



P.O. Box 370  
KIRKLAND LAKE, ON, P2N 3J7

**Reserves and Resources-Kirkland Lake Gold  
As at Apr 30, 2003**

The following is a run-down of the reserves and resources of the Kirkland Lake land holdings of Kirkland Lake Gold as at Apr 30, 2003. For the audit carried out by Roscoe Postle (2002), or the comprehensive reserve document, some of which is included here, please refer to the Sedar site. The Cautionary Notes herein are for this document and those other documents related to it.

Cautionary Note to U.S. Investors - The United States Securities and Exchange Commission permits U.S. mining companies, in their filings with the SEC, to disclose only those mineral deposits that a company can economically and legally extract or produce. We use certain terms on this website (or press release), such as "measured," "indicated," and "inferred" "resources," that the SEC guidelines strictly prohibit U.S. registered companies from including in their filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20F, File No. 01-31380, which may be secured from us, or from the SEC's website at <http://www.sec.gov/edgar.shtml>.



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In accordance with National Instrument 43-101 *Standards of Disclosure for Mineral Projects* the following table sets out the proven and probable reserves estimate for the Macassa Mine property as at April 30, 2003. Reserves are *in situ*, diluted, and considered mineable:

Reserve Classification								
Proven			Probable			Total		
Tons	Grade (oz/t Au)	Ounces of Gold	Tons	Grade (oz/t Au)	Ounces of Gold	Tons	Grade (oz/t Au)	Ounces of Gold
498,000	0.42	207,000	554,000	0.51	284,000	1,052,000	0.47	491,000

**Note:** oz/t Au = ounces per ton of gold

#### Cautionary Note to U.S. investors concerning estimates of Measured and Indicated Resources

This section uses the terms “measured” and “indicated resources.” We advise U.S. investors that while those terms are recognized and required by Canadian regulations, the U.S. Securities and Exchange Commission does not recognize them. **U.S. investors are cautioned not to assume that any part or all of mineral deposits in these categories will ever be converted into reserves.**

And the following is the measured and indicated resource estimate for the Macassa Mine property. Resources are stated as *in situ* and both undiluted and diluted:

Resource Classification								
Measured			Indicated			Total		
Tons	Grade (oz/t Au)	Ounces of Gold	Tons	Grade (oz/t Au)	Ounces of Gold	Tons	Grade (oz/t Au)	Ounces of Gold
986,000	0.36	356,000	2,362,000	0.31	729,000	3,348,000	0.32	1,085,000

**Note:** oz/t Au = ounces per ton of gold

Mineral resources which are not mineral reserves do not have demonstrated economic viability and are not contained as part of the reserves disclosed in the first table.

### **Cautionary Note to U.S. investors concerning estimates of Inferred Resources**

This section uses the term “inferred resources.” We advise U.S. investors that while this term is recognized and required by Canadian regulations, the U.S. Securities and Exchange Commission does not recognize it. “Inferred resources” have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred Resources may not form the basis of feasibility or other economic studies. **U.S. investors are cautioned not to assume that part or all of an inferred resource exists, or is economically or legally minable.**

<b>Inferred</b>		
<b>Tons</b>	<b>Grade (oz/t Au)</b>	<b>Ounces of Gold</b>
559,000	0.35	193,000

