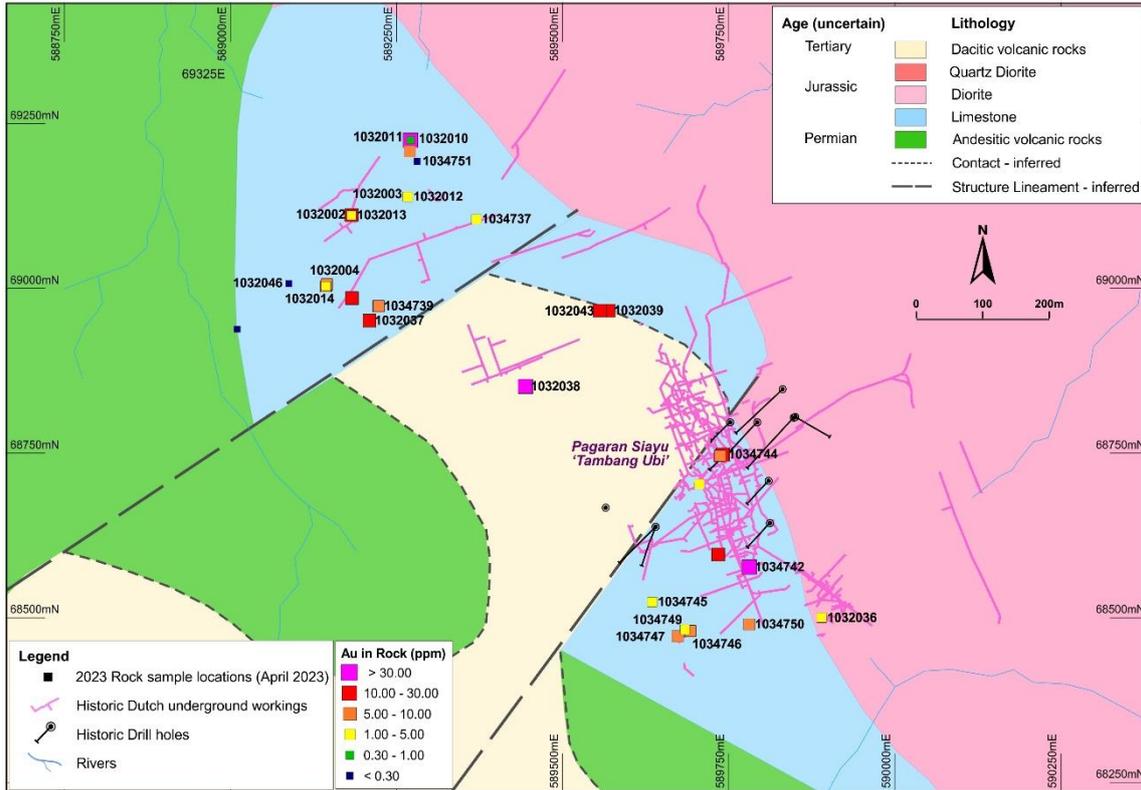
More encouraging high-grade gold and copper assay results were recently received from selected grab samples of mineralised skarn taken from local mining mullock piles and outcrops located in and around the historic Tambang Ubi mine area (see Table 1 and Figures 1 to 3).

**Table 1: Tambang Ubi – Significant Rock Chip Results**

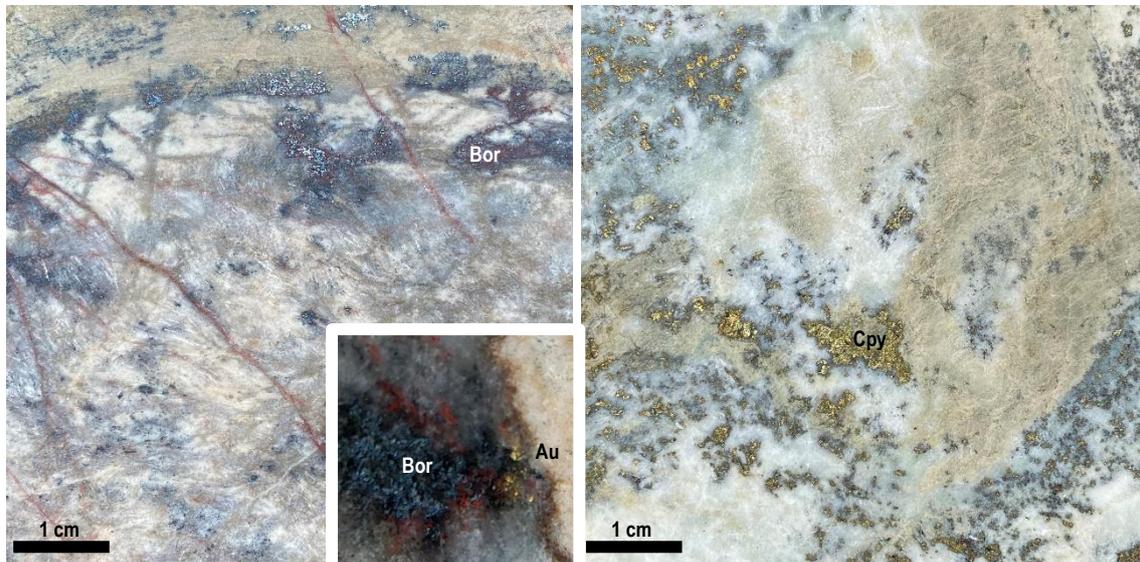
No. of Samples	Gold results range (ppm)		Copper results range (%)	
8	10.6	39.8	0.59	3.28
5	5.28	9.64	1.02	17.6
9	0.97	4.89	0.17	2.44



**Figure 1: Location of Tambang Ubi within PT Sorikmas Mining CoW**



**Figure 2: Tambang Ubi – Simplified Geology & Rock Chip Sample Locations**  
(see Appendix 1 for complete list of samples and assay results)



**Figure 3: Tambang Ubi – High grade gold-copper skarn samples**

Bornite-rich (**Bor**) wollastonite skarn with free gold (**Au**) on LHS (Spl 1034744: 17.6 g/t Au & 0.93% Cu)  
Chalcopyrite-rich (**Cpy**) garnet-diopside-wollastonite skarn on RHS (Spl 1034746: 8.84 g/t Au & 3.38% Cu)  
(see Appendix 1 for complete list of samples and assay results)

A total of 23 skarn samples were collected within an approximately 1,000 m by 500 m area surrounding the historical Dutch underground mine workings that were formerly known as *Pagaran Siayu*, and now referred to as *Tambang Ubi*. Mineralised skarn was specifically targeted for selective grab sampling from surface boulders and recent local mining stockpiles. The samples contained varying proportions of sulphide (chalcopyrite, bornite, pyrite) and secondary oxide/carbonate (limonite, malachite, azurite) mineralisation. Twenty two of 23 grab samples assayed >1 g/t Au, including 14 samples assaying from 5.28 g/t to 39.8 g/t Au. Nineteen of 23 grab samples assayed >0.3% Cu, including 12 samples assaying from 1.02%

to 17.6% Cu. A complete list of these latest results is presented in Appendix 1. Additional prospect location plans and mineralised rock slabs are presented in Appendices 2 and 3, respectively.

These encouraging gold and copper results confirm the presence of high-grade skarn mineralisation at Tambang Ubi that is close to surface and is still being actively mined at small-scale and to shallow depths (<10 m) by local artisanal miners. Scout drilling was previously conducted by the Company near the historical mine site, however, the large area containing the high-grade results surrounding the historical mine site remains to be drill tested (see Figure 1 for previous drill hole locations).

The high-grade gold mineralisation reported here is in wollastonite-rich skarn containing strongly disseminated bornite and/or chalcopyrite mineralisation (see Appendix 3). The dominant skarn assemblage recorded in historical mining is garnet-pyroxene with subordinate wollastonite. This suggests the occurrence of a strong mineral zonation across the prospect with the potential for increasing gold grades away from the historical main workings.

There is insufficient sampling density and grade representativity to comment on the potential geometry and size of the skarn target at this stage. However, the apparently large distribution of local artisanal workings and consistency of gold and copper anomalies detected in surface rock chips taken to-date are encouraging and show potential for a significant gold-copper skarn discovery in the underexplored subsurface.

## Background

The CoW contains two large blocks of highly prospective exploration ground secured under long-term tenure. Exploration conducted by the Company since the 1990s has produced multiple gold and polymetallic prospects across the CoW area that collectively represent a diverse range of magmatic-arc related mineralisation styles including replacement-style sediment-hosted gold, epithermal gold-silver veins, porphyry-style gold-base metal and polymetallic skarns (Appendix 2). The Company firmly believes that there is major exploration upside for the discovery of additional gold resources close to the planned Sihayo mine development area, and for the discovery of new mineral resources in the highly prospective South block.

The Company's focus in the South block over the past six months has been on ground exploration work including prospecting and surface sampling in the northeast corner. This area contains multiple gold and base metal prospects highlighted by historical Dutch and more recent local artisanal mine workings. Regional stream sediment sampling completed during the late 1990s highlighted widespread gold and associated base metal anomalies along the *Tambang Tinggi gold belt*. It extends to the northwest and joins the *Sihayo gold belt*. The Tambang Tinggi gold belt features a complex zone of elevated regional magnetics and associated diorite and granodiorite intrusions into volcanic and limestone basement rocks, which are overlain by dacitic volcanic cover rocks. These rocks are cut by multiple fault strands within the Trans Sumatran Fault Zone.

Tambang Tinggi contains the historical *Pagaran Siayu* mine (or *Tambang Ubi*) located in the Muara Sipongi subdistrict. The Dutch mined a copper-gold-silver bearing skarn from a series of underground workings at *Pagaran Siayu* between 1936 and 1939. The mine produced approximately 100,000 t of ore with reported grades averaging approximately 6.2 g/t Au, 2.7 g/t Ag and 0.24% Cu<sup>1</sup>.

