

# Projects Overview 5 August 2008

5 August 2008

## Project Overview

- Number of potentially large Projects being evaluated by the Central Project Function.
- Sub-divided into –
  - surface tailings re-treatment
  - underground mining projects.
- Projects in various phases ranging from scoping study to feasibility.
- **Do not** form part of the current business plan.



**Surface tailings**

- Proof of concept
  - Saaiplaas plant currently treats 500 000 tpm of slime.
  - Results for previous two quarters:

<b>Head grade (g/t)</b>	<b>0.297</b>
<b>Recovered grade (g/t)</b>	<b>0.134</b>
<b>Average tpm</b>	<b>521 000</b>
<b>Operating cost (R/tonne)</b>	<b>12.22</b>
<b>Operating cost (R/kg)</b>	<b>92 000</b>
<b>Electrical power demand (MW)</b>	<b>3.68</b>
<b>Total complement</b>	<b>94</b>



**Surface tailings**

- Constraints
  - Large tailings storage facilities
  - Availability of process water
  - Regulatory and permitting approval timelines
  - Electric power
  - Sensitive to costs and gold price
- Benefits/Advantages
  - Safety
  - Time to market
  - Low capital where existing plants can be converted
  - Potential for environmental clean-up
  - High degree of confidence in financial and reserve models
  - Simple, proven technology for gold (not the case for uranium)



**HARMONY™**

**Surface**

### Reserves and Resources

An exercise has been completed where all dumps were drilled.

#### Free State Gold

Classification	Tonnes	Grade	Contained
	millions	Au (g/t)	Au (M oz)
Reserve	799	0.25	6.47
Resource	1 171	0.25	9.44

#### Free State Uranium

Classification	Tonnes	Ave grade	Contained	
	millions	U <sub>3</sub> O <sub>8</sub> (kg/t)	U <sub>3</sub> O <sub>8</sub> (tonnes)	U <sub>3</sub> O <sub>8</sub> (pounds)
Resource	409	0.088	35 938	79 064 000



**HARMONY™**

**Surface**

### Undeclared resources

#### Evander (gold only)

Resource classification	Tonnes	Grade	Contained
	millions	Au (g/t)	Au (ounces)
Measured and Indicated	219	0.330	2 310 481

#### Deelkraal

Resource classification	Tonnes	Ave grade	Contained		Grade	Contained
	millions	U <sub>3</sub> O <sub>8</sub> (kg/t)	U <sub>3</sub> O <sub>8</sub> (tonnes)	U <sub>3</sub> O <sub>8</sub> (pounds)	Au (g/t)	Au (ounces)
Measured and Indicated	27	0.095	2 526	5 568 846	0.365	312 027



**Project Saints**

Conversion of the St Helena plant to treat 1M tpm of slime.

	<b>Year 1-7</b>	<b>Year 1-20</b>
<b>Ave grade g/t (rec)</b>	0.165	0.144
<b>LOM tonnes (Mt)</b>	72	228
<b>Rec Gold LOM (t)</b>	11.88	32.83
<b>Power requirements</b>	9.5	9.5
<b>Capex (R millions)</b>	500	838
<b>Opex (R/t)</b>	13.33	13.33
<b>Opex (R/kg)</b>	80 800	92 600
<b>Time to first gold (mths)</b>	12	12

Status:

- Feasibility study completed
- Environmental Impact Assessment due Nov 2008
- Uranium potential under investigation
- North dams tailings capacity sufficient for 7 years



**Project Phoenix phase 2**

Increase throughput of Saaiplaas plant from 500,000 tpm to 750,000 tpm and Central Plant to treat 250,000 tpm.

	<b>Saaiplaas</b>	<b>Central</b>
<b>Ave grade g/t (rec)</b>	0.136	0.136
<b>LOM tonnes (Mt)</b>	21	21
<b>Rec gold LOM (t)</b>	2.9	2.9
<b>Power requirements (MW)</b>	2.5	2.5
<b>Capex (R millions)</b>	123	87
<b>Opex (R/t)</b>	14.3	15.3
<b>Opex (R/kg)</b>	105 200	112 500

Status

- Pre-feasibility is presently being completed.
- Capital requirement of R3 million to complete a feasibility study.
- Uranium potential under investigation.
- Existing tailings capacity sufficient for 4 years and is being expanded

### Project Libra

Conversion of the Winklehaak plant to treat 1M tpm.

Ave grade g/t (rec)	0.160
LOM tonnes (Mt)	119
Rec gold LOM (t)	19.04
Power requirements (MW)	10
Capex (R millions)	719
Opex (R/t)	13.97
Opex (R/kg)	87 400

Status

- Scoping study completed
- Pre-feasibility scheduled for this year
- New tailings facility required
- No uranium potential
- Kinross resources excluded – test work being completed to try to improve recoveries

### Deelkraal

- Drilling recently completed.
- Tonnes – 27 million.
- Grade – 0.365g/t in-situ.
- Grade (U3O8) – 95g/t in-situ
- Initial test work indicates 55% recovery.
- Options being investigated.
- Spare tailings dam capacity being investigated.