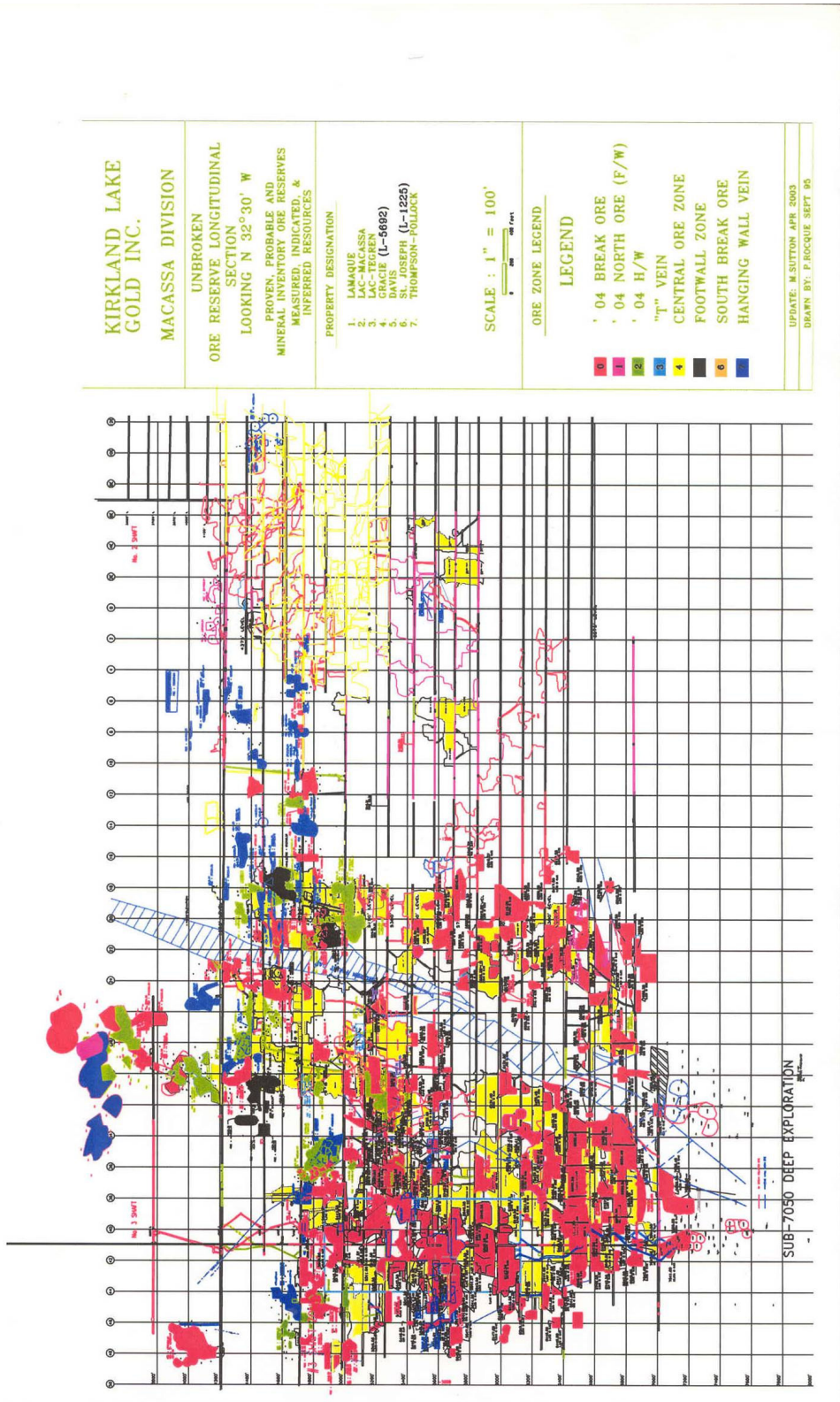
**Note:** oz/t Au = ounces per ton of gold

For 2003, the parameters used to estimate Mineral Reserves and Resources by KLG were as follows:

- Cut-off grades of 0.25 oz/ton Au and 0.35 oz/ton Au are used depending on the location of the block.
- Gold price of \$US325/oz Au.
- Exchange rate of \$US0.71/\$CAN.
- Minimum mining width of 5 ft. for steep-dipping structures and a minimum mining height of 6.5 ft. for flat structures.
- Minimum strike length of 21 ft.
- High assays cut to 3.5 oz/ton Au.
- Dilution factors are 32% for longhole stopes and cut-and-fill stopes less than 6.0 ft. wide, 24% for cut-and-fill blocks 6.0 – 7.0 ft. wide, and 13% for cut-and-fill blocks greater than 7.0 ft. wide. Dilution for longhole stopes in the Lower Beat (below 5600 level) is 35%.
- Tonnage factor of 11.7 cu ft/ton.
- Average mining recovery of 94% applied to the reserve blocks.
- Radius of influence from sampled headings of 30 ft. for Measured Resource/Proven Reserve. Block must be exposed by at least one drift and tested between drifts by drilling on 25 to 30 ft. pattern.
- Radius of influence of an additional 50 ft. (to 80 ft.) for Indicated Resource/Probable Reserve. Blocks sampled on two sides by workings out to a maximum of 150 ft. spacing of the development where no drilling exists, or above and below a drift where drillhole spacing is greater than 100 ft.
- Inferred blocks are 80 to 130 ft. from workings with one side bounded by a Measured/Proven or Probable/Indicated block. Also, blocks on a proven mineralized trend that are drilled on a spacing of greater than 100 ft.