Underground sampling of the mineralised skarn from accessible drives by Sihayo in 2006 produced encouraging results including 3 m at 19.85 g/t Au and 0.85% Cu, 3 m at 13.6 g/t Au and 1.29% Cu, and 3 m at 11.7 g/t Au and 0.78% Cu (refer to ORP:ASX Announcement dated

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<sup>1</sup> Beddoe-Stephens, B., Shepard, T.J., Bowles, J.F.W., and Brook, M., 1987. Gold mineralisation and skarn development near Muara Sipongi, West Sumatra, Indonesia. *Economic Geology* 82: 1732-1749.

19 September 2006). Sihayo completed 1,153 m of diamond drilling in 11 holes during 2006-07 and produced significant mineralised intercepts including 0.9 m at 6.27 g/t Au and 0.47% Cu from 35.7 m in TUDD001 and 4.0 m at 3.42 g/t Au and 0.48% Cu from 22.0 m in TUDD002 (refer to ORP:ASX Quarterly Report 31 December 2006). Over the past few decades, local artisanal miners have intermittently worked mineralised pillars left in this historical mine. Additional details and results from this previous work are summarised under “Other substantive exploration data” in the accompanying JORC Table.

The geological setting and alteration-mineralisation characteristics of the mineralised skarns at Tambang Ubi are most like those reported from other copper-gold skarn deposits, notably the Browns Creek deposit in New South Wales, Australia (Kjolle, 1997<sup>2</sup>) (see Appendix 4) and in the Ertsberg-Grasberg mining district of Papua (Meinhart et al, 2005<sup>3</sup>). These skarns occur in dolomitic limestones and associated volcanic rocks in contact with magnetite-bearing diorite-granodiorite-monzonite intrusions, contain a relatively oxidised skarn mineralogy dominated by iron-rich garnet, diopsidic pyroxene, wollastonite and vesuvianite, and show gold associated with copper sulphide mineralisation (chalcopyrite and bornite) (Meinhart et al, 2005).

### **Tambang Ubi Work Plans**

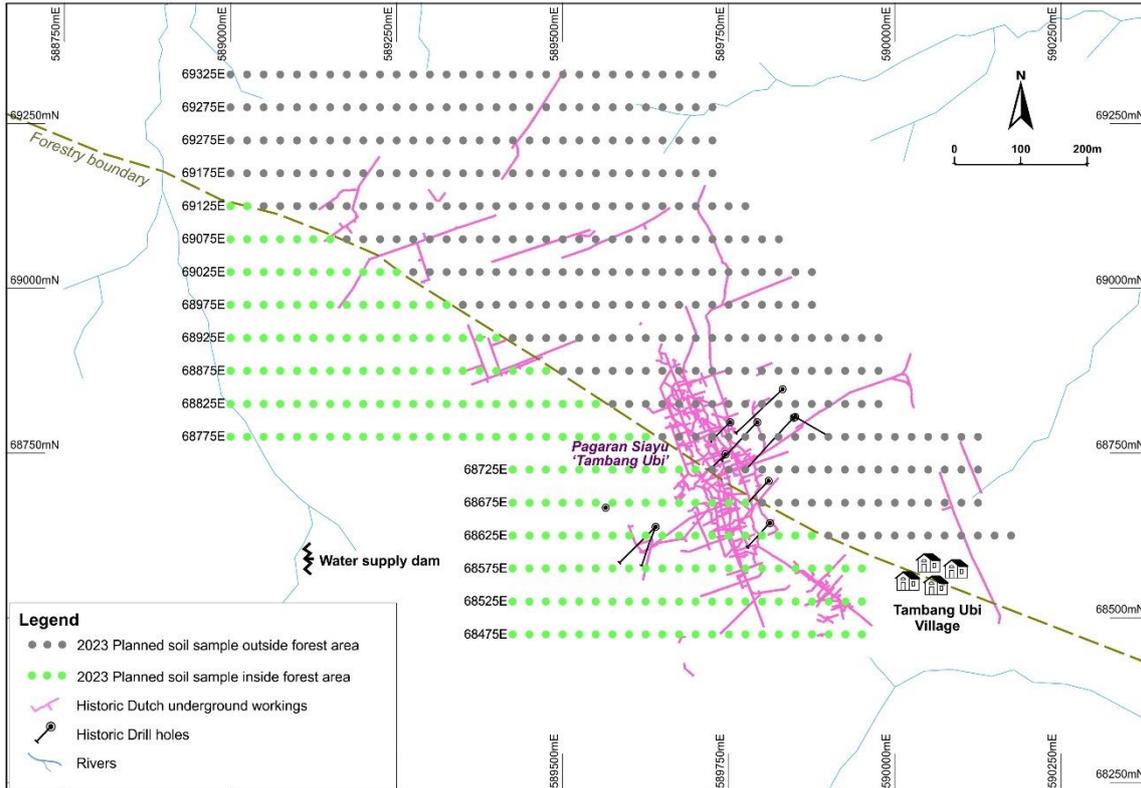
The western half of the Tambang Ubi prospect lies within national forestry lands. The Company is applying for a forestry access permit (IPPKH-Exploration) from the Ministry of Environment and Forestry of the Republic of Indonesia covering the eastern half of the CoW South block, including Tambang Ubi and the neighboring Tambang Tinggi gold field. The processing of this permit takes an estimated 3-4 months to complete. Granting of the permit allows advanced exploration activities, including soil sampling, trenching and drilling, to be conducted in protected and production forestry designated areas.

The Company has commenced grid-based soil geochemical sampling on non-forestry freehold land owned by local landowners in the eastern half of Tambang Ubi prospect. This area includes many of the high-grade surface results and potentially underlying northwest projections of mineralised skarn from the historical Dutch mine (see Figure 4). This first stage of sampling comprises 250-300 samples and is estimated to take 4-6 weeks to complete. The remaining section of the grid within forestry lands contains a similar number of samples that will be taken after the IPPKH-Exploration is received.

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<sup>2</sup> Kjolle, I., 1997, *The setting and genesis of the Browns Creek gold-copper skarn. Unpublished PhD thesis, Canberra, Australian National University.*

<sup>3</sup> Meinhart, L.D., Dipple, G.M., Nicolescu, S. 2005, *World Skarn Deposits, in Hedenquist, J.W., Harris, M., and Camus, F. (eds.), Economic Geology 100<sup>th</sup> Anniversary Volume, p. 299–336.*



**Figure 4: Tambang Ubi – Soil Geochemical Sampling Location Plan**

### Update on Hutabargot Julu

Surface mapping and soil sampling were recently completed on the Panas-Galugur epithermal gold-silver vein target located to the east of the Sihorbo South vein system within the Hutabargot Julu project area. This work has focussed on demonstrating the potential for strike extensions and additional mineralised veins north of historical Dutch workings and beneath an area of extensive gold-arsenic soil anomalism identified in a previous survey by the Company (refer to SIH:ASX announcement “*Hutabargot Julu delivers its Maiden Mineral Resource with Sihorbo South – UPDATED*” dated 7 September 2022; *Appendix 1 JORC Code – 2012 Edition, Table 1 – Section 2 Historic Exploration Data*). Assay results for soil and rock chip samples taken in this program have been received. These are expected to be compiled and reported by the end of June 2023.

