

Water Resource Planning Systems Series

Water Quality Planning

0

Feasibility Study for a Long-Term Solution to address the Acid Mine Drainage associated with the East, Central and West Rand underground mining basins

## Communication Strategy and Action Plan

Study Report No. 9.1 P RSA 000/00/16912/1

> March 2012 EDITION 1







Department: Water Affairs **REPUBLIC OF SOUTH AFRICA** 

DEPARTMENT OF WATER AFFAIRS

Water Resource Planning Systems Series

### Feasibility Study for a Long-Term Solution to address the Acid Mine Drainage associated with the East, Central and West Rand underground mining basins

### **Communication Strategy and Action Plan**

Study Report No. 9.1 [P RSA 000/00/16912/1] Aurecon Report No. 6177

**March 2012** 

**EDITION 1** 



Published by

The Department of Water Affairs Private Bag X313 PRETORIA, 0001 Republic of South Africa

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This report should be cited as:

Department of Water Affairs (DWA), 2012: Feasibility Study for a Long-Term Solution to address the Acid Mine Drainage associated with the East, Central and West Rand underground mining basins. Study Report No. 9.1:Communication Strategy and Action Plan- DWA Report No.: P RSA 000/00/16912/1.

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SC: Study Component

Conf: Indication of Confidentiality

#- These reports will not be made available until the appropriate implementation process stages have been reached as they may potentially compromise future procurement and legal processes.

## PREFACE

### 1. Background to the Study

Gold mining in the East, Central and West Rand underground mining basins of the Witwatersrand goldfields (hereafter referred to as the Eastern, Central and Western Basins) started in the late 1880s. It is estimated that in the 1920s approximately 50% of the world's gold production came from the Witwatersrand mining belt, while in the 1980s South Africa was still the largest gold producer in the world. The large-scale mining in South Africa, in particular on the Witwatersrand, has decreased since the 1990s, and underground mining on the Witwatersrand essentially ceased in 2010. The mines of the Western, Central and Eastern Basins have produced a total of approximately 15 600 tons of refined gold since mining commenced. While the mines were operating, they pumped water to the surface to dewater their mine workings, but since mining stopped, the underground voids that were left after the mining have been steadily filling with water. The water in the mine voids interacts with the exposed sulphide bearing minerals in the rock formations to form Acid Mine Drainage (AMD), also known internationally as Acid Rock Drainage (ARD). AMD is characterised by a low pH and an excessive concentration of dissolved metals and sulphate salts.

In the case of the Western Basin, the AMD gradually reached the surface and started to drain out (decant) into surface streams in 2002. The water in the mine voids of the Central and Eastern Basins is rising steadily and will continue to do so until the water is pumped from the voids. It is predicted that the critical water levels will be reached in the Central Basin in late 2013 and in the Eastern Basin in mid-2014. If nothing is done, the water is predicted to reach the surface and decant at the lowest points in the Central Basin in the second half of 2015 and to reach the surface and decant in the Eastern Basin in late 2016. Decant would be uncontrolled and is likely to occur at several identified points, as well as at unexpected locations across each basin, due to varying water levels and connectivity between the near-surface aquifers and the voids.

If AMD, which has not been desalinated, is discharged into the Vaal River System, the high salt load will require large dilution releases to be made from the Vaal Dam to achieve the fitness-for-use objectives set for the Vaal Barrage and further downstream. This would result in unusable surpluses developing in the Lower Vaal River. Moreover, if dilution releases are still required after 2015, the acceptable levels of assurance of water supply from the Vaal Dam would be threatened. This will mean that there would be an increasing risk of water restrictions in the Vaal River water supply area, which will have negative economic and social implications. These negative impacts will be much greater if the catchment of the Vaal River System enters a period of lower-than-average rainfall with drought conditions. Since decant started in the Western Basin in 2002 the continuous flow of untreated AMD, and now the salt load from the continuous flow of the neutralised AMD from the Western Basin, impact on the Crocodile (West) River System.

The importance of finding a solution to the rising AMD and the need for inter-departmental cooperation led to the establishment of an Inter-Ministerial Committee (IMC) on AMD, comprising the Ministers of Mineral Resources, Water and Environmental Affairs, and Science and Technology, and the Minister in the Presidency: National Planning Commission. The first meeting of the IMC took place in September 2010.

The IMC established a Technical Committee, co-chaired by the Directors-General of Mineral Resources and Water Affairs, which instructed a Team of Experts to prepare a report advising the IMC on solutions to control and manage AMD in the Witwatersrand goldfields. In February 2011, Cabinet considered the IMC report and instructed that the recommendations be implemented as a matter of urgency. Funds were then allocated to the Department of Water Affairs (DWA) by National Treasury with the purpose of implementing some of the IMC recommendations, namely to:

- Investigate and implement measures to pump the underground mine water in order to prevent the violation of the Environmental Critical Levels (ECLs), i.e. specific underground levels in each mining basin above which mine water should not be allowed to rise so as to prevent adverse environmental, social and economic impacts;
- Investigate and implement measures to neutralise AMD (pH correction and removal of heavy metals from AMD); and
- Initiate a Feasibility Study to address the medium- to long-term solution.

The investigations and implementation actions proposed in the first two recommendations commenced in April 2011, when the Minister of Water and Environmental Affairs issued a Directive to the Trans-Caledon Tunnel Authority (TCTA) to undertake "Emergency Works Water Management on the Witwatersrand Gold fields with special emphasis on AMD":

When the proposed pumping and neutralisation commences in the Central and Eastern Basins the situation will be similar to that which prevailed when underground mining and dewatering of the mine voids, and partial treatment of the water, were being carried out by the active mining companies. The saline AMD will flow into the Vaal River System and specifically into the Vaal Barrage. The high salt load will have the same impact on the Vaal River System as described earlier.

The third recommendation resulted in the Terms of Reference (ToR) for this Feasibility Study (DWA 2011a) being issued in July 2011. The ToR noted that the IMC had recommended that a Feasibility Study should be initiated as soon as possible, since the Short-Term Interventions (STI) might influence the roll-out of the desired medium- to long-term solution.

In January 2012, DWA commissioned the Feasibility Study for the Long-Term Solution (LTS). The Study period was 18 months, with completion at the end of July 2013. It was emphasised that this Study was very urgent, would be in the public eye, and that recommendations to support informed decision-making by DWA were required. The recommended solution must support the Water Resource Strategies for the Vaal and

Crocodile West River Systems and take account of the costs, social and environmental implications and public reaction to the various possible solutions.

The urgency of reducing salt loading on the Vaal River System and the relatively short study period for such a complex study means that implementation decisions have to be based on the current understanding of the best available information and technical analyses that have been completed by the time the decisions must be made. Thus, a precautionary and conservative approach was adopted during the Study.

Opportunities have been identified where the solutions that are implemented can be refined, during operation, as more information becomes available.

## 2. Integration with the Short-Term Intervention

The final TCTA Due Diligence Report (TCTA, 2011) was submitted to DWA in August 2011, and tenders for construction in all the basins were invited in November 2011. Immediate works were implemented in the Western Basin in 2012, and construction in the Central Basin commenced in January 2013. It is anticipated that construction of the Eastern Basin will commence in the first quarter of 2014.

The Scope of Work (SoW) of this Feasibility Study, with respect to the STI, is to understand the proposed STI in sufficient detail to:

- Undertake a Feasibility Study of all options, irrespective of the STI, in the interests of finding the best LTS;
- Determine how to integrate the STI and LTS, and influence the STI as far as appropriate or practical;
- Identify any potential long-term risks associated with the proposed STI, and propose prevention or mitigation measures; and
- Assess the implications of the proposed STI for the suggested institutional model for the implementation, operation, maintenance and/or management of the preferred LTS.

## 3. Approach to the Study

The focus areas of the Feasibility Study comprise technical, legal, institutional, financial/economic and environmental assessments, as well as public communication and key stakeholder engagement. The Feasibility Study comprises three phases; the Initiation, Prefeasibility and Feasibility Phases. The main components and key deliverables of each phase are shown in **Figure 1**, and each phase is discussed in more detail below.

The technical assessments run in parallel with the legal assessment, and both feed into the options assessment. The component on stakeholder engagement and communication was started early in the Study so that a stakeholder engagement and public communication strategy could be developed as soon as possible and be implemented throughout the Study.

The planning showed the Feasibility Phase as following the Prefeasibility Phase, but the short study period meant that it was necessary for the Feasibility Phase components to commence during the Prefeasibility Phase and run in parallel.

In conducting the Study, it was important that each component developed key information and recommendations, which were then used in subsequent components. The logical and timeous flow of information and recommendations was essential in order to develop solutions and meet the Study programme.

**Figure 2** gives an overview of the technical, institutional/financial and implementation components and the flow of information throughout the Study. It can be seen how the fixed information (e.g. ECLs, raw water quality, ingress, etc.) and the decisions to be made, or the options to be investigated (e.g. abstraction points, qualities and quantities required by potential users, locations of users, treatment technologies) feed into the options assessment and identification of the Reference Project. The Reference Project will define the option that uses proven technologies, has the least associated risk, and is used for financial modelling and budgeting. It will probably not be the same as the option that is implemented, but constitutes the benchmark against which implementation proposals will be judged.

The Concept Design is based on the Reference Project and includes the costing and land requirements. This in turn provides input for the evaluation of the institutional procurement and financing options and the Implementation Strategy and Action Plan.

The phases of the Study, the key components and their inter-relationships are described below and illustrated in **Figures 1 and 2**.

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Figure 1: Study phases and components

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Figure 2: Flow of information throughout the Study

### **PHASE 1: Initiation**

The objective of the Initiation Phase was to determine the approach and principles for the Study and understand the work already done by others. Numerous reports from previous studies, maps and research findings, relating to all components of the Study, were collated and reviewed. The SoW, proposed approach and the study programme were reviewed after initial consideration of the available information. The study objectives and priorities were reviewed and the results are presented in Study Report No. 1: *"Inception Report"*.

The results of the complete literature survey, which continued after the Initiation Phase, are presented in Study Report No. 2: *"Status of Available Information"*.

The Study Report No. 9.1: "*Communication Strategy and Action Plan*" was prepared so that key stakeholder engagement and communicators could commence as soon as possible and continue throughout the Study.

### PHASE 2: Prefeasibility

The purpose of this phase was to understand and describe the current status and the environment for managing AMD and then to identify all apparently viable alternative solutions and, from those, identify the more feasible options, on the basis of technical feasibility, social and environmental acceptability and cost effectiveness. These were then considered in more detail, and the most feasible options were investigated in the Feasibility Phase.

The assessment of the legal liabilities and mechanisms for the apportionment of liabilities is a key stand-alone component that was commenced in the Prefeasibility Phase and finalised in the Feasibility Phase. This work is described in the confidential Study Report No. 3: *"Legal Considerations for Apportionment of Liabilities"* and confidential Study Report No. 4: *"Alternative Approaches for Apportioning Liabilities"*.

The objectives of the Prefeasibility Phase were to:

- Understand the status quo;
- Define the problem;
- Understand the quantity and quality of water in the mine voids and how fast is it rising in each basin;
- Identify possible uses for the water;
- Identify treatment technologies that can treat the necessary volumes of AMD to the standard required by various users;
- Understand the residues (or waste products) produced by each process and how they can be managed;
- Define a wide range of options for possible solutions by combining alternatives for abstraction, water use, treatment and management of residues;
- Screen the alternatives to identify viable options; and

• Carry out prefeasibility costing of the most viable options and identify the most appropriate option to be used as the Reference Project.

To achieve these objectives, the Prefeasibility Phase needed to provide the team with:

- i. A sound understanding of the STI, how it can be integrated into the LTS, and the impact of the STI on the selection and procurement of the LTS. This is described in Study Report No. 5.1: "Current Status of Technical Management of Underground AMD".
- ii. A sound understanding of the hydrogeology, underground water resources, sources of surface water ingress, spatial distribution and connectivity of mined voids; and the current water quality and projections of future volumes, levels and water qualities. This was based on the substantial information from previous studies and is presented in Study Report No. 5.2: "Assessment of the Water Quantity and Quality of the Witwatersrand Mine Voids".
- iii. An understanding of the DWA Water Resource Management Strategies for the Vaal River System and Crocodile West River System. These strategies provided the framework within which to develop a range of possibilities for the use or discharge of raw, neutralised or desalinated AMD to meet the objective of reducing the salt load in the Vaal River System and associated catchments to acceptable levels without having an unacceptable social or environmental impact. These possibilities are described in Study Report No. 5.3: "Options for Use or Discharge of Water".
- iv. An assessment of suitable technologies for treating either raw AMD or the discharges from the STI to standards that will not negatively impact on the environment and will be acceptable to a range of users. This assessment is described in Study Report No. 5.4: "Treatment Technology Options".
- v. Locality plans for the possible disposal of waste, or potential uses for residue products generated by treatment processes. These plans are described in Study Report No. 5.5: *"Options for the Sustainable Management and Use of Residue Products from the Treatment of AMD"*.

The knowledge and data from the Prefeasibility Phase were used to combine the alternative locations for the abstraction, treatment and use or discharge of water and the disposal of waste, as well as the layouts of the infrastructure required (including pipelines and pump stations), into a large number of options. The alternatives were screened at a high level to give a short-list of practical technical options.

The capital and operating costs of the short-listed options were determined to give a present value of lifetime cost. Social and environmental screening for fatal flaws was carried out, and possible financial benefits from the sale of water or waste were considered. The anticipated public reaction to the options was also considered. The identification of the Reference Project was then completed on the basis of the costs, benefits and impacts. The costs and implications of possible alternatives were also defined. The results and an overview of all the

components of this Prefeasibility Phase are described in Study Report No. 5: "*Technical Prefeasibility Report*".

### PHASE 3: Feasibility

The main objective of this phase was to carry out intensive feasibility level investigations and optimisation of the most feasible layouts for each basin and to select a preferred option to be used as a Reference Project for each basin. The requirements for implementation were also considered and evaluated.

The Feasibility Phase comprises a number of components that build on the results of the Prefeasibility Phase; the results of the various components are reported separately and then integrated in a Feasibility Report for the solution to AMD.

The components in this Phase comprise:

i. Concept Development:

Once the Reference Project for each basin had been agreed, the layout for the treatment works, pipelines and waste storage and disposal sites was planned and costed. Environmental screening was undertaken for each of the identified sites that form part of the Reference Project. The results are presented in the confidential Study Report No. 6: "Concept Design", the confidential Study Report No. 6.1: "Concept Design: Drawings" and the confidential Study Report No. 6.2: "Concept Design: Costing".

ii. Institutional Procurement and Financing Options:

The following alternative procurement models for implementation were evaluated:

- a 'traditional' Government-funded and a traditionally procured Employer Design, Procure, Construct and Operate solution, which is the Public Sector Comparator model (PSC);
- a Design, Build, Operate and Maintain (DBOM) scenario funded by an Implementing Agent, using Private Sector or Government funding, which is also a Public Sector Comparator model (PSC); and
- a private sector-funded Public–Private Partnership (PPP).

The approach included a detailed risk-adjusted value assessment of the PSC and PPP models for the Reference Project in each of the three basins. The possible institutional arrangements were assessed in terms of the roles and responsibilities of the responsible organisations.

A due diligence assessment was carried out to establish the legal mandates of the institutions, as well as ownership of the land required for the Reference Project. These assessments are described in the confidential Study Report No. 7: *"Institutional, Procurement and Financing Options"*.

iii. Implementation Strategy and Action Plan:

Throughout the Study, the requirements for implementation were considered in developing an Implementation Plan. Where necessary, the activities required for implementation that must commence in parallel with this Study were identified. This included the preparation of a Request for Information (RfI), which initiated a process through which service providers could register their interest with DWA. All the requirements for implementation are described in Study Report No. 8: *"Implementation Strategy and Action Plan"*.

iv. Key Stakeholder Engagement and Public Communication:

Engagement with key stakeholders and public communication were very important components of the Study and were on-going from the commencement of the Study to the completion of the work. Study Stakeholder Committee meetings, Focus Group meetings, a RfI, one-on-one meetings, newsletters and a website were key elements. The process and results are presented in Study Report No. 9: "*Key Stakeholder Engagement and Communications*".

The final deliverable, Study Report No. 10: *"Feasibility Report"*, summarises the results of the Study.

The Prefeasibility Phase and Concept Development in the Feasibility Phase are typical components of many planning studies. Solving the technical issues is not normally the biggest challenge, although this project does have several unique aspects. However, the Feasibility Phase components that lead to recommendations for appropriate institutional, financial and procurement models for implementation, particularly the assessment of the options for procurement, are not common components of DWA studies and were the most challenging, and certainly as important for a sustainable solution as all the technical components combined.

### 4. Way Forward

Completion of the Study will provide all the information required for implementation to proceed, although DWA plans to start the preparations required for implementation in parallel with Phase 3 of this Study.

Following from the Feasibility Study, implementation should be carried out as soon as possible. The key activities required for implementation include the following:

- DWA submitting the Feasibility Study Reports to National Treasury for their review and approval. The project has been registered with National Treasury, and Treasury Approval 1 (TA 1) may be required before procurement can commence;
- Conducting an Environmental Impact Assessment (EIA); and
- The preparation of procurement documents.

If procurement is for a Design, Build, Operate and Maintain (DBOM) contract, the procurement documents will comprise:

• A Request for Qualifications (RfQ) to allow DWA to short-list suitably qualified service providers.

This will allow any service provider, especially those with proprietary technologies that may well be more cost effective than that used as the reference technology, to submit detailed information. Those that best meet the selection criteria, which will have to be agreed, will be short-listed; and

 A Request for Proposals (RfP) to be issued to the short-listed service providers, inviting them to submit tenders to implement a project that will deliver water to the specified standards.

If procurement is to follow the traditional process (with three sequential tenders for a service provider to prepare design and tender documentation, followed by tenders for construction, and then tenders for operation and maintenance), then the two-phase RfQ and RfP route may also be followed, with appropriate requirements specified at each stage.

The Reference Project could be implemented, but may not be the most effective solution. It will provide the yardstick methodology and costing which will be used to evaluate the tenders which are submitted.

DWA will also need to source the technical and contractual expertise required to enable them to manage the implementation of the desired long-term solution in each of the three basins.

NOTE: A List of Acronyms and Glossary of Terms appear on pages "xxiv" and "xxix" respectively.

### DWA Report No.: P RSA 000/00/16912/1

### APPROVAL

TITLE	:	Communication Strategy and Action Plan
DATE	:	June 2013
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REVIEWER	:	Tim Hart
LEAD CONSULTANT	:	Aurecon South Africa (Pty) Ltd
DWA FILE NO.	: '	14/15/13/3
DWA REPORT NO.	:	P RSA 000/00/16912/1
AURECON REPORT NO	.:	107748/Aurecon/6176
FORMAT	:	MS Word and PDF
WEB ADDRESS	:	www.dwa.gov.za/projects/AMDFSLTS

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Marcus Wishart	World Bank

In addition to the contributions received from the study committees mentioned above, inputs were also received from the following broad groups and sectors through focused discussions (a more comprehensive list is available on the DWA AMD website):

Academic institutions; Funding organisations; Global perspectives on AMD management; Environmental and conservation groups; Independent individuals in their private capacity; Institutions, parastatals and research facilities; Local, provincial and national government; Mining sector; Non-governmental organisations; Organised agriculture; Organised business, industry and labour; Other specialist fields/consultants; Tourism and recreation; Utilities/water service providers; and

Various technology providers who offered information.

Organisations that provided considerable data and inputs for assessment and consideration, including the but not limited to, FSE, The Centre for Environmental Rights, Sasol, DST, WRC, Ekhuruleni Municipality, Rand Water, GDARD, DEA, CGS, DMR as well as various individuals in their private capacity, are thanked for their contributions.

WISA Mine Water Division, a division of the Water Institute of Southern Africa, agreed to peer review selected key reports from the Feasibility Study for the Department of Water Affairs. The Division offered to identify and carry the cost of the appointment of the independent external experts. The assistance of WISA Mine Water Division and the inputs from their experts are duly appreciated and acknowledged. The comments and suggestions by the following experts contributed significantly to the quality of the study: Achim Wurster (Private Consultant), Ingrid Dennis (North-West University), André van Niekerk (Golder and Associates) and Phil Hobbs (CSIR).

