

# News Release

## **NORTHGATE EXPLORATION LIMITED**

Stock Symbols: **TSX: NGX, AMEX: NXG**

Website: [www.northgateexploration.ca](http://www.northgateexploration.ca)



**Northgate Exploration Limited**

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## **Northgate Completes Kemess North Pre-feasibility Study**

### **Mineable Resource Increases to 4 Million Ounces**

**VANCOUVER, September 22, 2003** *(All figures in US dollars except where noted)* – Northgate Exploration Limited (Northgate, TSX: NGX, AMEX: NXG) is pleased to announce the completion of the pre-feasibility study for the Kemess North open pit gold project located in north-central British Columbia, adjacent to the Corporation's 290,000-ounce per year Kemess South mine.

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#### **Kemess North Highlights**

- Mineable resource: 369 million tonnes grading 0.34 g/t gold and 0.18% copper;
- Mineable gold resource: 4 million ounces;
- Mine life: 11 years;
- Initial capital cost: \$126 million;
- Internal rate of return: 11% using analysts consensus gold price of \$375 per ounce

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The development of the Kemess North deposit will extend the mine life within the Kemess Camp to 16 years and increase Northgate's insitu gold reserves to over 6 million ounces. On the basis of the pre-feasibility study, Kemess will produce an average of 283,000 ounces of gold from 2004 through 2009 at a cash cost of \$173 per ounce and average production over the 16 year mine life will be 250,000 ounces per year at a cash cost of \$150 per ounce. The attractive rate of return offered by the Kemess North project is more than sufficient to justify the completion of a final feasibility study which has begun and is scheduled for completion in the first quarter of 2004.

Ken Stowe, President and Chief Executive Officer of Northgate, stated: "The results of the pre-feasibility study demonstrate Kemess North to be a low risk investment opportunity that leverages our existing asset base at Kemess South and returns substantial incremental cash flow over a total mine life of 16 years. Additionally, I am confident that exploration in the highly prospective Kemess camp will provide additional sources of ore that will further enhance the value of our existing infrastructure."

## Pre-feasibility Study

The pre-feasibility study for development of the Kemess North deposit was prepared with the support of independent engineering firms engaged to provide specific technical expertise in the areas of process design, metallurgical evaluation, pit design and tailings management. The firms involved in various aspects of the study are listed in Table 1.

*Table 1 – Independent Engineering Firms*

Technical Area	Firm
Process Design	Hatch Associates Limited
Metallurgy	K.V. Konigsmann /Lakefield Research
Pit Design	GR Technical Services
Tailings Design and Environment	Klohn Crippen

## Mineable Resource

Continued optimization of the development plan for the Kemess North pit has substantially reduced life of mine capital and operating costs. This has allowed for a significant increase in the mineable resource at Kemess North to 369 million tonnes with grades of 0.34 g/t gold and 0.18% copper. This mineable resource has been calculated using prices of \$325 per ounce for gold, \$0.95 per pound for copper and an exchange rate of Cdn\$/US\$1.50, consistent with the Corporation's reserve assumptions at Kemess South for 2002. The life of mine waste:ore stripping ratio for the proposed pit is 0.6:1. Pursuant to the requirements of NI 43-101, management expects to convert this mineable resource into a reserve category once the final feasibility study is completed and filed early in 2004.

*Table 2 – Mineable Resource*

	<b>Quantity</b> <i>(million mt)</i>	<b>Grade</b>		<b>Contained Metals</b>	
		Gold <i>(g/t)</i>	Copper <i>(%)</i>	Gold <i>(million oz)</i>	Copper <i>(million lbs)</i>
Kemess North	369	0.34	0.18	4.0	1,426

## Kemess North Development and Production

The mine plan at Kemess North has been optimized and integrated into the Kemess South mine plan in order to maintain the annual mining rate constant at approximately 50 million tonnes per year. This strategy has minimized waste stripping and limited mobile equipment additions to two 260-ton haul trucks, two dozers, a grader and a small pit wall drill.

Development of the Kemess North plant site and related infrastructure will begin in 2005 and pre-stripping of the deposit will begin in 2006 in preparation for the treatment of the first ore from the deposit in the fourth quarter of 2006. Initially, the infrastructure at the Kemess North site will consist of a primary crusher, a SAG mill and a truck maintenance building. Kemess North ore will be crushed and milled to minus ½ inch and transported to the existing mill and flotation complex at Kemess South for further processing via a gravity flow pipeline.

During the period of simultaneous operation of the Kemess North and South pits commencing in late 2006, annual mill throughput will rise to 25 million tonnes/year (68,000 tonnes/day). Once reserves are exhausted at Kemess South at the end of 2009, the two SAG mills and the crusher located at Kemess South will be relocated to Kemess North and mill throughput will rise to 34 million tonnes/year (93,000 tonnes/day) until 2019. The increased throughput primarily reflects higher SAG mill capacity from 2010 onwards when three mills will be in operation.