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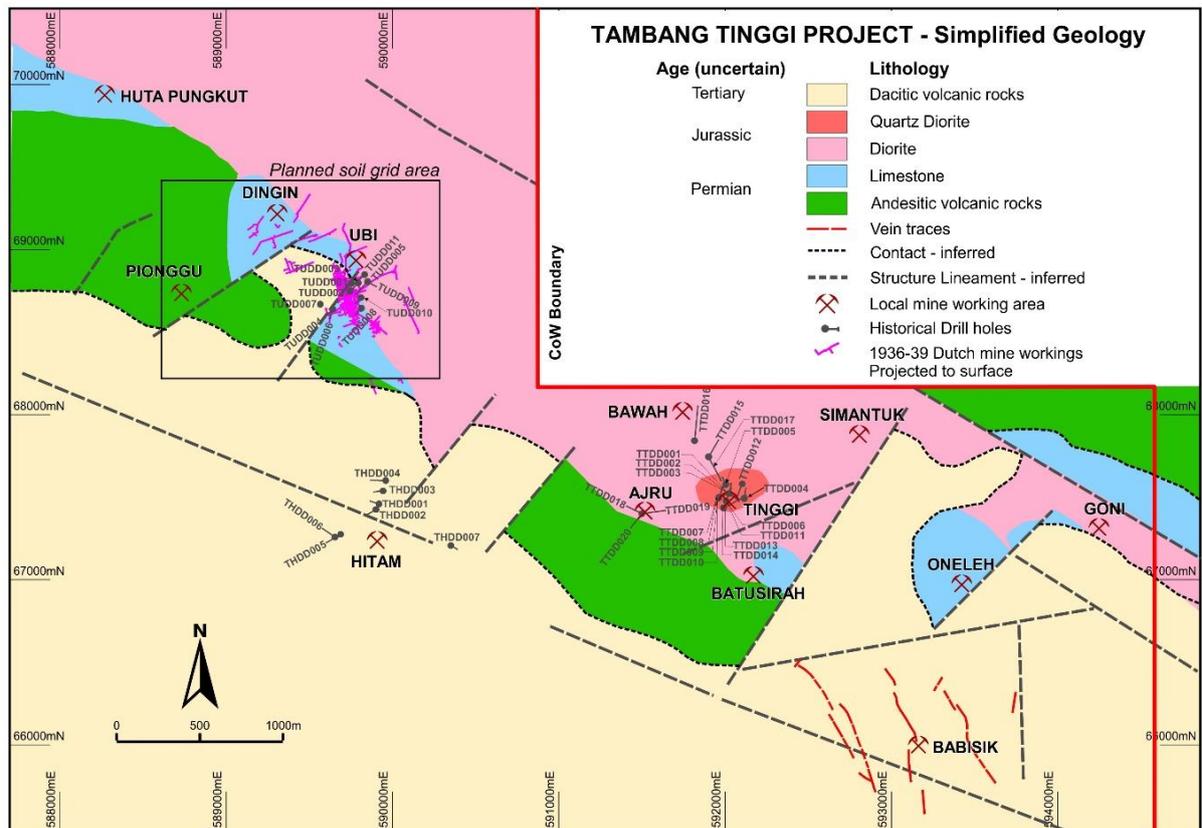
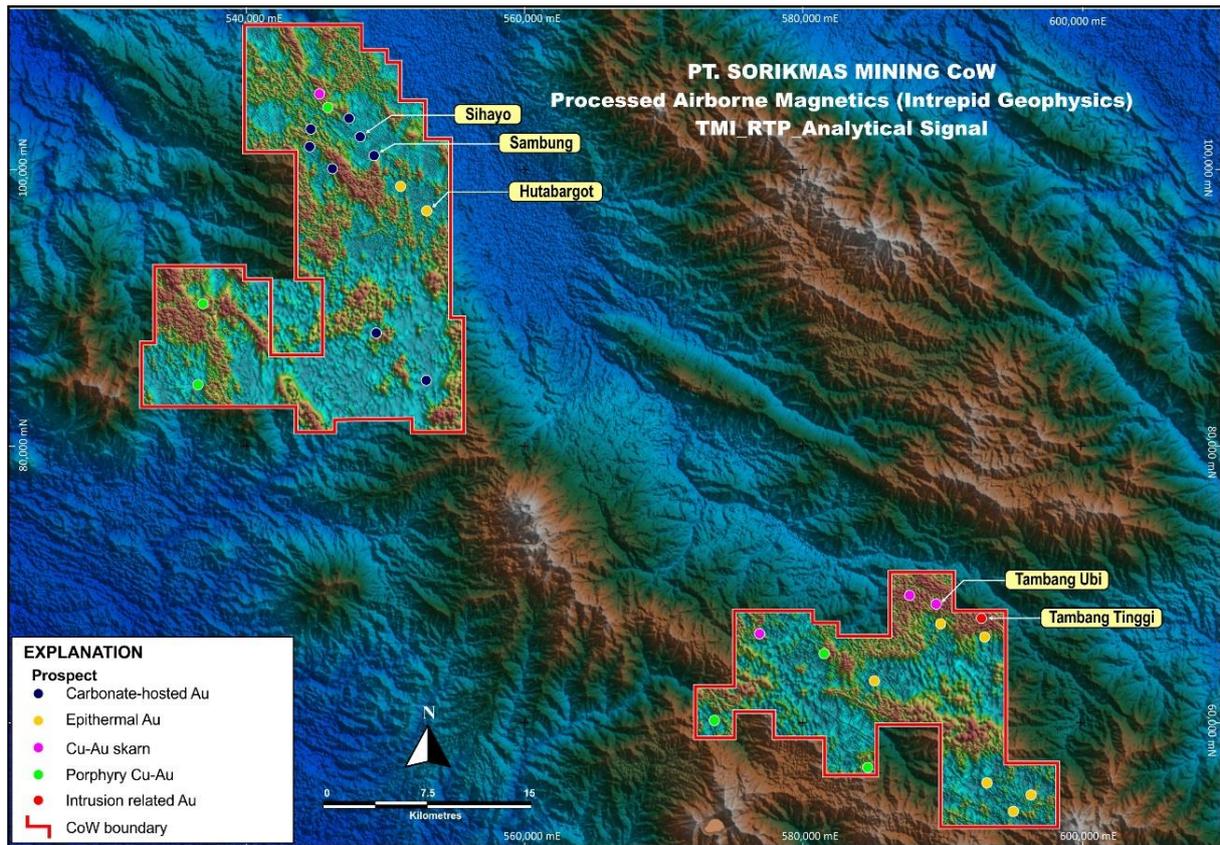
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## Appendix 1: Tambang Ubi – Rock Chip Assay Results

Sample ID	Au g/t	Cu %	Ag ppm	As ppm	Bi ppm	Sb ppm	Te ppm	Ca %	Mg %
1032002	2.54	0.19	1.5	7	1.41	0.3	1.7	34.0	0.30
1032003	3.40	0.17	1.5	24	10.2	5.7	1.2	24.2	1.13
1032004	<b>5.28</b>	<b>1.02</b>	10.7	52	7.09	24	5.3	23.4	1.44
1032010	0.97	0.12	1.3	25	0.66	5.8	1.2	35.6	0.58
1032011	<b>39.8</b>	<b>3.28</b>	29.3	549	7.05	281	9	17.7	1.74
1032012	3.69	0.33	2.2	68	0.96	17.9	2.2	34.8	1.15
1032013	<b>16.2</b>	<b>1.18</b>	10.5	20	8.6	1.7	8.7	36.1	0.31
1032014	3.2	0.85	7.3	39	6.58	13.8	5	29.8	0.78
1032015	<b>16.3</b>	<b>2.33</b>	18.9	16	30.6	4.7	3	17.8	1.58
1032036	4.83	0.30	2.7	14	5.49	4.9	1.4	26.2	1.31
1032037	<b>21.30</b>	0.83	7.6	38	7.09	23.8	4.7	23.7	1.16
1032038	<b>33.20</b>	<b>1.51</b>	15.9	140	23.1	123	8.7	20.2	3.13
1032039	<b>10.60</b>	0.59	4.8	198	3.95	84	4.5	24.5	1.34
1032043	<b>27.80</b>	<b>2.13</b>	20.5	203	9.18	17.2	17.4	22.3	1.13
1034737	4.89	0.43	3.3	46	0.82	32.3	1.2	28.0	0.65
1034739	<b>9.64</b>	<b>1.18</b>	7.0	43	7.57	24.1	5.5	20.2	1.27
1034742	<b>31.50</b>	<b>1.46</b>	14.2	89	18.6	312	9.4	21.2	1.01
1034744	<b>17.60</b>	0.93	8.2	66	13	9.2	5	29.7	0.76
1034745	4.04	<b>1.47</b>	33.5	35	9.13	5.2	3.3	24.2	2.63
1034746	<b>7.84</b>	<b>3.38</b>	10.6	163	14.2	7.6	6.9	25.9	1.83
1034747	<b>6.87</b>	<b>2.33</b>	8.5	48	12.4	2.4	7.1	27.9	1.41
1034749	1.94	<b>2.44</b>	3.8	52	2.92	2.7	2.4	25.2	1.26
1034750	<b>6.85</b>	<b>17.6</b>	33.9	199	22.9	6.1	5.3	12.6	0.10

- Notes:
- 1) All assay results are reported in ppm unless otherwise stated in percent
  - 2) Tambang Ubi skarn samples are most strongly anomalous in gold and copper (and lesser silver) which is consistent with the observed mineralisation, which is copper sulphides (mainly chalcopyrite and bornite) and traces of electrum
  - 3) Tambang Ubi skarn samples are weakly anomalous in other metals including arsenic, antimony bismuth, and tellurium
  - 4) Calcium and magnesium are shown in this table to highlight that the protolith of the skarn (calc-silicate rock) hosting the mineralisation at Tambang Ubi is probably weakly dolomitic limestone and interbedded calcareous volcanoclastic rock

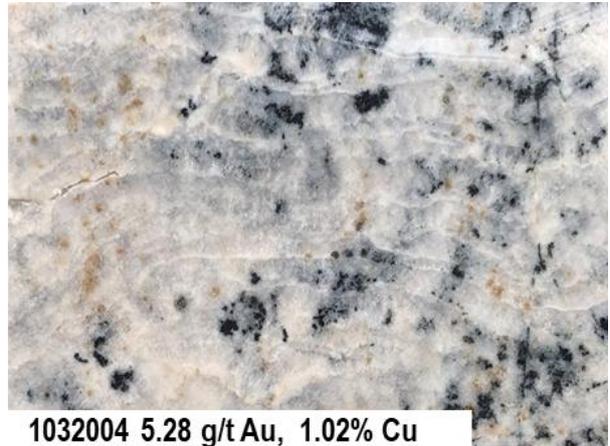
## Appendix 2: Tambang Ubi – Additional Location Plans



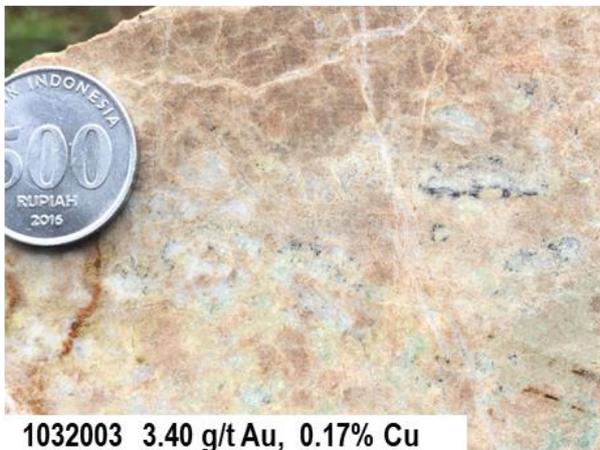
Appendix 3: Tambang Ubi – Additional photos of selected mineralised skarn samples