The World Bank is thanked for the provision of their international expertise on a number of the reports in the Feasibility Study as well as for funding the appointment of independent external experts to peer review selected key reports from the

Prefeasibility Study for the Department of Water Affairs. The comments and suggestions by the following experts contributed significantly to the quality of the study: Marcus Wishart, David Sislen, Manuel Marino, Joel Kolker, Wolfhart Pohl (World Bank); Christian Wolkersdorfer (International Mine Water Association) and Peter Camden-Smith (Camden Geoserve).

The firms comprising the Professional Services Provider team for this study were: Aurecon South Africa (Pty) Ltd; SRK Consulting (South Africa) (Pty) Ltd; Turner & Townsend (Pty) Ltd; Shango Solutions; Ledwaba Mazwai Attorneys; IGNIS Project & Finance Solutions (Pty) Ltd; Kayamandi Development Services (Pty) Ltd; Thompson & Thompson Consulting Engineers and Legal Services; Shepstone & Wylie Attorneys; and Various independent consultants, not mentioned separately.

## EXECUTIVE SUMMARY

The management of Acid Mine Drainage (AMD) is a complex and multifaceted challenge involving many components and requiring inputs from a wide range of stakeholders in order to ensure that a sustainable Long-Term Solution (LTS) is arrived at. Effective engagement and communications with stakeholders and the public is thus a key component of managing AMD.

The Feasibility Study for the Long-Term Solution will address the AMD originating from the mine voids, and is only one component of a suite of parallel initiatives in the bigger picture to address the AMD challenge. The public previously received information about these various initiatives in a fragmented, uncoordinated manner, leading to stakeholder confusion, mistrust, fear, lack of confidence in Government efforts, etc. Taking into consideration the absence of a coordinated approach to communication pertaining to AMD, this strategy seeks to:

- Engage key stakeholders (academics, technical specialists, interest groups and relevant authorities) involved in parallel initiatives, to harness the collective wisdom towards finding a Long-Term Solution to the AMD challenge; and
- Communicate sufficient and correct information to set the general public's mind at ease about the efforts by Government towards finding the Long-Term Solution and demonstrate the need for this Study in the context of the bigger picture and how it links to other initiatives, for example the Short-Term Intervention (STI).

It is important to note that the Long-Term Solution Feasibility Study is a planning study and not a regulatory process and therefore it requires high level input from a technical planning perspective, rather than wide public participation.

The approach to stakeholder involvement for the purpose of the Feasibility Study is thus directed at focussed engagement and collaboration with identified key stakeholders to inform the Study at a technical level, while communicating study progress and key outcomes to the wider stakeholder group in a transparent and accessible manner.

This Communication Strategy and Action Plan outlines the current perceptions and views held by stakeholders, the objectives of the strategy and plan, key messages, target audiences, communication methodologies and activities, as well as the roles and responsibilities for engaging with key stakeholders, and communication to the wider stakeholder group.

A summary of the perceptions held by stakeholder sectors or groups is reflected in **Table 2.1**. It reflects for e.g. a general concern about the environmental and other impacts, concern about the limited public participation, and a perceived lack of sharing of information.

The key messages that are to be communicated are summarised as:

- The AMD Challenge;
- Government commitment to resolve the AMD issues;
- Study objectives in the context of the Vaal River Strategy;

- AMD in the context of Vaal River Water Quality Management;
- Complexity and proper planning;
- Risk Management;
- Protection of public interest;
- Environmental Critical Level (ECL) and Short-Term;
- Options for use of water;
- Treatment technologies; and
- AMD The bigger picture.

The key stakeholders are members that are to be involved in the Study Stakeholder Committee (SSC) and Focus Group meetings, while the wider stakeholders that will receive newsletters, etc. are contained in a database of more than 900 members.

Going forward beyond the Feasibility Study, it is recommended that, in addition to the stakeholder engagement that takes place as part of the regulatory authorisation process (Environmental Impact Assessment (EIA)), the Department of Water Affairs (DWA):

- Develops an overarching communication strategy and channel to ensure that communication activities around AMD-related issues from the various initiatives are coordinated through a single entry point within the Department, i.e. DWA Communications. This is to ensure that the messages received by the public show DWA speaking with "one voice" about all AMD-related issues; and
- Embarks on a separate public relations/ awareness raising drive to change current negative perceptions and address the capacity-building issues related to communication about AMD. If a Professional Service Provider (PSP) is appointed to do this, the Department of Water Affairs must ensure that it is not the same PSP involved in the regulatory public consultation processes.

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- Appendix D: Study Management Committee Terms of Reference
- Appendix E: Study Stakeholder Committee Terms of Reference

## LIST OF ACRONYMS

AMD	Acid Mine Drainage
AME	Africa Middle East
ARD	Acid Rock Drainage
BBBEE	Broad Based Black Economic Empowerment
BEE	Black Economic Empowerment
BID	Background Information Document
BKS	BKS Group (Ptv) Ltd
СВ	Central Basin
CBEC	Central Basin Environmental Corporation
CGS	Council for Geoscience
СМА	Catchment Management Agency
CMR	Consolidated Main Reef
CRG	Central Rand Gold
CPlan	Conservation Plan
CSIR	Council for Scientific and Industrial Research
DBOM	Design, Build, Operate and Maintain
DBOMF	Design, Build, Operate, Maintain and Finance
DEA	Department of Environment Affairs
DG	Director-General
DMR	Department of Mineral Resources
DRD	Durban Roodepoort Deep
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
EB	Eastern Basin
EBEC	Eastern Basin Environmental Corporation
ECL	Environmental Critical Level
EI	Ecological Importance
EIA	Environmental Impact Assessment
EI&S	Ecological Importance and Sensitivity
EMP	Environmental Management Plan
ERPM	East Rand Proprietary Mines
FAQ	Frequently Asked Question
GDARD	Gauteng Department of Agricultural and Rural Development
GIS	Geographic Information System
GRC	Gold Reef City Museum
GRCTF	Gold Reef City Tourist Facility
HDI	Historically Disadvantaged Individual
HDS	High Density Sludge
H:H Site	Hazardous Waste Disposal Site
IGTT	Inter-Governmental Task Team
IMC	Inter-Ministerial Committee
INAP	International Network for Acid Prevention
IP	Intellectual Property
IWRM	Integrated Water Resource Management
IWULA	Integrated Water Use License

LHWP	Lesotho Highlands Water Project
LTS	Long-Term Solution
m amsl	meters above mean sea level
MAP	Mean Annual Precipitation
MoU	Memorandum of Understanding
NEDLAC	National Economic Development and Labour Council
NEMA (107:1998)	National Environment Management Act. 1998 (Act No. 107 of 1998)
NEMWA (59:2008)	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NGO	Non-Governmental Organisation
NNR	National Nuclear Regulator
NWA (36:1998)	National Water Act, 1998 (Act No. 36 of 1998)
NWAss	National Water Association
NWRS	National Water Resources Strategy
PEC	Project Executive Committee
PES	Present Ecological State
PFMA (1:1999)	Public Finance Management Act, 1999 (Act No. 1 of 1999)
PPP	Public Private Partnership
PSP	Professional Service Provider
P2W	Pollution to Water
RDM	Resource Directed Measures
Rfl	Request for Information
RfQ	Request for Qualifications
RfP	Request for Proposals
RQO	Resource Quality Objective
RWQO	Resource Water Quality Objectives
SAC	Study Administration Committee
SAHRA	South African Heritage Resources Agency
SANS	South African National Standards
SECL	Socio-Economic Critical Level
SMC	Study Management Committee
SMME	Small, Medium, Micro Enterprises
SoW	Scope of Work
SRK	SRK Consulting (Pty) Ltd
SSC	Study Stakeholder Committee
STI	Short-Term Intervention
STS	Short-Term Solution
SWV	South West Vertical
ТСТА	Trans-Caledon Tunnel Authority
TDS	Total Dissolved Solids
TOL	Target Operating Level
ToR	Terms of Reference
Т&Т	Turner & Townsend
TSF	Tailings Storage Facility
UNEP	United Nations Environmental Programme
VRS	Vaal River System
WB	Western Basin
WBEC	Western Basin Environmental Corporation
WC&WDM	Water Conservation & Water Demand Management
WDC	Waste Discharge Charge
WDCS	Waste Discharge Charge System

WESSA	Wildlife and Environment Society of South Africa
WMA	Water Management Area
WQ	Water Quality
WRC	Water Research Commission
WUC	Western Utilities Corporation
WWTW	Waste Water Treatment Works

## **GLOSSARY OF TERMS**

AMD	Acid mine drainage is formed when sulphide minerals in the geological strata, are exposed through mining activities and interact with oxygen and water to form a dilute solution of sulphuric acid and iron that leaches other metals from the material in which it forms. Acid mine drainage in the Witwatersrand typically has a pH value around 3 and is enriched in sulphate, iron and a number of metals, often including uranium.
Appendix	Documents produced by the Feasibility Study attached to the report.
Aquifer	Zone below the surface capable of holding groundwater.
Central Basin	Central Rand underground mining basin.
Decant (surface)	Spontaneous surface discharge of water from underground mine workings.
Decant (subsurface)	Subsurface flow of water from one mine compartment or geological structure to another, typically occurring when underground mine voids fill and cascade consecutively from one underground compartment to another adjacent connected compartment.
Discharge (groundwater)	Seepage of groundwater at the surface.
Eastern Basin	East Rand underground mining basin.
Environmental Critical Level	The level above which the water in the mine voids at the critical locations (that is where the environmental features to be protected are at the lowest elevations) should not be allowed to rise, to protect specific environmental features, including groundwater resources.
Feasibility Study	An analysis and evaluation of a proposed project to determine if it is technically sound, socially acceptable, and economically and environmentally sustainable.
Groundwater	Water occupying openings below surface
Key stakeholder	Defined as directly affected parties, those who have a high level of negative or positive influence (in government and civil society domains, and on the direction and success of AMD long-term initiatives) and those whose input is critical to the study (for e.g., representatives of various National, Provincial, and Local Government, NGOs, organised business, mining, industry, labour, agriculture, affected mines, affected water utilities, community leaders, academics, etc.).
Layout	The arrangement or configuration (site layout, pipe route, etc.) of a specific option.
Long-Term Solution	A solution that is sustainable in the long term with regards to the technical, ecological, legal, economic, financial and institutional aspects.
Option	One of a number of combinations of abstraction works, treatment processes, and solutions for the disposal of waste and utilisation of treated water.
Preferred option	The solution, or combination of solutions, for the three basins respectively and collectively, that will be selected for further

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	investigation in the feasibility phase, and if found feasible, that would eventually be recommended for implementation.
Ramsar Convention	The Convention on Wetlands of International Importance, especially as Waterfowl Habitat - An international treaty for the conservation and sustainable utilization of wetlands, i.e., to stem the progressive encroachment on and loss of wetlands now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value. It is named after the town of Ramsar in Iran.
Reef	Term used on the Witwatersrand mines for conglomerate containing gold deposits.
Reference Project	The option which uses proven technologies, has minimum risk and which, is used for financial modelling and budgeting. It will probably not be the option which is implemented but is the benchmark against which implementation proposals will be judged.
Reserve	The quantity and quality of water required to satisfy basic human needs and to protect aquatic ecosystems in order to secure ecologically sustainable development and use of the relevant water resource.
Request for Information	A Request for Service Providers to provide information (RFI) on their product or service, e.g. technologies. It is not part of a procurement process.
Request for Qualifications	A Request for Qualifications (RFQ) from Service Providers to allow a shortlist to be prepared. It is normally the first step in the procurement process.
Request for Proposals	A request for technical and financial proposals (RFP) in compliance with a defined Scope of Work (SoW) and adjudication criteria from (Pre-Qualified) bidders to allow one of the bidders to be appointed to provide an agreed service. Equivalent to Expression of Interest (EOI) but used in infrastructure projects
Scenarios	An alternative projection of the macro environment which affects AMD, such as climate change, electricity load shedding, and changes in quality or quantity of water ingress to the mine void.
Service Provider	The generic term for the Special Purposes Vehicle (SPU) or contracting consortium that will design, build, operate and maintain and possibly finance the works.
Short-Term Interventions (Short-Term Solution as stated in Terms of Reference)	Emergency measures that are being implemented by the TCTA in the short-term in all three the basins while the long-term Feasibility Study is undertaken to protect the ECL, to neutralise the AMD and to remove metals from the AMD.
Western Basin	West Rand underground mining basin.

### 1 INTRODUCTION TO THIS REPORT

The management of Acid Mine Drainage (AMD) is a complex and multifaceted challenge involving many components and requiring inputs from a wide range of stakeholders to ensure that a sustainable Long-Term Solution (LTS) is derived. Effective engagement and communications with stakeholders and the public is a key component of managing AMD.

While this Feasibility Study for the LTS will address the AMD originating from the mine voids, there are several other parallel initiatives in the bigger picture of addressing the AMD challenge. These initiatives include the Short-Term Interventions (STI), monitoring of the underground mining basins, ingress control, work undertaken by the Department of Water Affairs (DWA) on the Vaal Reconciliation Strategy, and others.

### **1.1 Communication Context**

Most of the abovementioned initiatives entail some degree of communication to the public. For example, the work on the Vaal Reconciliation Strategy is communicated at the Vaal River User Forums, and communication on the STI is undertaken via the current Environmental Impact Assessment (EIA) and associated public participation process. The public therefore currently receive information about these various initiatives in different ways, including through extensive media coverage, which is largely driven by Non-Governmental Organisations (NGOs). This results in the general public receiving information on the complex issue of AMD management in a fragmented and uncoordinated manner, leading to stakeholder confusion, mistrust, fear, lack of confidence in Government's efforts, etc.

It is clear that a coordinated effort is required to link all AMD-related stakeholder engagement, communication, and awareness/ capacity-building activities of these various initiatives into a single source of communication to the public. Such a coordinated process should ideally be initiated and driven by the DWA.

### 1.2 Communication Strategy for this Feasibility Study

Against this backdrop, and taking into account the existing messages, perceptions and expectations already in the public domain, as well as the absence of a coordinated approach to AMD communication, this strategy seeks to:

- Engage with key stakeholders (academics, technical specialists, interest groups and relevant authorities), including those involved in parallel initiatives, to harness the collective wisdom towards finding a LTS to the AMD challenge; and
- Communicate sufficient and correct information to set the general public's mind at ease regarding the efforts by Government towards finding a LTS, and to demonstrate the need for this Study in the context of the bigger picture and how it links to other initiatives, such as the STI.

While it is recognised that the LTS Feasibility Study forms part of a bigger context, it is a planning study and not a public consultation process driven by regulatory requirements. The planning process includes activities such as information collection and verification, the pooling of collective knowledge and wisdom, deliberating the details and complexities around potential solutions and considering alternatives towards the recommended LTS for AMD. This requires high level input from a technical planning perspective, rather than wide public participation.

Therefore, the stakeholder engagement and communication activities outlined in this document do not form part of the public participation process for a regulatory permitting process, nor does it form part of the EIA process for the STI being undertaken by the Trans-Caledon Tunnel Authority (TCTA). As such, the communication strategy for this Study is a stand-alone process which seeks to link with other communication initiatives around AMD management.

Once the Feasibility Study has progressed to the point where feasible options can be recommended, an EIA practitioner should be procured and the EIA process for the LTS may commence. During this process, all interested and affected parties (IAPs) (i.e. the wider public) will have an opportunity to participate in the regulatory public participation process.

**Figure 1.1**: shows the level of stakeholder engagement against the various stages of the project cycle, and highlights the need for an increasing level of wider stakeholder involvement as the rollout of the different phases of the process progresses towards finalisation and implementation of the AMD LTS.

The approach to stakeholder involvement for the purpose of the Feasibility Study is thus directed at focussed engagement and collaboration with identified key stakeholders to inform the Study at a technical level, while communicating study progress and key outcomes to the wider stakeholder group in a transparent and accessible manner.



Figure 1.1: Communication during project life cycle
Communication during the Feasibility Study is more focused on engagement with key stakeholders

This document represents the Communication Strategy and Action Plan for the AMD LTS Feasibility Study, which has been compiled and updated, following engagement with stakeholders during the initial stages of the Feasibility Study.

The Strategy was finalized in consultation with DWA Communication Services to ensure that it is aligned with the DWA corporate objectives and approach on communicating about AMD, including potential linkages with the communication activities by the STI and EIA teams.

The next section provides an overview of the various components that constitutes this Strategy and Action Plan and their relevant sections in this document.

#### 1.3 Outline of the Communication Strategy and Action Plan

The Strategy and Action Plan contains the following sections (Figure 1.2):

Section 2 Outlines the situation analysis (current perceptions and views held by stakeholders)

> Section 3 Describes the objectives of this strategy and action plan

Section 4 Presents the target audiences for the study (the identified key stakeholder sectors and groups)

Section 5

Outlines the key messages and themes that will be carried throughout the study and communicated to the identified target audiences

Section 6 Presents an overview of the defined communication activities and methodologies and an Action Plan for communication activities, including a broad schedule of activities listed against specific target audiences

Section 7 Outlines the roles and responsibilities of the DWA and the consultant team in the implementation of this Strategy and Action Plan

> Section 8 Provides key conclusions and recommendations

#### Figure 1.2: Contents of the Communication Strategy and Action Plan

# 2 SITUATION ANALYSIS

A situation analysis is conducted as a first step to designing a Communication Strategy and Action Plan. The situation analysis determines the nature and of the messages that will be communicated. These messages will change from time to time, which is why any Communication Strategy and Action Plan is dynamic and needs to be reviewed regularly.

The situation analysis was informed by:

- A half-day workshop with key members of the AMD LTS Feasibility Study management team, including a representative from DWA Communication Services, on 15 February 2012;
- Recent media articles and features in newspapers and on the internet, radio and television (e.g. Beeld, Mining Weekly, News 24, Carte Blanche, 50/50);
- The Vaal River System Reconciliation Strategy and the subsequent work of the Vaal Strategy Steering Committee, co-ordinated by DWA: Chief Directorate Integrated Water Resources Planning (IWRP);
- The Issues and Response Report from the Due Diligence Study conducted by the TCTA as part of the STI;
- The Comments and Responses Report from the EIA conducted by Golder Associates for the Western Utilities Corporation (WUC) in 2010 (public document);
- DWA's Communication Strategy on the roll out of the work of the Intra-Governmental Task Team (IGTT) on AMD;
- The TCTA's Action Plan to give effect to DWA's Communication Strategy on AMD;
- A meeting between the DWA Feasibility Study Manager, representatives of the Gauteng Regional Office and DWA Communication Services regarding potential linkages with communication activities between the Long- and Short–Term Study Teams; and
- Personal communication with members of TCTA's team conducting the EIA process for the STI.

#### 2.1 Current Perceptions and Views held by Stakeholders

Based on recent media attention and strongly voiced concerns and views expressed by environmental NGOs/ interest groups and other stakeholders, it is safe to say that current perceptions around the AMD challenge are largely negative. Rumours and misinformation are being generated as a result of:

- The lack of proactive, transparent, and timely provision of information to stakeholders on the efforts by Government to address the AMD challenge; and
- Sensationalism in the media which instils fear amongst the public and promotes a lack of confidence in Government to address the AMD challenge.

**Table 2.1** provides a summary of the key perceptions/ issues held by the various broad stakeholder sectors/ groups, based on the sources of information mentioned above. It must be noted that views and perceptions recorded here are characteristic of broad stakeholder groups; they are not claimed to be factual, nor are they represented as the view of all sub-groups within a stakeholder group.

