



eldorado gold

**KISLADAG PROJECT  
WEST-CENTRAL TURKEY  
EXECUTIVE SUMMARY  
FEASIBILITY STUDY COST UPDATE**



**HATCH**<sup>™</sup>

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## 1. Introduction

Eldorado Gold Corporation (“Eldorado”) commissioned Hatch Associates Limited (“Hatch”) to prepare a Kisladag Project Feasibility Study, that was completed in March 2003. Subsequent to the issue of the study, there have been a number of changes in conditions affecting financial performance of the project. This document serves as an update to the original study.

The major changes that have been considered in this update include:

- VAT: Capital and operating costs have been modified to include 18% VAT.
- Exchange Rate has been changed from 1.60 million TL per US dollar to 1.50 million TL per dollar.
- CPI was also considered at 27% per annum in Turkey and 5% in North America for two years since the feasibility study.
- Gold Price increased from \$325/oz to \$350/oz.
- New equipment quotations obtained for major equipment (crushers, ADR plant).
- Fuel price (diesel) has been increased from US\$0.75/l to US\$1.00/l inclusive of VAT.
- Closure costs have been updated to include the numbers from the EIS.
- Electrical cost increased from US\$0.075/kWh to US\$0.080/kWh, and an incentive deduction of 40% included for the first four years of operation.

No changes have been made to the original technical concepts developed in the Feasibility Study. The reserve has been increased since completion of the initial feasibility study as discussed below. The production schedule was modified to process 5million tpa in year 1, and 10million tpa in subsequent years. As a result, capital expenditures for phase 2 have been brought forward from year 5 to year 1.

## 2. Mining

### Introduction

The chronology of the resource, reserve, and mine planning activities completed on the Kisladag project by Micon International (resources), and Hatch and Eldorado Gold (reserves and mine plan) can be summarized as follows:

- **April 2003:** Hatch Feasibility Study issued
- **September 2003:** Resource and Reserve Update (Micon and Hatch/Eldorado respectively)
- **May 2004** (this report): Reserve and operating cost update (Hatch/Eldorado).

### Resources

The key resource estimates generated since early 2003 are summarized as follows:

**Geological Resources  
(0.40g/t Au Cut-off Grade)**

	Measured & Indicated			Inferred		
	Mt	g/t Au	M Ozs.	Mt	g/t Au	Ozs.
Feasibility Study, April'03	166.4	1.13	6.05	69.1	0.81	1.81
September'03 Update	214.8	1.04	7.20	45.5	0.75	1.10
Current May'04	214.8	1.04	7.20	45.5	0.75	1.10

The increase in Measured and Indicated resource for the project that occurred in September 2003 (and carried through to this current update) was based on an expanded database of drill hole information (43 holes were added compared to the 2003 Feasibility Study), a modified set of resource classification criteria recommended by Micon International, a generally improved understanding of the deposit, and tighter density of drilling.

### Reserves & Mine Plan

#### April 2003 Feasibility Study

Open pit reserves for the Feasibility Study issued in April 2003 were based on a Measured and Indicated resource of 166.4 Mt grading 1.13g/t Au as listed in the table above. From this resource base, a detailed mine plan was generated using Whittle and Gemcon software, geotechnically engineered pit slopes, representative operating costs, and a gold price of US\$325 per ounce. The design included due allowances for metallurgical recoveries (81% for oxides and 60% for primary ore), waste dilution, and the application of internal cutoff grades of 0.35g/t (oxide) and 0.50g/t (primary) at initial ore mining and processing rates of 5Mt per year increasing to 10Mt per year in Year 6 of the project. The Feasibility cash

operating costs were estimated at \$3.82 per tonne of process feed, of which \$1.70/tonne was assigned to mine operations.

### September 2003 Reserve Update

In September 2003, the same set of cost and price parameters were used to re-evaluate the pit design resulting in a larger pit of some 17% in overall pit tonnage due to a deeper and slightly wider pit (the Indicated Resource base increased compared to earlier pit designs).