1032002 2.54 g/t Au, 0.19% Cu



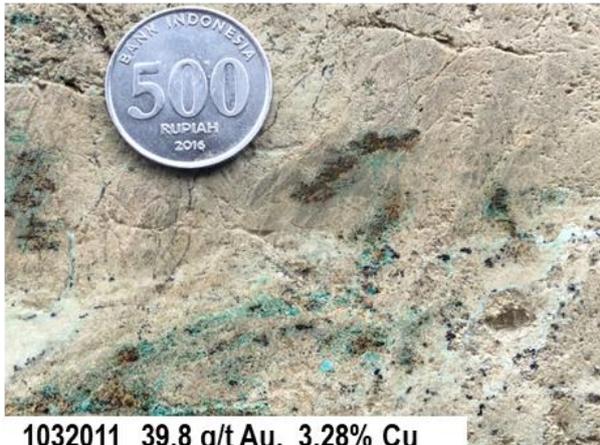
1032004 5.28 g/t Au, 1.02% Cu



1032003 3.40 g/t Au, 0.17% Cu



1032013 16.2 g/t Au, 1.18% Cu



1032011 39.8 g/t Au, 3.28% Cu

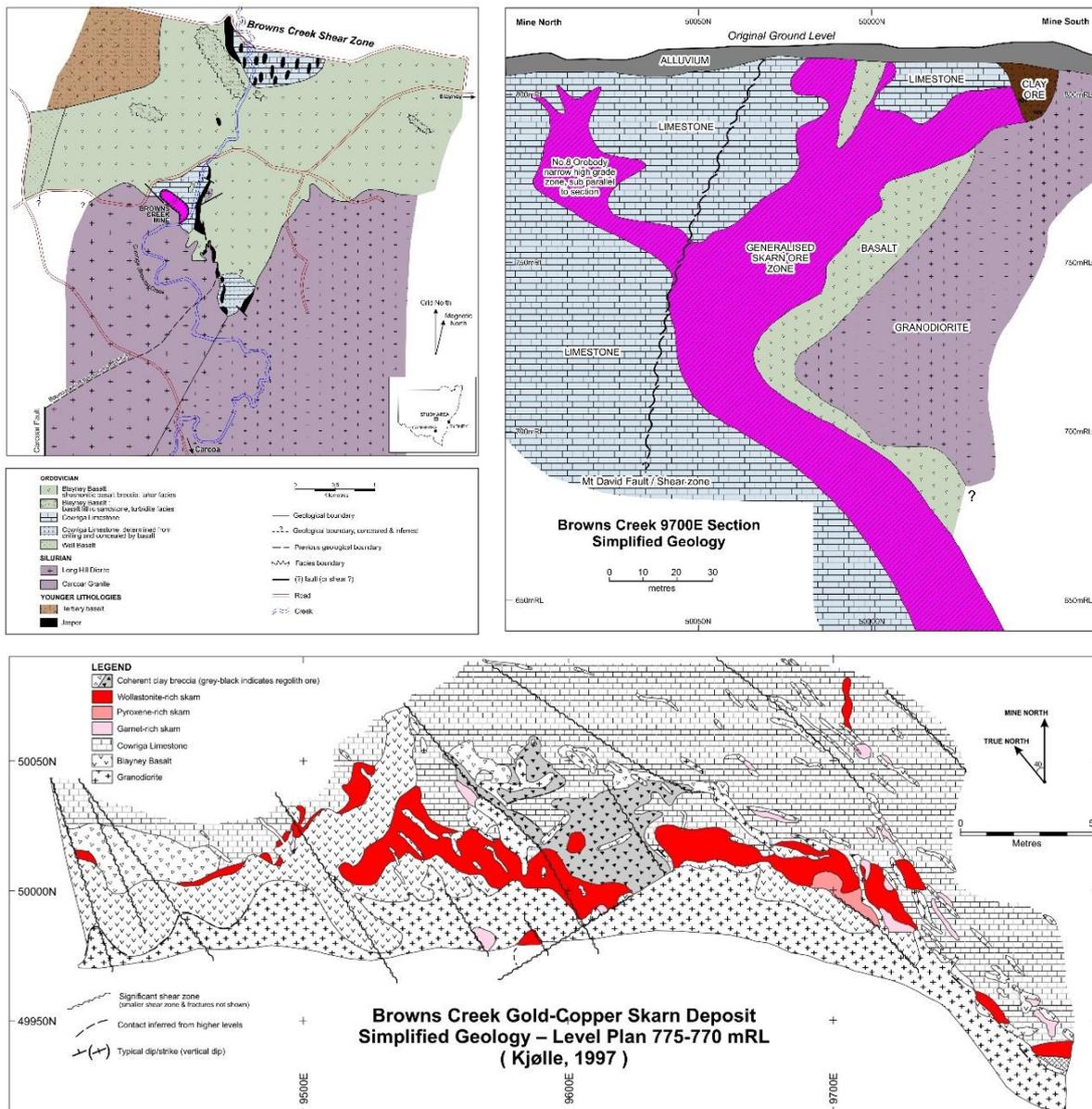


1032015 16.3 g/t Au, 2.33% Cu

## Appendix 4: Browns Creek Analogue

A comparison is drawn between Tambang Ubi and the Browns Creek gold-copper skarn deposit in New south Wales, Australia (the latter is described by Kjolle, 1997 and Meinhart et al, 2005).

- Wollastonite-rich gold-copper skarn on granodiorite contact with limestone-basaltic volcanics
- Chalcopyrite-bornite and native gold/electrum mineralisation
- Historical gold production: 1876-1887 Approx 60,000 oz at 5.5 g/t Au
- Modern gold production: 1987-2000 Approx 230,000 oz at 5-6 g/t Au (open cut/underground)
- Mine closed due to underground flooding in 2000.



The Browns Creek figures illustrate the simplified mine surface geology (top-left), a simplified N-S geology section highlighting the geometry of the mineralised skarn body (magenta) in relation to the granodiorite contact to 150-200 m depth (top-right), and the irregular shape and distribution of the main mineralised wollastonite skarn zone (red) in level plan (bottom)

# Competent Person's Statement

## Exploration Results

The information in this report which relates to Exploration Results is based on, and fairly represents, information compiled by Mr Bradley Wake (BSc Hons. (Applied Geology)), who is a contract employee of the Company. Mr Wake does not hold any shares in the company, either directly or indirectly.

Mr Wake is a member of the Australian Institute of Geoscientists (AIG ID: 3339) and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Wake consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

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## JORC Code, 2012 Edition – Table 1 Report Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling Techniques	<p>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.</p> <p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>• Selective grab samples were taken from piles of broken vein cobbles ("mullock heaps") extracted by local miners to the surface from veins exposed in the sub-surface workings. It is therefore assumed that these samples are broadly representative of the sample location and not far-removed from their source(s) in the immediate underlying bedrock.</li> <li>• Each sample was taken as a composite grab sample of rock chips broken from several selected pieces of vein cobble found on the mullock piles. Samples were selected from vein material showing textural and mineralogical characteristics that might most-likely contain significant gold grades. The samples were broken by hammer-and-chisel and collected by hand. The assay results returned are only considered to be 'indicative'. They do not necessarily accurately represent the gold and associated metal grades of the vein source(s) in the underground working.</li> <li>• Individual sample weights were maintained at between 1-2 kg each. Each sample was individually labelled with a unique sample number and sealed in a tied calico sample bag with sample ticket included. Groups of samples were loaded into larger polywoven sacks and individually sealed with numbered security tags for transport from site to PT Intertek Utama Services ("Intertek") sample preparation facility in Medan and there pulps were prepared for air freight to their lab in Jakarta.</li> <li>• Industry standard QAQC protocols are followed and include the insertion of OREAS Standards and sample blanks.</li> <li>• Sample preparation is carried out by PT Intertek Utama Services at their sample preparation facility in Medan, North Sumatra, located about 10-hours by road from the project site. Sample preparation includes weighing, drying at 60°C, then crushing of the entire core sample to 95% passing minus-2mm and then a 1.5kg split for pulverising to 95% passing minus-75 microns. The pulp samples are air-freighted to Jakarta for geochemical assaying.</li> <li>• See 'Criteria: Quality of assay data and laboratory tests' for assaying details.</li> </ul> <p>The number of samples relating to this announcement:  <b>Tambang Ubi: 23 selective rock grab samples</b> from local mining mullock piles.</p>
Drilling techniques	<p>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).</p>	<ul style="list-style-type: none"> <li>• Not applicable.</li> </ul>
Drill sample recovery	<p>Method of recording and assessing core and chip sample recoveries and results assessed.</p>	<ul style="list-style-type: none"> <li>• Not applicable.</li> </ul>