Table 2.1: Current perceptions,	views and attitudes held by various stakeholder sectors and/ or
groups	

Stakeholder sector/ category	Perceptions/ issues/ views/ attitudes
Local Government	• Feel uninformed about the magnitude of the AMD challenge, potential decant points within their areas of jurisdiction and related impacts, measures being put in place to address the AMD issues, and hence, do not have adequate information to respond to their constituents; and
	Are concerned about cost implications to themselves and their consumers.
Landowners and communities	<ul> <li>Are concerned about impacts of decant (both quantity and quality) on their livelihoods;</li> </ul>
	<ul> <li>Are concerned about a potential environmental disaster if the problem is not addressed;</li> </ul>
	<ul> <li>Are concerned about the health and safety of people and animals; and</li> </ul>
	<ul> <li>Are concerned about the cost implications of AMD treatment, not receiving information and not being consulted in this regard.</li> </ul>
Conservation	• Strong concerns about the impacts of AMD (radioactivity, pollution, etc.) on surface and groundwater quality, the ecology and the health and safety of humans and animals; and
	<ul> <li>Are concerned about the lack of plans to rehabilitate areas impacted by AMD decant.</li> </ul>
Affected mines	<ul> <li>Some favour a private sector solution, without Government involvement; and</li> </ul>
	<ul> <li>Are concerned about cost implications, as well as liability and LTS issues.</li> </ul>
Bulk Water Suppliers	<ul> <li>Are concerned about the quantity and quality of treated AMD supply; and</li> </ul>
	<ul> <li>Cost implications and credibility issues amongst consumers pertaining to the potable use of treated AMD is a major concern.</li> </ul>
NGOs (environmental and human rights activists)	• Express the view that the interim measures currently being implemented were decided without the input of experts and stakeholders, and without understanding the requirements for integration with the LTS;
	Have a lack of confidence in Government's capacity and allocation of resources, particularly financial, for addressing the AMD challenge;
	• Have credibility issues with Government, especially in terms of its perceived slow response to recommendations made many years ago on the AMD issue, its seemingly protracted decision-making processes, and its apparent poor record of

Stakeholder sector/ category	Perceptions/ issues/ views/ attitudes
	dealing with the AMD challenge thus far;
	<ul> <li>Question the selection of the High Density Sludge (HDS) treatment process and the fact that other potentially viable alternatives were not considered;</li> </ul>
	<ul> <li>Are concerned about the proposal to dispose hazardous waste (sludge) from the HDS treatment process on mine tailings dams and in old mine shafts;</li> </ul>
	<ul> <li>Are concerned about the impact on the environment, particularly in culturally and ecologically significant areas such as the Cradle of Humankind, the Blesbokspruit Wetland Ramsar Site, and Krugersdorp Nature Reserve;</li> </ul>
	<ul> <li>Have strong views about the limited public consultation that has taken place thus far;</li> </ul>
	<ul> <li>Have placed a strong emphasis on the need for the management of AMD to satisfy all legal requirements;</li> </ul>
	• Are concerned about the cost implications of implementing the STIs and LTS, and seek clarity on who should pay – polluter, public, or all mines through an environmental levy? There is strong opposition to costs being carried by the public, and belief that the mining industry should pay; and
	<ul> <li>Are sceptical about whether the STIs will be implemented early enough to prevent an environmental disaster.</li> </ul>
Agriculture	<ul> <li>Are concerned about impacts of decant (both quantity and quality) on their livelihoods;</li> </ul>
	<ul> <li>Are concerned about potential environmental disaster if the AMD problem is not addressed;</li> </ul>
	<ul> <li>Are concerned about the health and safety of people and animals; and</li> </ul>
	<ul> <li>Are concerned about water flows decreasing in certain streams if direct re-use of treated AMD is implemented.</li> </ul>
Business	<ul> <li>Are concerned about the cost implications and potential negative economic impacts on businesses and livelihoods; and</li> </ul>
	<ul> <li>Many see opportunities in commercializing proprietary technologies they have developed.</li> </ul>
Media (newspapers, radio, television)	<ul> <li>Have a great interest in all issues related to AMD (e.g. possible environmental catastrophe, flooding of the Johannesburg Central Business District (CBD), impacts on the Vaal River System, decanting points and Government's handling of the AMD issue, specifically with regard to its alleged poor capacity and lack of financial resources to address the issue) – A large majority of reporting has been negative, with almost no positive news on progress and steps being taken by Government to address the AMD issue.</li> </ul>
Researchers/ Academia	<ul> <li>Have placed an emphasis on scientific and technical rigour, and have expressed much interest in being involved in the analysis of alternatives for the LTS;</li> </ul>
	Many have developed proprietary treatment technologies that they would like to commercialize; and
	<ul> <li>Are concerned that there will not be seamless integration between STI and the LTS.</li> </ul>

# 3 OBJECTIVES

Informed by the situation analysis in Section 2, and the fact that the Feasibility Study is a planning study, which will to a large extent be informed by existing information, monitoring initiatives, technical input and expert advice, the key objectives of this Communication Strategy and Action Plan are to:

- Undertake focussed consultation with identified key stakeholders and stakeholder sectors/ groups to assist in identifying sustainable solutions, technical options and management scenarios;
- Engage with identified key stakeholders from various relevant fields throughout the Study, to obtain their inputs and discuss the draft outcomes of various study components;
- Assist the DWA to keep the key stakeholder group informed of progress and key outcomes, and to provide opportunities for constructive input to inform the Feasibility Study;
- Communicate information regarding the Study to the wider stakeholder group in a manner that enhances their understanding of the AMD challenge and the efforts by DWA and other initiatives to address it, and enable them to provide constructive inputs;
- Communicate factual and accurate information (once finalized by the Study Team) in an open and transparent manner in order to:
  - Avoid half-truths and misunderstandings;
  - Correct inaccurate perceptions;
  - Reduce the risk of public concern and anger;
  - Manage undue fears and undue expectations; and
  - Build stakeholder understanding, trust and confidence in DWA's efforts to address the AMD challenge.
- Provide input to parallel initiatives, e.g. STI and Vaal River System Strategy Steering Committee and receive feedback; and
- Record stakeholder input for consideration in the Study.

# Who are key stakeholders in this Study?

Key stakeholders are defined as directly affected parties, those who have a high level of influence (in Government and civil society domains, and on the direction and success of AMD long-term initiatives) and those whose input is critical to the Study (e.g. representatives of various National, Provincial, and Local and District Government, NGOs, organised business, mining, industry, labour, agriculture, affected mines, affected water utilities, community leaders, academics, etc.).

The manner in which these key stakeholders will be engaged with is explained in Section 6.

# 4 TARGET AUDIENCES

The Feasibility Study, being a planning study and not a regulatory public consultation process, requires focussed consultation on a technical level with key stakeholders representing various sectors/ stakeholder groups.

As explained in Section 1, consultation with the public (referred to in this report as the wider stakeholder group) will take place through alternative processes, including the EIA process that is to follow, which is independent of this Study.

#### 4.1 Stakeholder Identification and Categorisation

The target audiences identified to inform the Feasibility Study and to whom information regarding the study should be sent, include both internal (DWA) and external stakeholders, and were identified through discussions with the Study Team members, stakeholder lists provided by DWA, TCTA, Federation for a Sustainable Environment (FSE) and other key stakeholders, and through a process of networking and referral as the Study progressed. The current stakeholder database comprises of almost 900 individuals and organisations, and includes representatives from the following stakeholder sectors/ groupings:

- Academic Institutions;
- Catchment Forums;
- Funding Organizations;
- International experts with knowledge on AMD management;
- Environmental and Conservation Groups;
- Independent Individuals in their Private Capacity;
- Institutions, Parastatals and Research Facilities;
- Local Government;
- Provincial Government;
- National Government;
- Relevant Chief Directorates, Directorates, Sub-Directorates, and Regional Offices from DWA;
- Mining Sector;
- Non-Governmental Organisations;
- Organised Agriculture;
- Organised Business, Industry and Labour;
- Other Specialist Fields/Consultants;
- Tourism and Recreation;
- Utilities/Water Service Providers; and
- Various Technology Providers who offered information.

The initial full stakeholder database, including the names and organisations of the representatives in each of the above categories is appended as **Appendix A** and will be updated on an on-going basis throughout the duration of the Feasibility Study. The final list of stakeholders will be included in Study Report 9: "Key Stakeholder Engagement and Communications".

#### 4.2 Stakeholder Database Management

Stakeholders' contact details are captured on an electronic stakeholder database developed and continually updated by SRK Consulting for the duration of the Feasibility Study. The software used to develop the database has capabilities to categorise stakeholders and personalise letters and e-mails to stakeholders, as well as to capture notes linked to a person's name (e.g. comments raised, meetings attended, documentation received), thus providing an on-going record of consultation activities.

The stakeholder database will be provided to DWA at the end of the Study, and should be reviewed and updated regularly during the subsequent project phases, in order to ensure that the correct stakeholders are involved and that new stakeholders are continually identified and engaged.

# 5 KEY MESSAGES

Based on the situation analysis, the key messages and sub-messages to be conveyed when engaging stakeholders during meetings, when providing information in newsletters or press releases, and when placing information on the AMD page of the DWA website, are briefly outlined below. It is foreseen that further key messages will be developed as the Feasibility Study progresses.

#### 5.1 The AMD Challenge

The decant of AMD to surface streams in the East, Central and West Rand mining areas and the possible infiltration into near-surface groundwater aquifers poses a significant environmental threat. The rising levels also pose a potential threat to existing infrastructure and historically important facilities. In addition to the effect on the environment and surrounding communities, AMD, which carries significant salt loads, poses a threat to the fitness-for-use and security of water supply from the Vaal River Systems. This is discussed further in section 5.3 below.

#### 5.2 Government is Committed to Finding a LTS

Government is committed to finding a LTS for the AMD challenge and will do so in consultation with a wide range of key stakeholders and experts, including the Council for Scientific and Industrial Research (CSIR), the Water Research Commission (WRC), the Council for Geoscience (CGS), the Departments of Science and Technology (DST), Water Affairs (DWA), Mineral Resources (DMR), Environmental Affairs (DEA), and others.

The Sub-Directorate: Water Quality Planning (Directorate: Water Resources Planning Systems) on behalf of DWA recently initiated a Feasibility Study for a LTS to address the AMD associated with the East, Central and West Rand underground mining basins.

## 5.3 Study Objective in the Context of the Vaal and Crocodile (West) River Catchments

The objective of this Feasibility Study is to determine the most feasible long-term option to managing the AMD in the West, Central and East Rand underground mining basins that will ensure long-term water supply security and continuous fitness-for-use. As such, the Feasibility Study is viewed in context of the management needs and plans of the Vaal and Crocodile (West) River catchments, as outlined in DWA's Reconciliation and Water Quality Management Strategies. These strategies aim to ensure that projected future water demands can be met. From a broader river systems perspective, the partial treatment of mine water will be acceptable in the short- to medium-term. In the long-term however, the treatment of AMD is considered as one of the measures that is required in order to meet future water demands. The salt-loading of major river systems, and in particular the Vaal System, must be addressed in order to make water, which will be utilised to dilute partially treated and highly

saline water being discharged in the short-term, available for supply in the Vaal Dam in the long-term. This concept is explained in further detail in the Preface of this report.

## 5.4 AMD in the Context of Vaal and Crocodile (West) River Water Quality Management

The AMD Study is one component of water quality management in the Vaal and Crocodile River Systems. In addition to the need to manage AMD related impacts on water quality, numerous other needs also exist and are to be addressed through separate initiatives.

#### 5.5 Complexity and Proper Planning

The AMD challenge is complex and requires proper investigation of all aspects, including legal, institutional, financial and technical options. The Feasibility Study is a planning study and is required, as proper planning is essential to effective management where decisions need to be well informed and based on good information and science. It is essential that the plans outlined by the Feasibility Study complement the planning process mentioned in Section 5.3.

The focus of the Study is to investigate possible management scenarios, analyse technical options and optimal infrastructure configurations, as well as to recommend suitable institutional and financial models and a suggested Implementation Plan. The problems posed by AMD will have implications far into the future, with impacts likely to continue for many years and the process of managing these impacts will therefore need to continue, with on-going monitoring and assessment and adaptation as conditions change.

#### 5.6 Risk Management

It is necessary that the risks attributable to AMD be identified and assessed, based on concrete information and reliable scientific input, in order to establish a Management Plan that will minimise risk to the public and the environment.

A generic approach to the management of these risks has been proposed for implementation in the three priority categories, namely decant prevention, water quality management and ingress control.

### 5.7 Protection of Public Interest

The Feasibility Study was commissioned to evaluate all potential solutions and to recommend the most feasible option to protect the environment and the general public, while considering the interest of the tax payer and water user, Whereas the maintenance of the Environmental Critical Level (ECL) is the goal for the STI, the minimisation of the contribution of mining induced salt loading in the Vaal and Crocodile (West) River Systems is the goal for the LTS.

#### 5.8 ECL and Short-Term

Decant management: It is crucially important that the water levels in the basins be held below the relevant ECLs by pumping of water or maintaining the water level by other means, in order to prevent decant from occurring or to stop it where it has already taken place.

In the short-term, pumped underground mine water needs to be semi-treated in order to prevent environmental impacts of the acidic water on surface streams. That will mean a return to the situation that prevailed during the period when the mines were still active.

#### 5.9 Options for Use of Water

Treated AMD water will have to meet the relevant criteria for any use that may be recommended as part of the solution, whether this is potable, industrial, agricultural or environmental.

In terms of the Vaal River Strategy, it is important that the treated AMD be utilised in the supply area of the Vaal River System in order to help serve the demands put onto the Vaal River System. The costs of transporting the treated AMD will also be factored into selecting the preferred solution.

#### 5.10 Treatment Technologies

Treated water and the recommended treatment technology will have to meet the relevant criteria. There are various technologies available that may be able to treat AMD for industrial, agricultural, environmental or potable use. The Feasibility Study will consider a wide range of different technologies and processes for the treatment of AMD, including passive treatment technologies.

#### 5.11 AMD – The Bigger Picture

The Feasibility Study for a LTS is a component of the bigger picture to address the AMD challenge in the three basins on the Rand Gold mining area. It runs in parallel with other initiatives such as the STI, monitoring related to the underground mining basins, ingress control initiatives and others, and decisions cannot be taken without due consideration of all the implications.

There are other areas in the country where AMD also poses a risk or may do so in future. Lessons learnt in the East, Central and West Rand underground mining basins may also be applicable to those areas.

# 6 ACTION PLAN (APPROACHES, ACTIVITIES AND METHODOLOGIES)

In order to meet the objectives of this communication strategy, an approach that aims to allow for significant engagement and obtain as much input as possible from key stakeholder groups (listed in Section 4) was developed and is illustrated below. This approach was developed, as it not only allows for the discussion of common concerns, but also for focused discussions on e.g. environmental and social considerations. In addition, it allows the Study Team to engage with a wide range of key stakeholders on various levels, e.g. through technical discussions with academics, or governance discussions with Provincial Government, while allowing general communication and feedback on the Study to the wider stakeholder group, which would not have been directly engaged in the technical components of the Study.

**Table 6.1** provides a summary of the two components of this Communication Strategy, highlighting the overarching objectives of each, the target audiences and planned methods of engagement.

	KEY STAKEHOLDER ENGAGEMENT	COMMUNICATION
PURPOSE	<ul> <li>Obtain inputs from key stakeholders</li> <li>Information gathering to inform the Study (existing information, monitoring data, technical input and expertise)</li> <li>Technical review of Study's outcomes and reports</li> </ul>	Information dissemination to the wider stakeholder group: Communicate progress and key outcomes at certain milestones in the Study
TARGET AUDIENCE	Key Stakeholder Sectors and Groups	<b>Wider Stakeholder Group</b> (approximately 900 on database)
METHOD OF ENGAGEMENT	<ul> <li>Individual consultation meetings</li> <li>Focus group meetings</li> <li>Technical workshops</li> <li>Study Stakeholder Committee (SSC) Meetings (broad stakeholder representation to discuss common issues)</li> <li>DWA presentations to relevant Catchment Forums</li> </ul>	<ul> <li>Newsletters</li> <li>Press releases</li> <li>AMD webpage on the DWA site         <ul> <li>General information and reports</li> <li>Frequently asked Questions</li> </ul> </li> </ul>

Table 6.1: Summar	y of the two co	omponents of this	Communication	Strategy
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#### 6.1 Engagement with Key Stakeholders

Key stakeholders will be consulted in order to obtain existing information and data, technical input and expert perspectives. These inputs will inform the Study and will be secured through:

- A Study Stakeholder Committee (SSC), established by DWA to engage identified key stakeholders whose input is critical to the investigation, development and/ or implementation of the LTS. SSC members will be engaged with at certain milestones throughout the Study to obtain their input and discuss the draft outcomes of various components as the Study progresses. Three SSC meetings are envisaged for the duration of the Study. A list of the SSC members is included as Appendix B.
- **Technical workshops** with relevant experts and key stakeholders regarding the various study components, including but not limited to the geohydrology of the three basins and the possible treatment technologies that may apply to AMD.
- Focus Group meetings to discuss sector specific concerns and obtain their inputs, as is necessary, for example: with environmental NGOs, conservation groups and recreation and tourism, as well as with affected municipalities. An initial list (as envisaged at this stage) of the various organisations/ key individuals within each of these sectors/ groups is included in Appendix C. Other sectors/ groups may also have to be engaged with as the Study progresses.
- Individual consultation meetings with technical specialists and/ or representatives of key stakeholder groups, sectors or individuals in their personal capacity in order to gain their inputs to the Study.
- **Presentations by the DWA at catchment forum meetings** to engage stakeholders and obtain their input to the study, e.g. the Vaal Dam Reservoir Forum, Vaal Barrage Forum and Crocodile River Catchment Forum will be presented to as a high priority.

**Note:** Information on project outcomes for comment by SSC members and other key stakeholders, will be distributed in the form of discussion documents, technical summaries, specialist reports, presentation hand-outs, etc., and will be distributed by email, at meetings and on the AMD Aurecon web portal.

A final list of the meetings/ engagements held will be provided in Study Report 9: "Key Stakeholder Engagement and Communications".

#### 6.2 Communication to the Wider Stakeholder Group

The aim of communication to the wider stakeholder group is to:

- Inform stakeholders of the objectives, scope, progress and key outcomes of the Study; and
- Build further understanding of the AMD challenge.

The wider stakeholder group will be kept informed through:

- Distribution of newsletters to representatives of sectors of society/ stakeholder groups electronically, at Focus Group meetings, through the media and on the AMD webpage on the DWA website;
- It is assumed that the key stakeholders will also distribute information to their constituencies;
- Press releases distributed to the media by DWA Communication Services;
- Feedback/ responses to Frequently Asked Questions (FAQs) on the AMD webpage, on the DWA website; and
- Regular updates of information on the dedicated AMD webpage on the DWA website.

**Note:** Newsletters, press releases, etc. will inform and direct stakeholders to the AMD webpage on the DWA website where they will have access to reports, the latest Study information, and an FAQ document providing feedback on their comments and questions.

Wider stakeholder participation will be strengthened on commencement of the EIA process.

#### 6.3 Obtaining Stakeholder Input and providing Feedback

In addition to the opportunities afforded to key stakeholders to contribute information and provide technical input and knowledge to inform the Study, i.e. during SSC meetings, Focus Group meetings, individual meetings, etc., stakeholders (both the key stakeholders and the wider stakeholder group) will also be provided with opportunities to contribute constructive inputs to inform the Study by providing comments via a dedicated electronic mail box (amdsainfo@srk.co.za) to the Study Team (coordinated via the Study Communications Team).

This email address will be widely publicized in newsletters, press releases and will direct stakeholders to the AMD webpage on the DWA website where they will have access to reports and the latest study information.

In addition, provision for comments on technical reports, to be sent to the Study Team from key stakeholders, will be made by developing a dedicated Aurecon email address (amdsainfo@aurecongroup.co.za).

#### 6.3.1 Frequently Asked Questions (FAQ) Document

A FAQs document will be compiled and updated at certain intervals linked to key milestones in the study to reflect stakeholder comments/ questions and provide responses/ feedback to stakeholders as the study progresses. This document will be posted on the AMD webpage on the DWA website.

#### 6.3.2 AMD website

The Study Team will provide updated information and inputs throughout the Study for the AMD webpage on the DWA website, which is managed by the DWA. The webpage will be used to display information, including the technical reports relating to the Feasibility Study. It will also provide a platform for stakeholders to comment, and will provide feedback/ responses (as FAQs) on the key issues raised by stakeholders during the engagement process.

#### 6.3.3 Newsletters

Newsletters providing information on the progress of the Feasibility Study will be distributed to the wider stakeholder group at key milestones during the Study. Newsletters will be written in simple, non-technical language, visually illustrating key concepts as far as possible in order to afford accessibility to the information to the widest range of stakeholders.

It is envisaged that three newsletters will be distributed during the short duration of the Feasibility Study, linked to key milestones/ outcomes of the Study. The newsletters may also include a brief section on the STI in order to provide feedback to stakeholders on this parallel initiative.

Newsletters will be distributed as follows:

- Electronically to the full stakeholder database for the Study, as described earlier the majority of whom have email addresses;
- Posted on the DWA website;
- Distributed at stakeholder meetings;
- Distributed by DWA at Catchment Forum meetings; and
- Distributed by DWA regional offices.

