CSA Global (UK) Ltd
Geological, Mining and Management Consultants

**Report No. R254.2008**
**Date: 5th October, 2008**

# Mineral Resource Summary Report

# Nordic Mining – Laiva Gold Deposit

# Finland

**5th October, 2008**

Prepared for
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# SUMMARY

CSA Global (CSA) is currently completing the resource and mine planning sections of the Laiva Gold Project Bankable Feasibility Study (BFS). The global resource models previously produced by Peter Dowd have been updated as part of this study. This document provides a summary of the resource estimation work completed to date as part of the BFS.

The Mineral Resource estimate for the Laiva Gold Project is presented in Table 1.

**Table 1: Laiva Gold Project - Mineral Resource Estimate**

| Nordic Mines - Laiva Gold Project - Mineral Resource Estimate as at 5th October, 2008 | | | | |
|---|---|---|---|---|
| **Primary Resource Au>=0.8 g/t** | **Ktonnes** | **Au g/t** | **Koz** | **SG** |
| **Measured** | 3,580 | 2.36 | 270 | 2.83 |
| **Indicated** | 8,500 | 2.13 | 580 | 2.83 |
| **M+I** | 12,080 | 2.20 | 850 | 2.83 |
| **Inferred** | 3,590 | 1.94 | 220 | 2.83 |

| **Additional Resource Au>=0.5 & <0.8 g/t** | **Ktonnes** | **Au g/t** | **Koz** | **SG** |
|---|---|---|---|---|
| **Measured** | 940 | 0.63 | 20 | 2.83 |
| **Indicated** | 3,570 | 0.62 | 70 | 2.83 |
| **M+I** | 4,510 | 0.62 | 90 | 2.83 |

*Note: The Mineral Resource was estimated within constraining block volumes based upon gold lower cut-off's of 0.5, 0.8 and 1 g/t Au, which have been combined into a composite model. Gold grades were estimated using Ordinary Kriging. A top cut of 30 g/t Au has been applied to the sample data. The resource is reported for block grades exceeding a 0.5 g/t Au grade. Differences may occur due to rounding errors. The Datamine model is lvom0908.dm.*

The CSA Mineral Resource estimate was completed based on the following:

- The Laiva gold project is located 15 kilometres south-southwest of Raahe, in the north-western part of the Raahe-Ladoga zone in Finland.

- The mineralisation is hosted in a silicified quartz diorite and/or mafic volcanic host. The deposit is currently split into two zones separated by granitic intrusives. Fine grained gold occurs in quartz rich mm to cm thick veins which occur in swarms ranging from cm to m's in thickness. Orientation of the mineralised lenses generally strikes east-west steeply dipping to the south. The deposit has been divided into 4 zones defined by changes in ore lens orientation. The overall dimensions of the deposit are a strike of 1,100m east-west by 1,100m north-south to a maximum inferred depth of 300m.

- Drilling data available for the resource estimate consisted of 380 holes for 52,365m of diamond core, reverse circulation drilling and surface diamond saw channel samples. Approximately 82% of drilling is diamond core. The nominal assay sample length is 1m.

- A QAQC programme was completed to test sampling and assaying procedures. Approximately 5% of assay samples were field duplicates with 5% certified reference materials inserted in the assay batches. The majority of samples were assayed at Labtium (GTK) located in Rovaniemi in Finland, some check and multi-element samples were analysed by ALS Chemex laboratory in Sweden and Vancouver. Early LAI holes (95 holes) drilled by Outokumpu were assayed at the Outokumpu laboratory.

- Drill collars were surveyed by differential GPS, and down hole surveys were completed using a multi-shot camera, generally taking dip and azimuth recordings every ten metres downhole and at the end of hole. The average drill hole orientation is 45 degrees to the north.

- Nordic provided CSA with: a polygonal cross sectional interpretation at a 0.8 g/t Au cut-off; 3D wireframe envelopes representing the Granite and Dolerite waste zones; DTM of the topography and surface till profile; Stereonet plots showing vein orientations based on 4 structural domains and; Results of a surface pit trial mining campaign.

- CSA reviewed the polygonal interpretation and produced a wireframe defining the overall zone of potential mineralisation. A volume block model was constructed in Datamine, using the mineralised envelope, waste envelopes and DTM surfaces. The block model contained parent block sizes of 12.5m x 2.5m x 5m (X x Y x Z). No sub blocking was required.

- Downhole 'ore' zone intercepts were created using an algorithm to ensure intercepts met or exceeded the specified gold grade cut-off for a minimum down-hole length of three metres. Intercepts were created for 0.5, 0.8 and 1 g/t Au lower cut-off's.

- The 'ore' sample intercepts were used to build three probabilistic models, which estimate the probability of a block being an 'ore' lens for each of the cut-off data. Ore zone estimation was completed using inverse distance to the power of one and validated against the polygonal interpretation and with a nearest neighbour estimate. Sample search parameters were based on the dominant mineralisation orientation for each structural domain. Table 2a and 2b present the search parameters used.