A comparison of the April 2003 Feasibility Reserves versus the September 2003 Updated Reserves can be summarized as follows:

### 2003 Reserve Comparison (Combined Oxide & Primary)

	Proven & Probable				Waste Material	
	Au Price US\$/oz	Mt	g/t Au	M Ozs.	Mt	Strip Ratio
Feasibility Study	\$325	115.14	1.23	4.532	105.88	0.92
September'03 Update	\$325	135.02	1.16	5.053	108.26	0.80

*Note:* in both cases reserves are stated at cutoff grades of 0.35g/t Au for oxides, and 0.50g/t Au for primary ore.

### May 2004 Reserve Update

In May 2004, a re-evaluation of the pit mine plan and resulting reserves was completed using a gold price of \$350 per ounce (compared to \$325/oz previously) combined with higher operating costs including increased VAT taxes, fuel, and exchange rate fluctuations:

Costs/t Processed	2003 Feasibility	2004 Update pre VAT	2004 Update incl VAT
Mining	\$1.70	1.91	\$2.21
Process	\$1.51	1.53	\$1.74
G&A	\$0.47	0.47	\$0.52
Heap Rinse, etc	\$0.08	0.07	\$0.08
Transport and Refining	\$0.06	0.06	\$0.06
<b>Cash Operating Cost</b>	<b>\$3.82</b>	<b>\$4.04</b>	<b>\$4.60</b>

Several Whittle optimizations were run using these revised operating costs of \$2.21 /tonne of ore or \$1.23 per tonne material at a gold price of \$350 per ounce. Little significant change occurred to either the

overall dimensions of the final pit limits or the total tonnes of ore and waste compared to the September 2003 Update mine plan. The principal reasons for this being a combination of the following factors:

- increased operating cost is offset by increased revenue from a gold price of \$350/oz compared to \$325/oz previously;
- internal cut-off grades remain the same as the previous (conservative) estimates;
- in general terms, the distribution of grades across the deposit is robust and can support the additional incremental operating cost without any significant adjustment to the economic limits of the ultimate pit.

Since no significant change in tonnes and grade occurred as a result of increased operating cost, the Mineable Reserve for the deposit and final pit design updated in September 2003 was retained as the basis for evaluating the Kisladag project in May 2004, as follows:

**May 2004 Reserve  
(Combined Oxide & Primary)**

	Proven & Probable				Waste Material	
	Au Price US\$/oz	Mt	g/t Au	M Ozs.	Mt	Strip Ratio
Current May'04	\$350	135.02	1.16	5.053	108.26	0.80

*Note:* in all cases, reserves stated at cutoff grades of 0.35g/t Au for oxides, and 0.50g/t Au for primary ore (as previously).

## Mine Production Schedule

The mine production schedule generated from the above reserves and current final pit design is show below :

Year	Total Tonnes Mined (kt)	Total Ore to Heap (kt)	Ore Grade g/t Au	Gold Recovery %	Total Gold Produced oz
-1	1,471	786	0.85		
* 1	7,936	5,000	1.20	90	163,970
2	17,713	10,000	1.16	74	251,878
3	21,896	10,000	1.30	67	279,313
4	22,872	10,000	1.19	63	246,586
5	23,298	10,000	1.13	64	233,935
6	22,404	10,000	1.16	64	236,702
7	19,176	10,000	1.11	63	227,726
8	18,021	10,000	1.29	61	250,197
9	19,153	10,000	1.35	60	261,375
10	17,260	10,000	1.18	60	232,473
11	16,354	10,000	0.98	60	194,557
12	14,202	10,000	1.18	60	223,304
13	11,357	10,000	1.40	60	265,558
14	10,170	9,238	1.17	60	216,654
15	-	-	-	-	25,771

\* Recovery includes production from year -1



## 3. Capital Cost

The capital cost estimate had previously been prepared with an intended level of accuracy of plus or minus 15% and is intended to support the Feasibility Study financial analyses. The revised capital cost estimate is given in Table 3.1 below.