#### 6.3.4 Press releases

It is likely that information on AMD in general and not just the LTS Feasibility Study will be published. The Feasibility Study Team, however, will provide input on the LTS into these press releases.

The same applies to media briefings and interviews.

#### 6.4 Stakeholder Engagement Report

The engagement process with key stakeholders and the communication activities with the wider stakeholder group, as well as all comments, feedback, inputs, and suggestions received from stakeholders during the Study engagement meetings, in writing, telephonically and via the AMD webpage on the DWA website will be collated into the Stakeholder Engagement Report (Study Report 9). The Report will also contain the stakeholder database, list of all engagement interactions with stakeholders, and the proceedings of the Focus Group meetings, and SSC meetings.

#### 6.5 Linkages to other initiatives

As mentioned above, one of the objectives of the communication strategy is to link with the various parallel initiatives that pertain to the management of AMD and to make provision for feedback on these initiatives as part of this study to both the key stakeholders and the wider stakeholder group. This will be achieved through:

- The provision for feedback and updates presented by representatives of the various parallel initiatives at the three SSC meetings that are planned for this Study. This includes feedback from the AMD STI Study Team, Vaal Strategy Steering Committee, CGS Ingress Study, Gauteng Department of Agricultural and Rural Development (GDARD) studies, CSIR research initiatives, the Hydro-geological Monitoring Committee, etc.;
- Standard inclusion of a brief summary in the LTS newsletters to provide stakeholders with feedback on progress and key developments in the STI process;
- Attendance by the study team of meetings related to parallel initiatives;; and
- Attendance and Presentations by DWA at conferences, e.g. the annual Water Institute of South Africa (WISA) Mine Water Division Conference.

#### 6.6 What Information will be shared – Confidential Reports

The information that will be shared via the platforms described above is mostly related to the technical components of the Study. It is anticipated that stakeholders can provide valuable inputs to these components since the stakeholder groups contains many individuals and organisations with extensive knowledge on AMD management. The wider public will also be informed about the general progress with the Study.

Information and deliverables related to the legal apportionment of liabilities and the procurement of the proposed solution will not be made available outside of the Study Team until the appropriate implementation process stage has been reached, as that may potentially compromise future procurement and legal processes. Other reports, while in draft form, will be available on the Study webpage (i.e. the Aurecon AMD Portal) to the various committee members for comment. Once finalised, these reports will be made available on the DWA website.

# 6.7 Provisional Action Plan for Key Stakeholder Engagement and Communication

The actual engagement and communication activities, methods and scheduling are detailed in the Provisional Action Plan in **Table 6.2**. These activities serve as a guide and will be refined and adapted to meet the specific needs of the Study, in collaboration with DWA Communication Services, as the Feasibility Study progresses. Interaction with the STI and the other directorates within the DWA will take place as per the Study programme and the requirements of the Study.

Month	Activity	Stakeholder Group/ Target audience	Method of engagement/ communication		
Study Initiati	Study Initiation Phase (February – July 2012)				
February 2012	Development of stakeholder database	Attached as Appendix A			
	Information gathering	Rand Water	Consultation meeting (refer to		
		ТСТА	Report 9 for complete list)		
		North West University			
March 2012	<b>Press release</b> (Commissioning of Study)	Wider stakeholder group and general public	Delivered in a statement by Minister Edna Molewa at the AMD media briefing in Randfontein on 22 March 2012.		
March 2012	Information sharing/	World Bank	Consultation meetings (refer		
	gathering and	National Treasury	to Report 9 for complete list)		
	discussions	Geohydrology Experts			
April 2012	Information sharing / gathering	DMR			
		FSE			
		CSIR			
Information ga Technology Pr and Informatio Vaal River Sys	Information gathering –	Technology providers:			
	and Information on the	Aveng Water			
	Vaal River System	ERWAT/ VitaOne8			
	strategy.	WUC			
		Eclipse			
		101 Other technology			
		providers			
		Vaal River System: WRP, Golder Associates, DWA			
May 2012	Study Stakeholder	Refer to Appendix B for	Two-day workshop on		
	Committee Meeting	a list of SSC members	2 and 3 May 2012		
	(To workshop Options Assessment Report)				
	First draft of Frequently Asked Questions (FAQ) Document	General public	Posted on AMD webpage on the DWA website.		

#### Table 6.2: Provisional Action Plan for Key Stakeholder Engagement and Communication

Month	Activity	Stakeholder Group/ Target audience	Method of engagement/ communication
	(Responses to key categories of comments on long-term study raised by stakeholders during TCTA engagement process)		
May 2012	Information gathering	Council for Geosciences	Consultation meetings (refer
June 2012		Dr Lesley Stoch	to Report 9 for complete list)
		Agricultural sector	
		University of Pretoria	
		MiWaTek	
	Information sharing/	Gold Reef City	
	gathering	Johannesburg Water	
Prefeasibility	/ (July – October 2012)		
July 2012	Newsletter (to introduce	All stakeholders on	Distributed as follows:
	feedback on Study	database and general public	Electronically to stakeholder database
	overview of the Vaal River Strategy, as well as		On AMD webpage on the DWA website.
	an insert of information on STIs)		<ul> <li>DWA regional offices, and via the Project Executive Committee (PEC), IGTT and Inter- Ministerial Committee (IMC).</li> <li>By DWA Communications at media briefings and DWA AMD-related events.</li> </ul>
	FAQ Document	Wider stakeholder group	Posted on AMD webpage on
	(updated with responses to key categories of comments following SSC meeting)	and general public	the DWA website.
September 2012	Technical Focus Group Meetings	<ul> <li>Environmental NGOs, conservation groups and tourism/ recreation</li> <li>Local and District Government – including affected municipalities</li> </ul>	Two workshops (one for each focus group) on 7 September 2012 (refer to Report 9 for complete list)
Feasibility (S	September – November 201	2)	
Oct 2012	Study Stakeholder Committee Meeting	Refer to <b>Appendix B</b> for list of SSC members	One-day workshop on 17 October 2012.
Nov 2012	Newsletter (on Study	All stakeholders on	To be distributed as follows:
	progress and outcomes of the Pre-feasibility phase	database and general public	Electronically to stakeholder database.
	progress of the STIs)		On AMD webpage on the DWA website.
			By DWA regional offices.

Month	Activity	Stakeholder Group/ Target audience	Method of engagement/ communication
			<ul> <li>By DWA Communications at media briefings and DWA AMD-related events</li> </ul>
	<b>Press release</b> (Study progress and key outcomes)	Wider stakeholder group and general public	<ul> <li>To be distributed as follows:</li> <li>By DWA Communications to their media network.</li> <li>Possible publication in the eWISA electronic</li> </ul>
Dec 2012: Registration of Interest and Request for Information (RfI)	<b>Press release</b> (Proposed registration of interest for providing services for the LTS for Management of AMD)	Potential service providers, including technology providers	newsletter. To be distributed as follows: • By DWA Communications to their media network. • Possible publication in the eWISA electronic newsletter.
	Advertisement (Registration of interest for providing services for the LTS for the Management of AMD)		Placement in at least 3     newspapers.
	<b>Notification</b> (Registration of interest for providing services for the LTS for the Management of AMD)		<ul> <li>Consider placement in Engineering News, and SAFCEC.</li> <li>Consider placement in DWA tender bulletin.</li> <li>AMD website</li> </ul>
	Meetings with technology providers		Meeting selected     providers for further     information gathering.
Dec 2012	FAQ Document (updated with responses to key categories of comments following SSC meeting)	Wider stakeholder group and general public	Posted on AMD webpage on the DWA website.
Nov/ Dec 2012	Presentations by DWA to catchment forums	See <b>Appendix C</b> for suggested forums	<ul> <li>Presentation by DWA Study Manager on study approach and progress.</li> </ul>
	Information sharing (as necessary)	<ul><li>For example:</li><li>Agricultural sector</li><li>Technology providers</li></ul>	<ul> <li>Individuals meetings as required.</li> <li>Sector based focus group meeting.</li> </ul>
	Information sharing to provincial/ local political level	Mayoral Committees of affected municipalities	<ul> <li>Presentation by DWA to:</li> <li>Mayoral Committees</li> <li>GDARD Provincial Engagement forum (in the process of being initiated)</li> </ul>

Month	Activity	Stakeholder Group/ Target audience	Method of engagement/ communication
Study closur	e (January – February 2013	3)	
Feb 2013	Study Stakeholder Committee Meeting	Refer to <b>Appendix B</b> for list of SSC members	One-day meeting expected to be in Feb 2013.
	(To present outcomes and recommendations of Study)		
Feb 2013	Newsletter (on Study	All stakeholders on	To be distributed as follows:
	outcomes and recommendations, as well	database and general public	Electronically to stakeholder database.
	STIs)		On AMD webpage on the DWA website.
			By DWA regional office.
			<ul> <li>By DWA Communications at media briefings and DWA AMD-related events.</li> </ul>
			At Focus Group, SSC and other meetings.
	Press release	Wider stakeholder group	To be distributed as follows:
	(Outcomes and ar recommendations of Feasibility Study)	and general public	<ul> <li>By DWA Communications to their media network.</li> </ul>
			<ul> <li>Possible publication in the eWISA electronic newsletter.</li> </ul>
	FAQ Document	Wider stakeholder group	Posted on AMD webpage
	(updated with responses to key categories of comments following SSC meeting)	and general public	on the DWA website.

## 7 COMMUNICATION ROLES AND RESPONSIBILITIES

The Study's governance structure and the functions and composition of the Study committees are shown in **Appendix D**.

The Feasibility Study is being undertaken by DWA (Sub-Directorate: Water Quality Planning) wherein the Study Administration Committee (SAC), which comprise of staff from DWA, as well as the Professional Service Provider (PSP), is responsible for the day-to-day management of the Study and ensuring that the Study is done according to the agreed scope and schedule.

The Study Management Committee (SMC), which is responsible for providing strategic guidance, consists of the SAC and members from other Government Departments and parastatals. The Study's deliverables are also to be reviewed by the SMC members. The SMC is chaired by the Directorate: Water Resource Planning Systems (WRPS), which falls under the Chief Directorate: IWRP.

The SSC includes the members of both the SAC and SMC, as well as Local and Provincial Government, key representatives from IAPs, and NGOs. The role of the SSC members is to provide inputs and comments as the Study progresses and their inputs are seen as crucial for the successful completion of the Study.

The Terms of Reference for the SMC and SSC are attached as **Appendix D** and **Appendix E**, respectively.

Giving effect to the communication strategy outlined in this report requires dedicated communications personnel and clear roles and responsibilities between the PSP and the Client (DWA). The key roles and responsibilities for each of these parties, including key stakeholder representatives, are listed in the sections below.

#### 7.1 Consultants

The PSP's Communication Team is responsible for:

- Implementing this Communication Strategy and Action Plan during the course of the Feasibility Study, in close collaboration with DWA Communication Services;
- Developing draft communication materials, e.g. newsletters, press releases, etc., based on information provided by the SAC and PSP's Technical Teams, with the understanding that no information may be released publicly without formal DWA approval;
- Colour printing of three newsletters (3 of 10 pages maximum each, 50 copies);
- Distribution (mainly electronically) of communication materials in collaboration with DWA Communication Services;
- Providing regular information obtained from the Feasibility Study Team to DWA for updating the AMD webpage on the DWA website;

- Proactively informing DWA Communication Services via the DWA Study Manager of potential risks and strong views and issues raised by stakeholders, during the engagement process and interaction by other Study Team members;
- Collating stakeholder comments, feedback, inputs, and suggestions received during engagement meetings and including it into the report on Key Stakeholder Engagement and Communications;
- Updating the above mentioned report after each round of consultation and distributing to DWA and the Technical Team for consideration in the relevant technical studies; and
- Developing and updating a FAQ Document, for DWA to post on the AMD webpage on the DWA website to provide feedback/ responses to stakeholders' questions and comments.

#### 7.2 DWA Personnel

Responsibilities related to communications which will be reverted to DWA include:

- DWA Communication Services is responsible for media interactions;
- The Minister of Water Affairs will communicate with the media on AMD;
- Only DWA Communications interacts with the media on AMD (Study Team to forward media queries via the Study Manager);
- Only DWA Communications approves and releases statements to the media on AMD;
- The DWA Study Director/ Deputy Director/ Manager will be responsible for providing the media with information on the Feasibility Study for the LTS where appropriate, as part of stakeholder engagement processes;
- DWA is responsible for updating and maintaining the AMD webpage on the DWA website with information provided by the Study Team; and
- DWA is responsible for the distribution of newsletters to regional offices, at DWA events and printing and distribution of additional copies of newsletters as necessary.

#### 7.3 Key Stakeholder Representatives

Key stakeholder representatives, such as those on the SSC, have a responsibility to:

- Attend meetings and comment timeously on Study reports;
- Distribute information, e.g. newsletters, to the constituencies/ organisations they represent as it is not possible to engage directly with everyone;
- Provide feedback/ regular updates to their organisations and constituencies; and
- Feed back into the Study any inputs and comments from their organisations.

# 8 CONCLUSIONS AND RECOMMENDATIONS

Current observations suggest that the overall communication around AMD is uncoordinated and fragmented, with stakeholders receiving information from various sources in a piecemeal manner. As mentioned earlier, this information is received via several initiatives, for example, media briefings by the Minister of Water Affairs, the TCTA EIA process, this Feasibility Study, academics/ researchers, environmental NGOs, and the media - all in different formats and with different messages. Hence, stakeholders currently do not see the bigger picture, or the clear-cut way forward in terms of a solution to what they perceive as a national crisis. This not only confuses and frustrates stakeholders, but creates negative perceptions and a lack of confidence in DWA's efforts and in the co-ordination of the various initiatives to solve the AMD challenge. Stakeholders also do not always understand all the facts about AMD, especially the related complexities and technical issues. Frequently, in situations when there is a lack of proactive sharing of the factual information and a lack of awareness and capacitybuilding, there is a tendency to create or embellish information. AMD has attracted and will continue to attract high levels of media attention. The reporting is often negative (in the perceived absence of a positive angle) reinforcing a pessimistic and fearful view of the AMD problem among members of the public. Some stakeholders have cited the challenges mentioned above in the engagement process for this Feasibility Study.

Given the above, the approach in this strategy is aimed at providing information and messages in context with the overall AMD approach. In addition, sufficient factual information in different forums and formats (as appropriate) will need to be presented, to facilitate stakeholder understanding and meaningful contribution to the Study.

Going forward beyond the Feasibility Study, it is recommended that (in addition to the stakeholder engagement that takes place as part of the regulatory authorisation process), DWA:

- Develops an overarching communication strategy and channel to ensure that communication activities around AMD related issues from the various initiatives are coordinated through a single entry point within the Department. This is to ensure that the messages received by the public shows DWA and other Government Departments speaking with "one voice" about all AMD related issues; and
- Embarks on a separate dedicated public relations/ awareness raising drive to change current negative perceptions and address the capacity building issues related to communication about AMD. If a PSP is appointed to do this, DWA must ensure that it is not the same PSP involved in the regulatory public consultation processes.

# REFERENCES

- Department of Water Affairs and Forestry (DWAF), South Africa, March 2009. Vaal River System: Large Bulk Water Supply Reconciliation Strategy: Executive Summary. Prepared by: DMM Development Consultants, Golder Associates Africa, SRK Consulting, WRP Consulting Engineers and Zitholele Consulting. DWAF Report Number: P RSA C000/00/4406/09.
- Western Utilities Corporation, South Africa, June 2009. Environmental Impact Assessment: Western Utilities Corporation Mine Water Reclamation Project - Comment and Response Report (June 2009). Prepared by: Western Utilities Corporation and Golder Associates. EIA Ref. No.: Gaut 002/09-10N0095 Golder Rep No.: 12064-8964-12.

# **Appendix A** Stakeholder Database

### Draft Stakeholder Database for the AMD Long-term Solution Feasibility Study

First Name	Last Name	Company	City
Irene	Lea		Dunnottar
Mzi	Majezi		P O Dube
RH	Kendall		
Thakane	Ntholi		
Chris	Viljoen		Johannesburg
Harrison	Pienaar		Ŭ
Derick	Zietsman		Johannesburg
Campbell	MacEachern		Johannesburg
С	Sutton		Johannesburg
Jan	Ratsoma		Johannesburg
Palesa	Diale		Ŭ
Blondie	Buang		
S	Ntuli		Johannesburg
Pieter	Schutte		Johannesburg
S	Olivier		Edenvale
Elize	Van Der Westhuizen		Johannesburg
Henry	Badenhorst		Johannesburg
Willie	Cook		5
Mandla	Mathope		
G	Kruger		Vereeniaina
Pierre	Bouloane		
George	De Beer		
Delareze	Joubert		
Jaco	La Cock		
Liezl	Scheepers		
Paulina	Radebe		
Saal	De Jager		
Themba	Nkwankwa		
Thomas	Munzhelele		
Mark	Biggars		Bosmont
Carel	Van Zyl	ACOM	
Bulelwa	Mshumpela	Action Aid	
Godfrey	Makomene	Affected Community Elected Representatives (Acer) & JMEEF	Johannesburg
Julius	Kleynhans	Afri Forum	Pretoria
Garfield	Kriger	African Environmental Development	
Ron	McMartin	African Products	Johannesburg
David	Loubser	African Products	
Tsietsi	Letanta	African Rainbow Minerals	Sandton
Andre	Wilkens	African Rainbow Minerals	Johannesburg
Patrice	Motsepe	African Rainbow Minerals/ Harmony	
Stephan	Potgieter	AGES	Vereeniging
David	Stoltz	AGES	Vereeniging
Gideon	Vosloo	Agri Envirolab	Bethal
Johnny	Moffat	Agri Gauteng	
Dirk	Hanekom	Agri Gauteng	Centurion