For the purpose of resource and reserves statements and economic assumptions used in this report, gold price is US\$325/oz, which is C\$476/oz. The gold price at the time of updating this report by KLG (Aug. 2003) was \$US375/oz and the exchange rate was US\$0.72/C\$1.00.

The following diagram is the Longitudinal Section of the reserves/resources for #3 Shaft Macassa



# MINERAL RESOURCES AND RESERVES

## RESOURCE AND RESERVE DEFINITIONS (RPA, 2002)

CIM Council, on August 20, 2000, approved the revised “CIM Standards on Mineral Resources and Reserves – Definitions and Guidelines,” document developed by the CIM Standing Committee on Reserve Definitions. These Standards replace the previous classification system and the definitions contained in the CIM Ad Hoc Committee’s report of February 1996. They establish definitions and guidelines for the reporting of exploration information, mineral resources and mineral reserves in Canada, and are incorporated in National Instrument 43-101, standards of disclosure for mineral projects. The definitions for resource categories used in this report are consistent with those defined in “CIM Standards on Mineral Resources and Reserves - Definitions and Guidelines”, the report of the CIM Standing Committee on Reserve Definitions dated October, 2000. Under this classification, only the Mineral Reserve categories have demonstrated economic viability.

In the CIM classification, a Mineral Resource is defined as a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth’s crust in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction. Resources are classified into Measured, Indicated and Inferred categories.

The category of an estimate implies confidence in the geological information available on the mineral deposit; the quality and quantity of data available on the deposit; the level of detail of the technical and economic information which has been generated about the deposit, and the interpretation of the data and information. A Mineral Reserve is defined as the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. A Mineral Reserve includes diluting materials and allowances for losses that may occur when material is mined. Mineral Reserves are classified into Proven and Probable categories.

The CIM resource and reserve classification system is generalized below:

<b>Confidence Level</b>	<b>Resources</b>	<b>Reserves</b>
High	Measured	Proven
Medium	Indicated	Probable
Low	Inferred	-

A Measured Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are so well established that it can be estimated with confidence sufficient, to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade can be estimated on the basis of geological evidence and limited sampling, and reasonably assumed, but not verified, geological and grade continuity.

A Proven Reserve is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. A Probable Reserve is the economically mineable part of an Indicated, and in some circumstances Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This study, in the case of both the Proven and Probable Reserves, must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

Macassa under Kinross operation reported its Mineral Resources under conventional CIM Measured, Indicated and Inferred classification. In contrast to the CIM guidelines, in which Mineral Reserves are reported as a portion of the Mineral Resource, Macassa reported Mineral Reserves as additional to Mineral Resources. In addition, Macassa reported "Possible Reserves" under the former National Policy 2A guidelines and the 1996 CIM Definitions. Reporting of "Possible Reserves" is no longer allowed under the 2000 CIM definitions and NI 43-101, and KLG no longer reports Possible Reserves.

## CONVERSION OF RESOURCES TO RESERVES (RPA, 2002)

Mine resources are estimated with dilution included, and are generally converted to reserves by the application of mine recovery factors. Planned dilution is based on the mining method selected in conjunction with the geometry of the blocked-out resource. External dilution from overbreak in the stopes is estimated from past experience. Recovery takes into account the amount and cost of development and what areas are feasible to access and mine and what material may have to be left as pillars. During Macassa operations, dilution and mining recovery were estimated by the planning engineer based on a study of dilution for various mining methods carried out in 1993. A mining cost was estimated for each mining method based on material consumption and productivities achieved during the mine operations in 1998-1999. These mining costs were used in the individual analysis done on each planned stoping block.

