

## Trans-Siberian Gold plc

("TSG", the "Company", or the "Group")

### Mineral Resource Estimate – Asacha Gold Mine

Trans-Siberian Gold plc (TSG.LN), a low cost, high grade gold producer announces an update of the Mineral Resource Estimate for the Asacha Gold Mine in Kamchatka, Far East Russia.

#### Highlights:

- Total Mineral Resource Estimate (Measured + Indicated + Inferred) has increased<sup>1</sup> to 645,000 oz Au as at 31 December 2020
- +43% increase in Asacha's overall gold resource inventory
- +61% of Mineral Resources are in Measured & Indicated category
- Vein 25 remains open at depth and to the north
- Exploration campaign remains ongoing

The Mineral Resource Estimate ('MRE') for the Asacha Gold Mine was updated by SRK Consulting Russia Ltd ('SRK') with an effective date of 31 December 2020 and reported in accordance with the standards of the JORC Code (2012).

The purpose of the updated MRE is to incorporate new data available from exploration drilling and mining development, and to account for mining depletion. The results of 99 drillholes for 30,524m and 1,338 channel samples over 3,034m were added to the database since the previous resource estimation. The modelling approach and parameters used by SRK for the new MRE model were generally similar to the approach and parameters used for preparing the previous MRE<sup>2</sup>. SRK is currently finalising its full report which will be made available on the Company's website in due course.

#### Eugene Antonov, Chief Operating Officer of TSG, commented:

*"I am delighted to report a significant upgrade to the resources at our flagship Asacha Gold Mine following a successful drilling campaign. Our resource base has increased significantly in quantity and confidence category levels extending the life of mine at Asacha."*

#### Mineral Resource Estimate

The Mineral Resource Estimate, classified according to the guidelines of the JORC Code (2012), for the Main and East Zones of the Asacha Gold Mine as at 31 December 2020 is shown in the following table:

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<sup>1</sup> The Group's previous Mineral Resource Estimate reported as at 30 April 2020 was announced by the Company on 16 June 2020

<sup>2</sup> The Asacha Mineral Resource Estimate at 30 April 2020 report prepared by SRK, is available for download on the Company's website at: [www.trans-siberiangold.com](http://www.trans-siberiangold.com)

**Table 1: Asacha Mineral Resource Estimate as at 31 December 2020, reported using a dual cut-off of 4 g/t Au and 4 m \* g/t Au (product of thickness and Au grade)**

Classification	Zone	Tonnes	Au g/t	Ag g/t	Au (koz)	Ag (koz)	Au (kg)	Ag (kg)
Measured	Main	136,000	13	44	58	194	1,800	6,000
Measured	V25S	14,000	41	49	19	22	600	700
<i>MEASURED</i>	<i>TOTAL</i>	<i>150,000</i>	<i>16</i>	<i>45</i>	<i>76</i>	<i>216</i>	<i>2,400</i>	<i>6,700</i>
Indicated	Main	100,000	11	44	35	142	1,100	4,400
Indicated	North	54,000	11	19	20	32	600	1,000
Indicated	V25N	486,000	19	107	291	1,672	9,100	52,000
Indicated	V25S	27,000	31	44	27	38	800	1,200
Indicated	V7 V8	38,000	25	58	30	70	900	2,200
<i>INDICATED</i>	<i>TOTAL</i>	<i>704,000</i>	<i>18</i>	<i>86</i>	<i>403</i>	<i>1,955</i>	<i>12,500</i>	<i>60,800</i>
<i>MEASURED AND INDICATED</i>	<i>TOTAL</i>	<i>862,000</i>	<i>17</i>	<i>79</i>	<i>479</i>	<i>2,171</i>	<i>14,900</i>	<i>67,500</i>
Inferred	Main	21,000	8	36	6	25	200	800
Inferred	V25N	122,000	14	119	54	468	1,700	14,600
Inferred	V25S	88,000	14	53	41	149	1,300	4,600
Inferred	V7 V8	101,000	20	37	66	120	2,000	3,700
<i>INFERRED</i>	<i>TOTAL</i>	<i>333,000</i>	<i>16</i>	<i>71</i>	<i>166</i>	<i>762</i>	<i>5,200</i>	<i>23,700</i>

Notes: Resources are reported after mining depletion

Tonnage, grade and metal content have been rounded to reflect an appropriate level of precision

## Changes from the Previous Mineral Resource Estimate

### Main Zone

The previous Mineral Resource Estimate for the Main Zone had a total of 89,000 oz in Measured and Inferred. Although mining depletion in the last eight months of 2020 is estimated to have removed 25,000 t of in situ mineralisation, at 11 g/t for 9,000 oz Au, after this depletion the Main Zone Measured and Indicated in the new estimate now contains 93,000 oz of Au. The increase has occurred because the new channel samples included in the update are, on average, higher grade than the block estimates in the corresponding areas of the previous model. Reconciliation information from 2020 provides confidence that the grades of the channel samples can be relied on for Mineral Resource estimation (refer to last point of Section 3 in the JORC Code Reporting Criteria Appendix included with this memorandum).

None of the new core drilling information affects the Mineral Resource estimate for the Main Zone.