First Name	Last Name	Company	City
Piet	Nell	Agricultural Research Council	Pretoria
Yacob	Beletse	Agricultural Research Council - Roodeplaat	Pretoria
Ntsiki	Letsosa	Air Quality Mining and Energy	Johannesburg
Denesh	Thathian	Ancor Yeast	
Andrew	Barker	Andrew Barker Development Cosultant	Mondeor
Joel	Malan	Anglo Gold Ashanti	
Malcolm	Sutton	Anglo Gold Ashanti - ERGO	Johannesburg
Hennie	Geldenhuys	Anglo Gold - ERGO	Johannesburg
Eva	Masemola	Anglo American Thermal Coal	
Nicola	Torley	Anglo American Thermal Coal	
Peter	Obolensky	Aqua Dynamics Process Technology Limited	
Herman	Siebani	Aveng Water	
Lucky	Msibi	Balfour Sewage Works	
Elise	Tempelhoff	Beeld	
David	Van Wyk	Benchmarks	
Brown	Motsau	Benchmarks	
Kopano	Mokoena	Benchmarks & FSYP	
Jan	Van Den Berg	Benoni Agricultural Holdings	Ekurhuleni
Elmar	Pittendugh	Better Bond	Johannesburg
Carolyn	Ah Shene Verdoorn	BirdLife South Africa	Claremont
Nicola	Liversag	BKS	
Stuart	Seath	BKS	
Mike	Howard	BKS	
Hermien	Pieterse	BKS	Hatfield
Johan	Rossouw	BKS	Pretoria
Pieter	Colyn	Blue Waste to Energy	
Kelly	Martin	Bohlweki	Johannesburg
Paul	Da Cruz	Bohlweki	Johannesburg
Ingrid	Snyman	Bohlweki	Pretoria
Craig	Erasmus	Bohlweki	
Oupa	Apies	Bojanala Platinum District Municipality	Rustenbura
David	Inder	Bokomo Foods	
Johan	Stevn	Boot	
Kevin	Richardson	Botiheng Water	Johannesburg
Murrav	Reid	Brikkor	Johannesburg
Polla	Wolvaardt	Burger Pro	Johannesburg
Johan	Grobbler	Burnstone Gold Mine	
Philip	Lloyd	Cape Peninsula University of	
Jov	Summers	Carte Blanche	
Tracy	Geddes	Central Rand Gold	
Johan	du Toit	Central Rand Gold	Johannesburg
Duduzile	Mlambo	Centre for Applied Legal Studies (Wits School of Law)	Braamfontein
Dina	Townsend	Centre for Environmental Rights	Cape Town
Mellissa	Fourie	Centre for Environmental Rights	Cape Town
Michael	Harris	Chamber Group	Johannesburg
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First Name	Last Name	Company	City
Matome	Makwela	Chamber of Mines	Johannesburg
Nikisi	Lesufi	Chamber of Mines	Marshalltown
Stephina	Mudau	Chamber of Mines	Marshalltown
Eugene	Viljoen	Chamdor Group	Johannesburg
Chris	Brooker	Chris Brooker and Associates	<u></u>
Jan	Erasmus	City of Johannesburg Metropolitan	Johannesburg
Lebo	Molefe	City of Johannesburg Metropolitan Municipality	Johannesburg
Nozipho	Maduse	City of Johannesburg Metropolitan Municipality	Johannesburg
Cynthia	Wentzel	City of Johannesburg Metropolitan Municipality	Johannesburg
Hezekiel	Nkosi	City of Johannesburg Metropolitan Municipality	Johannesburg
Nomvula	Mofokeng	City of Johannesburg Metropolitan Municipality	Johannesburg
Chris	Rabaji	City of Johannesburg Metropolitan Municipality	Johannesburg
Nendy	Manzini	City of Johannesburg Metropolitan Municipality	Johannesburg
Р	Mkhonto	City of Johannesburg Metropolitan Municipality	Johannesburg
Tsholofelo	Phajane	City of Johannesburg Metropolitan Municipality	Johannesburg
Louis	Bastian	City of Johannesburg Metropolitan Municipality	Johannesburg
Xolani	Madlala	City of Johannesburg Metropolitan Municipality	Johannesburg
Antonino	Manus	City of Johannesburg Metropolitan Municipality	Braamfontein
Freddie	Letsoko	City of Johannesburg Metropolitan Municipality	Johannesburg
Pule	Makena	City of Johannesburg Metropolitan Municipality	Johannesburg
Dumisani	Tinghitsi	City of Johannesburg Metropolitan Municipality	Johannesburg
Daniel	Masemola	City of Johannesburg Metropolitan Municipality	Braamfontein
Mukondi	Masithi	City of Johannesburg Metropolitan Municipality	Johannesburg
Philip	Van Der Walt	City of Tshwane Metropolitan Municipality	Pretoria
Nicole	Barlow	Clean Water Foundation and Ekurhuleni Ratepayers Association	Johannesburg
Claire	Janisch	Cleaner Production	
Robert & Christene	Garbertt	Coalition Against Nuclear Energy (and various others)	Lanseria
Johanna	Smith	Coca Cola Canners	
Danita	Janse van Rensburg	Coca Cola Canners	Johannesburg
Chris	Mosing	Coca Cola Canners	Johannesburg
Rickie	van der Watt	Coca Cola Canners	Johannesburg
Lenton	van Heerden	Coffees of the World (Acid Solutions)	
Andiswa	Sibanyoni	Commission on Restitution of Land Rights: Gauteng and North West Provinces	Pretoria
llze	Hayward	Commission on Restitution of Land Rights: Gauteng and North West	Pretoria

First Name	Last Name	Company	City	
		Provinces		
Keith	Bristow	Commonwealth Scientific Industrial Research Organisation (CSIRO)	Clayton South VIC Australia	
Dolly	Ngali	Congress of South African Trade Unions (COSATU)		
Matserane	Wa Mapena	Congress of South African Trade Unions (COSATU)		
Dominic	Tweedie	Congress of South African Trade Unions (COSATU)	Braamfontein	
John	Broom	Consol Limited	Johannesburg	
Haile	Mengistu	Council for Geoscience		
Fhatuwani	Ramagwede	Council for Geoscience		
Leslie	Strachan	Council for Geoscience	Pretoria	
Fortress	Netili	Council for Geoscience	Pretoria	
Humberto	Saeze	Council for Geoscience	Pretoria	
Henk	Coetzee	Council for Geoscience	Pretoria	
Nikki	Funke	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
Paul	Oberholster	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
С	Moolman	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
Godfrey	Mvuma	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
Dave	Rogers	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
Phil	Hobbs	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
Benita	de Wet	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
Bettina	Genthe	Council for Scientific and Industrial Research (CSIR)	Brummeria Pretoria	
Lindsey	Smith	Cradle of Humankind	Johannesburg	
PJ	Mills	Cradle of Humankind World Heritage Site (South Africa)		
Roland	van Tonder	Crocodile West Irrigation Board	Koedoeskop	
Sebastiaan	Buiseman	Crosible	Johannesburg	
Deon	Grundling	Crown Gold Recoveries	Johannesburg	
Louis	Kleynhans	Crown Gold Recoveries	Johannesburg	
Hartmut	llgner	CSIR Mining	Pretoria	
Mercia	Komen	Custodian Project & Chronicle Environmental News Website	Bryanston	
Ed	Hardwick	Cwenga Technologies (Pty) Ltd		
Glen	Louwrens	Cymbian Enviro-Social Consulting Services		
Paula	Tolksdorff	Cymbian Enviro-Social Consulting Services		
Nicole	Bashow	Dane the Vlei Commitee	Johannesburg	
David	Dorling	DD Science		
Gareth	Morgan	Democratic Alliance (DA)	Cape Town	
Erol	Fransman	Denel Munition - Rheinmetall	Vereeniging	
Petrus	Cloete	Denel Munition - Rheinmetall	Vereeniging	
David	Klein	Department of Agriculture	Pretoria	
Piet	Theron	Department of Agriculture, Forestry and Fisheries	Vereeniging	
Puleng     Mofokeng     Department of Agriculture, Forestry and Fisheries     Silverton       Rudzani     Khameli     Department of Agriculture, Forestry and Fisheries     Silverton       R     Mashiane     Department of Agriculture, Forestry and Fisheries     Vereeniging       Thapelo     Loabile     Department of Agriculture, Forestry and Fisheries     Vereeniging       Zingisa     Phohlo     Department of Environmental Affairs     Pretoria       Grant     Waters     Department of Environmental Affairs     Pretoria       Vincent     Phukubje     Department of Environmental Affairs     Pretoria       Pumeza     Skepe     Department of Environmental Affairs     Pretoria       Stanley     Tshitwamulomoni     Department of Environmental Affairs     Pretoria       A     Naino     Department of Environmental Affairs     Pretoria       A     Naino     Department of Environmental Affairs     Pretoria       Amanda     Britz     Department of Environmental Affairs     Pretoria       Nolwa     Cobbinah     Department of Environmental Affairs     Pretoria       Lukas     Sindelo     Department	First Name	Last Name	Company	City
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Linda Ellis Department of Mineral Resources Johannesburg   Max Madubane Department of Mineral Resources Johannesburg	Mashudu	Maduka	Department of Mineral Resources	Johannesburg
Max     Madubane     Department of Mineral Resources     Johannesburg	Linda	Fllis	Department of Mineral Resources	Johannesburg
	Max	Madubane	Department of Mineral Resources	Iohannesburg
Nndwakhulu   Masera   Department of Mineral Resources   Vereeniging	Nndwakhulu	Masera	Department of Mineral Resources	Vereeniging

First Name	Last Name	Company	City
Umeesha	Naidoo	Department of Science and Technology (DST)	Pretoria
Shanna	Nienaber	Department of Science and Technology (DST)	Pretoria
Henry	Roman	Department of Science and Technology (DST)	Pretoria
Mahlori	Mashimbye	Department of Science and Technology (DST)	Pretoria
Candice	Willard	Department of Science and Technology (DST)	Pretoria
Allison	Hernandez- Macdonaldo	Department of Water Affairs (DWA)	Polokwane
Martha	Komape	Department of Water Affairs (DWA)	Polokwane
Barbara	Weston	Department of Water Affairs (DWA)	Pretoria
Bernie	Badenhorst	Department of Water Affairs (DWA)	Polokwane
James	Mofokeng	Department of Water Affairs (DWA)	Pretoria
Thabie	Rakgotho	Department of Water Affairs (DWA)	Pretoria
Thya	Pather	Department of Water Affairs (DWA)	Pretoria
Dragana	Pistic	Department of Water Affairs (DWA)	Protoria
Diagana	Rochoff	Department of Water Affairs (DWA)	Pretoria
Samanina	DOSTION Malla hala		Pretona
Louis		Department of Water Affairs (DWA)	
Dipitseng	Phaleng	Department of Water Affairs (DWA)	Pretoria
Armstrong	Simelane	Department of Water Affairs (DWA)	Pretoria
Kennedy	Mandaza	Department of Water Affairs (DWA)	Pretoria
Lebo	Mosoa	Department of Water Affairs (DWA)	Pretoria
Sanet	van Jaarsveld	Department of Water Affairs (DWA)	Pretoria
Fred	van Zyl	Department of Water Affairs (DWA)	Pretoria
Gregory	Paszczyk	Department of Water Affairs (DWA)	Pretoria
Smangele	Mgquba	Department of Water Affairs (DWA)	Pretoria
Wisani	Maluleke	Department of Water Affairs (DWA)	Pretoria
PJ	Groenewald	Department of Water Affairs (DWA)	Sasolburg
Juanita	van der Berg	Department of Water Affairs (DWA)	Pretoria
Phillimon	Khwinana	Department of Water Affairs (DWA)	Pretoria
Lesiba	Mabona	Department of Water Affairs (DWA)	
Tendavi	Makombo	Department of Water Affairs (DWA)	Protoria
Khotu	Namalili	Department of Water Affairs (DWA)	Protoria
Nationa		Department of Water Affairs (DWA)	Pretoria
Dendeni		Department of Water Affairs (DWA)	Pretoria
Rendani	Ndou	Department of Water Affairs (DWA)	Pretoria
Irevor	Khoza	Department of Water Affairs (DWA)	
N	Madlala	Department of Water Affairs (DWA)	
Portia	Chawane	Department of Water Affairs (DWA)	
Mishelle	Govender	Department of Water Affairs (DWA)	
Helgard	Muller	Department of Water Affairs (DWA)	
Zinhle	Khumalo	Department of Water Affairs (DWA)	
Dumisani	Maluleke	Department of Water Affairs (DWA)	
Victor	Maponya	Department of Water Affairs (DWA)	
Julius	Maydell	Department of Water Affairs (DWA)	
Crystal	Ngwenya	Department of Water Affairs (DWA)	
Martha	Ratsela	Department of Water Affairs (DWA)	
Sekwele	Ramogale	Department of Water Affairs (DWA)	

First Name	Last Name	Company	City
Alice	Simelane	Department of Water Affairs (DWA)	
Sifiso	Thwala	Department of Water Affairs (DWA)	
Percy	Khoza	Department of Water Affairs (DWA)	
Tlaila	Moleseng	Department of Water Affairs (DWA)	
Leon	Caldwell	Department of Water Affairs (DWA)	Potchefstroom
Trevor	Balzer	Department of Water Affairs (DWA)	Pretoria
Phillimon	Kwinana	Department of Water Affairs (DWA)	Pretoria
Ephraim	Matseba	Department of Water Affairs (DWA)	Pretoria
Resenga	Shibambo	Department of Water Affairs (DWA)	Pretoria
Moleseng	Tlaila	Department of Water Affairs (DWA)	Pretoria
Mbangiseni	Nepfumbada	Department of Water Affairs (DWA)	Pretoria
Ockie	Van Den Berg	Department of Water Affairs (DWA)	Pretoria
Peter	Pyke	Department of Water Affairs (DWA)	Pretoria
Sputnik	Ratau	Department of Water Affairs (DWA)	Pretoria
Themba	Khumalo	Department of Water Affairs (DWA)	Pretoria
Linda	Page	Department of Water Affairs (DWA)	Pretoria
Nigel	Adams	Department of Water Affairs (DWA)	Pretoria
Marius	Keet	Department of Water Affairs (DWA)	Pretoria
Jurgo	Van Wyk	Department of Water Affairs (DWA)	Pretoria
Jacqueline	Jay	Department of Water Affairs (DWA)	Pretoria
Bashan	Govender	Department of Water Affairs (DWA)	Pretoria
Eddie	Van Wyk	Department of Water Affairs (DWA)	Pretoria
Nemataheni	Thivhafuni	Department of Water Affairs (DWA)	Pretoria
Beason	Mwaka	Department of Water Affairs (DWA)	Pretoria
Rod	Schwab	Department of Water Affairs (DWA)	Pretoria
Pieter	Viljoen	Department of Water Affairs (DWA)	Pretoria
Hennie	Smit	Department of Water Affairs (DWA)	Pretoria
Barbara	Ngoasheng	Department of Water Affairs (DWA)	Pretoria
Ntombi	Mngoma	Department of Water Affairs (DWA)	Pretoria
Takalani	Thimisha	Department of Water Affairs (DWA)	Pretoria
Ernst	Bertram	Department of Water Affairs (DWA)	Pretoria
Solly	Mabuda	Department of Water Affairs (DWA)	Pretoria
Anil	Singh	Department of Water Affairs (DWA)	Pretoria
Tendani	Nditwani	Department of Water Affairs (DWA)	Pretoria
Seef	Rademeyer	Department of Water Affairs (DWA)	Pretoria
Deborah	Mochotlhi	Department of Water Affairs (DWA)	
Nancy	Mothebe	Department of Water Affairs (DWA)	Pretoria
Herman	Keuris	Department of Water Affairs (DWA)	Pretoria
Lerato	Bapela	Department of Water Affairs (DWA)	Pretoria
Fanus	Fourie	Department of Water Affairs (DWA)	Pretoria
Sediko	Mpopetsi	Department of Water Affairs (DWA)	
Metsi	Metsing	Dewet Aswagen	
Sibongile	Bambisa	Digby Wells Environmental	Johannesburg
Steve	Horak	Digby Wells Environmental	Johannesburg
Kirsten	Bradley	Digby Wells Environmental	Johannesburg
Marike	Fourie	Digby Wells: Associates	Johannesburg
Afrika	Masuku	Dihlabeng Municipality	-
М	Mofokeng	Dihlabeng Municipality	

First Name	Last Name	Company	City
Rudi	Du Toit	Disaster Management	
Susan	Cole	Dow Southern Africa (Pty) Ltd	
Honry	Course	Durban Roodepoort Deep (DRD) Gold	lobanneshura
пепту	Gouws	Ltd	Jonannesburg
Neville	Lane	Durban Roodepoort Deep (DRD) Gold	Johannesburg
Jaco	Schoeman	Durban Roodepoort Deep (DRD) Gold	Pretoria
Kevin	Kruger	Durban Roodepoort Deep (DRD) Gold Ltd	Potchefstroom
Doug	Jenner	Durban Roodepoort Deep (DRD) Gold Ltd	
Johan	Smit	Durban Roodepoort Deep (DRD) Gold Ltd	
С	Le Rousou	Durban Roodepoort Deep (DRD) Gold Ltd	
НJ	Kriel	Early Bird Farm	Standerton
Freek	Schoeman	Early Bird Farm	Standerton
Makoma	Lekalaka	Earthlife Africa	Johannesburg
Rachel	Adatia	Earthlife Africa	Johannesburg
Israel	Mosala	Earthlife Africa	Johannesburg
Ruweda	Mills	Earthlife Africa	Johannesburg
Fatima	Goondile	Earthlife Africa	Johannesburg
Rookaya	Ngwenya	Earthlife Africa	Johannesburg
Mabule	Mokhine	Earthlife Africa (Greenhouse Project)	Braamfontein
Judith	Taylor	Earthlife Africa and S A Water Caucus	Johannesburg
Koos	Wilken	East Rand Water Care Company (ERWAT)	Johannesburg
Loura	Roode	East Rand Water Care Company (ERWAT)	Johannesburg
Dries	Louw	East Rand Water Care Company (ERWAT)	Johannesburg
Fortune	Mabunda	East Rand Water Care Company (ERWAT)	
Johan	Hendriksz	East Rand Water Care Company (ERWAT)	Johannesburg
Johan	van der Linde	East Rand Water Care Company (ERWAT)	Johannesburg
Louwtjie	Engelbrecht	East Rand Water Care Company (ERWAT)	Johannesburg
Ziboneni	Godongwana	East Rand Water Care Company (ERWAT)	Norkem Park
Bob	Symons	Eclipse Management (Pty) Ltd	
Pieter	Van Eeden	EcoMonitor cc & GO EnviroScience	Johannesburg
Charles	Fourie	EcoSat	
Lehlohonolo	Moloi	Edwareb 226 cc	Johannesburg
Annemarie	Maurizi	Ekurhuleni Metropolitan Municipality	Johannesburg
Sarah	Lebetle	Ekurhuleni Metropolitan Municipality	Johannesburg
Maureen	Ansett	Ekurhuleni Metropolitan Municipality	
Rubin	Nzima	Ekurhuleni Metropolitan Municipality	Johannesburg
Aubrey	Mokgosi	Ekurhuleni Metropolitan Municipality	Springs
Bernard	Williamson	Ekurhuleni Metropolitan Municipality	Springs
Ivan	Kadungure	Ekurhuleni Metropolitan Municipality	Springs
Khaya	Ngema	Ekurhuleni Metropolitan Municipality	Springs

First Name	Last Name	Company	City
Lusanda	Mtolo	Ekurhuleni Metropolitan Municipality	Springs
Masele	Madihlaba	Ekurhuleni Metropolitan Municipality	Springs
Molwantwa	Nkoana	Ekurhuleni Metropolitan Municipality	Germiston
Rameshlal	Sheodi	Ekurhuleni Metropolitan Municipality	Springs
Queen	Duba	Ekurhuleni Metropolitan Municipality	Germiston
Slindokuhle	Hadebe	Ekurhuleni Metropolitan Municipality	Edenvale
Sonia	Mothodini	Ekurhuleni Metropolitan Municipality	Edenvale
Vuyelwa	Mabena	Ekurhuleni Metropolitan Municipality	Germiston
Lebogang	Moffat	Ekurhuleni Metropolitan Municipality	
Nonhlanhla	Mnisi	Ekurhuleni Metropolitan Municipality	
Paul	Du Preez	Ekurhuleni Metropolitan Municipality	Johannesburg
Smuts	Marais	Ekurhuleni Metropolitan Municipality	Johannesburg
Mankoana	Elvino	Ekurhuleni Metropolitan Municipality	Springs
Bennett	Nikani	Ekurhuleni Metropolitan Municipality	Germiston
Themba	Moganseli	Ekurhuleni Metropolitan Municipality	Springs
Callie	Smith	Ekurhuleni Metropolitan Municipality	
Dumisani	Gauze	Ekurhuleni Metropolitan Municipality	
Sope	Mokgadi	Ekurhuleni Metropolitan Municipality	
Precious	Mahlangu	Ekurhuleni Metropolitan Municipality	
Chuene	Zebedius	Ekurhuleni Metropolitan Municipality	
Cecilia	Rakgoale	Ekurhuleni Metropolitan Municipality	Johannesburg
Franscois	Meyer	Ekurhuleni Metropolitan Municipality	Johannesburg
Callie	Van Der Merwe	Ekurhuleni Metropolitan Municipality	Johannesburg
Barend	Deminey	Ekurhuleni Metropolitan Municipality	Johannesburg
Danie	Van Der Merwe	Ekurhuleni Metropolitan Municipality	Johannesburg
Sekhonyana	Lerothi	Ekurhuleni Metropolitan Municipality	Edenvale Johannesburg
Elsabeth	Van Der Merwe	Ekurhuleni Metropolitan Municipality	Edenvale
Dean	Stone	Ekurhuleni Metropolitan Municipality	Springs
Pieter	De Vries	Ekurhuleni Metropolitan Municipality	
Sibusiso	Biyela	Emfuleni Local Municipality	
Henry	Claasen	Emfuleni Local Municipality	Sasolburg
Avhashoni	Nevondo	Emfuleni Local Municipality	Sasolburg
Paul	Fairall	Emifula Riverine and Wetlands Remedial Consultants and Associates	Pretoria
Mike	Howard	EMSA	
Reuben	Phiri	EMSA	Sasolburg
Bridget	Corrigan	Endangered Wildlife Trust	Johannesburg
Yolan	Friedmann	Endangered Wildlife Trust	Parkview
Elke	Bey	Energy Caucus	Johannesburg
Sue	Bellinger	Enviro Fringe Services	Johannesburg
С	van Heerden	Enviro Park Riverlea	
Mike	McWilliams	Enviro-Sec Limited	
Mohlahli	Letona	Environmental Health	Witsieshoek
Daniel	Sibaya	Environmental Health Project (EHP)	Sasoiburg
Doreen	Khoza	Zamdela	Sasolburg
Britz	Reinders		Nelspruit
Dean	Lindecke	ERGO	Johannesburg