Criteria	JORC Code Explanation	Commentary
	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.	
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.	<ul style="list-style-type: none"> <li>All rock samples were digitally photographed and geologically logged by the supervising geologist to record UTM location, lithology, weathering state, alteration, mineralisation, structure, etc. Representative rock chips and/or slabs of all samples are retained at Kotanopan field camp for reference.</li> <li>Standard nomenclature is used for logging codes and abbreviations and the data are digitally recorded in Excel-generated logging sheets and securely stored in the Company's datashed. The geological logging details are qualitative with the exception of the sample location coordinates and assay results, which are measured.</li> <li>These samples provide geological and assay data that are indicative of exploration potential but are not suitable for resource modelling.)</li> </ul>
Sub-sampling techniques and sample preparation	<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</p> <p>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p> <p>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.</p> <p>Whether sample sizes are appropriate to the grain size of the material being sampled.</p>	<ul style="list-style-type: none"> <li>No sub-sampling was undertaken and the entire sample, with exception of reference chips and rock slab, were submitted for sample preparation and assaying.</li> <li>No sample duplicates were taken or prepared in the field sampling.</li> <li>Sample size is appropriate to the reconnaissance nature of these surveys and provides an indication of the presence and potential grade of the target metals sought; namely gold, silver, and base metals.</li> </ul>
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. For geophysical tools, spectrometers, hand held XRF instruments, etc, the parameters used in	<p><b>PT Intertek Utama Services:</b> PT Intertek Utama Services (Jakarta/Medan) was the primary sample preparation and assaying laboratory used for this drilling program.</p> <ul style="list-style-type: none"> <li>Coarse crush samples were prepared at the Intertek sample preparation facility in Medan, North Sumatra. Core samples are weighed and dried at 60°C. The entire sample is crushed to P95 (95%) passing minus-2mm and 1.5kg is split off and pulverised to P95 (95%) passing minus-75 microns.</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</p>	<ul style="list-style-type: none"> <li>• Sample pulps prepared at the facility in Medan are air freighted to Intertek's analytical laboratory in Jakarta.</li> <li>• The samples were assayed for gold by 50 g charge Pb collection Fire Assay with AAS finish (<b>FA51/AAS</b>) and 46 multi-elements by four-acid digest (HClO<sub>4</sub>, HCl, HNO<sub>3</sub>, HF) and a combination of determinations using Inductively Coupled Plasma/Optical Emission Spectrometry (ICP/OES) (Al, Ca, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, P, S, Sc, Ti, V, Zn) and Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) (Ag, As, Ba, Be, Bi, Cd, Co, Cs, Ga, Ge, Hf, In, Li, Mo, Nb, Pb, Rb, Sb, Se, Sn, Sr, Ta, Te, Th, Tl, U, W, Y, Zr) determinations (<b>4A/OM10</b>).</li> <li>• Sample preparation procedures and analytical methods used are considered appropriate to test for the style(s) of mineralisation targeted in the prospect area (porphyry-related and epithermal-style gold-silver-base metal mineralisation).</li> <li>• The Company routinely inserts OREAS Certified Reference Materials (CRMs) and blanks at a rate of 1 in every 20 surface rock samples of the sample sequence to evaluate the laboratory's sample preparation procedures, analytical quality and/or biases. The results relating to this announcement fall well within acceptable tolerances of accuracy and precision.</li> <li>• Intertek also applies its own QAQC procedures. Certified Reference Materials and/or in-house controls, blanks and replicates are analysed with each batch of samples (numbering at least 10% of the total samples submitted in the batch). These quality control results are reported along with the sample values in the final report.</li> </ul>
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>	<ul style="list-style-type: none"> <li>• Assay results are received from the laboratory in digital format and hard-copy final certificates. Digital data are stored on a dedicated database server and back-up database server. Hard-copy certificates are stored in Jakarta Office.</li> <li>• Results are received and validated by the Company's Database Manager against QAQC protocols before loading into the assay database.</li> <li>• Results and gold intersections are reported by the Company's Competent Person and Database Manager; these are verified by alternative senior company personnel.</li> <li>• No adjustments or calibrations are applied to any of the assay results in this announcement.</li> </ul>
Location of data points	<p>Accuracy and quality of surveys used to locate samples. Specification of the grid system used.</p> <p>Quality and adequacy of topographic control.</p>	<ul style="list-style-type: none"> <li>• Sample locations are fixed in the field using using a hand-held Garmin GPSMAP 66s with accuracy of ±3-5m.</li> <li>• The coordinates presented for rock sample locations in this announcement are field GPS measurements.</li> <li>• The Grid System used is WGS84/ UTM Zone 47 North.</li> </ul>
Data spacing and distribution	<p>Data spacing for reporting of Exploration Results.</p>	<ul style="list-style-type: none"> <li>• Sample-spacing of the surface mullock pile sampling across the prospect is irregular. It was guided by the occurrence of workings and suitable mullock piles for sampling.No sample compositing as applied to the samples.</li> <li>• No sample compositing was applied to the surface rock samples.</li> </ul>

Criteria	JORC Code Explanation	Commentary
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>	<ul style="list-style-type: none"> <li>• The rock samples in this report were collected from local artisanal mining mullock piles, residual float boulders and lesser outcrops.</li> <li>• Most of the samples in this report were taken from mullock piles and these samples are not in-situ.</li> <li>• The exact locations of the samples in relation to the underlying host rocks and structures are largely unknown but can be inferred from the locally known (previously mapped) lithological and structural trends.</li> </ul>
Sample Security	<p>The measures taken to ensure sample security.</p>	<ul style="list-style-type: none"> <li>• A detailed Chain-of-Custody protocol has been established to ensure the safe and secure transportation of all geochemical samples from the remote project site to PT Intertek Utama Services sample preparation laboratory in Medan, North Sumatra.</li> <li>• Surface rock samples are packed into double-lined hessian (polyweave) sacks which are individually sealed with cable-ties and a unique numbered security tag. The hessian sacks are weighed and registered (hard copy and computer).</li> <li>• The hessian sacks are weighed and registered at <b>Kotanopan</b> exploration camp, which is located close to a major road for loading and transportation. The samples are transported by company vehicle to the Bukit Malintang Office, where they are met by the Company's logistics personnel, then directly loaded into the truck, which is then outer-locked and sealed with the Company's assigned numbered security tag (photographed) for transport and delivery direct to PT Intertek Utama Services in Medan, North Sumatra, accompanied by Company security personnel. Intertek's sample preparation facility is about 10-12 hours by road (430 km) from the project area.</li> <li>• On delivery to PT Intertek Utama Services in Medan, the laboratory manager confirms that the truck and hessian sack security seals are intact (photographed), weighs the hessian sacks, and reports to the supervising geologist for verification and permission to proceed with the sample preparation.</li> <li>• PT Intertek Utama Services ensures the safe and secure transportation of pulp samples prepared at its sample prep facility in Medan, which are dispatched under their custodianship to the assaying laboratory in Jakarta, via DHL air courier. The pulp samples are packaged and securely wrapped in standard-sized Intertek-signatured boxes that are sealed with Intertek-signatured packaging tape. The pulp samples are accompanied by Intertek dispatch/security forms to ensure the acknowledgement of receipt and integrity of the samples (i.e. sample registration is completed and confirmed at both ends).</li> </ul>
Audits or reviews	<p>The results of any audits or reviews of sampling techniques and data.</p>	<ul style="list-style-type: none"> <li>• The exploration programs are supervised by the Exploration Manager and supervising senior geologists based on site. In the field. The results of this drilling program are periodically audited and reviewed by an independent geological consultant, Mr Rob Spiers, representing Spiers Geological Consultants (SGC, Pty. Ltd.).</li> <li>• The database is internally checked by the Company's Database Manager.</li> </ul>

## JORC Code, 2012 Edition – Table 1 Report Section 2 Reporting of Exploration Results

Criteria listed in the preceding section also apply to this section.

Criteria	JORC Code Explanation	Commentary
<p>Mineral tenement and land tenure status</p>	<p>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.</p> <p>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.</p>	<p>The mineral tenement is a 7th Generation Contract of Work (CoW) granted in February 1998 to PT Sorikmas Mining, an Indonesian joint venture company owned by Aberfoyle Pungkut Investments Pte Ltd (75%) and PT Aneka Tambang Tbk (25%). Sihayo Gold Limited (formerly Oropa Limited) acquired all of the shares of Aberfoyle Pungkut Investments Pte Ltd in April 2004. The CoW is located in North Sumatra in the Republic of Indonesia and is approximately 80km south-east from the Martabe Gold Mine.</p> <p>The joint venture remains as Sihayo Gold Limited (<b>ASX:SIH</b>) owning a 75% interest in PT Sorikmas Mining which in turn holds the Sihayo-Pungkut 7th Generation Contract of Work (“<b>CoW</b>”). PT Aneka Tambang Tbk is the Company’s joint venture partner in the CoW with a 25% interest.</p> <p>The original CoW area covered 201,600 hectares. This was reduced to the current 66,200 hectares after two mandatory partial relinquishments; 1) to 151,000 ha in Feb 1999, and 2) to 66,200 ha in Nov 2000. As a consequence of these two partial relinquishments, the current CoW is subdivided into two separate blocks; North block and South block. The tenement is currently under the Operation/Production phase of the CoW. There is no future requirement for area relinquishment. Tenure on the CoW is until 2049 with an option to extend for two additional 10-year periods.</p> <p>The PT Sorikmas Mining CoW area is located along on a fertile segment of the Sumatra magmatic arc in North Sumatra. The same arc segment includes the giant Martabe gold-silver deposit (located about 80km NW) and the high-grade Dairi lead-zinc deposit (located about 250km NW). The CoW and is considered highly prospective for gold, silver and base metal mineralisation. Multiple mineral prospects have been identified during previous exploration within the CoW area and various mineralisation target-styles are represented including replacement-style carbonate-hosted gold (Carlin-style), intermediate-sulphidation epithermal gold-silver veins, gold-base metal skarns and porphyry-related copper-gold.</p> <p>The Sihayo Gold Project is the most advanced project within the CoW and a Definitive Feasibility Study for the project was completed in June 2020. The project has combined Mineral Resources of 24 Mt at 2.0 g/t for 1.5 Moz of contained gold and an Ore Reserve of 12.5 Mt at 2.1 g/t for 840 koz of contained gold in the Sihayo-1 and Sambung gold deposits. The bulk of this gold is in the Sihayo-1 gold deposit. The Company has an active exploration program including extension drilling at the Sihayo Gold Project, and prospecting in the Tambang Tinggi goldfield area of the South CoW block.</p> <p><b>Tambang Ubi</b> gold-copper skarn target lies on the western edge of the Tambang Tinggi gold field. The project is located in partly forested, rugged terrain in the South block of the CoW, within the Barisan Mountains of North Sumatra. It is located in <b>Kotanopan</b> sub-district at the southern end of Mandailing Natal regency, close to the</p>