### East Zone Vein 25 North

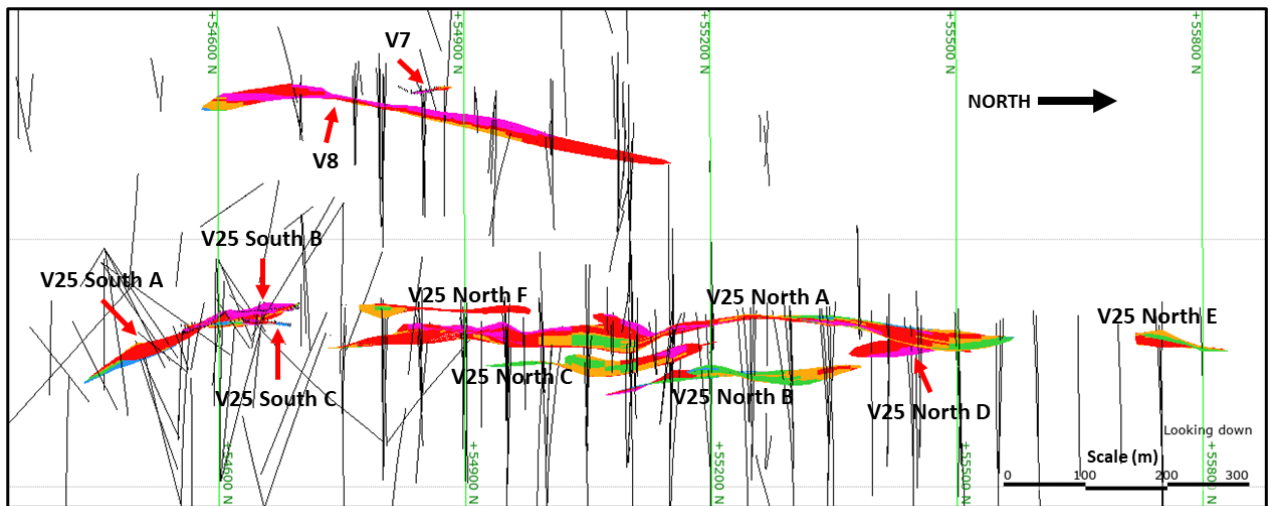
From this estimation update, the major increase to the Asacha Mineral Resources comes from the extension of the main Vein 25 North domain (V25 North A, shown in Figure 2), up to 100m down dip, and up to 200m along strike to the north (Figure 3).

The wireframe interpretation of this domain omits some intersections that were included in the interpretation Vein 25 North for the previous estimate. Although these intersections have been interpreted as the continuation of the same Vein 25 North mineralised vein, the omitted intersections occur at the edge of the structure, and as clusters with average Au grades consistently less than the nominal 4 g/t modelling threshold. In the new model, SRK trimmed these low grade edges from the estimation domain.

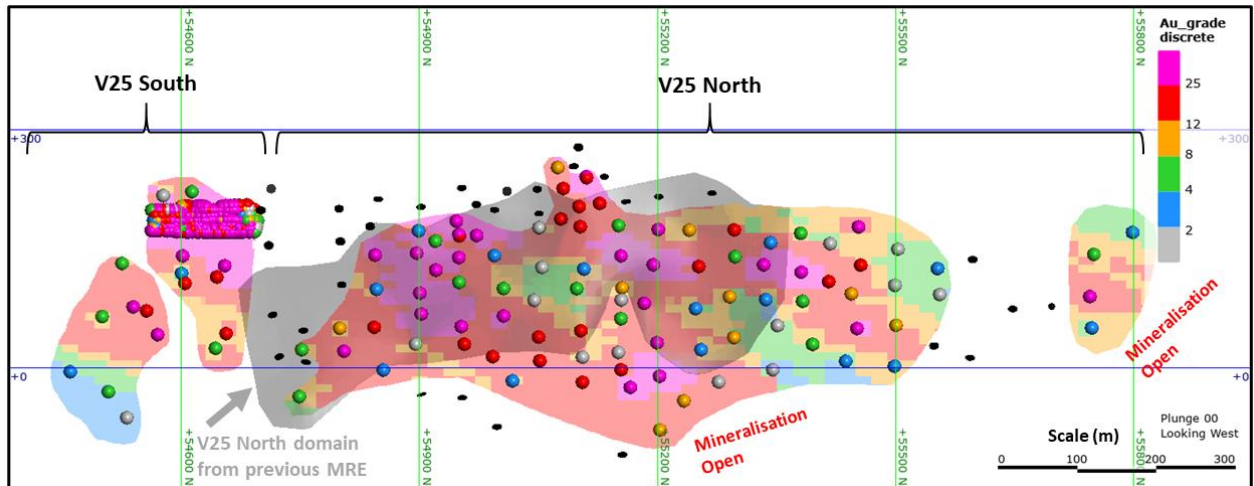
The new drilling shows a 150m gap in the Vein 25 North mineralisation, from approximately 55570N to 55720N. North of this gap, SRK modelled a mineralised domain (V25 North E) based on four holes from TSG's two northernmost lines of drilling. Therefore, potential remains for Vein 25 to continue northward along strike.

The infill and extension drilling of Vein 25 North has also defined two minor domains (V25 North B and D), approximately parallel and to the east of the main mineralisation. These secondary domains were not modelled as part of the previous Mineral Resource estimate.

**Figure 1: Plan view of East Zone mineralisation domains**



**Figure 2: Long section view (looking west) of Vein 25 block model (for clarity, parallel secondary veins are not shown), and mineralised intersections, coloured by grade. Black points show positions where either the logged Vein 25 North mineralisation was too weak to be included in the estimation domain, or the projected position of Vein 25 North mineralisation for holes that did not have a logged mineralisation intersection. The Vein 25 North domain from the previous Mineral Resource Estimate is shown for comparison. The topographic surface approximately corresponds to the 300m elevation line.**