Total life of mine capital expenditure of \$167.153 million includes \$ 24.4 million attributed to VAT charges on goods and services.

**Table 3-1: Capital Cost Summary**

Description	Feasibility Study			May 2004 Update(Incl VAT)		
	Initial Capital Cost (k\$US)	Expansion Capital Cost (k\$US)	Sustaining Capital Cost (k\$US)	Initial Capital Cost (k\$US)	Expansion Capital Cost (k\$US)	Sustaining Capital Cost (k\$US)
Infrastructure	9,352	812		11,759	884	
Crushing	10,875	8,134		12,430	8,799	
Leach Pad Conveying	3,572	1,147		5,697	0	
Heap Leach Pad and Ponds	4,746	429	15,031	5,159	445	16,305
ADR Facilities	3,260	26		3,724	32	
Waste Dumps	327			334	0	
Mining	381	25,829	14,778	634		47,539
Closure Capital			7,400			2,293
<b>Sub-Total Direct Costs</b>	<b>32,513</b>	<b>36,377</b>	<b>37,209</b>	<b>39,738</b>	<b>10,160</b>	<b>66,137</b>
EPCM	3,908	949		4,568	914	
Construction Indirects	2,749	663		3,158	768	
Freight	946	533		1,277	489	
Owners Cost	7,537			7,516	0	
Spares	1,825			473	0	
First Fill	118			185	0	
Duties and Taxes				10,245	2,220	11,905
<b>Sub-Total Indirect Costs</b>	<b>17,083</b>	<b>2,145</b>	<b>0</b>	<b>27,423</b>	<b>4,391</b>	<b>11,905</b>
Contingency	4,777	885		6,186	1,213	
<b>Total</b>	<b>54,373</b>	<b>39,407</b>	<b>37,209</b>	<b>73,347</b>	<b>15,764</b>	<b>78,042</b>
<b>Total Project</b>	<b>130,989</b>			<b>167,153</b>		

The unit rates were modified to include the CPI increase of 27% on the labour, and to reflect current pricing. A summary of the changes is given in Table 3-2 below.

**Table 3-2: Construction Unit Rates**

		Feasibility	May 2004 Update
Description	Unit	Rate US\$/Unit	
<b>Earthworks (supplied and installed unit price)</b>			
Detailed Excavation	M <sup>3</sup>	\$6.80	\$8.16
Backfill	M <sup>3</sup>	\$8.80	\$10.48
Granular Backfill	M <sup>3</sup>	\$11.40	\$13.38
<b>Concrete (supplied and installed unit price)</b>			
Mats & Slabs	M <sup>3</sup>	\$136.50	\$158.36
Footings	M <sup>3</sup>	\$168.90	\$194.38
PC & Reclaim Elevated Slabs/Roofs	M <sup>3</sup>	\$214.12	\$257.79
PC & Reclaim Walls	M <sup>3</sup>	\$238.00	\$278.04
<b>Structural Steel (supplied and installed unit price)</b>			
Structural Steel	Tonne	\$2,010.00	\$2,549.00
Grating	M <sup>2</sup>	\$118.00	\$129.30
Handrail	M	\$90.00	\$115.50
Stairs c/w Handrail & Kickplate	M	\$234.00	\$296.71
<b>Platework and Liners</b>			
Chutes and Platework	T	\$2,170.00	\$2,755.00
Liner Plate	T	\$2,454.00	\$3,109.00

## 4. Operating Cost

The estimated operating costs for the Project expressed in US dollars are summarised in the tables below.