First Name	Last Name	Company	City
Dave	Rhodes	ERGO	Johannesburg
Annalize	Wentzel	Eskom	Sasolburg
Tebogo	Ndamase	Eskom	
Nandha	Govender	Eskom	Johannesburg
Meera	Mban	Eskom	
lan	Midgley	Eskom - Megawatt Park	Johannesburg
Ben	van der Walt	Eskom Grootvlei	Standerton
Charl	van der Merwe	Exxaro	Johannesburg
Johan	Fourie	Ezulwini Mining Company (Pty) Ltd (EMC) and First Uranium	Johannesburg
Eugene	Viljoen	Federation for Sustainable Environment (FSE)	Johannesburg
Simone	Liefferink	Federation for Sustainable Environment (FSE)	Johannesburg
Mariette	Liefferink	Federation for Sustainable Environment (FSE) & Public Environmental Arbiters	Rivonia
Koos	Pretorius	Federation for Sustainable Environment, Escarpment Env Protection Group & MLDPG	Rivonia
Sam	Kotsoane	Fezile Dabi - District Municipality (NFSDC)	
André	Van Zyl	Fezile Dabi District Municipality	Sasolburg
Gerhard	Homann	Fezile Dabi District Municipality	Sasolburg
Lerato	Molaba	Fezile Dabi District Municipality (FDDM)	
Nico	Nel	Fifth Season Investments 99 (Pty) Ltd; Educated Risk, Grootvlei Homeowners Ass	Strubenvale
Stuart	Dunsmore	Fourth Element	
Miya	Modise	FPOY	
Ken	Bouch	Fraser Alexander (FAWT) & MiWaTek	
David	Gonzalez	Fresh Farmers Growers	
Gideon	Viljoen	Fry's Metals	Johannesburg
Ramodise	Mekoa	G & W Base	Johannesburg
Mike	Baynes	G B Gold	Johannesburg
Kerry	Bobbins	Gauteng City-Region Observatory (GCRO)	
Calvin	Jonhasi	Gauteng Department of Agriculture & Rural Development	Johannesburg
Junior	Nkuna	Gauteng Department of Agriculture & Rural Development	Johannesburg
Piet	Muller	Gauteng Department of Agriculture and Rural Development	Johannesburg
Itholeng	Benedict	Gauteng Department of Agriculture and Rural Development	Johannesburg
Eric	Mulibana	Gauteng Department of Agriculture and Rural Development	Johannesburg
Felicia	Nemathanga	Gauteng Department of Agriculture and Rural Development	Johannesburg
Maryjane	Ramahlodi	Gauteng Department of Agriculture and Rural Development	Johannesburg
Malcolm	Mogotsi	Gauteng Department of Agriculture and Rural Development	Johannesburg
Dineo	Moloko	Gauteng Department of Agriculture and Rural Development	Johannesburg

First Name	Last Name	Company	City
Mpho	Muvhenga	Gauteng Department of Agriculture and Rural Development	Johannesburg
Phuti	Matlamela	Gauteng Department of Agriculture and Rural Development	Johannesburg
Quinton	Joshua	Gauteng Department of Agriculture and Rural Development	Johannesburg
Khayelihle	Ncuse	Gauteng Department of Agriculture and Rural Development	Johannesburg
Jabulani	Siyaya	Gauteng Department of Agriculture and Rural Development	
Christopher	Rakuambo	Gauteng Department of Agriculture and Rural Development	
Dineo	Mokolo	Gauteng Department of Agriculture and Rural Development	Johannesburg
Fhatuwani	Munyai	Gauteng Department of Agriculture and Rural Development	Johannesburg
Hlamalani	Khosa	Gauteng Department of Agriculture and Rural Development	
Jay Jay	Ncube	Gauteng Department of Agriculture and Rural Development	
Peter	Mills	Gauteng Department of Agriculture and Rural Development	Johannesburg
Thabile	Nzimande	Gauteng Department of Agriculture and Rural Development	
Willem	de Lange	Gauteng Department of Agriculture and Rural Development	
Xoliswa	Babelo	Gauteng Department of Agriculture and Rural Development	
Pirate	Ncube	Gauteng Department of Agriculture and Rural Development	Johannesburg
Rina	Taviv	Gauteng Department of Agriculture and Rural Development	Johannesburg
Keneuoe	Segele	Gauteng Department of Agriculture and Rural Development	Johannesburg
Gerson	Nethavhani	Gauteng Department of Agriculture and Rural Development	Johannesburg
Mpfareleni	Mashau	Gauteng Department of Agriculture, Conservation and Envirionment	Johannesburg
Liesl	Mostert	Gauteng Department of Agriculture, Conservation and Envirionment	
Lydia	Muditambi	Gauteng Department of Agriculture, Conservation and Envirionment	Johannesburg
Samantha	Braid	Gauteng Department of Agriculture, Conservation and Envirionment	
Umesh	Bahadur	Gauteng Department of Agriculture, Conservation and Envirionment	Johannesburg
Elias	Sithole	Gauteng Department of Local Government and Housing	Marshalltown
Killain	Mwiinga	Gauteng Department of Local Government and Housing	
Thomas	Walters	Gauteng Provincial Legislature	
Rachel	Masango	Gauteng Provincial Shared Services Centre	Pretoria
Fiso	Mbatha	Gauteng Tourism Authority	Newton
Caiphus	Netshishivhe	Gauteng Tourism Authority	Newton
Lance	Coogan	Gemini Environmental Group Ltd	
S	Skead	George Town	Germiston
Gerhard	Jansen van Vuuren	Germag Water Enterprises	
Jurgen	Dunn	Gert Sibande District Municipality	Pretoria

First Name	Last Name	Company	City
Mookgo	Nthebe	GKDF	
Danny	Ramsuchit	Gold Fields	
Wouter	Hamman	Gold One International Ltd	Springs
Loselo	Segwe	Gold One International Ltd	
Sibusiso	Sidu	Gold One International Ltd	Springs
Rex	Zorab	Gold One International Ltd	Randfontein
Johan	Moutan	Gold One International Ltd	Johannesburg
Sarel	Keller	Gold One International Ltd	Randfontein
Pierre	Kruger	Gold One International Ltd	Johannesburg
Joan	Goosen	Gold Reef City	Johannesburg
С	Grobler	Gold Reef City	Johannesburg
L	Du Preez	Gold Reef City	Johannesburg
Darrel	Phillips	Gold Reef City	Ormonde
James	Swan	Gold Reef City	Johannesburg
Sylvester	Nkwe	Goldfields	
Robert	Smith	Goldplats	Johannesburg
Sthembile	Makhombothi	Govan Mbeki Municipality	
Amos	Tshabalala	Govan Mbeki Municipality	
Thembi	Masilela	Govan Mbeki Municipality	
Т	Steenkamp	Green Energy	Johannesburg
Adam	Ferrial	Greenpeace	
Ferrial	Adam	Greenpeace	
Melita	Steele	Greenpeace	
Harry	Klemp	Greens Greens	Sasolburg
Phillip	de Jager	Grootvaly / Blesbokspruit Conservation Trust	Springs
Ewald	Meyer	Grootvaly / Blesbokspruit Conservation Trust	
Mike	Hood	Grootvaly / Blesbokspruit Conservation Trust	Johannesburg
JZ	Mqanyane	Grootvlei Development Organisation	
Jan	Moshodi-Rigale	Grootvlei Development Organisation	Springs
Trevor	Myeni	Grootvlei Development Organisation	Springs
Herbie	Trouw	Grootvlei Gold Mine	
Johan	Engelbrecht	Grootvlei Gold Mine	Pretoria
Bobby	Peek	Groundwork	Pietermaritburg
Gustav	Schümann	Haggie Steel Wire Rope (Pty) Ltd	Johannesburg
Keith	Warrener	Haggie Steel Wire Rope (Pty) Ltd	Johannesburg
Len	Rootman	Harmony Gold Mining Limited	Johannesburg
Louis	Sithole	Harmony Gold Mining Limited	
Robert	Gilmour	Harmony Gold Mining Limited	Johannesburg
Bonnie	Docherty	Harvard Business School (Human Rights Division)	Johannesburg
Μ	Shah	Harvard Business School (Human Rights Division)	Johannesburg
Steven	Bunce	Henley Conservancy	
Jim	Dinkens	Henley Conservancy	Sasolburg
Mike	Whitcutt	Highveld Biological Association & Energy Caucus	Johannesburg
Steve	Lurie	Hillside Farm	Standerton

First Name	Last Name	Company	City
Roley	Noffke	Hydromulch (Pty) Ltd	Johannesburg
Johan	Engelbrecht	Icon Insolvency	Mooikloof
J	Du Preez	Icon Insolvency	
Т	Williams	Ignis Financing	
Terry	Baker	lliso	Pretoria
Filippus	Du Plessis	Imbewu Ventures cc	
Carina	Burger	Impala Platinum Ltd Refineries	Springs
Timothy	Spandiel	Impala Platinum Ltd Refineries	Johannesburg
Mpho	Mabokela	Impala Platinum Ltd Refineries	Springs
Arrie	Van Vuuren	Independent Consultant	Pretoria
J	Geldenhuys	Independent Consultant	
L	Mazwai	Institutional Legislative Requirements	
Anne	Mayher	International Alliance on National Resources in Africa	
Richard	Bennet	IProp (Pty) Ltd	Johannesburg
Roelof	Barnard	ITC	Johannesburg
Gerhard	de la Porter	IWT-Industry AG	
Joseph	Thubana	Jerry Moloi Community Library	Etwatwa
Phyllis	Tlatsi	JMEEF	
Cebo	Mhlongo	Johannesburg City Parks	
Amanda	Nkomo	Johannesburg Water	Johannesburg
Mmare	Tsheko	Johannesburg Water	Johannesburg
Russel	Rimmer	Johannesburg Water	Johannesburg
Tony	Pitman	Johannesburg Water	Johannesburg
Phindi	Shuping	Johannesburg Water	Johannesburg
Jones	Mnisi	Johannesburg Water	Johannesburg
Boetie	Mashigo	Johannesburg Water	Johannesburg
Nyiko	Nyathi	Johannesburg Water	Marshalltown
Johann	De Wet	Johannesburg Water	Johannesburg
Shaun	Decon	Johannesburg Water	Johannesburg
Sydney	Cyster	Johannesburg Water	Johannesburg
Ariel	Mafejane	Johannesburg Water	Marshalltown
Mthokozisi	Ncube	Johannesburg Water	Johannesburg
Jerry	Mashishi	Johannesburg Water	Johannesburg
Ntshavheni	Mukwevho	Johannesburg Water	Braamfontein
Chris	Wayhgood	Jones and Wager	
Brand	Nthako	Jubilee SA	
Sharmaine	Jansen van Vuuren	Karan Beef	Sasolburg
George	Thom	Karbochem	
Koos	Theunissen	Karbochem	
Marinda	van Aswegen	Karbochem	Sasolburg
Aradhana	Dasarath	Karbochem	Sasolburg
Arisha	Ramnath	Karbochem	Sasolburg
Benny	Lichaba	Khumo Bathong Holdings	
Roxy	du Toit	Klipriver Suikerbosrand Conservacy	
S	du Toit	Klipriver Suikerbosrand Conservancy	
Noleen	Hill	Kliptown Development Forum (GKDF)	Johannesburg
Feizal	Gathoo	Kliptown Environmental Reference Group (Kerf Region 11)	

First Name	Last Name	Company	City
John	Legoale	Kliptown Environmental Reference Group KERG	
Alwyn	Laas	Kloof Gold Mine, Gold Fields	Johannesburg
Amelia	Briel	Knight Piesold	Johannesburg
Vanessa	Vermaak	Knotion	Johannesburg
Mashau	Mpfareleni	Kromdraai, Marievale Wetland - Ramsar Site	Johannesburg
Jannie	Rykaart	Krugersdorp Game Reserve	Mogale City
L	van de Linde	L Pack	Johannesburg
Hannes	van der Walt	Lafarge Gypsum Division	
Mike	Brucher	Land Owner	Vanderbijlpark
Mitchell	Krog	Land Owners Association of Magaliesburg (LOAM)	
Emma	Algotssom	Lawyers for Human Rights	Johannesburg
Andries	Nkabinde	Layiwe Trading Enterprise	
Michael	Power	Legal Resources Centre	Johannesburg
Naseema	Fakir	Legal Resources Centre	Johannesburg
Vusi	Hlatshwayo	Lekwa Local Municipality	Standerton
Seppi	Claassen	Lekwa Local Municipality	Standerton
М	Makhatha	Lekwa Local Municipality	Standerton
JG	van Wyk	Lekwa Local Municipality	Standerton
Melini	Hariram	Lethabo Power Station	
Carl	Woodhouse	Lethabo Power Station	Sasolburg
Du Toit	Human	LHL Consulting	Bethlehem
Edward	Bramley	Lime Chem (Pty) Ltd	Irene
Pieter	de Witt	Limpopo Department of Agriculture	Polokwane
Rene	Booysen	Lonmin Platinum	Johannesburg
Manie	du Toit	Macsteel Fluid Control	-
Nokukhanya	Radebe	Mafube Local Municipality	Frankfort
Z	Mofokeng	Mafube Municipality	
Roelf	le Roux	Magalies Water Board	Rustenburg
George	Fritz	Makoppa Irrigation Board	Thabazimbi
Rina	Myburgh	Malepa Holdings	
Jabu	Malungani	Maluti a Phofung Water (MAP Water)	
Tello	Mphuthi	Maluti a Phofung Water (MAP Water)	
Margot	Saner	Margot Saner & Associates (Pty) Ltd	Johannesburg
Shigeru	Yamaguchi	Marubeni Corporation	
РК	Maluleke	Member of Parliament	
Morne	de Jager	Menco Sedibeng Brewery	Pretoria
Dan	Sondela	Merafong Municipality	
Patrick	Ndzilane	Merafong Municipality	
Lindiwe	Nhlapho	Merafong Municipality	
Godfrey	Chauke	Merafong Municipality	
Adele	Hepburn	Metalloys	Sasolburg
Deon	du Plessis	Metalloys	
Heiko	Stoelting	Metalloys	
Riedawaan	Pillay	Metalloys	
Thokozile	Mathunzi	Metsimaholo Local Municipality	Sasolburg
D	Lubbe	Metsimaholo Local Municipality	Oranjeville

First Name	Last Name	Company	City
Sipho	Mosai	Mhlathuzi Water	Richards Bay
Jako	Verster	Midvaal Local Municipality	Sasolburg
Moffat	Ramabulana	Midvaal Local Municipality	Sasolburg
Franci	Hossack	Midvaal Local Municipality	Sasolburg
Jacky	Peterson	Midvaal Local Municipality	Sasolburg
Ben	Viljoen	Midvaal Local Municipality	Sasolburg
Johan	Venter	Midvaal Local Municipality	Sasolburg
Debra	Mogashoa	Midvaal Local Municipality	Sasolburg
Vicky	Henrico	Mintails SA	Mogale City
Robert	Freeman	Mintails SA (Pty) Ltd	Johannesburg
Nico	Strydom	Miracles/Ground Owner	Beckedan
Elize	Strydom	Miracles/Land Owner	Krugersdorp
Isao	Deki	Mitsubishi Heavy Industries, Ltd	
Dan	Mashitisho	Mogale City Local Municipality	Johannesburg
Samu	Mdlalose	Mogale City Local Municipality	
Johan	Labuschagne	Mogale City Local Municipality	Sasolburg
Elize	Mare	Mogale City Local Municipality	
Elize	More	Mogale City Local Municipality	Johannesburg
Johan	Esterhuizen	Mogale City Local Municipality	Mogale City
Mosele	Matlhaku	Mogale City Local Municipality	
Stephan	Du Toit	Mogale City Local Municipality	Mogale City
мс	Botha	Mogale City Local Municipality	Johannesburg
Angie	Mpshe	Mogale City Local Municipality	Mogale City
Andy	Mathibe	Mogale City Local Municipality	Mogale City
Emily	Mathe	Mogale City Local Municipality	Mogale City
Carina	Morgan	Mogale Gold Mine	
David	Mokebe	Mondi Fine Papers	Johannesburg
Guy	Butler	Mott MacDonald	
Mike	Ludick	Mpu Agriculture	Standerton
Zola	Kutsu	Mpumalanga Department of Agriculture & Land Administration	Ermelo
Dean	Muruven	MSA Group	
Thabo	Sekhobo	Mufatsanyana District Municipality	
Harry	Singleton	Murray & Roberts Limited	
Victor	Munnik	Mvula Trust	Johannesburg
Jurgen	Graupe	Nano Water Technologies Africa (Pty) Ltd (Blue Gold)	
Bob	Dehning	National Assoc of Conservancies (NACSA) Gauteng Conservancy Assoc (GCA)	Johannesburg
Brenda	Santon	National Council of the Society for Prevention of Cruelty to Animals (NSPCA)	
Jane	Marston	National Council of the Society for Prevention of Cruelty to Animals (NSPCA)	
Tumi	Monageng	National Economic Development and Labour Council (Nedlac)	Saxonworld
Orion	Phillips	National Nuclear Regulator	Pretoria
Patle	Mohajane	National Nuclear Regulator	Centurion
Mike	Muller	National Planning Commission (NPC) (Wits University School of Public &Dev	Bruma Johannesburg

First Name	Last Name	Company	City
		Mgt)	
Tumisang	Moleke	National Treasury	Pretoria
Petrus	Matji	National Treasury	Pretoria
Strover	Maganedisa	National Treasury	Pretoria
Adam	Letshele	National Union of Mineworkers SA	Johannesburg
		(NUM)	
Job	Matsepe	(NUM)	Johannesburg
Lennox	Mekuto	National Union of Mineworkers SA (NUM)	Johannesburg
Penny	Baabua	National Union of Mineworkers SA (NUM)	Johannesburg
Simon	Qhagi	National Union of Mineworkers SA	Johannesburg
Ncube	Jiba	National Union of Mineworkers SA (NUM)	Johannesburg
Piet	Matosa	National Union of Mineworkers SA (NUM)	Johannesburg
Frans	Baleni	National Union of Mineworkers SA (NUM)	Johannesburg
Peter	Bailey	National Union of Mineworkers SA (NUM)	Johannesburg
Mzwakhe	Nhlapho	National Union of Mineworkers SA (NUM)	Johannesburg
Patrick	Cebekhulu	Natref	Sasolburg
Tau	Nkitseng	Natref	Sasolburg
Cindy	Fourie	Nedbank	Johannesburg
Linda	Monye	New Heights	Oranjeville
Tomas	Persson	Ngonyezi	
T	Mokoena	Ngwathe Local Municipality	
Piet	de Jager	Nketoana Municipality	
V	Mkheta	Nketoana Municipality	
Johann	Tempelhoff	North West University	Potchefstroom
Leslie	Stoch	North West University	Potchefstroom
Elrísta	Annandale	North West University	Potchefstroom
Elize	van Eeden	North West University	Potchefstroom
Eric	Nealer	North West University	Potchefstroom
Frans	Waanders	North West University	Potchefstroom
Leon	van Rensburg	North West University	Potchefstroom
Frank	Winde	North West University	Potchefstroom
Jean	Vos	NuWater (Pty) Ltd	
Johan	Berg	Obaro	
Alan	Klempter	OMGH	Johannesburg
Bontle	Dithebe	Omnia	Sasolburg
Hanlie	Hattingh	Omnia	Johannesburg
Ockie	van Niekerk	Optima Agrik (Pty) Ltd	
Gary	Sagiv	P2W Ltd	
Irtaan	Kahan	PD Naidoo & Associates	
Dominique	Gilbert	Pelindaba Working Group	
Ferdie	Van Deventer	People of Wildlife	
Margaret	Maome	Petra Diamonds	Johannesburg
Madoda	Besani	Phumelela Local Municipality	Vrede