**Table 2a: Ore zone sample search orientations**

| Domain | Ellipse X | Ellipse Y | Ellipse Z | Rotation X | Rotation Y | Rotation Z |
|---|---|---|---|---|---|---|
| 1 North | 50 | 100 | 20 | 0 | 73 | 276.5 |
| 2 Central | 50 | 100 | 20 | 0 | 71 | 270 |
| 3 East | 50 | 100 | 20 | 0 | 62 | 255 |
| 4 South | 50 | 100 | 20 | 0 | 80.5 | 275 |

**Table 2b: Ore zone sample search parameters**

| Domain | Minimum Samples | Maximum Samples | Search Factors | Maximum Samples per Drillhole |
|---|---|---|---|---|
| All | 9 | 15 | 2, 10 | 3 |

- Statistical analysis was completed for the ‘ore’ intercept population. The gold population can be described as a log normal distribution, with very few grade outliers. A top cut of 30 g/t was required to reduce the local estimation bias produce by outliers. A total of 12 (0.2%) samples from a population of 6,200 were cut.

- Gold Variograms were used to determine appropriate kriging parameters. All variograms were poor regardless of the transformation used and difficult to model. The nugget used was obtained from the down-hole variograms. The modelled variogram parameters are presented in Table 3.

**Table 3: Variogram models**

| Domain | Nugget | Sill 1 | Range 1 | Sill 2 | Range 2 |
|---|---|---|---|---|---|
| 1 | 0.57 | 0.16 | 50, 65, 1.5 | 0.27 | 140, 80, 3 |
| 2 | 0.57 | 0.16 | 30, 30, 1.5 | 0.27 | 45, 45, 2 |
| 3 | 0.32 | 0.41 | 98, 101, 1 | 0.27 | 126.5, 101.5, 2.5 |
| 4 | 0.32 | 0.41 | 98, 101, 1 | 0.27 | 126.5, 101.5, 2.5 |

- Gold grades were estimated for the three models based on 0.5, 0.8 and 1 g/t Au lower cut-off’s. All samples at the 1 g/t Au cut-off (including internal dilution) were used to estimate the grade of the 1 g/t Au model. These sample intervals were then removed from the 0.8 g/t Au data set and the remnants used to estimate the 0.8 g/t Au model. For the 0.5 g/t Au model both the 0.8 and 1 g/t samples were removed. Ordinary Kriging was used to estimate the gold grade for both the cut and un-cut sample data sets. Gold grade using inverse distance to the power of 2 was estimated and used as a cross check on the Kriged grades. The sample search ellipse and orientation parameters were identical to those used for the probabilistic model construction and are presented in Tables 2a and 2b.

- After grade estimation the three models were combined to create a single model. The probability factors used to determine the likely ‘ore’ zone volumes for each grade category were determined from analysis of the drill hole ‘ore’ interval data. The proportion of ‘ore’ to waste within in each domain was determined from the ratio of drill hole sample lengths.

- Comparison of the block grades and 1m composite samples both showed similar mean grades for gold. As expected for this style of composite modelling, the estimated block grades showed a significant amount of smoothing (lower population variance).

- The impact of the 30 g/t Au top cut is a reduction in gold grade of the measured resource from 2.42 to 2.36 g/t Au; indicated resource from 2.23 to 2.13 g/t Au and inferred resource from 2.11 to 1.94 g/t Au. This is a 4.8% reduction in ounces of gold, which could be argued may exist if the spread of ultra high grade gold bearing ore is well distributed throughout the deposit.

- Bulk Density information was supplied by Nordic Mining. 755 one metre samples were available for analysis. The dry in-situ bulk density was determined using the weight in water method, which is suitable for competent non-porous rocks such as these. Density values showed no correlation with depth and little correlation with grade. The strongest influence on density was rock type. The density values used in the resource model are presented in Table 4.

**Table 4: In-situ dry bulk density values**

| Rock type | Category | Density |
|---|---|---|
| Surface Soil and Till | Waste | 2.00 |
| Mafic Volcanics and Quartz Diorite | Mineralisation | 2.83 |
| Granite | Waste | 2.70 |
| Dolerite | Waste | 2.60 |

- The Mineral Resource has been classified as Measured, Indicated and Inferred based on guidelines specified in the JORC code. The Kriging 'confidence', measured by the slope of regression, combined with geological confidence and sample spacing was used as a guide to determining classification boundaries. Wireframes were constructed and used to code the appropriate model blocks.

The information in this Report that relates to in-situ Mineral Resources is based on information compiled by Malcolm Titley of CSA Global. Malcolm Titley takes overall responsibility for the Report. He is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralization and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2004 Edition). Malcolm Titley consents to the inclusion of such information in this Report in the form and context in which it appears.