Table 4-1: Life of Mine Operating Cost Summary

	Feasibility Study			May 2004 Update		
	Life-of mine MUS\$	US\$ per tonne	US\$ per ounce	Life-of mine MUS\$	US\$ per tonne	US\$ per ounce
Mining	196	1.70	68	298	2.21	90
Process	173	1.51	60	235	1.74	71
General and Administrative	54	0.47	19	70	0.52	21
Heap Rinse and Detox	9	0.08	3	11	0.08	3
Transport & Refining	7	0.06	2	8	0.06	2
<b>Cash Operating Cost</b>	<b>440</b>	<b>3.82</b>	<b>152</b>	<b>621</b>	<b>4.60</b>	<b>188</b>
Royalties	13	0.11	5	19	0.14	6
<b>Total Cash Cost</b>	<b>453</b>	<b>3.93</b>	<b>157</b>	<b>640</b>	<b>4.74</b>	<b>193</b>
Depreciation	114	0.99	39	143	1.06	43
Amortisation	13	0.12	4	25	0.18	7
Closure Cost	7	0.06	3	3	0.02	1
<b>Total Production Cost</b>	<b>583</b>	<b>5.10</b>	<b>203</b>	<b>810</b>	<b>6.00</b>	<b>244</b>

Table 4-2: Life of Mine Operating Cost Summary by Commodity

	May 2004 Update (excl VAT)			May 2004 Update (incl VAT)			% of cash op cost
	Life-of mine MUS\$	US\$ per tonne	US\$ per ounce	Life-of mine MUS\$	US\$ per tonne	US\$ per ounce	
Labour	94	0.70	28.5	94	0.70	28.5	15.2%
Reagents	65	0.48	19.6	77	0.57	23.1	12.3%
Power	55	0.40	16.5	64	0.48	19.4	10.3%
Fuel	94	0.70	28.5	111	0.83	33.7	18.0%
Parts/Supplies	132	0.98	39.7	152	1.13	46.0	24.5%
Other (incl refining)	105	0.78	31.7	122	0.91	36.9	19.7%
<b>Cash Operating Cost</b>	<b>545</b>	<b>4.04</b>	<b>165</b>	<b>621</b>	<b>4.60</b>	<b>188</b>	<b>100%</b>
Royalties	16	0.12	4.9	19	0.14	5.6	
<b>Total Cash Cost</b>	<b>561</b>	<b>4.16</b>	<b>169</b>	<b>640</b>	<b>4.74</b>	<b>193</b>	
Depreciation	120	0.89	36.3	143	1.06	43.1	
Amortisation	25	0.18	7.4	25	0.18	7.4	
Closure Cost	3	0.02	0.8	3	0.02	0.8	
<b>Total Production Cost</b>	<b>709</b>	<b>5.25</b>	<b>214</b>	<b>810</b>	<b>6.00</b>	<b>244</b>	

## 5. Financial Analysis

Hatch completed a financial analysis of the Kisladag Project using a discounted cash flow model incorporating the most recent Turkish tax and royalty schedules. Project construction capital cost estimates including pre-production costs, ongoing capital costs and mine closure costs have been included in the Project cashflow projection. Operating costs presented as May 2004 US dollars remain constant over the mine life and no allowance for inflation has been included. The economic analysis excludes considerations of alternative financing options and is based on zero debt in order to present a base case cash flow analysis. In order to meet regulatory requirements, the mine production schedule includes only Measured and Indicated Resources. A summary of the financial analysis is presented below:

**Table 5-1: Project Financial Analysis Summary**

<b>Project Data</b>	<b>Feasibility</b>	<b>May 2004 Update</b>
Life of Mine	15 years	15 years
Total Gold Produced	2.9 million oz	3.3 million oz
Total Ore Mined	115 million tonnes	135 million tonnes
Total Material Mined	221 million tonnes	243 million tonnes
Open Pit Strip Ratio	0.92	0.80
Initial Project Capital Cost	US\$54.4 million	US\$73.3 million
Cash Operating Cost	US\$152 /oz	US\$188 /oz
Total Production Cost	US\$203 /oz	US\$244 /oz
Base Case Gold Price	US\$325 /oz	US\$350 /oz
Before Tax Net Present Value @0%	US\$356 million	US\$352 million
After Tax Net Present Value @0%	US\$255 million	US\$286 million
After Tax Net Present Value @5%	US\$146 million	US\$164 million
After Tax Net Present Value @10%	US\$85 million	US\$94 million
After Tax Internal Rate of Return	33%	29%