**Project TPM**

Treatment of current risings from Tshepong, Phakisa and Masimong mines for uranium at a rate of 280,000 tpm.

<b>Ave grade g/t (rec)</b>	<b>112</b>
<b>LOM tonnes (Mt)</b>	<b>40</b>
<b>Power requirements (MW)</b>	<b>8.6</b>
<b>Capex (R millions)</b>	<b>1 262</b>
<b>Opex (R/t)</b>	<b>42</b>
<b>Opex (\$/lb uranium)</b>	<b>23</b>
<b>Time to first production (mths)</b>	<b>32</b>

**Status:**

- Scoping study complete (Batemans).
- Testwork being finalised.
- Underground resource being compiled.
- Pre-feasibility to start in mid September (Batemans)
- Pilot plant envisaged as part of pre-feasibility

**Project Evander South**

Pre-feasibility study showed 13.9 Mt @ 4.75 g/t of reserves and detailed the potential for a shallow, 100,000 tpm, mine starting at 400m below surface.

<b>Ave grade g/t (rec)</b>	<b>4.59</b>
<b>LOM tonnes (Mt)</b>	<b>13.9</b>
<b>Rec Gold LOM (t)</b>	<b>63.8</b>
<b>Power requirements (MW)</b>	<b>58</b>
<b>Capex (R millions)</b>	<b>3 000 (June 2007)</b>
<b>Opex (R/t)</b>	<b>325 (June 2007)</b>
<b>Opex (R/kg)</b>	<b>71 000</b>
<b>Est'd time to first production (years)</b>	<b>3</b>

**Status:**

- Exploration programme planned for current year (R36 million).
- Objective of programme is to confirm the 3D model and increase the reserve/resource.
- Environmental baseline assessment in progress.

### Project Poplar

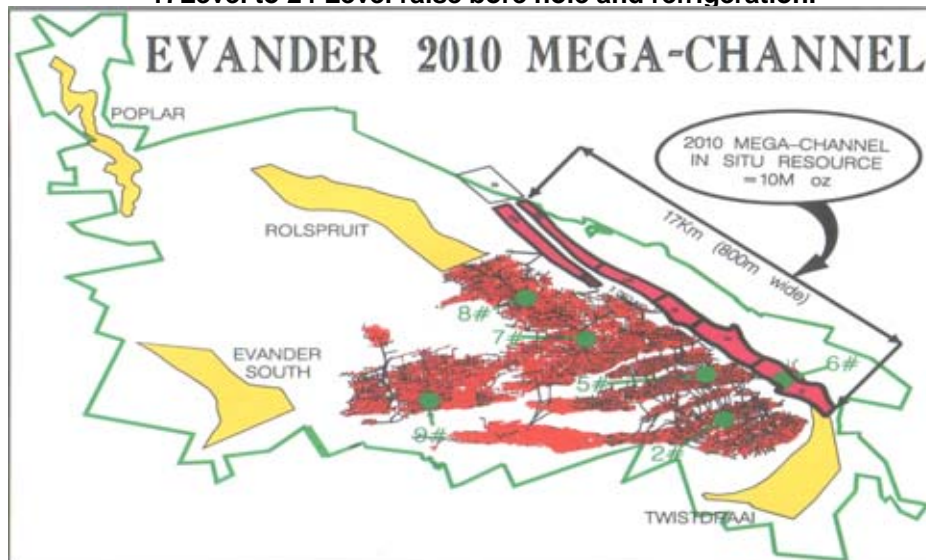
Pre-feasibility study showed 13.5 Mt @ 7.45 g/t of reserve. The mine will produce at a rate of 100,000 tpm.

Ave grade g/t (rec)	7.23
LOM tonnes (Mt)	13.5
Rec Gold LOM (t)	97.7
Power requirements (MW)	60
Capex (R millions)	3 700 (June 2007)
Opex (R/t)	467 (June 2007)
Opex (R/kg)	70 000
Time to first production (years)	5

Status:

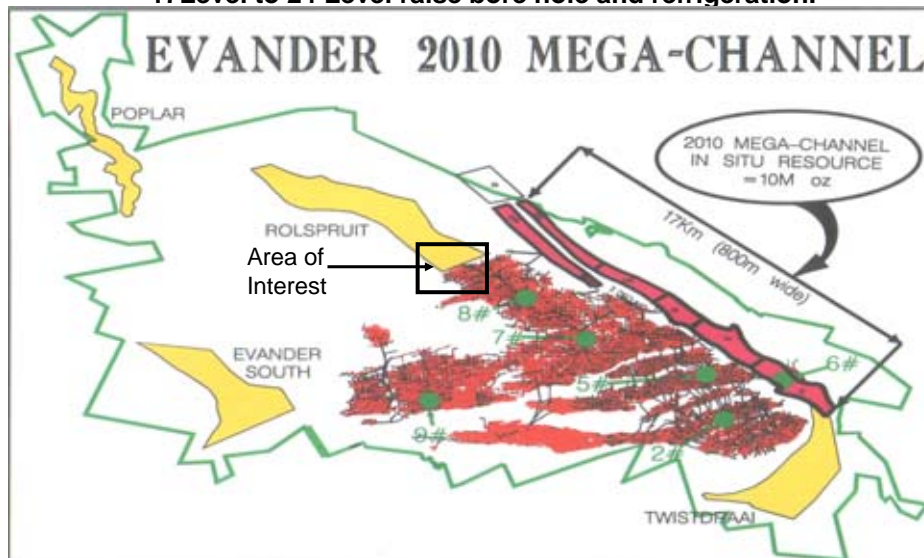
- Exploration drilling programme to commence towards the end of current financial year.
- Objective of programme is to confirm the 3D model and increase the resource.

17Level to 24 Level raise bore hole and refrigeration.



- Exploration drilling to confirm the existence of the 2010 payshoot to the east of 7 shaft (10m ounces of inferred resource).
  - Nearby surface borehole value – 1766 cmg/t (49cm channel)
  - Access from 7 shaft
  - 1 000m of development planned on 20 level to establish a drilling platform.
  - 15 prospect holes to be drilled from this platform.
  - Capital requirement - R23,1 million (2008/09).

17Level to 24 Level raise bore hole and refrigeration.





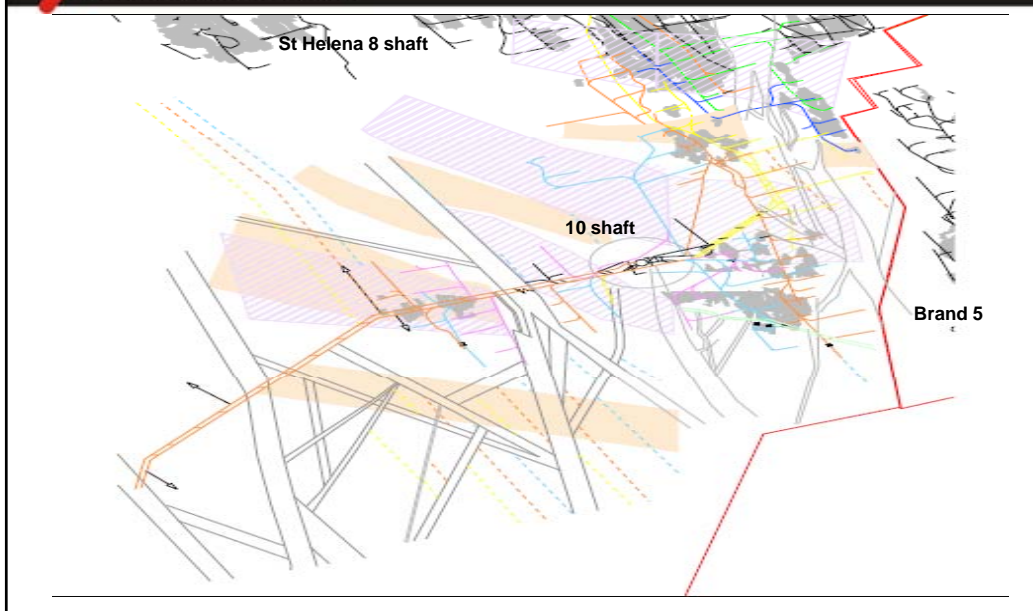
The project equips the 4.5m diameter raise-bored hole from 17 to 24½ level (509m) with a rock hoist.

- Replaces 7km of existing decline belt.
- Rock hoisting capacity increases from 40 000 to 80 000 tpm
- Increased production planned.
- Capital requirement - R293 million.
- Access development on 17 and 24½ levels in progress.
- Estimated Project completion date - mid 2010.



Exploration drilling programme to increase Joel's life of mine beyond five years.

- 1<sup>st</sup> phase - 6 surface exploration holes
- Objective is to convert the resource above 137 level to the indicated category.
- Exploration Capital required - R18,5 million (2008/09).
  
- Joel North "lift shaft" (men and materials) will have to be deepened to 137 level
- Shaft tips needed on 137 level
- Shaft bottom cleaning arrangement needed on 145 level



A total resource of 5.5Moz has recently been identified, mostly in the “inferred” category.

- 3D model indicates potential on leader and basal reefs
- Objective is to convert a large portion of this resource into the indicated category
- Exploration drilling will be from underground
- Shaft is intact and operable
- Capital required - R12,5 million (2008/09).