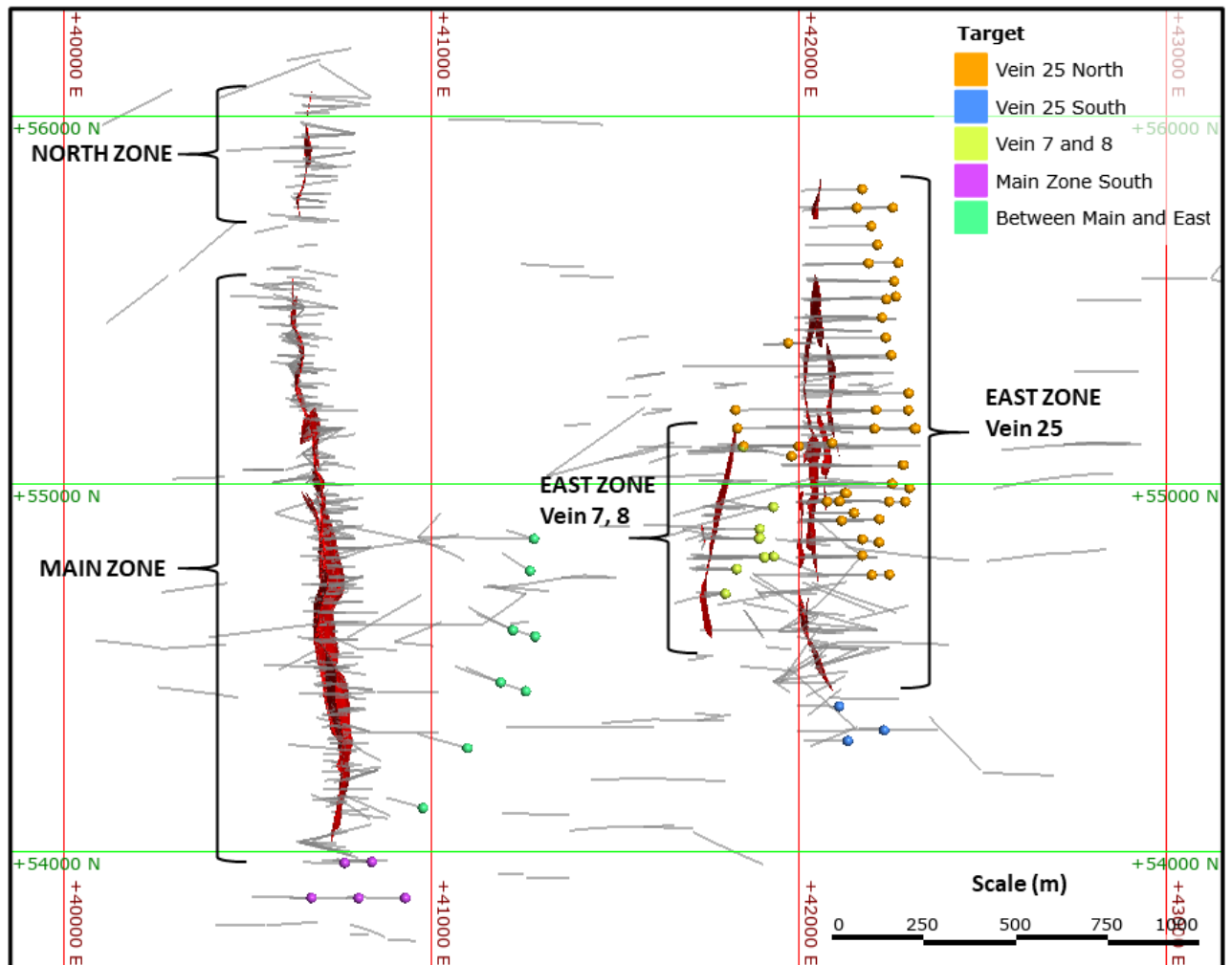
#### East Zone Vein 25 South

The new drilling has not extended the Vein 25 South domains, but the new channel sampling within these domains has significantly increased the average grade, and defined a small new domain (Vein 25 South C). The previous model contained 93,000 oz in Indicated and Inferred (no Measured component), the new model (after mining depletion) has 87,000 oz in Measured, Indicated and Inferred. Vein 25 South mining depletion in 2020 is estimated to be 16,000 t of in situ mineralisation, at 40 g/t, for 21,000 oz Au.

#### East Zone Vein 7 and 8

The infill drilling in the vicinity of these veins has enabled the previous interpretation of “Vein 8” and “Vein 8B” domains to be combined into one larger and higher grade “Vein 8” domain. The new Vein 8 domain also includes a substantial component of Indicated Mineral Resources, whereas the two Vein 8 domains in the previous model were both Inferred. The Vein 7 interpretation has not changed from the previous model.

**Figure 3. Plan view of drill hole traces in Asacha database (channel samples not shown), with new holes (since 30/4/20) highlighted by collar markers, coloured according to vein target. Estimation domains from the 31/12/20 Mineral Resource model are shown in red.**



## Exploration Plans

The Group continues to conduct its drilling campaigns. Vein 25 remains open at depth and to the north, while its southern extension has not yet been drilled.

TSG has identified new potential exploration targets at and near the Asacha deposit based on the geophysical anomalies identified in the course of an aeromagnetic survey completed in Q4 2020.

ENDS

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**About TSG**

TSG is focused on low cost, high grade mining operations and stable gold production from its 100% owned Asacha Gold Mine in Far East Russia. The Group also holds the licence for the development and exploration of the Rodnikova deposit, one of the largest gold fields in South Kamchatka.

Additional information is available from the Company's website: [www.trans-siberiangold.com](http://www.trans-siberiangold.com)

**Competent Person**

The updated Mineral Resource Estimate was prepared by Mr Robin Simpson, a full-time employee of SRK Consulting (Russia) Ltd, as a Principal Consultant (Resource Geology). He has consented to the inclusion of the matters in this announcement based on his information in the form and context in which it appears.

The information in this release that relates to the updated Mineral Resource Estimate is based on, and fairly represents, information, which has been compiled by Mr. Simpson. He visited site in February 2021.

Mr Simpson is a Member of the Australian Institute of Geoscientists (AIG), and has sufficient experience 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 by the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Accordingly, Mr. Simpson is a Competent Person as defined by the the AIM Guidance Note on Mining and Oil & Gas Companies dated June 2009.

**Technical Glossary**

"Au" the chemical symbol of gold

"Ag" the chemical symbol of silver

"cut-off grade"	the lowest grade, or quality, of mineralised material that qualifies as economically mineable and available in a given deposit. May be defined on the basis of economic evaluation, or on physical or chemical attributes that define an acceptable product specification.
"Exploration Target"	is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade (or quality), relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource.
"g/t"	grams per tonne
"Indicated Mineral Resource"	a part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed
"Inferred Mineral Resource"	a part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.
"JORC Code"	the code for reporting of the Australasian Joint Ore Reserves Committee, which is sponsored by the Australian mining industry and its professional organisations. The code is widely accepted as a standard for professional reporting purposes for reporting of mineral resources and ore reserves.
"Measured Mineral Resource"	A part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and evaluation of the economic viability of the deposit.
"Mineral Resource"	a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
"Mineralisation"	the process or processes by which a mineral is introduced into a rock, resulting in a valuable or potentially valuable deposit. It is a general term, incorporating various types; e.g., fissure filling, impregnation, and replacement.

### **Market Abuse Regulations**

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014 ('MAR'). Upon the publication of this announcement via Regulatory Information Service ('RIS'), this inside information is now considered to be in the public domain.