Mining methods at Macassa include longhole, overhand and underhand cut and fill on steep and flat veins, TDB (take down backs) and limited shrinkage. The Macassa engineering staff report that when operations resume, the principal mining methods will be longhole and paste-cut-and-fill PCF. The 2002 reserves are estimated based on using the longhole method wherever possible based on the location, size and geometry of the resource blocks.

Dilution is applied to the resources block by block, depending on which mining method has been selected, and it ranges from 15% for development to 32.1% for longhole (Table 8). For the 2003 resources, all blocks above 57 level are without dilution.

**Table 8 DILUTION APPLIED TO CONVERT RESOURCES TO RESERVES  
Kirkland Lake Gold Inc. Macassa Mine**

Mining Method	Dilution	Dilution Grade	Mining Recovery
<b>04 Break</b>			
Longhole	32.1%	0.02 oz/ton Au	94.6%
Overhand Cut&Fill	12.9%	0.02 oz/ton Au	87.8%
Underhand Cut&Fill	18.9%	0.02 oz/ton Au	89.6%
Take-Down Backs	24.1%	0.02 oz/ton Au	100%
Development	15.0%	0.02 oz/ton Au	100%
<b>05 Break</b>			
Longhole	51.5%	0.01 oz/ton Au	96.0%
Take-Down Backs	51.7%	0.02 oz/ton Au	100%
Development	60.0%	0.01 oz/ton Au	100%

The planned and external dilution applied for overhand and underhand cut and fill and shrinkage stoping is 15% based on past mining experience. Historic dilution recorded for longhole stopes ranges from 10% to 50%. Average dilution for 2002 reserves is 26%.

In narrow vein longhole stopes the dilution can approach 50% if there is no controlling structure in the hanging wall or if no hanging wall support is used. Resources estimated on minimum 5 ft. horizontal width typically mined out as clean walls to the width of the structure at 7 ft. to 10 ft. Width of the sill undercut controlled break and added dilution to narrow vein stopes as well.

Cable bolting from a hanging wall sub-drift has shown that longhole dilution can be minimized to 10% and, for stopes exceeding 10 ft. widths, dilution can be minimized to 10% to 15% where the hanging wall blasthole can be drilled 2 ft. to 3 ft. from a controlling structure. An analysis is done on each reserve block to determine if cable bolting is feasible.

Mining recovery ranges from 90% in longhole stopes to 95% in PCF stopes, the latter being possible with the use of pastefill. An overall recovery factor of 94% is applied to the tonnage estimate to account for mining losses.

In connection with their 2002 Report, RPA considered the dilution and recovery factors applied to the resource and reserve estimates at Macassa to be reasonable.

## **CLASSIFICATION**

The 2002 Mineral Resources at Macassa are classified as Measured, Indicated and Inferred. Reserves are classed as Proven or Probable. Measured Resource and Proven Reserve classes are based on blocks 30 ft. above and below drifts in the vein with the zone between the drifts tested by pattern drilling on 25 ft. to 30 ft. centres, or with raising in the zone.

Indicated Resource and Probable Reserve includes material 30 ft. up to 80 ft. from workings and sampled on two sides at a maximum 150 ft. spacing of the workings where no drill holes exist, or blocks above or below the drift in the vein where drill hole spacing is <100 ft.

Inferred Resource blocks are 80 ft. to 130 ft. from workings with one side bounded by a Measured/Proven or Indicated/Probable block and blocks between economic hole intercepts that are >100 ft. apart on a proven mineral trend. In some cases, blocks in Inferred Resources above the 5700 Level have been reclassified as Indicated Resources and some blocks qualifying under the distance criteria as Indicated have been classed as Inferred because of uncertain grade continuity. Inferred Resources also include material grading less than cut-off grade, areas of rock burst activity, areas where mine access is difficult to impossible, zones adjacent to property boundaries that are water pillars.

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