Criteria	JORC Code Explanation	Commentary
		<p>provincial boundary with West Sumatra. The company rents a house as an exploration office/camp located on the western edge of Kotanopan township. Some core from the historic drilling program on Tambang Ubi is also stored at this office. Kotanopan is a moderate-sized town with a population of about 25,000 people.</p> <p>Access to Tambang Ubi is via a major road and then walking track. Travel to Tambang Ubi is staged as follows: 1) Vehicle from <b>Kotanopan exploration office</b>, driving approximately 15km east along the Trans Sumatran Highway to Muara Botung village drop-off (about 60 min). 2) Continue by foot south for about 4km along the Kampung Tambang Ubi access road (about 45 min), which is steep and can be otherwise negotiated by trail bike and an all-wheel drive vehicle. 3) Continue by foot for about 1-km along a forest track (15 min) to the Company's exploration fly camp. Field logistics to the fly camp are supported by local motorbikes and man-portering.</p> <p><b>Kotanopan</b> is located about 65-km SE from PT Sorikmas Mining administration office located at <b>Bukit Malintang</b> village. Travel time from Kotanopan to Bukit Malintang office is about 2 hours via the Trans West Sumatra Highway. Bukit Malintang is located on the Trans West Sumatra Highway. Bukit Malintang is about 116 km (3.5-hour drive) southeast of Ferdinand Lumban Tobing airport, which services the nearby regional city and port of <b>Sibolga</b>. There are daily flights between Ferdinand Lumban Tobing airport and Jakarta. Alternative access is available from Silangi airport (Lake Toba) which is about 195 km (5.5 hours) and Minangkabau International airport (Padang) which is about 315 km (8 hours) by road from Bukit Malintang. Both of these airports have daily flights to/from Jakarta.</p> <p>Bukit Malintang office is located about 26 km (45-minute drive) northwest of the major regional town of <b>Panyabungan</b>, located off the eastern edge of the CoW North block. Panyabungan has a population of just under 100,000 people. Panyabungan and villages in the surrounding subdistricts provide most of the logistics and local labour in support of the project activities.</p> <p>Much of the PT Sorikmas Mining CoW is covered by state-owned protected forest that is managed by the Ministry of Environment and Forestry. The Company requires an <i>Ijin Pinjam-Pakai Kawasan Hutan (IPPKH)</i>, translated as a Borrow-Use forestry area permit, from the the Ministry of Environment and Forestry to access and use a forestry area for any purpose that is outside of forestry activities, including mineral exploration and mining activities. The PT Sorikmas Mining CoW contains caveats that allow the Company to conduct open-cut gold mining in protected forest.</p> <p>The Company holds a valid 485 ha <i>IPPKH (Operasi)</i> permit that contains the proposed Sihayo mine development area. The Company also holds a 13,800 ha <i>IPPKH (Eksplorasi)</i> permit that surrounds this operating permit. An extension to the <i>IPPKH (Eksplorasi)</i> was granted on 17 February 2023 and is valid for 2-years from 4 September 2022 until 4 September 2024, and is extendible. This permit allows the Company to conduct exploration activities that involves ground disturbance, including track building, drilling, and trenching, on all of the permit area including Sihayo, Hutabargot Julu, and near-by prospects.</p> <p><b>Tambang Ubi</b> prospect staddles protected forest designated area and freehold land owned by local farmers within the northeast corner of the CoW South block. The prospect area contains a mixture of primary and secondary forest</p>

Criteria	JORC Code Explanation	Commentary
		<p>growth, rubber and cocoa plantation and areas of fruit and vegetable cultivation under formal and informal landholdings. Local artisanal gold mining is also active within the project area, but this is not permitted and therefore classified as an illegal mining activity or <i>PETI (Pertambangan Tanpa Izin)</i>. Local miners are cooperative and compliant in recognizing the Company's rights to explore in the project area.</p> <p>The Company is applying for a forestry access permit (<i>IPPKH-Exploration</i>) from the Ministry of Environment and Forestry covering the eastern half of the CoW South block, including Tambang Ubi and the neighbouring Tambang Tinggi gold field. The processing of this permit takes an estimated 3-4 months to complete. Its granting allows for advanced exploration activities such as soil sampling, trenching and drilling, to be conducted in the protected and production forestry designated areas.</p>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<p>Exploration commenced on the PT Sorikmas Mining CoW in 1995, originally under a domestic investment Kuasa Pertambangan (KP) title held by Antam with work managed by PT Aberfoyle Indonesia, a subsidiary of Aberfoyle Limited (Australia). Work continued under a pre-CoW permit (SIPP) from February 1997 to January 1998, and then under the joint venture company, PT Sorikmas Mining, when the CoW was signed in February 1998. Exploration carried out over this initial 3-year period included regional drainage geochemical sampling, prospecting, geological mapping, soil geochemical surveys and investigations on some of the historic Dutch mine workings in the district. Scout drilling was conducted by Aberfoyle on the Mandagang porphyry target in 1996 and produced some broad low-grade Cu-Mo-Au intercepts. The regional work highlighted numerous gold and multielement anomalies across the CoW. Subsequent prospecting identified multiple targets, representing a broad spectrum of precious and base metal mineralisation styles, including:</p> <ul style="list-style-type: none"> <li>• Carbonate-hosted jasperoid gold at Sihayo, Sambung, Link Zone, Sihayo-2, Sihayo-3, Sihayo-4, Mentari and Nabontar prospects (North CoW Block);</li> <li>• Epithermal gold-silver veins and disseminated mineralisation at Hutabargot Julu (Dutch working), Sihayo-5 (North CoW Block), and Tambang Hitam, Tarutung, Babisik, Nalan Jae, Nalan Julu, and Rotap prospects (South CoW Block);</li> <li>• Porphyry-style copper ± gold-molybdenum mineralisation at Rura Balancing, Singalancar, Sihayo-2 Copper (North CoW Block), and Mandagang, Tambang Tinggi, Namilas and Siandop prospects (South CoW Block);</li> <li>• Polymetallic skarn at Bandar Lasiak (North CoW Block), and Pagar Gunung, Huta Pungkut prospects and <b>Tambang Ubi/Pagaran Siayu (Dutch mine)</b> prospects.</li> </ul> <p>Aberfoyle was taken over by Western Metals Ltd in late 1998. Western Metals farmed out part of their beneficial interest in the CoW to Pacmin Mining Corp in 1999. Pacmin funded and managed detailed prospect-scale work at Sihayo and on some neighbouring prospects during 1999 until early 2000. This work included grid-based soil</p>

Criteria	JORC Code Explanation	Commentary
		<p>geochemical surveys, ground IP-Resistivity surveys, detailed geological mapping, trenching on various prospects and the first scout drilling program on the Sihayo gold discovery.</p> <p>The CoW was placed into temporary suspension from November 2000 to February 2003 due to depressed gold prices, lack of funding and changes to the forestry regulations and status that restricted access to the CoW area. PacMin was taken over by Sons of Gwalia (SoG) (Australia) in late 2001. Oropa Limited entered into an agreement to purchase the 75% beneficial interest in the CoW held by SoG/Western Metals in late 2002. Oropa exercised its option to purchase the 75% beneficial interest in the CoW held by SoG/Western Metals in early 2004. Oropa changed its name to Sihayo Gold Limited in late 2009. Exploration resumed on the CoW in early 2003, fully funded by Oropa/Sihayo. This work included detailed prospect-scale exploration such as grid-based soil geochemical surveys, ground IP-Resistivity and magnetics surveys, detailed geological mapping, trenching and drilling campaigns in the North Block (Sihayo, Sihayo-2, Link Zone, Sambung &amp; Hutabargot) and South Block (Tambang Tinggi, Tambang Ubi and Tambang Hitam) that steadily increased from 2003 to 2013. An airborne magnetic and radiometric survey was flown over the CoW in 2011.</p> <p>A total of 86,499 m of diamond drilling in 824 holes was drilled on the CoW up to 2013 including a total of 59,469 m in 547 holes on Sihayo-1, 12,475 m in 165 holes on Sambung, 1,571 m in 17 holes at Sihayo-2, 6,979.5 m in 57 holes at Hutabargot Julu, and 6,005 m in 38 holes in the <b>Tambang Tinggi goldfield</b>.</p> <p>Significant results reported from historic drilling at <b>Tambang Ubi</b> are summarised under '<i>Other substantive exploration data</i>'.</p> <p>Another hiatus in exploration activity occurred from 2013 to early-2019 due to lack of funding.</p> <p>New investment was injected into Sihayo Gold Limited in 2018 and the Company recommenced ground work at Sihayo in 2019 with an infill drilling program in support of a new Mineral Resource estimate on Sihayo and Sambung gold deposits. A total of 7,338 m in 74 holes of infill drilling was completed at Sihayo in 2019 (See ASX:SIH Quarterly reports released in January 2020, April 2020, and ASX release by Sihayo (ASX:SIH) on 23 June 2020).</p> <p>Another significant capital raising was achieved in August 2020, the proceeds of which are being used to fund exploration at Hutabargot Julu and elsewhere, early project works on the Sihayo Starter Project and working capital. See ASX:SIH Quarterly reports released on 20 August 2020). A total of 4806-m/25 holes of reconnaissance drilling was completed over the greater Hutabargot project area in early 2020, 1740-m/8 holes completed on the Sihorbo North vein target and 2577-m/11 holes on the Penatapan stockwork target were completed in mid-late 2021 (See ASX releases by Sihayo ASX:SIH on 12 April 2021, 5 July 2021 and 17 November 2021). 30 diamond drill holes for 5,216 m was completed on the Sihorbo South vein-stockwork target in late 2021-early 2022; and, a Maiden Inferred Mineral Resource Estimate of 6.4 Mt at 0.5 g/t gold and 17 g/t silver (0.7 g/t gold-equivalent), containing 100,000</p>