### **Disclaimer**

This announcement contains "forward-looking statements" - that is, statements related to future, not past, events. In this context, forward-looking statements often address our expected future business and financial performance, and often contain words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "should" or "will." Forward-looking statements by their nature address matters that are, to different degrees, uncertain. For us, uncertainties arise from the behaviour of financial and metals markets, fluctuations in interest and/or exchange rates and metal prices; and from numerous other matters of national, regional and global scale, including those of a political, economic, business, competitive or regulatory nature. These uncertainties may cause our actual future results to be materially different than those expressed in our forward-looking statements.



**Appendix: JORC Code Table 1 Reporting Criteria**

**Section 1 Sampling Techniques and Data**

Criteria	Commentary
<p><b>Sampling techniques</b></p>	<ul style="list-style-type: none"> <li>• The Asacha Mineral Resource estimate is based on diamond core drill sampling, as well as surface channel sampling and underground face samples.</li> <li>• Diamond drill core sampling has been carried out by three different companies: Central Kamchatka Geological Expedition (CKGE) in 1986-1990, TVX Gold Inc. (TVX) in 1994-1997, and TSG since 2004. Sampling is on a nominal 1m length, but sample intervals adhere to geological contacts, particularly around logged vein intercepts. CKGE analysed full core samples, while TVX and TSG submitted half core samples for analysis, with the exception of the 2012 to 2017 campaigns, when TSG submitted whole core samples for analysis, because of the difficulty of accurately sawing NQ core in half. From 2019, TSG increased the drilling diameter to HQ and reverted to half core. The Asacha database contains 632 core holes (120,131m).</li> <li>• Surface channel samples were collected by CKGE between 1986 and 1990. Trenches were excavated down to bedrock along the length of the vein exposure, and samples collected by rock-chipping along lines perpendicular to the vein. Sample intervals honour vein boundaries or are of nominal 1m length. Lines average 3m apart. The Asacha database contains 257 trenches with 3,255m of sampling.</li> <li>• Underground samples are collected from development drives, raises and walls by manual chipping along lines. It is reported that earlier samples were collected from a channel of nominal 5cm depth and 10cm width. Sampling is to geological boundaries. The Asacha database contains 7,070 channel sampling profiles with 19,831m of sampling</li> <li>• The trenching information, and most of the information from the CKGE and TVX campaigns, is not Material to the current Mineral Resource estimation, because the areas informed by these samples are now generally mined out or sterilised.</li> </ul>
<p><b>Drilling techniques</b></p>	<ul style="list-style-type: none"> <li>• All drill sampling is by diamond coring.</li> <li>• Early diamond drill core sampling (1986-1990) by</li> </ul>

Criteria	Commentary
	<p>CKGE used conventional (non-wireline) single tube coring equipment. Core diameter ranged from 29 to 56mm. After logging, full core samples were submitted for analysis. No photographs were taken.</p> <ul style="list-style-type: none"> <li>• Diamond drilling between 1994 and 1997 by TVX used wireline twin tube equipment to retrieve samples of 47.6mm diameter.</li> <li>• Drilling by TSG in 2004-2005 was done by AtlasCopco (Diamec-26) and Boart Longyear (LM55 and LF70) rigs. Drilling from 2012 to 2016 was done by a Boart Longyear LM75 rig. NQ diameter was used for these TSG campaigns.</li> <li>• In 2017, the drilling was carried out by contractor Kolymageo using a Boart Longyear LF90 rig. All drilling was by wireline, using double tube barrels, and was of NQ diameter.</li> <li>• From 2019, the contractor used was a Russian Drilling Company using a Boart Longyear LF90 rig. A Boart Longyear LF70 rig was also used in 2020. Drill core diameters were mainly HQ, with the exception of three NQ drill holes (C1915 on QV25 and C1916 and C1917 on QV18) at the start of the 2019 campaign.</li> <li>• Core is not orientated.</li> </ul>
<p><b>Drill sample recovery</b></p>	<ul style="list-style-type: none"> <li>• TSG monitors core recovery during drilling by measuring the length of the core, versus the length of each drilling run. In general, for all holes added from the TSG campaigns, the core yield is above 95%.</li> <li>• Particular attention is paid to core output over mineralised intervals. In addition to length measurements, samples are weighed and compared to theoretical weights (based on length), and significant differences are investigated.</li> <li>• The contractor is paid for metres drilled, but, to ensure sample quality, the contract stipulates core recovery of not less than 95% within the mineralised zones and not less than 85% in the host rock.</li> <li>• The sample recovery is affected by the type of structure and alteration of the zone intercepted. Grades were much lower than expected from the underground drilling campaign carried out in 2017, and many of these holes were excluded from the database used for estimation. The campaign targeted high grade shoots where the veins are locally thickened and argillic alteration is prevalent. TSG</li> </ul>

Criteria	Commentary
	<p>observed from core that much of the mineralisation appeared to have been washed out by the drilling process. To alleviate this problem, the drilling diameter was increased from NQ to HQ for the 2019 drilling campaign onwards. The larger diameter also produces a more representative sample from the high grade, narrow vein mineralisation.</p> <ul style="list-style-type: none"> <li>• The issue of drill sample recovery was given considerable attention in reports by previous authors, and was considered a possible source of bias, particularly for the older drilling campaigns (before the commencement of mine production in 2011). This issue remains unresolvable, but the risk of any gross bias due to core loss has diminished with ongoing production and sampling from the mine, and recovery problems are not considered a source of significant risk to the current Mineral Resource estimate.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• Geological logging consists primarily of identification of vein intersections.</li> <li>• The logging is carried out on 1m intervals on pre-printed sheets for the hole length of the core. The following data is logged: core recovery, RQD, hardness (on Mohs hardness scale), mineral assemblages, angle of veins, number of veins, percentage of veins. All core is photographed (wet).</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• CKGE samples were prepared at the Geological Survey Laboratory at Milkovo, Kamchatka.</li> <li>• TVX and TSG (before 2016) core samples were prepared at KamchatGeologia Laboratories in Petropavlovsk, Kamchatka.</li> <li>• TSG underground channel samples, and TSG core samples since 2016, were prepared at the TSG on-site laboratory.</li> <li>• From 2012 to 2017, whole core was sampled due to the risk of sample loss during sawing of NQ diameter core. From 2019 onwards, HQ half-core was cut with a core saw.</li> <li>• Samples are collected from mineralised intervals, and 3m either side of the logged mineralisation.</li> <li>• The sample preparation approach at the TSG site laboratory (for both core and underground channel samples) can be summarised as: <ul style="list-style-type: none"> <li>○ Drying at 105°C;</li> <li>○ Jaw crush to 3mm;</li> </ul> </li> </ul>