## 6. Sensitivity Analysis

The variables that have been considered in this sensitivity analysis are as follows:

VAT – Reduce from base case (18%) to 0%.

Gold Price – Increase from base case (350\$/oz) to 375 and 400 US\$/oz.

Fuel Price – The base case is \$1.00/l (32\$/barrel). Sensitivities at \$0.60/l(\$22/barrel) and \$1.37/l (\$42/barrel) were considered.

**Table 6-1: Sensitivity to VAT**

Project Data	May 2004 Update	May 2004 Excl. VAT
Initial Project Capital Cost	US\$73.3 million	US\$62.6 million
Cash Operating Cost	US\$188 /oz	US\$165 /oz
Total Production Cost	US\$244 /oz	US\$214 /oz
Base Case Gold Price	US\$350 /oz	US\$350 /oz
Before Tax Net Present Value @0%	US\$352 million	US\$455 million
After Tax Net Present Value @0%	US\$286 million	US\$348 million
After Tax Net Present Value @5%	US\$164 million	US\$215 million
After Tax Net Present Value @10%	US\$94 million	US\$137 million
After Tax Internal Rate of Return	29%	43%

**Table 6-2: Sensitivity to Gold Price**

Project Data	Gold Price			
	Gold @\$325/oz	Gold @\$350/oz	Gold @\$375/oz	Gold @\$400/oz
Cash Operating Cost	US\$188 /oz	US\$188 /oz	US\$188 /oz	US\$188 /oz
Total Production Cost	US\$244 /oz	US\$244 /oz	US\$244 /oz	US\$244 /oz
Gold Price	US\$325 /oz	US\$350 /oz	US\$375 /oz	US\$400 /oz
Before Tax Net Present Value @0%	US\$269 million	US\$352 million	US\$434 million	US\$517 million
After Tax Net Present Value @0%	US\$216 million	US\$286 million	US\$342 million	US\$397 million
After Tax Net Present Value @5%	US\$118 million	US\$164 million	US\$203 million	US\$244 million
After Tax Net Present Value @10%	US\$61 million	US\$94 million	US\$123 million	US\$155 million
After Tax Internal Rate of Return	23%	29%	34%	42%

**Table 6-3: Sensitivity to Fuel Price**

Project Data	May 2004 Update		
	Base - Fuel \$1.00	Fuel @ \$0.60	Fuel @ \$1.37
Life of Mine	15 years	15 years	15 years
Total Gold Produced	3.3 million oz	3.3 million oz	3.3 million oz
Total Ore Mined	135 million tonnes	135 million tonnes	135 million tonnes
Total Material Mined	243 million tonnes	243 million tonnes	243 million tonnes
Open Pit Strip Ratio	0.80	0.80	0.80
Initial Project Capital Cost	US\$73.3 million	US\$73.3 million	US\$73.3 million
Cash Operating Cost	US\$188 /oz	US\$175 /oz	US\$208 /oz
Base Case Gold Price	US\$350 /oz	US\$350 /oz	US\$350 /oz
Before Tax Net Present Value @0%	US\$352 million	US\$396 million	US\$283 million
After Tax Net Present Value @0%	US\$286 million	US\$316 million	US\$228 million
After Tax Net Present Value @5%	US\$164 million	US\$184 million	US\$126 million
After Tax Net Present Value @10%	US\$94 million	US\$108 million	US\$69 million
After Tax Internal Rate of Return	29%	31%	25%