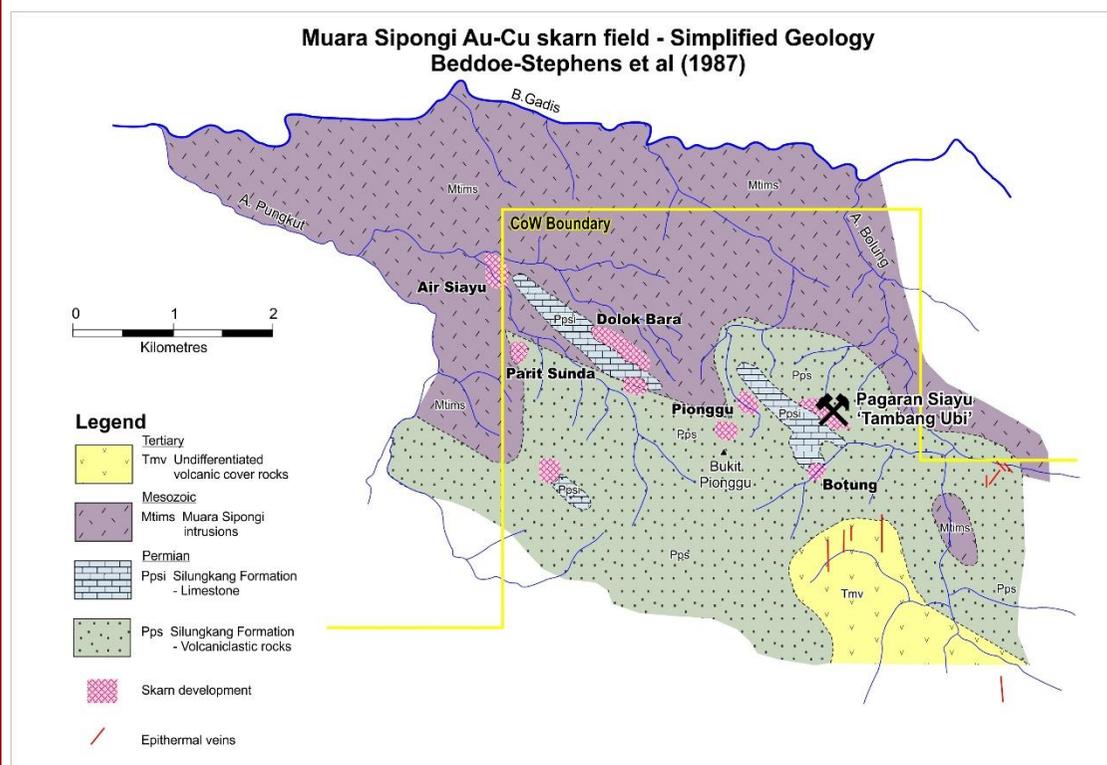
Criteria	JORC Code Explanation	Commentary
		<p>ounces of gold and 3,600,000 ounces of silver (150,000 gold-equivalent ounces) at a 0.3 g/t gold-equivalent cut-off was announced (See ASX release by Sihayo ASX:SIH on 7 September 2022).</p> <p>Historic resource estimates have only been previously announced on the <b>Sihayo and Sambung gold deposit</b>, located about 5-km NW of Hutabargot Julu in the CoW North block (See ASX:SIH Quarterly reports released in January 2020, April 2020, and ASX released by Sihayo (ASX:SIH) on 23 June 2020).</p> <p>A Sihayo-1/Sambung combined updated Measured, Indicated and Inferred resource of 24 Mt at 2 g/t Au for 1.5 Moz contained-gold at 0.6 g/t Au cut-off, and an updated Ore Reserve of 12.5 Mt at 2.1 g/t for 840 koz of contained gold at 0.6 g/t Au cut-off in oxide/transition/fresh ore types. Released by Sihayo (ASX:SIH) on 23 June 2020.</p> <p>The Mineral Resource estimate for the Sihayo and Sambung deposits was updated in February 2022 to reflect a comprehensive revision of the geology and mineralisation models for both deposits. In particular, the geological model used in the 2020 DFS was updated to reflect metallurgical domains that are now in line with the mine and processing scheduling and inform the stockpiling and blending requirements for the operations. Furthermore, the cut-off grade for the Mineral Resource estimate was revised down from 0.6 g/t Au to 0.4 g/t Au in response to economic analysis used for the Ore Reserve estimate, which showed 0.4 g/t Au was a suitable cut-off for economic material in the deposits.</p> <p>A Sihayo-1/Sambung combined updated Measured, Indicated and Inferred resource of 27.773 Mt at 1.8 g/t Au for 1.565 Moz contained-gold at 0.4 g/t Au cut-off, and an updated Ore Reserve of 11.504 Mt at 2 g/t for 741 koz of contained gold at 0.4 g/t Au cut-off in oxide/transition/fresh ore types. Released by Sihayo (ASX:SIH) on 17 February 2022.</p> <p>There have been no resource estimates relating to <b>Tambang Ubi</b>.</p>
Geology	Deposit type, geological setting and style of mineralisation	<p><b>Regional Setting</b></p> <p>The CoW is located at the western end of the 7,000 km long Sunda-Banda magmatic arc. Sumatra lies on the south-western margin of the Sundaland promontory at the edge of the Eurasian plate. The promontory basement is composed of accreted and fault-transposed continental plate and magmatic arc terranes that were derived from Gondwana during the Late Palaeozoic and Mesozoic.</p> <p>The CoW straddles a NW-SE trending collisional boundary separating two basement segments: namely the Late Palaeozoic West Sumatra terrane (eastern segment) and Mesozoic Woyla terrane (western segment). The West Sumatra segment is composed of intermediate-felsic volcano-sedimentary rocks and associated shallow marine carbonate rocks. The Woyla segment is an accretionary complex composed of deep to shallow marine sedimentary rocks and associated mafic volcanic rocks. The collisional contact between these two terranes, referred to as the Medial Sumatra Tectonic Line, is stitched by Mesozoic granitic intrusions. Extension on these basement rocks during the early Palaeogene produced local rift basins that were filled by fluvio-lacustrine, coal-bearing siliciclastic-volcano-</p>

Criteria	JORC Code Explanation	Commentary
		<p>sedimentary rocks. These rocks have been uplifted, structurally inverted and partly eroded by the development and formation of the Trans Sumatran Fault Zone (TSFZ), commencing in the Miocene. The evolution of the TSFZ was accompanied by Palaeogene magmatism (diorite/andesite – tonalite/dacite intrusions and volcanics) and associated hydrothermal activity and mineralisation within the CoW and surrounding region. Younger volcanic tephra erupted from nearby Quaternary volcanoes (eg Sorikmarapi, Toba) mantle the landscape in parts of the CoW.</p> <p><b>Tambang Ubi Geology</b></p> <p>The South block of the PT Sorikmas Mining CoW is largely underlain by a “pop-up” basement (positive flower structure) between two large fault segments at the southern end of the of the Barumun-Angkola dextral transtensional jog in the NW-SE trending Trans Sumatran Fault Zone (TSFZ), at the southern end of a major dilatational pull apart basin (Panyabungan Graben: ~100km long, ~12km wide and ~1km deep) that is controlled by the Trans Sumatran Fault Zone (TSFZ). The TSFZ and associated deep seated dilatational structures that control the pull-apart basin are interpreted to be major structural controls on the alignment and evolution of Tertiary magmatism and mineralisation within the CoW.</p> <p>Tambang Ubi and the surrounding Tambang Tinggi goldfield lie within one of three parallel/near-parallel prospect-aligned mineral belts recognised across both blocks of the CoW area. It is a +7.5 km long WNW-ESE trending corridor of Permian calcareous volcano-sedimentary rocks intruded by Late Jurassic intermediate intrusions of I-type affinity and younger dacitic volcanoclastic cover rocks. The intrusions and basement volcanic rocks are extensive and highlighted by an elevated magnetic response in recently reprocessed and imaged 2012 surveyed airborne magnetics.</p> <p>These rocks are highly prospective for porphyry-related mineral systems. Major prospects include Huta Pungkut and Tambang Ubi/Pagaran Siayu (Dutch Mine) (gold-copper skarns), Tambang Tinggi and Simantuk (gold-copper greisen/stockworks), Babisik and Tambang Hitam (epithermal Au-Ag veins). Most of the workings are developed on quartz-sulphide veins or skarn mineralization aligned along structures of varying length and continuity.</p>

## Criteria

## JORC Code Explanation

## Commentary



Following is the complete abstract on the Tambang Ubi skarns (Muara Sipongi) published by Beddoe-Stephens et al (1997): “Gold-mineralized skarns occur near the village of Muara Sipongi in West Sumatra and were mined for gold prior to World War II. They are developed in limestones and andesitic volcanics of Permo-Triassic age into which Late Jurassic diorites and granodiorites have been intruded. The intrusions are of I-type affinity. The skarns range from andradite-diopside rocks to grossular-idocrase-wollastonite-diopside rocks which formed at about 450- to 650°C. Later retrogressive alteration caused the formation of epidote, prehnite, pumpellyite, actinolite, chlorite, calcite, and quartz. These phases record temperatures down to less than 200°C. Fluids during skarnification probably contained less than 5 mole percent CO<sub>2</sub>. During retrogressive hydration the skarns were mineralized locally with chalcocopyrite, pyrite, magnetite, hematite, bornite, and gold, followed by sphalerite, arsenopyrite, marcasite, tetrahedrite, Co-Ni sulfarsenides, and Au-Ag tellurides. Chlorite-calcite retrogressive alteration of the skarns is related to quartz veining which is hosted by the volcanic members of the country rocks. These veins are enriched in