Criteria	Commentary
	<ul style="list-style-type: none"> <li>○ Sample reduction to two 0.5kg samples, using rotary splitter; and</li> <li>○ One 0.5kg sample pulverised to 90% passing 75µm, using a continuous ring mill, the other 0.5kg sample retained as a reference sample.</li> <li>● TSG's quality controls on the sample preparation include: <ul style="list-style-type: none"> <li>○ The continuous air mill is air-cleaned between every sample, and cleaned with barren flush material every fifth sample;</li> <li>○ Blanks are inserted into the sample stream at a rate of approximately 5% compared to primary samples;</li> <li>○ Periodic particle size checks; and</li> <li>○ Analysis of coarse duplicates, by same laboratory, at a rate of approximately 3% compared to primary samples.</li> </ul> </li> <li>● The sample preparation approaches used for the pre-2016 drilling campaigns were generally similar to the protocols described above, but these approaches are not described in further detail here, because few of these early samples inform the current Mineral Resource estimate.</li> <li>● The Competent Person has reviewed the results from TSG's quality control samples. Although the blanks and coarse duplicates produce some anomalous results, these problems are not frequent or significant enough to imply a Material risk to confidence in the Mineral Resource estimate.</li> <li>● The Competent Person inspected the on-site laboratory during 2021 and found it to be clean, well-equipped and diligently operated.</li> <li>● In the opinion of the Competent Person, the sample preparation approach, and the sample sizes used, are appropriate for the style of mineralisation and grain size of material being sampled.</li> </ul>
<p><b>Quality of assay data and laboratory tests</b></p>	<ul style="list-style-type: none"> <li>● All CKGE diamond drill samples were analysed for Au and Ag by the Geological Survey Laboratory in Milkovo, Kamchatka. Samples were first analysed for Au by X-ray spectral analysis, then all samples with concentrations above detection also analysed by Fire Assay (50g charge) with gravimetric finish.</li> <li>● All TVX drill samples were analysed for Au and Ag by KamchatGeologia Laboratory in Petropavlovsk,</li> </ul>

Criteria	Commentary
	<p>Kamchatka, using the same procedure as for CKGE.</p> <ul style="list-style-type: none"> <li>• TSG samples were also analysed for Au and Ag by 50g Fire Assay, with gravimetric finish. TSG underground channel samples, and core samples from 2016 onwards, were analysed at the TSG on-site laboratory. Before 2016, analyses of core samples were done at the KamchatGeologia Laboratory. Current practise is to carry out two 50g Fire Assays from each sample pulp, and report the average.</li> <li>• The Fire Assay technique is appropriate for the style of mineralisation at Asacha, and the purpose of obtaining grade information to support Mineral Resource estimation.</li> <li>• In November 2019, TSG implemented an improved system of quality control procedures for the Asacha core samples. The range of sample types used (certified reference materials, blanks, pulp duplicates, coarse duplicates, and check assays on pulps by external laboratory IRGIREDMET), and the frequency of quality control insertion relative to the primary core samples (approximately 5% for each main type) is in accordance with best international practices.</li> <li>• SRK has reviewed the results from the quality control samples, and concludes that acceptable levels of accuracy and precision have been established.</li> <li>• SRK's overall assessment of the pre-2019 quality control information available for Asacha is that the work was sporadic, results were not consistently documented, and the scope and frequency of the earlier quality control sampling did not meet current international best practices. However, the risks posed by these quality control deficiencies to the confidence in the database have diminished since mine production began in 2011. Information from production (discussed in Section 3 of this Table, below) provides an alternative and stronger verification check on the database. Furthermore, much of the pre-2019 information only informs portions of the resource block model that coded as mine out or sterilised, and therefore do not contribute to the Mineral Resource estimate.</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li>• SRK, and the consultants who prepared previous Mineral Resource estimates, have viewed selections of mineralised intersections. Detailed independent verification of significant intersections is not</li> </ul>

Criteria	Commentary
	<p>considered critical though, given the status of Asacha as a producing mine, and that no individual intersections are Material to the overall Mineral Resource estimate.</p> <ul style="list-style-type: none"> <li>• Designated twin drilling has not been carried out, but the addition of successive generations of drilling which in-fills, and at times repeats, earlier holes, has not shown any major unexpected (i.e. not explicable by inherent variability) differences. In general holes separated by short distances are more similar than holes separated by larger distances. In addition, the grades indicated by diamond drilling are largely confirmed by channel sampling and mine production.</li> <li>• All assay data from the laboratories is provided by email and are also printed out.</li> <li>• No adjustment was made to Au and Ag grades in the assay table of the database.</li> </ul>
<p>Location of data points</p>	<ul style="list-style-type: none"> <li>• The survey datum is not disclosed, because this information is restricted for Kamchatka. TVX and TSG holes have been surveyed by the same independent survey contractor (KamchatTISIZ), with a reported accuracy of 3cm. Based on information in previous reports, the CKGE holes were originally surveyed in a different local coordinate system, but KamchatTISIZ were able to resurvey 41 of the original CKGE holes and used these to establish a transformation to migrate all CKGE hole coordinates into the new coordinate system.</li> <li>• Downhole surveying of CKGE reportedly used a MIR36 survey instrument at 20m intervals. TVX era holes were surveyed with a WeINav magnetic single shot instrument, and TSG holes with a Reflex magnetic single shot at intervals between 10 and 60m. No natural sources of magnetic interference are expected.</li> <li>• Since commencement of mining, surveying of development openings is carried out by the registered mine surveyor. Geology staff locate channel collar and path relative to the surveyed outline. The overall accuracy of underground channel sample locations is estimated to usually be within +/- 25cm.</li> <li>• TSG measure the drill hole collar positions using tachymeter Nikon Nivo 5 MW. Downhole survey measurements were done using the REFLEX EZ-SHOT survey instrument. On average surveys were</li> </ul>