First Name	Last Name	Company	City
Норе	Mthembu	Phumelela Local Municipality	Vrede
Itumeleng	Rametse	Phumelela Municipality	
Dawie	Beukes	Pikitup	
Neville	Smith	Pikitup	
Rene	Potgieter	Potch Petitioners and Clay Disposal	Potchefstroom
Sharon	Hayes	Potch Petitioners and Clay Disposal	
ТG	Kruger	Potchefstroom City Council	Potchefstroom
Luther	Erasmus	Price Waterhouse Coopers	
Meiring	Du Plessis	Private Consultant	Faerie Glen Pretoria
Ralph	Jones	Process & Business Consultants	
John	Clayton	Project Assignments (SA) (Pty) Ltd	
Deele	Bolostro	(Projass) (Paques)	
Paulo	Dalestra	PROSEP	
Deiwei	Rovlovold	Protea Supermarket	
пенк	Deylevelu	Provincial Heritage Resources	
G	Botha	Authority- Gauteng	Johannesburg
М	Ramphele	Authority- Gauteng	Johannesburg
Adel	Wilson	PROXA	
Lekau	Hlabolwa	Q Habitat	
ТК	Gyedu-Ababio	Q Habitat	Johannesburg
Mninimuzi	Ncala	Q Habitat	Ŭ
Dandet	Seke	Q Habitat	
Tshepo	Nokaneng	Q Habitat	
Solly	Mathebula	Q Habitat	
Zelna	Franken	Rand Water	Johannesburg
Molefi	Rajele	Rand Water	Johannesburg
Francois	Van Wyk	Rand Water	Johannesburg
Phyllis	Serumula	Rand Water	Johannesburg
Solomon	Mathebula	Rand Water	Johannesburg
Prinsla	Moodley	Rand Water	Sasolburg
Heidi	Pretorius	Rand Water	Johannesburg
Kaajial	Durgapersad	Rand Water	Johannesburg
Noleen	Davis	Rand Water	Johannesburg
Alan	Campbell	Rand Water	Johannesburg
Percy	Khumalo	Rand Water	Johannesburg
Vusimuzi	Kubheka	Rand Water	Johannesburg
L	Jordan	Rand Water	Johannesburg
РТ	Chitaka	Rand Water	Johannesburg
Nicolene	van der Walt	Rand Water	Johannesburg
Reveck	Hariram	Rand Water	Johannesburg
Tawanda	Nyandoro	Rand Water	Johannesburg
Marc	de Fontaine	Rand Water	Johannesburg
Angie	Phaliso	Rand Water Foundation	Johannesburg
Dira	Modimogale	Randfontein Local Municipality	Randfontein
Arthur	Sampson	Randfontein Local Municipality	Randfontein
Nthabiseng	Mogale	Randfontein Local Municipality	Randfontein
Elsie	Uckermann	Randfontein Local Municipality	Randfontein

First Name	Last Name	Company	City
Madiba	Ramatlhape	Randfontein Local Municipality	Randfontein
Nokwazi	Ndlala	Randfontein Local Municipality	Randfontein
Diagiso	Matlanado	Randfontein Local Municipality	Randfontein
Richard	Magwanya	Randfontein Local Municipality	Randfontein
Shan	Holmes	Real Search	
Anthony	Richard	Realsearch Environmental & Legal Services	Johannesburg
Anthony	Duigan	Rhenosterspruit Nature Conservacy & Just Environmental Action	Bryanston
Nikite	Muller	Rhodes University	Johannesburg
Andrian	van Bart	Rison Groundwater Consulting	Krugersdorp
Hein	Duyts	RNE Pumps	Johannesburg
Altus	Feenstra	Robor Galvanizers	Johannesburg
Elana	Coreejes	Rodora Agri Forum	Johannesburg
PS	Rossouw	Rossouw and Associates	
Thys	Карр	Rowing South Africa	
Selwyn	Jackson	Rowing South Africa & Water Sports Facility Task Group	
Sandra	Botes	Royal Engineering	
Peter	Mackenzie	S&W Consulting Engineers	Polokwane
Wally	Klingenberg	Safripol (Pty) Ltd	Sasolburg
Jaco	van Wyk	Samancor	
Freddie	Viljoen	Sappi	Johannesburg
Steve	Walker	Sappi	Johannesburg
Stephen	van Staden	SAS Environmental	Johannesburg
Farai	Chamisa	Sasol	Johannesburg
Jana	Van De Linde	Sasol	Johannesburg
Ristoff	Van Zyl	Sasol	Sasolburg
Zain	Mohamed	Sasol	Sasolburg
Stephen	Mabena	Sasol	
Sudika	Ragoonandan	Sasol Corporate Affairs	Sasolburg
Ann	Naidoo	Sasol Infrachem	Sasolburg
Bob	Kleynjan	Sasol Infrachem	Sasolburg
Carl	Scholtz	Sasol Infrachem	Sasolburg
Pierre	Hugo	Sasol Infrachem	Sasolburg
Mosa	Vilakazi	Sasol Infrachem	Sasolburg
Robert	Stewart	Sasol Solvent and O & S	Johannesburg
Johan	Duvenhage	Sasol Solvents	
Niel	Fourie	Sasol Solvents and O & S	Johannesburg
Hans	Kruger	Sasol Technology	Sasolburg
Vierah	Hulley	Sasol Technology	Sasolburg
Neil	Paton	Sasol Technology, R & D	Sasolburg
Randal	Albertus	Sasol Technology, R & D	Sasolburg
Sheree	Béga	Saturday Star	
Bernard	Fourie	Save the Vaal	
Tom	Du Toit	Save the Vaal	
Bruce and Irene	Main	Save the Vaal	Oranjeville
Trevor	Stubbs	Save the Vaal	Zuurfontein
Coenie	Nel	Save the Vaal	Zuurfontein

First Name	Last Name	Company	City
Ester	Peta	Scaw Metals	Johannesburg
Hennie	van der Merwe	Scaw Metals	
С	Potgieter	Scaw Metals	
Deirdre	Lingenfelder	Scaw Metals	
Nicoletta	Pera	Scaw Metals	
Hennie	Schoeman	Scaw Metals	Johannesburg
Linda	Hall	Scaw Metals	Johannesburg
Gordon	Donaldson	Scaw Metals	
Lindy	Strever	Scaw Metals	Johannesburg
Pearl	Blommestyn	Scaw Metals	Johannesburg
Martin	Williams	Schlumberger Water Services	
Nico	Schneider	Seaton Thomson and Associates	Johannesburg
Vivian	Carver	Sedibeng Brewery	Johannesburg
Mbuyiselo	Kantso	Sedibeng District Municipality	Randfontein
Maureen	Dosoudil	Sedibeng United Business Forum	Vanderbijlpark
Marius	van Aardt	Sembcorp Utilities S A (Pty) Ltd	
Jochen	Schweitzer	Shango Solutions	Johannesburg
Wilfred	Mokoaleli	Sigma Mine	Ŭ
Anna	Akano	Socio-Economic Rights Institute of South Africa (SERI)	Braamfontein Johannesburg
Jackie	Dugard	Socio-Economic Rights Institute of South Africa (SERI)	Johannesburg
Billy	Majola	Soil Classification Working Group (SCWG)	
Sarah	Manka	Soil Classification Working Group (SCWG)	
Pulane	Nthoroante	Soil Classification Working Group (SCWG)	
Evelyn	Mosia	Soil Classification Working Group (SCWG)	
Andre	van der Merwe	Solidarity	
Wayne	de Jager	Sounds Extreme	Johannesburg
Phillip	Hine	South African Heritage Resources Agency (SAHRA)	Cape Town
Delysia	Weah	South African Human Rights Commission (SAHRC)	Braamfontein Johannesburg
Angela	Kariuki	South African Human Rights Commission (SAHRC)	Johannesburg
Janet	Love	South African Human Rights Commission (SAHRC)	Braamfontein
S	Ramohlale	South African Local Government Association (SALGA)	
Lulama	Xongwana	South African Local Government Association (SALGA)	
Jacqueline	Samson	South African Local Government Association (SALGA)	Johannesburg
William	Moraka	South African Local Government Association (SALGA)	Pretoria
Claudia	McKenzie	South African Mine Workers Union (SAMWU)	
Jeff	Rudin	South African Mine Workers Union (SAMWU)	
D	de Villiers	South African Nuclear Energy Corporation (NECSA)	
Immanda	Louw	South African Nuclear Energy Corporation (NECSA)	Pretoria

First Name	Last Name	Company	City
Arnaud	Faanhof	South African Nuclear Energy	Pretoria
Chris	Nkosi	South African Transport and Allied Workers Union (SATAWU)	
Hameda	Deedat	South African Water Caucus	
Desmond	D'Sa	South Durban Community Environmental Alliance (SDCEA)	
AN	Ngeyane	Springs Community Police Forum and Transnet Freight Rail Centre	Payneville
Heidi	Stoch	Square One Trust	
Rosemary	Anderson	Stonehaven on Vaal, Emfuleni Tourism Association & Sedibeng Interim RTO	Vanderbijlpark
Len	Jansen	Stop Mining in Magaliesburg Action Group (SMMAG)	Rivonia
Deborah	Lottering	Structured Credit & Finance Solutions Ltd UK & Strategic Int Resources RSA	
Abrie	Lottering	Structured Credit & Finance Solutions Ltd UK & Strategic Int Resources RSA	
Danie	Boshoff	Sun City	Sun City
Isa	Swart	Sun International	Sandton
Solwazi	Majola	Technology Innovation Agency (TIA)	Pretoria
Dirk	Schenk	Tenova Bateman Technologies	
John	Coetzee	Thuthuka Group Limited	Halfway House
Joseph	Gruber	Tiger Chemicals	Johannesburg
Jack	Monku	Tlokwe District Municipality	Vereeniging
Liandi	Bothma	Tlokwe District Municipality	Vereeniging
Kleintjie	Kleinhans	Tlokwe District Municipality	Vereeniging
Ray	van Rensburg	Tlokwe District Municipality	
Ben	Nell	Tlokwe District Municipality	Potchefstroom
George	Wynn	Toga Linings	Standerton
Jafta	Namo	Tongaat Hullet Starch – Klip River Mill	Johannesburg
Lorenzo	Naidoo	Tongaat Hullet Starch – Klip River Mill	Johannesburg
Mpho	Maditse	Tongaat Hullet Starch – Klip River Mill	
Andreas	Machinini	Tongaat Hullet Starch – Klip River Mill	Johannesburg
Jaques	Myburg	Tosa Pty Ltd	Johannesburg
Cassie	Smith	Tosas (Pty) Ltd	-
Anthony	Turton	Touchstone Resources	Johannesburg
Hesmarie	Pearson	Tox Solutions	Johannesburg
Liza	van der Merwe	Trans Caledon Tunnel Authority (TCTA)	
Т	Letsholo	Trans Caledon Tunnel Authority (TCTA)	
Т	Mapukata	Trans Caledon Tunnel Authority (TCTA)	
Richard	Holden	Trans Caledon Tunnel Authority (TCTA)	
Nigel	Rossouw	Trans Caledon Tunnel Authority (TCTA)	Centurion
Craig	Hasenjager	Trans Caledon Tunnel Authority (TCTA)	Pretoria
Johann	Claassens	Trans Caledon Tunnel Authority (TCTA)	Centurion
Sean	O'Beirne	Trans Caledon Tunnel Authority (TCTA)	Johannesburg

First Name	Last Name	Company	City
Wannie	Schribante	Transvaal Agricultural Union Gauteng	
Lynette	Du Plessis	Transvaal Agricultural Union SA	Silverton Pretoria
Bennie	Van Zyl	Transvaal Agricultural Union SA	Silverton Pretoria
Louis	Meintjies	Transvaal Agricultural Union (TAU) and National Water Forum (NWDF)	
Tanya	Goosen	Trendy Trading	
Jannie	Maree	Tshwane University of Technology (TUT	Pretoria
Errol	Hopton	TWP Projects	
Jacques	Hugo	UASA	
CE	Herold	Umfula Wempilo Consulting	
Siyabu	Manona	Umlingo Solutions	
Vuslat	Bayoglu	Umthombo Resources / Steynol (Pty) Ltd	Sandton
Luvhuwani	Mudau	Umthombo Resources / Steynol (Pty) Ltd	Johannesburg
Andre	Venter	United Association of South Africa (UASA)	
J	Hugo	United Association of South Africa (UASA)	
Antoinie	Mulaba	University of Johannesburg	Johannesburg
Francois	du Rand	University of Johannesburg	Johannesburg
Jan	Myburgh	University of Pretoria	Pretoria
Wayne	Truter	University of Pretoria	Hatfield/Pretoria
John	Annandale	University of Pretoria	Hatfield Pretoria
Michael	Van Der Laan	University of Pretoria / SASRI / Agri Gauteng	Pretoria
David	Roche-Kellly	University of the Witwatersrand	Johannesburg
Kate	Tissington	University of the Witwatersrand	
Stephan	Ekulo	University of the Witwatersrand	
Tracy	Humby	University of the Witwatersrand	
Terence	McCarthy	University of the Witwatersrand / Shango Solutions	Johannesburg
Mabutsama	Buang	Vaal Environmental Justice Alliance (VEJA)	
Setjele	Mofokeng	Vaal Environmental Justice Alliance (VEJA)	Sasolburg
Samson	Mokoena	Vaal Environmental Justice Alliance (VEJA)	Sasolburg
Veronica	Malakoane	Vaal Environmental Justice Alliance (VEJA)	
Rhona	Riet	Vaal Environmental Justice Alliance (VEJA)	
Nthabiseng	Leboha	Vaal Environmental Justice Alliance (VEJA)	
Lebohang	Mokoena	Vaal Environmental Justice Alliance (VEJA)	
Temba	Mjikane	Vaal Environmental Justice Alliance (VEJA)	Sasolburg
Booysen	Buang	Vaal Environmental Justice Alliance (VEJA)	
Dimakatso	Tsitsi	Vaal Environmental Justice Alliance (VEJA)	Nelspruit
Phineas	Malapela	Vaal Environmental Justice Forum	Excom

First Name	Last Name	Company	City
Jan	Jooste	Vaal University of Technology	
J	Human	Vaalchem	
Steven	Vorster	Veolia Water Solutions &	
Shafick	Adams	Water Research Commission	Gezina Pretoria
Jo	Burgess	Water Research Commission	Gezina Pretoria
Surprise	Letlhake	Water Solutions Southern Africa (WSSA)	
Chris	Schoombee	Water Solutions Southern Africa (WSSA)	
Phil	Van Der Merwe	Watsol	
Mashwambasa	Mpondo	West Rand Agricultural Forum	Westonaria
Wiekus	Myburgh	West Rand District Municipality	Randfontein
Sylvia	Mcungeli	West Rand District Municipality	Randfontein
Herina	Hamer	West Rand District Municipality	Randfontein
Susan	Stoffberg	West Rand District Municipality	Randfontein
Estelle	Du Toit	West Rand District Municipality	Randfontein
Zakhele	Dlamini	West Rand District Municipality	Randfontein
Musa	Zwane	West Rand District Municipality	Randfontein
Louis	Roos	West Witwatersrand Gold Mines	Johannesburg
Bertie	Steytler	Western Utilities Corporation	
Lemson	Betha	Wildlife and Environment Society of South Africa (WESSA)	Bryanston Johannesburg
Garth	Barnes	Wildlife and Environment Society of South Africa (WESSA)	Johannesburg
Karin	Marx	Wildlife and Environment Society of South Africa (WESSA)	Johannesburg
John	Wesson	Wildlife and Environment Society of South Africa WESSA)	Johannesburg
Colin	Coreejes	Witfontein Action Group	Johannesburg
Johnny	de Araujo	Witkoppie Farm	Gillview Johannesburg
Tracy-Lynn	Field	Wits Law School	Johannesburg
Grant	Cawthorn	Wits University	Johannesburg
Maryna	Storie	Wits University GPG	Johannesburg
Thomani	Manungufala	Working for Wetlands	Pretoria
Marcus	Wijnen	World Bank	Pretoria
Cathy	Thatsa	World Bank	Lynnwood Pretoria
Manuel	Marino	World Bank	Lynnwood Pretoria
David	Sislen	World Bank	Lynnwood Pretoria
Claus	Astrup	World Bank	Lynnwood Pretoria
Wolf	Pohl	World Bank	Lynnwood Pretoria
Liz	Sherwood	World Bank	Lynnwood Pretoria
Subethri	Naidoo	World Bank	Lynnwood Pretoria
Helena	Naber	World Bank	Lynnwood Pretoria
Marcus	Wishart	World Bank	Lynnwood Pretoria

First Name	Last Name	Company	City
Joel	Kolker	World Bank	Lynnwood Pretoria
Michael	Webster	World Bank	Lynnwood Pretoria
Pieter	van Rooyen	WRP Consulting Engineers (Pty) Ltd	Pretoria
Gert	Steenkamp	Yeast Pro	Johannesburg
Kobus	van der Westhuizen	Yeast Pro	Johannesburg
Peter	Arderne	Yellow Fish Working Group (FOSAF)	
Charl	van der Merwe	Zincor	Springs

# Appendix B List of Study Stakeholder Committee Members

## Study Stakeholder Committee for the AMD Long-term solution Feasibility Study

First Name	Last Name	Company	City
Dirk	Hanekom	Agri Gauteng	Centurion
Yacob	Beletse	Agricultural Research Council - Roodeplaat	Pretoria
Stephina	Mudau	Chamber of Mines	Marshalltown
Daniel	Masemola	City of Johannesburg Metropolitan Municipality	Braamfontein
Henk	Coetzee	Council for Geoscience	Pretoria
Phil	Hobbs	Council for Scientific and Industrial Research (CSIR)	Pretoria
Amanda	Britz	Department of Environmental Affairs (DEA)	Pretoria
Susan	Malebe	Department of Mineral Resources (DMR)	Johannesburg
Henry	Roman	Department of Science and Technology (DST)	Pretoria
Nigel	Adams	Department of Water Affairs (DWA)	Pretoria
Trevor	Balzer	Department of Water Affairs (DWA)	Pretoria
Fanus	Fourie	Department of Water Affairs (DWA)	Pretoria
Jacqueline	Jay	Department of Water Affairs (DWA)	Pretoria
Marius	Keet	Department of Water Affairs (DWA)	Pretoria
Herman	Keuris	Department of Water Affairs (DWA)	Pretoria
Solly	Mabuda	Department of Water Affairs (DWA)	Pretoria
Nancy	Mothebe	Department of Water Affairs (DWA)	Pretoria
Beason	Mwaka	Department of Water Affairs (DWA)	Pretoria
Peter	Pyke	Department of Water Affairs (DWA)	Pretoria
Seef	Rademeyer	Department of Water Affairs (DWA)	Pretoria
Sputnik	Ratau	Department of Water Affairs (DWA)	Pretoria
Rod	Schwab	Department of Water Affairs (DWA)	Pretoria
Anil	Singh	Department of Water Affairs (DWA)	Pretoria
Nemataheni	Thivhafuni	Department of Water Affairs (DWA)	Pretoria
Jurgo	van Wyk	Department of Water Affairs (DWA)	Pretoria
Eddie	van Wyk	Department of Water Affairs (DWA)	Pretoria
Pieter	Viljoen	Department of Water Affairs (DWA)	Pretoria
Elsabeth	van der Merwe	Ekurhuleni Metropolitan Municipality	Edenvale
Mariette	Liefferink	Federation for a Sustainable Environment (FSE) & Public Environmental Arbiters	Rivonia
Koos	Pretorius	Federation for a Sustainable Environment and MLDPG	Rivonia
Rina	Taviv	Gauteng Department of Agriculture and Rural Development	Johannesburg
Elias	Sithole	Gauteng Department of Local Government and Housing	Marshalltown
Ariel	Mafejane	Johannesburg Water	Marshalltown
Ntshavheni	Mukwevho	Johannesburg Water	Braamfontein

First Name	Last Name	Company	City
Stephan	du Toit	Mogale City Local Municipality	Mogale City
Emily	Mathe	Mogale City Local Municipality	Mogale City
Andy	Mathibe	Mogale City Local Municipality	Mogale City
Tumi	Monageng	National Economic Development and Labour Council (Nedlac)	Saxonworld
Strover	Maganedisa	National Treasury	Pretoria
Reveck	Hariram	Rand Water	Johannesburg
Tawanda	Nyandoro	Rand Water	Johannesburg
Maliba	Ramatlhape	Randfontein Local Municipality	Randfontein
Zain	Mohamed	Sasol	Sasolburg
Trevor	Stubbs	Save the Vaal	Zuurfontein
Janet	Love	South African Human Rights Commission (SAHRC)	Braamfontein
William	Moraka	South African Local Government Association (SALGA)	Pretoria
Immanda	Louw	South African Nuclear Energy Corporation (NECSA)	Pretoria
Johann	Claassens	ТСТА	Centurion
Solwazi	Majola	Technology Innovation Agency (TIA)	
Bennie	van Zyl	Transvaal Agricultural Union SA	Silverton Pretoria
Phineas	Malapela	Vaal Environmental Justice Forum	Excom
Jo	Burgess	Water Research Commission	Gezina Pretoria
Danny	Govender	West Rand District Municipality	
Herina	Hamer	West Rand District Municipality	Randfontein
Mike	Muller	Wits University School of Public and Development Management/National Planning Commission	Bruma Johannesburg
Manuel	Marino	World Bank	Lynnwood Pretoria
Marcus	Wishart	World Bank	Lynnwood Pretoria