The annual production of gold at Kemess for the period between 2004 and 2009 will average 283,000 ounces and in the remaining 10 years of the mine life it will average 228,000 ounces. Annual copper production over the same periods will be 77 million and 117 million pounds, respectively.

*Table 3 – Production Summary*

	Units	2004 – 2009	2010 – 2019
Pre-stripping	million tonnes	40	—
Mining rate	million tonnes / year	48	43
Milling rate	tonnes / day	60,000	93,000
<b>Production:</b>			
Gold	ounces / year	283,000	228,000
Copper	million lbs / year	77	117
Silver	ounces / year	454,000	684,000

Tailings from the Kemess mill will be impounded at new sites beginning in 2005 and ultimately, once the Kemess South mine is exhausted, the open pit will also be used for tailings impoundment.

### Ore Metallurgy

The ore within the proposed pit at Kemess North is exclusively hypogene ore with similar milling and metallurgical characteristics to the hypogene ore at Kemess South. Extensive metallurgical test work performed at Lakefield Research has determined that recoveries of 62% for gold and 89% for copper can be expected over the life of the Kemess North mine. With ongoing metallurgical improvements in the Kemess South flotation circuit, management expects that the gold recovery assumptions used in the final feasibility study will be higher.

### Capital Expenditures

The development of the Kemess North deposit will require an initial capital expenditure of \$127 million and a total capital expenditure of \$157 million between 2004 – 2009. Sustaining capital during the 2010 – 2019 period will average \$5.5 million annually. A more detailed summary of capital requirements by year is shown in Table 4.

*Table 4 – Kemess North Capital Expenditure Summary*

<b>Description (millions)</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>
Feasibility and EIS	1	—	—	—	—	—	<b>2</b>
Process and Infrastructure	—	34	43	—	—	27	<b>104</b>
Mining equipment & pre-stripping	—	—	28	—	—	—	<b>28</b>
Tailings and water management	1	19	2	1	1	—	<b>24</b>
<b>Total</b>	<b>2</b>	<b>53</b>	<b>73</b>	<b>1</b>	<b>1</b>	<b>27</b>	<b>157</b>

### Operating Costs

The operating cost projections for the combined Kemess South/Kemess North mine plan have been estimated based on Northgate's operating experience at Kemess South and the specific requirements of the Kemess North development plan. Operating costs for the period prior to and after the closure of the Kemess South pit at the end of 2009 are shown in Table 5.

Unit operating costs at Kemess North will be substantially lower than those at Kemess South due to the lower stripping ratio of the Kemess North ore body, a reduction in milling costs and lower fixed overhead costs.

The average cash costs of production during the two periods are \$173 per ounce and \$135 per ounce, respectively.

*Table 5 – Operating Cost Summary (Cdn\$/tonne milled, except where noted)*

	2004 – 2009	2010 – 2019
Mining <sup>(1)</sup>	\$ 2.45	\$ 1.61
Milling	2.45	2.00
G&A	1.07	0.73
Total	\$ 5.97	\$ 4.34
Gold Cash Cost (US\$/ounce)	\$ 173	\$ 135

(1) Mining costs on a per tonne of ore plus waste moved basis are 1.12 (2004 – 2009) and 1.17 (2010 – 2019).

## Project Economics

At prices of \$375 per ounce for gold, \$0.95 for copper and an exchange rate of Cdn\$/US\$ 1.50, the unlevered internal rate of return (“IRR”) on the incremental cash flow generated by Kemess North is 11%. Table 6 provides IRR sensitivities to changes in selected price and operating assumptions.

*Table 6 – Internal Rate of Return Sensitivities*

<b>Parameter</b>	<b>Change</b>	<b>IRR Change</b>
Gold Price	±\$25/oz	1.6%
Copper Price	±\$0.05/lb	1.6%
F/X rate	±0.03 US\$/Cdn\$	2.1%
Initial Capital	±\$10 million	0.7%
Smelter Charges	±\$10/mt/\$0.01/lb	1.0%
Gold Recovery	±1%	0.4%

## **Next Steps**

The Kemess North Project team is currently preparing a final feasibility study, which is scheduled for completion in the first quarter of 2004. Ongoing field work consists of geotechnical and condemnation drilling to confirm pit design parameters and to finalize the location of the access road and waste rock/tailings impoundment locations. Environmental monitoring studies necessary for the preparation of an Environmental Impact Study (EIS) have been initiated. Detailed engineering design and capital costs estimates are being prepared and optimization of the pit scheduling is continuing.

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Northgate Exploration Limited is a gold and copper mining company focused on operations and opportunities in North and South America. The Corporation's principal assets are the 290,000-ounce per year Kemess South mine in north-central British Columbia and the adjacent Kemess North deposit, which contains a mineable resource of 4 million ounces of gold and is currently the subject of a final feasibility study. Northgate is listed on the Toronto Stock Exchange under the symbol NGX and on the American Stock Exchange under the symbol NXG.

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