Criteria	Commentary
	<p>taken every 20m. Measurements are made at regular intervals whilst drilling to track the orientation and final measurements for the database are made when the hole is complete. The local magnetic declination is used to correct the azimuths measured.</p> <ul style="list-style-type: none"> <li>• Since November 2019, at the start of the hole, one measurement is taken after the casing and a second one 50 m deeper. If there is a deviation of more than 2 degrees, then the drillers restart a new hole. Subsequent surveys are taken every 20 meters on average.</li> <li>• The collar locations are marked by approximately 2m metal tubes, hammered in vertically, with a metal identification tag. The tag includes the hole ID, drill hole depth and date. These location markers are robust to interference from the local brown bears.</li> <li>• The topography used for preparing the Mineral Resource estimate was based on a combination of two surveys: a 1:2000 scale instrumental survey made by Geoseis LLC in 2002, and a 1:10,000 scale survey by KamchatTISIZ JSC in 1997 and digitized in 2004 by Geoseis.</li> <li>• The grid system used is Pulkovo 1942, Gauss-Kruger projection, Area 27.</li> <li>• The quality of the topographic information is adequate.</li> </ul>
<p><b>Data spacing and distribution</b></p>	<ul style="list-style-type: none"> <li>• Surface and underground channels are spaced at approximately 3m along drives.</li> <li>• Diamond drill holes vary in spacing. Most of the remaining Main Zone body has been drill out to 20m to 30m intersections spacing. The deeper edges of the drilling coverage have gaps of up to 100m between intersections.</li> <li>• The North Zone has been drilled to approximately 50m intersection spacing.</li> <li>• Vein 25 has mostly been drilled out to approximately 50m intersection spacing. In some parts of the interpreted Vein 25 mineralised domains, the spacing between intersections is up to 100m.</li> <li>• Intersection spacing in Vein 8 is irregular, and ranges from 30m to 150m.</li> </ul>
<p><b>Orientation of data in relation to geological</b></p>	<ul style="list-style-type: none"> <li>• The Asacha vein domains are sub-vertical and north-south striking. Diamond drill data from surface is</li> </ul>

Criteria	Commentary
structure	<p>generally angled to intersect the veins at moderate angles. Holes are drilled from both east and west. Several intersections at acute angles have been excluded from estimation. The uncertainty in the lateral location of veins increases with depth below surface, as holes become longer and intersection angles more acute.</p>
Sample security	<ul style="list-style-type: none"> <li>• Underground channel and drill core samples are processed and assayed on site.</li> <li>• The site is remote, and all handling and transport of bagged samples have been undertaken by company personnel.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• Data quality has been discussed in detail by several previous authors. Many of the earlier reviews relate to information from areas of the deposit that are now mostly mined out or sterilised, and therefore these earlier reviews are of limited relevance to the current Mineral Resource estimate.</li> <li>• The data reviews most relevant to the current Mineral Resource estimate were carried out as part of the two previous Mineral Resource estimation updates. Results from these reviews are described in the reports from the updates (by SRK in June 2020, and Seequent in December 2019). The overall conclusions from the reviews by SRK and Seequent is that TSG's databases are sufficient to support Mineral Resource estimation, including classification of some Mineral Resources in the Indicated and Measured categories.</li> <li>• Since 2019, TSG has retained the services of a consultant geologist, Mr Jacquelin Gauthier, P.Geo. Mr Gauthier's role includes making recommendations to align TSG's data collection protocols with international best practises, and his reviews led to the implementation of the current sampling quality control program.</li> </ul>



Section 2 Reporting of Exploration Results

Criteria	Commentary
<p><b>Mineral tenement and land tenure status</b></p>	<ul style="list-style-type: none"> <li>• TSG operates on the basis of the license PTR11626BE dated 07.08.2003 with amendments dated 06.04.2016 with the aim of exploration and mining, including the related processing and use of waste. The license area is 24 km<sup>2</sup>. The expiry date of the license is 31.12.2024.</li> <li>• SRK knows of no impediments to the continuing operation of mining in this license area.</li> </ul>
<p><b>Exploration done by other parties</b></p>	<ul style="list-style-type: none"> <li>• The Asacha deposit was discovered in 1973, and exploration work was undertaken by the Central Kamchatka Geological Expedition (CKGE) between 1986 and 1990. In 1990 a mining licence was granted to Trevozhnoe Zarevo (TZ), and in 1994 TVX Gold Inc. (TVX) acquired a 50% stake in the company. Exploration work was carried out by TVX between 1996 and 1998. In 2001 TSG acquired TVX's 50% stake in TZ, and increased this to 90% in 2002. TSG acquired the remaining 10% interest in TZ in two tranches; 2007 and 2010. Mine development on the Main Zone commenced in 2008, and mining (extraction and stoping) started in the middle of 2011.</li> </ul>
<p><b>Geology</b></p>	<ul style="list-style-type: none"> <li>• The Asacha gold deposit is located in the south-east region of the Kamchatka Peninsula, far east Russia. The Peninsula is a Tertiary volcanic arc that formed due to the subduction of the north-westerly moving Pacific plate. The morphology comprises a series of NNE arc-parallel structures defined by the alignment of stratovolcanoes, many of which are still active. A number of transverse faults offset the arc-parallel structures, and in places these have been recognized as hosts for mineralisation.</li> <li>• Although several parallel vein systems have been identified in the area, only two systems have been explored in detail. The first of them is referred to as the Main Zone and it has been defined over strike length of approximately 1500m and to depth of approximately 300m in places. The second is the East Zone, approximately 1000m east of the Main zone, and with a similar defined strike length to the Main Zone, but with veins that are generally narrower and less continuous. The veins in both zones are steeply dipping and in places can be up to several meters thick.</li> </ul>

