



 **Underground**

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

Ave grade g/t (rec)	127
LOM tonnes (Mt)	48
Power requirements (MW) Max @ start-up	12.4
Capex (R millions)	1 364
Opex (R/t)	49.8
Opex (\$/lb uranium)	19.43
Time to first production (mths)	27

Status:

- Pre-feasibility study complete (done by Bateman).
- Pre-feasibility test work complete.
- Underground resource and Reserve being compiled.
- Feasibility to start when resource evaluation complete.
- Pilot and demo plant programmes are envisaged as part of feasibility study.

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TPM envisages bringing underground uranium resources in the Freestate, which are currently being mined, to account by establishing uranium processing capacity

- Evaluating potential of recovering Uranium (U_3O_8) from ore currently mined
- The high grade uranium shafts block grades are:
 - Tshepong 127 g/t
 - Phakisa 152 g/t
 - Masimong 166 g/t
 - Average grade (LOM) 139 g/t

- Peak Uranium production – 941 000 lbs/annum
 - Milling and thickening at Harmony 1 – 280 000 ton/month
 - Uranium flotation plant
 - 280 000 ton/month, 25% mass pull, upgraded to 400g/t and 82% recovery
 - Uranium plant
 - 280 000 ton/month, recovery 88% (Total uranium recovery)
 - Whole ore Leach
 - Improved gold recovery at Harmony 1 plant (0.1g/t – 28kgs pm)
 - 28 kgs @ R225 000 gold price = R6.3 million revenue
 - 78 000 lb @ \$60/lb uranium price = R43 million revenue
- Low safety risk

Financial analysis

Parameter	Unit	\$60/lb R225/g	\$60/lb R250/g	\$80lb R250/g
Capital expenditure	R'm	1 364	1 364	1 364
Operating cost	R/t	49.8	49.8	49.8
NPV	R'm	1 874	1 962	3 119
IRR	%	26.3	27	36.4
Payback	Months	64	63	53
Maximum neg. cash flow	R'm	1 364	1 364	1 364
Production costs	\$/lb	19.43	19.43	19.43
Monthly profit	R'm	28.2	29.0	39.5
Life	Years	18	18	18

Note: Financial analysis based on whole ore leach with re-agent autoclave and RIP - SX

