

CONCISE UPDATE ON ACID MINE DRAINAGE IN THE WITWATERSRAND

18 April 2012



1

Background / Introduction

- DWA appointed TCTA as Implementing Agent on 6 Apr 2011 to:
 - Install pumps for mine water extraction
 - Construction of on-site treatment plants with option to refurbish existing plants
 - Convey treated water to nearby watercourse
 - Facilitate operation of pumps and treatment plants
- TCTA appointed PSPs to undertake Due Diligence on Wits AMD
- Due Diligence report finalized on 7 July 2011 - specified immediate and short-term solutions for Wits AMD



3

Background / Introduction

- Inter-Ministerial Committee (IMC) on AMD first convened on 1 Sep 2010
- DWA and DMR DGs appointed a Team of Experts (DWA, DMR, CGS, CSIR, WRC, MINTEK and academic reviewers) to conduct a situation assessment
- ToE findings in Report: *"Mine Water Management in the Witwatersrand Gold Fields with Special Emphasis on Acid Mine Drainage"* (IMC AMD Report) accepted by IMC
- Cabinet approved IMC AMD Report on 9 Feb 2011
- DWA tasked to implement certain recommendations in IMC AMD Report



2

Immediate solution

- Construction works nearing completion
- Stage 1 commissioning of treatment plant by 20 April 2012: increase treatment capacity from 12 to 24 ML/day
- Stage 2 commissioning by end-April 2012: achieve maximum capacity of ~35 ML/day
- Agreements with Rand Uranium (treatment plant) and Mogale Gold (sludge disposal) to be finalised by end-April 2012



4

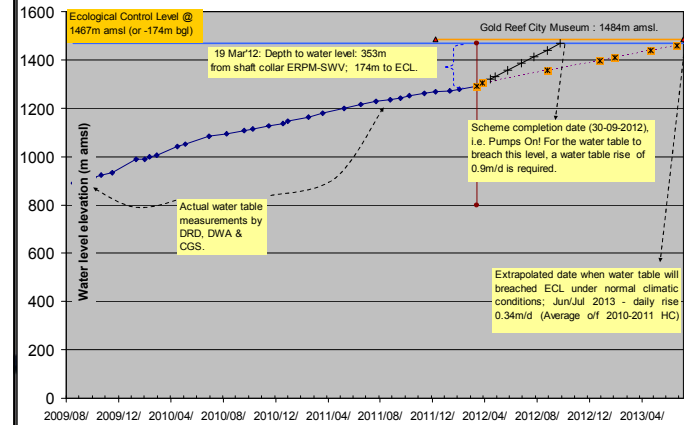
Short-term solution

- Four (4) bids for short-term solution received by the TCTA
- Evaluation of bids to be finalized by 20 April 2012
- TCTA to follow internal bid adjudication approval processes
- Based on current funding (R433 million), TCTA will recommend plausible options to DWA
- Current funding limitations may imply a phased (modular) implementation of short-term solution
- TCTA intend to award bid by mid-May 2012
- Construction projected to commence by end-May 2012



5

**Figure 1: WATER LEVEL ELEVATIONS (m amsl) AT ERPM SWV SHAFT
CENTRAL MINE-VOID (CENTRAL BASIN, as on 19 Mar'12)**



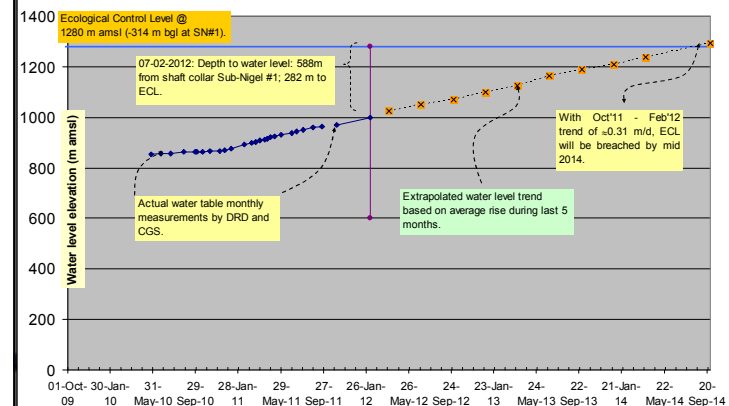
Short-term solution challenges

- Financial provision for only R433 million- estimate expenditure R1 billion
- Access of land- DRD only prepared to make South West Vertical Shaft and land available with specific conditions- probably seeking exemption on Sections 19 and 20.
- Expropriation currently being investigated by TCTA- National Treasury against this option.
- Meeting with DRD and Legal services scheduled for Friday.




6

**Figure 2: WATER LEVEL ELEVATION (m amsl) AT SUB-NIGEL #1 SHAFT
EASTERN MINE-VOID (EASTERN BASIN)**



Current Mine Water Status			
Basin	Mine water level (metres below surface) [mbs]	Environmental critical level (ECL) (mbs)	Est. date to ECL
Eastern	Feb 2012=588	290	Jun 2014
Central	March 2012=353	174	Jun-Jul 2013
Western	At surface	160	ECL currently breached resulting in surface decant

ECL – The highest level that mine water can be allowed to rise in the mine void before adverse environmental impacts can be detected



9