Criteria	Commentary
	<ul style="list-style-type: none"> <li>The Asacha deposit is classified as a low-sulphidation quartz-adularia-sericite Au-Ag epithermal vein system. The mineralisation is hosted with N-S trending fault hosted structures. High grade zones are usually associated with sulphide rich bands (referred to as Ginguro bands). The Asacha ore minerals are native gold and silver in the form of polybasite and pyrargyrite. The main gangue minerals include quartz and adularia, with significantly smaller quantities of hydromicas, kaolinite, montmorillonite, iron and manganese oxides and chalcophile minerals.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>The Mineral Resource estimation reported here makes details of individual drill holes and trenches immaterial, therefore these results are excluded from this report.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>Individual Exploration Results are not Material and are excluded from this report.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>Individual Exploration Results are not Material and are excluded from this report.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>The report preceding this appendix includes a plan view of the estimation domains and the drill hole traces, with the new drill holes (since 30/4/20) highlighted.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>Individual Exploration Results are not Material and are excluded from this report.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>The results from a hydro-geological study which was carried out in 2016-2017 predicted that water inflows to the 150m, 100m and 50m levels at 1 587 m<sup>3</sup>/hour, 2 614 m<sup>3</sup>/hr and 3640 m<sup>3</sup>/hr. This affects the northern part of the Main Zone under the Semeyny stream and has since been removed from the Mineral Resource due to the ground conditions.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>TSG's exploration plan for Asacha in 2021 includes 24,000m of core drilling from surface, and 7,000m of core drilling from underground. The surface drilling targets are several hundred metres west, southwest and south of the Main Zone mineralisation, and several hundred metres east and southeast of the Vein 25 mineralisation. The underground core drilling will aim to upgrade the currently Inferred Mineral Resources down dip of the Main Zone</li> </ul>

Criteria	Commentary
	mineralisation, and to upgrade the Inferred component of the Vein 25 South mineralisation. These plans will be reviewed during 2021, based on the results obtained, and based on further analysis of that updated Mineral Resource model.

### Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>• Drilling data is stored in a Microsoft Access database. Assay results are received electronically, whilst other data is entered manually.</li> <li>• Data for use in estimates was provided as Microsoft Excel files.</li> <li>• SRK validated data using the internal consistency checks in Leapfrog software. Visual checking was also used to detect any anomalous hole collar locations, hole paths, inconsistent geology etc.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>• SRK's Competent Person visited site on February 10<sup>th</sup> to 11<sup>th</sup> 2021. The site visit included inspection of: <ul style="list-style-type: none"> <li>○ Surface drilling in progress.</li> <li>○ A selection of mineralised core intersections</li> <li>○ Core logging and core storage facilities;</li> <li>○ The TSG laboratory sample preparation and analysis facilities; and</li> <li>○ Vein 25 underground workings.</li> </ul> </li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>• The geological interpretation from TSG was provided to SRK in the form of a table of coded vein intersections. SRK used this in interpretation, in combination with the assay information, to guide construction of the 3D model of the mineralised structures.</li> <li>• Veins are typically banded accumulations of quartz, adularia, chalcedony, saccharoidal quartz, carbonate and ginguero (smokey black bands of fine grained mixed base metal sulphides). The banded habit of the veining suggests a typical cyclic crack-seal formation mechanism. The veins generally display hard contacts with the surrounding host rock but, in some areas, the mineralisation extends as stockworks into the host rock within the hanging wall and footwall and also within clayey-brecciated</li> </ul>

Criteria	Commentary
	<p>zones. In this situation a nominal threshold of 4 g/t Au is used for defining the limits of the mineralised contacts.</p> <ul style="list-style-type: none"> <li>• The vein system at Asacha is comprised of several main veins with smaller splay structures. The confidence in interpretation of the main structures is generally high, although correlation may be ambiguous around splays and towards the margins of veins. In general, vein continuity was only assumed where intercepts could be confidently correlated.</li> <li>• In some locations, alternative correlations of the vein mineralisation could lead to small to moderate differences in estimates of grade and tonnage locally, but such alternative interpretations are unlikely to materially affect the overall Mineral Resource estimate.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>• The defined extent of mineralisation on the Main Asacha vein system is a little over 1500m in strike and up to 300m in vertical extent. The largest individual vein defined within this system (QV1) has strike length of 1400m and outcrops at surface. Commencing about 150m further north of the Main Zone, and along strike, is a single mineralised structure (North Zone), with a strike length of 300m.</li> <li>• In the East Zone, mineralisation is defined over 1400m of strike extent. The main part of the Vein 25 North structure has a strike length of approximately 800m, and 300m of vertical extent.</li> <li>• Average vein thicknesses are generally in the range 0.5 to 1.5m.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>• Geometric modelling of vein structures was carried out using the implicit modelling software Leapfrog Geo. Modelling of Au and Ag grades was carried out for this update using Leapfrog Edge.</li> <li>• All veins are modelled in 2D using Ordinary Kriging.</li> <li>• Extreme values were controlled by two stages of capping: the first stage was on raw Au and Ag grades, during preparation of the intersection composites; the second stage of capping was based on metal accumulation (product of grade and thickness) and distance thresholds, applied to Au and Ag during block estimation. The appropriate thresholds were set per vein domain, and ranged from 50 g/t to 150 g/t for Au, and 75 g/t to 400 g/t for</li> </ul>

Criteria	Commentary
	<p>Ag. For the first stage of capping (and the accumulation threshold of the second stage), the thresholds we based primarily on analysis of subpopulations evident from histograms and log probability plots. For the second stage, the distance threshold was chosen from 3D review of the approximate dimensions of clusters of higher sample grades.</p> <ul style="list-style-type: none"> <li>• No estimates or assumptions were made regarding recovery of by-products.</li> <li>• No deleterious elements or non-grade variables of economic significance were estimated.</li> <li>• The spacing between intersections is variable for both the Main Zone and the East Zone. As a compromise, to find a reasonable block size relative to most of the various spacings, a parent block size of 10m (north) by 10m (elevation) was chosen for the Main Zone, and 20m (north) by 10m (elevation) was used for the East Zone.</li> <li>• Within the blocks estimated by Ordinary Kriging, the estimates were not further processed to account for likely selective mining units.</li> <li>• The elements were estimated independently, and no methods based on correlations (eg. Co-kriging) were employed.</li> <li>• The anisotropies of the variogram model and search neighbourhoods used for kriging were set according to the geological interpretation of steeply dipping veins, and a general grade trend of shallow north plunging within the veins. Vein contacts controlled the estimation as hard boundaries.</li> <li>• The model was validated visually and statistically, by comparing the block estimates against the composites, and against the input grade and lithology database. The model was also compared against polygonal estimates prepared by TSG, and against the previous (April 30<sup>th</sup>, 2020) Mineral Resource estimate. SRK is satisfied that differences from these other estimates can be explained and defended.</li> <li>• The use of reconciliation data to verify the model is covered in the “Discussion of relative accuracy/confidence” item below.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>• All tonnages are estimated on a dry basis.</li> </ul>