Criteria	JORC Code Explanation	Commentary
		<p><i>Pb + Zn compared to the skarns. Gold occurs as inclusions within arsenopyrite. Fluid inclusion data indicate the vein-forming fluids to be weakly saline and to contain minor CO2 but also to contain significant amounts of CH4 and N2. Homogenization temperatures fall in the range 180 to 240°C, which together with the low CO2 correlate with the conditions inferred for chlorite-calcite skarn alteration. The composition of native gold derived from skarn and associated veins is characterized by 5 to 35 at. percent Ag and up to 0.8 at. percent Cu. A suite of alluvial golds in the area have negligible Cu and 45 to 65 at. percent Ag and can be related to a nearby suite of Tertiary epithermal quartz veins. The bulk Au-Ag-Cu pattern and gold compositions of the Muara Sipongi mineralization are discussed and compared with other examples of gold-bearing skarns and Cu porphyries with which they are often associated. The source and controls on mobilization of the gold may be significantly influenced by regional faults in the area which form part of the 1,600- km-long Sumatra fault zone. Pervasive alteration of ultrabasic and basic assemblages, which are associated with this fault system, is one mechanism for liberating Au and other metals that are subsequently channeled upward along faults to be deposited in a favorable environment. The gold was most probably transported by thio and/or carbonyl complexes. Numerous artisanal gold workings occur across the greater project area.”</i></p>
Drill hole Information	<p>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:</p> <ul style="list-style-type: none"> <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 length.</li> </ul> <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>	<ul style="list-style-type: none"> <li>• Not applicable.</li> </ul>
Data aggregation methods	<p>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.</p> <p>Where aggregate intercepts incorporate short</p>	<ul style="list-style-type: none"> <li>• Not applicable.</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>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>	
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 (eg 'down hole length, true width not known').</p>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>
Diagrams	<p>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.</p>	<ul style="list-style-type: none"> <li>Appropriate maps and diagrams representing the sample locations and underlying geology are presented in this report.</li> </ul>
Balanced reporting	<p>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.</p>	<ul style="list-style-type: none"> <li>This announcement is believed to contain sufficient relevant information such as range of exploration results, geologic context, historic results, type and sampling methodology, maps/figures and spatial distribution of data points to represent balanced reporting.</li> </ul>
Other substantive exploration data	<p>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.</p>	<p><b>Historical Dutch Mining</b> (Oropa Limited, 2006): <b>Tambang Ubi (formerly <i>Pagaran Siayu</i>)</b>, located on the western side of the Tambang Tinggi project area, is a copper-gold mineralised garnet-pyroxene-wollastonite skarn deposit developed on the contact between limestone and quartz diorite intrusion. The deposit was mined by the N.V. Mijnbouw Maatschappij Moeara Sipongi (Dutch Mining Company) from 1936-1939, producing approximately 100,000t of ore, with recovered grades of 6.2g/t Au, 2.77g/t Ag and 0.24% Cu. Mining ceased in 1939 due to the commencement of WW2. Host Rock: Late Permian Silungkang Formation (fusulinid-bearing limestone), Muara Sipongi diorite/granodiorite. <u>Mineralisation</u>: The skarns range from andradite-diopside rocks to grossular-idocrase-wollastonite-diopside rocks. Later retrogressive alteration caused the formation of epidote, prehnite, pumpellyite, actinolite, chlorite, calcite, and quartz. During retrogressive hydration the skarns were mineralized locally with</p>

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		<p>chalcopyrite, pyrite, magnetite, hematite, bornite, and gold, followed by sphalerite, arsenopyrite, marcasite, tetrahedrite, Co-Ni sulfarsenides and Au-Ag tellurides.</p> <p style="text-align: center;"><b>Muara Sipongi Au-Cu skarn field - Generalised Paragenetic Relations Beddoe-Stephens et al (1987)</b></p> <p>The diagram illustrates the generalised paragenetic relations for the Muara Sipongi Au-Cu skarn field. The temperature axis ranges from 600°C to 0°C, divided into three stages: Skarnification (600-400°C), Retrogression (400-200°C), and Veining (200-0°C). Minerals are listed on the y-axis, and their stability ranges are indicated by horizontal bars of different colors.</p> <ul style="list-style-type: none"> <li><b>Skarnification (600-400°C):</b> Garnet, Diopside, Wollastonite, Idocrase.</li> <li><b>Retrogression (400-200°C):</b> Actinolite, Epidote, Pumpellyite, Prehnite, Datolite, Chlorite, Calcite, Quartz.</li> <li><b>Veining (200-0°C):</b> Magnetite, Hematite, Pyrite, Chalcopyrite, Bornite, Arsenopyrite, Sphalerite, (Co,Ni,Fe) AsS, Marcasite, Gold, Au-Ag tellurides.</li> </ul>

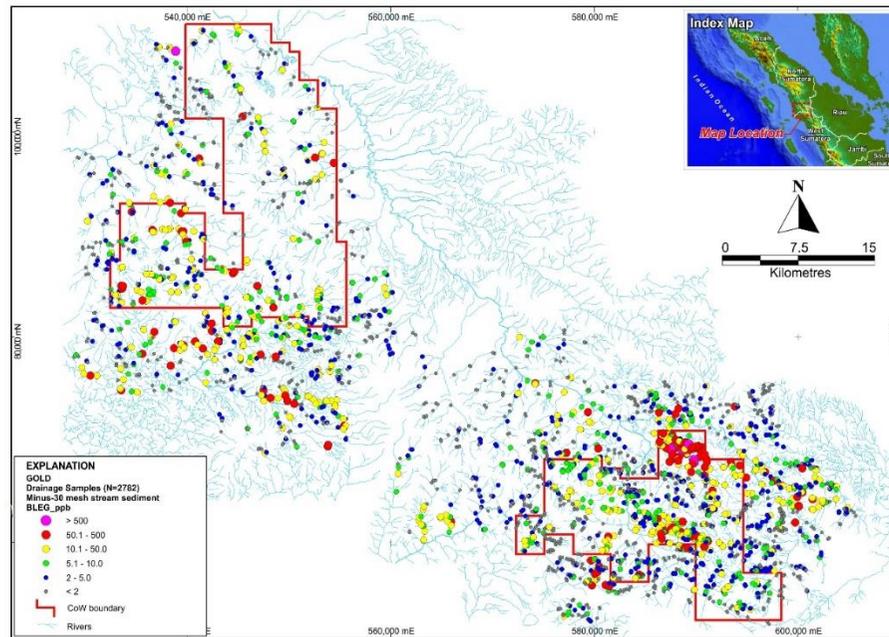
## Criteria

## JORC Code Explanation

## Commentary

**PT Sorikmas Mining (1998-2013):** Exploration work completed by PT Sorikmas Mining up until the shut-down of activities in late 2013 included:

- Regional drainage geochemical survey (Tambang Tinggi project area was highlighted by a large cluster of minus 30- mesh BLEG gold stream sediment anomalies >10 ppb Au over a 5-km wide drainage area within the NE corner of the South block); Airborne magnetics & radiometrics survey over the entire CoW;



- Geological mapping and selective grab rock sampling; highlighting high-grade gold and associated silver and copper at surface. Huta Pungkut (skarn) – 6 samples ranging 15.9-51.0 g/t Au, up to 108 g/t Ag & 18.5% Tambang Hitam (epithermal vein) – 12 samples ranging 16.7-166 g/t Au, up to 635 g/t Ag & 15.9% Cu; Tambang Ubi (Dutch mine *Pagaran Siayu*)(skarn) – 6 samples ranging 16.8-39.4 g/t Au, up to 88 g/t Ag & 4.8% Cu; Tambang Tinggi (greisen & quartz-sulphide veins) – 22 samples ranging 15.0-62.0 g/t Au, up to 490 g/t Ag & 4.7% Cu.

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		<ul style="list-style-type: none"> <li>• Grid-based gold-soil geochemical sampling (gold, silver, copper, lead, zinc, molybdenum) covering about a 3-km x 1.5-km area on a 100m x 50-100m grid and comprising about 1170 unsieved C-horizon soil-saprolite samples ;</li> <li>• Scout diamond drilling: 634-m in 5 holes at Tambang Tinggi (2005), 856-m in 7 holes at Tambang Hitam (2005), <b>1153-m in 11 holes at Tambang Ubi (2006-07)</b>, and 3362-m in 15 holes at Tambang Tinggi (2011).</li> <li>• <b>Tambang Ubi (formerly Pagaran Siayu):</b> Sampling of underground workings was conducted in 2006 in access drives that were refurbished and deemed safe for entry. Channel sampling of across some of the access drives returned encouraging high grade gold values in association with copper mineralisation including four samples ranging from 7.43-20.55 g/t Au and 0.49-1.29% Cu. Scout drilling produced several narrow gold-copper intercepts including 0.5m at 13.5 g/t Au &amp; 0.67% Cu from 43.5m in TUDD001, 4.0m at 3.37 g/t Au &amp; 0.12% Cu from 22.0m in TUDD002, 10.0m at 1.04 g/t Au &amp; 0.09% Cu from 121.0m in TUDD005, 2.0m at 4.15 g/t Au &amp; 0.27% Cu from 67.0m in TUDD008, 5.0m at 1.91 g/t Au &amp; 0.19% Cu from 99.0m and 4.0m at 2.87 g/t Au &amp; 0.22% Cu from 114.0m in TUDD011.</li> </ul>

