

## **Independent Geologist's Report**

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### *Summary conclusion of 2004 drilling results and preliminary open pit resource modelling.*

The 2004 drilling (totalling over 4,000m) showed positive gains in high gold grade intersections and early indications in building the open pit resource model show very encouraging increases in contained metal. The continuity drilling demonstrated that the former Soviet modelling approach did not adequately represent the geometry and spatial grade distributions, so it was necessary to approach the open pit resource modelling without the tight constraints imposed by the old modelling method. Variogram studies on all the sample data within the breccia pipe suggested a different modelling approach might be suitable, and early stages in this new resource modelling are very positive. Compared with the old model, contained metal in the area of recent continuity drilling shows an increase of 38% at a cut-off grade of 0.7g/t+ (for open pit) and, in the western area of the proposed pit, a 39% increase in contained metal at 2g/t+ (contains both underground and open pit ore blocks) was found vis-à-vis previous Soviet-style model. A more constrained model using a 0.5g/t cut-off is currently being constructed. In addition to the above, open pit geotechnical studies show that slope angles can be increased to 55+ degrees, thus improving stripping ratios.

### *Technical Resource Modelling Summary*

The 2004 surface continuity drilling, 20 holes totalling 864m on a 10m grid, showed that gold mineralisation within the test area was contiguous, but its geometric form and spatial position was different from the former Soviet model. Specifically, this drilling encountered a dilation zone (structurally controlled focal points for higher gold grades and high ore tonnages), with concomitant increase in gold grades and tonnage, vis-à-vis Soviet model. Detailed lithology studies of the continuity drill cores showed that whilst gold mineralization is found only within the breccia body, it was not possible to define geological gold bearing marker horizons that would help define geologically the geometric shape and spatial continuity of the gold zones within the breccia pipe. This discovery necessitated the need to produce an open pit model that would better reflect the grade distributions, yet honour the extensive sample database.

For this exercise, the CRS breccia pipe wireframe model was used as a basic geological domain model from which a resource block model would be generated. This model was based on a standard 5m block size, as it was considered that such a level of detail would be sufficient and realistic for an open pit resource model. The block model represented the breccia pipe from surface to the 300m elevation, with an overall depth of up to 250m from surface and contained 108,000 blocks. All sample data from an elevation of 250m+, Soviet and Hambleton's, within this breccia pipe were selected for gold grade interpolations, then composited into 2 metre lengths (15,000 composites) and a top-cut applied, as derived from lognormal distribution studies, to help reduce the over influence of high grade samples. Experimental average variograms were generated in various orientations and surprisingly good structures were found, coincident with the geological strike and dip directions. Final modelled variograms showed a range of 40m down dip, 25m along strike and 8m across strike. The parameters from these variogram models were used for geostatistical grade estimations (ordinary kriging) and the model ranges and orientation used in a sample search ellipsoid to extract the appropriate samples for estimating the gold grade of each block, using a minimum of 3 samples and a maximum of 20 samples for interpolation. All blocks estimated within the search ellipsoid were considered to be "indicated" (JORC) and, for twice the ellipsoid range, an "inferred"

category was deemed appropriate. Overall results showed that 79% of the blocks were classed as “indicated” and 19% as “inferred”; the remaining 2% were unclassified.

Extensive interrogation of the grade model showed that the geometric style of the mineralisation was approximately compatible with previous models. The kriging process smoothed the grade distributions, yet provided a reasonable representation for open pit resource analysis and honoured the original sample data. Additionally, as no cut-off value was used for the grade interpolation, block grade estimates would therefore contain a dilution component from low grade (waste) sample grades.

Comparisons were made between the former Soviet-based model and this new open pit model. Two areas were studied:

- Continuity drilling area
- Possible western extension of the proposed pit

#### *Continuity Model*

The outline extent of the continuity drilling area was defined by a perimeter string and this used to control the extraction of the grade model blocks down to the 440m level elevation, for both the new model and old Soviet-based open pit model area. Comparison statistics were generated for the two models and results were as follows:

*Table of gold grades and contained metal with % increase between old & new models*

<b>Model</b>	<b>Measure</b>	<b>Au g/t&gt;0.0</b>	<b>Au g/t&gt;0.5</b>	<b>Au g/t&gt;0.6</b>	<b>Au g/t&gt;0.7</b>	<b>Au g/t&gt;1.0</b>	<b>Au g/t&gt;2.0</b>
<b>Grade</b>							
Old	g/t	0.96	1.40	1.67	2.11	3.63	4.31
New	g/t	1.10	1.56	1.69	1.82	2.20	3.13
<b>Ore</b>							
Old	Tonnes ('000s)	190	112	86	59	27	21
New	Tonnes ('000s)	190	120	106	95	68	32
<b>Contained gold</b>							
Old	Grammes ('000s)	182	157	144	125	98	90
New	Grammes ('000s)	209	187	179	173	150	100
% change		+15%	+19%	+24%	+38%	+53%	+11%

The above table shows significant increases in contained metal at various cut-offs. However, it should be noted that the new model has a built-in diluted grade, so direct comparison with the old resource model is more complex. If a dilution factor had been applied to the former Soviet model the increases would have been greater.

#### *Western Pit Extension Area of Model*

From ultimate open pit generation of the new model, it was seen that an extension to the west had been modelled, and this coincided with an area of mineralisation that had been intersected by underground drilling from the 320m level. The previous underground Soviet model appeared somewhat limited in its sampling, whereby the extrapolation of high grade blocks was considered too conservative. This new model interpolation allowed for a greater extrapolation, yet still honoured the sample data. Grade blocks representing this west pit area were extracted from both the new and old block models for comparison as follows:

*Table at a cut-off grade of 2g/t*

<b>Model</b>	<b>Grade Au g/t</b>	<b>Tonnes ('000s)</b>	<b>Contained metal grammes ('000s)</b>
Soviet	5.44	142	773
New	3.24	331	1,072

Overall results showed that a 39% increase in contained metal was found at a cut-off of 2g/t: it should be noted that only about 5% of these blocks were considered to be “inferred” in the new model and the rest classed as “indicated”. There is also a similar level of confidence in the old Soviet model. Note: this sub-model ranges from the 300m elevation to surface.

#### *Conclusion and Future Modelling Development*

The above open pit model is not a final model and it will be further refined using a Au grade domain cut-off value of 0.5g/t. This more constrained model will hopefully provide an improved grade model that is less subjected to the influence of very low grade samples, <0.5g/t, and result in zones that better reflect actual mining conditions. An exercise was concluded using 2.5m basic block model (3.3 million blocks), to improve sensitivity and although higher grades were found, at +2g/t, as expected, this was insignificant and 5m blocks were considered acceptable. However, these early stages in the development of the final grade model construction are extremely encouraging, and in tandem with the additional gold zones found in the 2004 drilling, significant additional gold will be added to the resource in the near future. In support of this assertion, old Soviet surface drilling, with its relatively low core recoveries, vis-à-vis underground drilling with a much improved recovery, show statistically a 20% lower grade than the underground holes. This figure is not absolute and only shows what possible magnitude of grade increase can be realised. Note that the total of metres drilled in 2004 was extremely small relative to the quantity of old Soviet drilling and, therefore, its quantitative contribution is also going to be minor in a global resource sense.