Criteria	Commentary
<p><b>Cut-off parameters</b></p>	<ul style="list-style-type: none"> <li>•</li> <li>• Mineral Resources are reported at a marginal cut-off grade of 4g/t Au. A minimum mining width of 1m also applies.</li> <li>• The input assumptions for calculating the cut-off are:               <ul style="list-style-type: none"> <li>○ Gold price USD 1400 / oz</li> <li>○ Royalty 6% (Main Zone) and 0.6% (East Zone)</li> <li>○ Refining Cost USD 0.14 g/t</li> <li>○ Processing Recovery 95%</li> <li>○ Mining Cost USD 74.5 / t (Main Zone) and USD 52.7 / t (East Zone)</li> <li>○ Processing Cost USD 35.6 / t (Main Zone) and USD 39.6 / t (East Zone)</li> <li>○ Dilution fraction of each tonne processed 36%</li> <li>○ Grade of dilution 0.6 g/t (Main Zone) and 0.2 g/t (East Zone)</li> </ul> </li> <li>• The cut-off is applied based only on Au grade; Ag is not considered.</li> </ul>
<p><b>Mining factors or assumptions</b></p>	<ul style="list-style-type: none"> <li>• The Asacha resource is currently mined by shrinkage stoping.</li> <li>• The practical minimum mining width is approximately 1m. This is taken into account during reporting by application of a cut-off based on a linear grade of 4m*g/t (=1m * 4g/t), as well as a 4g/t Au cut-off.</li> <li>• Based on the presence of the operating mine and mill, existing mine economics, and the potential for incremental development access to deeper and more distal parts of the orebody, it is considered that all of the above cut-off mineralisation defined at Asacha has reasonable prospects of eventual economic extraction.</li> </ul>
<p><b>Metallurgical factors or assumptions</b></p>	<ul style="list-style-type: none"> <li>• Milling experience to date has not encountered any substantive variation in metallurgical recovery which would affect definition of resources. Asacha ore is free milling, and since the commencement of production the average recovery has consistently been close to 95% for Au and 76% for Ag.</li> </ul>
<p><b>Environmental factors or assumptions</b></p>	<ul style="list-style-type: none"> <li>• For the purposes of reporting Mineral Resources, it is assumed that environmental constraints do not pose a material risk to the project proceeding, and that viable solutions will continue to be available for storing waste and process residue.</li> </ul>

Criteria	Commentary
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>• A global bulk density of 2.48 is applied to all ore. This measurement is based on around 160 core samples taken from the 1990's.</li> <li>• Due to the differing nature of the host rock and veins in the southern end of the Main Zone, compared to the north, it is recommended that check density measurements are made. The ground conditions in the south are of poorer quality due to extensive faulting and argillic alteration.</li> <li>• It is also recommended that density measurements are taken on the core samples from the ongoing QV25 drilling program.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• Classification takes account of data quality, confidence in geological interpretation and confidence in block estimations. These aspects are necessarily subjective.</li> <li>• The Measured classification was applied to areas that have been developed, and are generally within 12m of channel sampling coverage. In addition, the slope of regression on accumulation estimates is greater than ~0.90. In order to simplify the overall Measured boundaries, some areas that were up to about 20m from channel sampling, but bounded on two or three sides by development and channel sampling coverage, were also grouped into the Measured category.</li> <li>• The Indicated classification was applied to areas with diamond drill coverage of 50m x 50m spacing or closer. Locally slightly wider spacings (up to about 60m x 60m) would also be grouped into Indicated, in order to avoid creating a patchwork of Indicated and Inferred.</li> <li>• The remaining Mineral Resources inside the mineralisation domains, based on intersection spacings generally no more than 100m, were assigned an Inferred classification.</li> <li>• Classifications were coded into the block model, based on outlines SRK digitized onto the veins in long section view.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• This Mineral Resource has not been audited externally.</li> <li>• Several external reviews were undertaken of Mineral Resource estimates conducted prior to commencement of mining in 2011. The findings from</li> </ul>

Criteria	Commentary
	<p>these reviews are not relevant to the Mineral Resource estimate presented in this report.</p>
<p><b>Discussion of relative accuracy/ confidence</b></p>	<ul style="list-style-type: none"> <li>• Relative accuracy and confidence level in the Mineral Resource is sufficiently described by the classifications applied to the block model and resource statement for the deposit.</li> <li>• The statements relate to global estimates of tonnes and grade.</li> <li>• SRK prepared an overall comparison of production information from the beginning of production (2011) through to the end of Q1, 2020, against the 674,000 t in the block model coded as “Mined” by depletion outlines. The SRK estimate of in situ gold grade (17.6 g/t) exceeded the in situ grade back-calculated from production (14.9 g/t) by 19%, but it is possible that this difference is due to uncertainties with the reconciliation assumptions (processing recovery, mining recovery, density, stockpile quantities), rather than problems with the Mineral Resource estimation approach or input data. The difference is noted, but no subsequent adjustment was made to the Mineral Resource estimate.</li> <li>• The historical reconciliation information is not detailed enough to enable the comparison described above to be split into annual increments, however there is sufficient information to prepare an additional comparison for the last nine months of 2020. For the 48,040 t coded as “Mined” (Q2 to Q4, 2020) in the resource block models, the average in situ grade is 23.0 g/t, which is 11% lower than the equivalent in situ grade back-calculated from production (25.9 g/t). Therefore, in contrast to the comparison from the older reconciliation information, the 2020 comparison suggests the resource model may be conservative in the vicinity of these mined areas. Again, the difference is noted, but no adjustment was made to the Mineral Resource estimate.</li> </ul>