# Appendix C Focus Group Sectors and Catchment Forums

### **Focus Group Sectors**

First Name	Last Name	Company	City
Bulelwa	Mshumpela	Action Aid	Johannesburg
Godfrey	Makomene	Affected Community Elected Representatives (Acer) & Johannesburg Mining Forum (JMEEF)	Johannesburg
Elise	Tempelhoff	Beeld	Johannesburg
Brown	Motsau	Benchmarks	Johannesburg
David	Van Wyk	Benchmarks	Johannesburg
Carolyn	Ahshene Verdoorn	BirdLife South Africa	Johannesburg
Mellissa	Fourie	Centre for Environmental Rights	Cape Town
Freddie	Letsoko	City of Johannesburg Metropolitan Municipality	Johannesburg
Antonino	Manus	City of Johannesburg Metropolitan Municipality	Johannesburg
Daniel	Masemola	City of Johannesburg Metropolitan Municipality	Johannesburg
Nomvula	Mofokeng	City of Johannesburg Metropolitan Municipality	Johannesburg
Chris	Rabaji	City of Johannesburg Metropolitan Municipality	Johannesburg
Nicole	Barlow	Clean Water Foundation and Ekurhuleni Ratepayers Association	Johannesburg
Robert	Garbertt	Coalition Against Nuclear Energy (and various others)	Lanseria
Christene	Garbertt	Coalition Against Nuclear Energy (and various others)	Lanseria
Lindsey	Smith	Cradle of Humankind	Johannesburg
Mercia	Komen	Custodian Project & Chronicle Environmental News Website	Johannesburg
Fatima	Goondie	Earthlife Africa	Johannesburg
Ruweida	Mills	Earthlife Africa	Johannesburg
Israel	Mosala	Earthlife Africa	Johannesburg
Rookaya	Ngwenya	Earthlife Africa	Johannesburg
Judith	Taylor	Earthlife Africa	Johannesburg
Rachel	Adatia	Earthlife Africa (Greenhouse Project)	Johannesburg
Mabule	Mokhine	Earthlife Africa (Greenhouse Project)	Johannesburg
Ziboneni	Godongwana	East Rand Water Care Company (ERWAT)	Kempton Park
Koos	Wilken	East Rand Water Care Company (ERWAT)	Johannesburg
Pieter	Van Eeden	Eco Monitor	Johannesburg
Cecilia	Rakgoale	Ekurhuleni Metropolitan Municipality	Johannesburg
Elsabeth	Van Der Merwe	Ekurhuleni Metropolitan Municipality	Edenvale
Sibusiso	Biyela	Emfuleni Local Municipality	Vanderbijlpark
Bridget	Corrigan	Endangered Wildlife Trust (EWT)	Johannesburg
Yolan	Friedmann	Endangered Wildlife Trust (EWT)	Johannesburg
Elke	Bey	Energy Caucus	Johannesburg

First Name	Last Name	Company	City
Mariette	Liefferink	Federation for Sustainable Environment (FSE) & Public Environmental Arbiters (PEA)	Johannesburg
Simone	Liefferink	Federation for Sustainable Environment (FSE) & Public Environmental Arbiters (PEA)	Johannesburg
Koos	Pretorius	Federation for Sustainable Environment (FSE) & MLDPG	Johannesburg
Eugene	Viljoen	Federation for Sustainable Environment (FSE)	Johannesburg
Rina	Taviv	Gauteng Department of Agriculture and Rural Development (GDARD)	Johannesburg
Joan	Goosen	Gold Reef City	Johannesburg
Darrel	Phillips	Gold Reef City	Johannesburg
Jimmy	Swan	Gold Reef City	Johannesburg
Ferrial	Adam	Greenpeace	Johannesburg
Melita	Steele	Greenpeace	Johannesburg
Bobby	Peek	Groundwork	Pietermaritzburg
Mike	Whitcutt	Highveld Biological Association & Energy Caucus	Johannesburg
Anne	Mayher	International Alliance on National Resources in Africa (IANRA)	Johannesburg
Ariel	Mafejane	Johannesburg Water	Johannesburg
Ntshavheni	Mukwevho	Johannesburg Water	Johannesburg
Mthokozisi	Ncube	Johannesburg Water	Johannesburg
Brand	Nthako	Jubilee SA	Johannesburg
Jannie	Rykaart	Krugersdorp Game Reserve	Mogale City
Mitchell	Krog	Land Owners Association of Magaliesburg (LOAM)	Johannesburg
Emma	Algotssom	Lawyers for Human Rights	Johannesburg
Naseema	Fakir	Legal Resources Centre	Johannesburg
Michael	Power	Legal Resources Centre	Johannesburg
Vicky	Henrico	Mintails SA	Mogale City
Elize	Strydom	Miracles/ Land Owner	Krugersdorp
Stephan	Du Toit	Mogale City Local Municipality	Mogale City
Emily	Mathe	Mogale City Local Municipality	Mogale City
Andy	Mathibe	Mogale City Local Municipality	Mogale City
Angie	Mpshe	Mogale City Local Municipality	Mogale City
Victor	Munnik	Mvula Trust	Johannesburg
Bob	Dehning	National Association of Conservancies (NACSA) & Gauteng Conservancy Association (GCA)	Johannesburg
Jane	Marston	National Council of the Society for Prevention of Cruelty to Animals (NSPCA)	Johannesburg
Louis	Meintjies	National Water Forum (NWDF) and Transvaal Agricultural Union (TAU SA)	Johannesburg
Johann	Tempelhoff	North West University (NWU)	Potchefstroom
Dominique	Gilbert	Pelindaba Working Group	Johannesburg

First Name	Last Name	Company	City
Rene	Potgieter	Potch Petitioners and Clay Disposal	Potchefstroom
Leslie	Stoch	Private Capacity/ North West University (NWU)	Potchefstroom
Richard	Magwanya	Randfontein Local Municipality	Randfontein
Diagiso	Matlanado	Randfontein Local Municipality	Randfontein
Dira	Modimogale	Randfontein Local Municipality	Randfontein
Madiba	Ramatlhape	Randfontein Local Municipality	Randfontein
Arthur	Sampson	Randfontein Local Municipality	Randfontein
Solomon	Mathebula	Rand Water	Johannesburg
Tawanda	Nyandoro	Rand Water	Johannesburg
Shan	Holmes	Real Search	Johannesburg
Anthony	Duigan	Rhenosterspruit Nature Conservacy	Johannesburg
Selwyn	Jackson	Rowing South Africa	Johannesburg
Coenie	Nel	Save the Vaal	Zuurfontein
Trevor	Stubbs	Save the Vaal	Zuurfontein
Mbuyiselo	Kantso	Sedibeng District Municipality	Randfontein
Maureen	Dosoudil	Sedibeng United Business Forum	Vanderbijlpark
Jackie	Dugard	Socio-Economic Rights Institute of South Africa (SERI)	Johannesburg
Angela	Kariuki	South African Human Rights Commission (SAHRC)	Johannesburg
William	Moraka	South African Local Government Association (SALGA)	Pretoria
Desmond	D'Sa	South Durban Community Environmental Alliance (SDCEA)	Durban
Rosemary	Anderson	Stonehaven on Vaal, Emfuleni Tourism Association & Sedibeng Interim RTO	Vanderbijlpark
Len	Jansen	Stop Mining in Magaliesburg Action Group (SMMAG)	Johannesburg
Abrie	Lottering	Structured Credit & Finance Solutions Ltd (UK) Strategic International Resources (RSA)	Johannesburg
Deborah	Lottering	Structured Credit & Finance Solutions Ltd (UK) Strategic International Resources (RSA)	Johannesburg
Danie	Boshoff	Sun City	Sun City
lsa	Swart	Sun International	Sandton
Anthony	Turton	Touchstone Resources	Johannesburg
Phineas	Malapela	Vaal Environmental Justice Forum	Excom
Jan	Jooste	Vaal University of Technology & Iscor Innovation Centre	Vanderbijlpark
Estelle	Du Toit	West Rand District Municipality	Randfontein
Herina	Hamer	West Rand District Municipality	Randfontein
Susan	Stoffberg	West Rand District Municipality	Randfontein

First Name	Last Name	Company	City
Garth	Barnes	Wildlife and Environment Society of South Africa (WESSA)	Johannesburg
John	Wesson	Wildlife & Environment Society of South Africa (WESSA) - Northern Areas	Johannesburg
Peter	Arderne	Yellow Fish Working Group (FOSAF)	Johannesburg

## **Catchment Forums**

First Name	Last Name	Company	City
Paul	Fairall	Jukskei River Catchment Area Management Forum, Wetlands in Crisis-Gauteng & Wetland Society of South Africa.	Pretoria
PS	Rossouw	Jukskei River Catchment Area Management Forum, Wetlands in Crisis-Gauteng & Wetland Society of South Africa/Rossouw and Ass	Johannesburg
Mashau	Mpfareleni	Kromdraai, Marievale Wetland - Ramsar Site	Johannesburg



# Appendix D Study Management Committee Terms of Reference



## FEASIBILITY STUDY FOR A LONG-TERM SOLUTION TO ADDRESS THE ACID MINE DRAINAGE ASSOCIATED WITH THE EAST, CENTRAL AND WEST RAND UNDERGROUND MINING BASINS

STUDY MANAGEMENT COMMITTEE (SMC)

TERMS OF REFERENCE

### 1. INTRODUCTION

Acid Mine Drainage (AMD) on the Rand Mining Areas has been a severe environmental challenge for many years. The Inter Ministerial Committee in respect of AMD, provided some direction as toward the way forward. In this regard the implementation of short-term solutions is underway on authority of a directive issued by the Minister of Water Affairs to the Trans Caledon Tunnel Authority (TCTA). Apart from the short-term solutions, long-term solutions need to be investigated and the objective of this study is to determine the most feasible long-term solution to the AMD situation in the West, Central and East Rand underground mining Basins. A feasible solution will be one that is sustainable technically sound, economically viable, institutionally feasible and legally acceptable. As such, this study's focus is not only on the technical aspects of a long term solution (in terms of treatment options), but also on legal, economic, financial and institutional aspects. In addition, it needs to be understood that the Study is one component of the larger picture and that other parallel actions are in process.

The study goal is to investigate and recommend a feasible long-term solution to the AMD problems emerging in the study area, in order to ensure long-term water supply security and continuous fitness for use of Vaal River water. The study area is restricted to the Eastern, Central and West Rand Mining Basins, to be considered at in the context of the Vaal River water supply area.

#### 2. STUDY GOVERNANCE STRUCTURE

Various stakeholders need to be consulted during study execution, while study progress and outcomes also need to be communicated appropriately. As such, the study requires appropriate governance structures. The governance of the study is explained in the attached diagram.

The Minister and the Department of Water Affairs are the organs of state that take responsibility for the Study.

The Minister and Department is supported in this process by other stakeholders such as other Government, Semi-Government and private institutions. The Inter-Ministerial Committee (IMC), the Intra-Government Task Team (IGTT) and the Project Executive Committee (PEC) all have specific coordination and control roles in this process. The PEC, IGTT and the IMC need to receive reports from DWA regarding the progress, issues, outcomes and recommendations of the Study.

The Chief Directorate: Integrated Water Resources Planning is supported by the members represented on the SSC. In this regard, the representatives from different spheres of Government, parastatals and institutions, together with private sector, representatives from industries and non-governmental organisations represent key stakeholders. They need to assist the DWA by providing broad level inputs on principles, guidance, direction and impacts, etc.

The SMC comprise of Governmental representatives that need to support DWA in the management of the Study ond coordination with other parallel actions. Other significant and current parallel actions identified by the IMC that are relevant are for e.g.:

- The STS actions managed by TCTA;
- The ingress study by CGS;
- Environmental key study by DEA;
- Groundwater monitoring lead by DWA.

There are also other initiatives that are important such as:

- The GDARD study on rehabilitation of mine dumps;
- CSIR studies;
- Study regarding the Cradle of Human Kind, etc.



### 3. OBJECTIVE OF THE STUDY MANAGEMENT COMMITTEE (SMC)

The main objective of the SMC is to provide support to the Directorate Water Resource Planning Systems with regard to the direction and outcomes of the Feasibility Study. The official accountability of the Study lies with the DWA Manager who will need the support and advice of the SMC in decision-making.

### 4. FUNCTIONS And RESPONSIBILITIES

Noting that the Study is part of a planning process where different options, perspectives, issues and implications are debated and considered, it will be required that the SMC contribute inputs representing the strategic perspective, in accordance with the Study Terms of Reference (ToR) and the Study Inception Report.

The SMC will:

- Provide strategic guidance and direction to the Study.
- Coordinate the actions from this Study with other parallel actions, activities and studies that may have a bearing on the Study or the overall process.
- Confirm achievement of the deliverables of the Study.
- Make decisions at the appropriate level on the basis of recommendations from the Study Administration Committee (SAC).

In this regard, the SMC will:

- Discuss the technical aspects, including the legal, institutional and financial aspects relating to the Feasibility Study.
- Provide technical advice.
- Prepare technical support information for the Study Stakeholder Committee (SSC).
- Serve as a contact point and coordination mechanism with other related actions that may impact on the Study and vice versa.
#### 5. COMPOSITION

 The SMC consist of representatives from different sections in DWA, as well as key representatives from other Government Departments and parastatals. SMC members are to attend on invitation. The Study Administration Committee (SAC) recommends the composition of the SMC.

### 6. CHAIR PERSON AND DEPUTY CHAIR PERSON

- Chair Person: DWA Director: Water Resource Planning Systems (WRPS) (Beason Mwaka)
- Deputy Chair Person: DWA Scientific Manager: Directorate WRPS: Water Quality Planning (Pieter Viljoen)

### 7. **REPRESENTATION**

The institutions that should be represented on the SMC are:

- DWA Chief Directorate: Integrated Water Resources Planning
- Other relevant DWA Chief Directorates, Directorates, Sub-Directorates and Regional Offices, as required
- National Government Departments:
  - National Treasury;
  - Department of Mineral Resources
- Parastatals and Utilities:
  - Council for Geo Science;
  - Trans Caledon Tunnel Authority (TCTA)
  - o Rand Water

#### 8. MEETINGS

The SMC will meet as required by the programme of the Study and is expected to be not more frequent than once a month.

# Appendix E Study Stakeholder Committee Terms of Reference



# FEASIBILITY STUDY FOR A LONG-TERM SOLUTION TO ADDRESS THE ACID MINE DRAINAGE ASSOCIATED WITH THE EAST, CENTRAL AND WEST RAND UNDERGROUND MINING BASINS

# STUDY STAKEHOLDER COMMITTEE (SSC)

# TERMS OF REFERENCE

### 1. INTRODUCTION

Acid Mine Drainage (AMD) on the Rand Mining Areas has been a severe environmental challenge for many years. The Inter Ministerial Committee in respect of AMD, provided some direction as toward the way forward. In this regard the implementation of short-term solutions is underway on authority of a directive issued by the Minister of Water Affairs to the Trans Caledon Tunnel Authority (TCTA). Apart from the short-term interventions, long-term solutions need to be investigated. The objective of this study is to determine the most feasible long-term solution to the AMD situation in the West, Central and East Rand underground mining Basins. A feasible solution will be one that is environmentally sustainable, technically sound, economically viable, institutionally feasible and legally acceptable. As such, this study's focus is not only on the technical aspects of a long-term solution (in terms of treatment options), but also on legal, economic, financial and institutional aspects. In addition, it needs to be understood that the Study is one component of the larger picture and that other parallel actions are also in process.

The study goal is to investigate and recommend a feasible long-term solution to the AMD problems emerging in the study area, in order to ensure long-term water supply security and continuous fitness for use of Vaal River water. The study area is restricted to the Eastern, Central and West Rand Mining Basins, to be considered in the context of the Vaal River water supply area.



# 2. STUDY GOVERNANCE STRUCTURE

Various stakeholders need to be consulted during study execution, while study progress and outcomes also need to be communicated appropriately. As such, the study requires appropriate governance structures. The governance of the study is explained in the attached diagram.

The Minister and the Department of Water Affairs are the organs of state that take responsibility for the Study. The Minister and Department are supported in this process by other stakeholders such as other Government, Semi-Government and private institutions. The Inter-Ministerial Committee (IMC), the Intra-Government Task Team (IGTT) and the Project Executive Committee (PEC) all have specific coordination and control roles in this process. The PEC, IGTT and the IMC need to receive reports from DWA regarding the progress, issues, outcomes and recommendations of the Study.

The Chief Directorate: Integrated Water Resources Planning is supported by the members represented on the SSC. In this regard, the Department is supported by the representatives from different spheres of Government, parastatals and institutions, together with private sector, representatives from industries and non-governmental organisations representing key stakeholders. They need to assist the DWA by providing broad level inputs on impacts, principles, guidance, and direction, etc.

The SMC comprise of Governmental representatives that need to support DWA in the management of the Study on coordination with other parallel actions. Other significant and current parallel actions identified by the IMC that are relevant are for e.g.:

- The short-term intervention actions managed by TCTA;
- The ingress study by CGS;
- Environmental key study by DEA;
- Groundwater monitoring lead by DWA.

There are also other initiatives that are important such as:

- The GDARD study on the rehabilitation of mine dumps;
- CSIR studies;
- Study regarding the Cradle of Human Kind;
- CGS study on ingress, etc.



# 3. OBJECTIVE OF THE STUDY STAKEHOLDER COMMITTEE (SSC)

The main objective of the SSC is to provide the DWA Study Manager and the Study team with broad based stakeholder inputs to inform the Study and the Departmental actions.

# 4. FUNCTIONS And RESPONSIBILITIES

Noting that the Study is part of a planning process where different options, perspectives, issues and implications are debated and considered, it will be required that the SSC contribute inputs representing the broader stakeholder perspective, in accordance with the Study Terms of Reference (ToR) and the Study Inception Report.

The SSC will:

- Provide information;
- Contribute broad stakeholder needs and insights regarding all aspects of the Study;
- Provide broad technical insight;
- Provide comments on concepts, principles, and assessments of alternatives from time to time, as may be required by the Study; and
- Participate in focus group discussions.

The SSC will be supported by focus group discussions involving a wider group of representatives.

#### 5. COMPOSITION

The SSC consists of key representatives from both government and the private sector. The intention is not to facilitate general public participation through the SSC, but rather to consult key stakeholders during the study execution. SSC members are to attend on invitation. The Study Management Committee (SMC) recommends the composition of the SSC.

### 6. CHAIR PERSON AND DEPUTY CHAIR PERSON

- Chair Person: The Chief Director: Integrated Water Resource Planning of the Department of Water Affairs, Mr Solly Mabuda.
- Deputy Chair Person: DWA Director: Water Resource Planning Systems (WRPS), Mr Beason Mwaka or Mr Pieter Viljoen.



### 7. **REPRESENTATION**

The institutions that should be represented on the SSC are:

- DWA Chief Directorate: Integrated Water Resources Planning
- Other relevant DWA Chief Directorates, Directorates, Sub-Directorates and Regional Offices, as required
- National Government Departments:
  - National Treasury;
  - Department of Environment Affairs;
  - Department of Mineral Resources
  - Department of Science and Technology
- Provincial Government:
  - o Gauteng Department of Agriculture and Rural Development
  - o Gauteng Department of Local Government and Housing Disaster Management

#### • Local and District Government:

- o South African Local Government Association (SALGA);
- Affected Municipalities (Johannesburg Metro; Johannesburg Water; Ekurhuleni Metropolitan Municipality; Mogale City Municipality; West Rand District Municipality; Randfontein Municipality) (for inputs on community perspectives; etc.))
- Ward Councillors and Ward Committees (for inputs on community perspective (Members Mayoral Committee)

#### • Parastatals and Utilities:

- South African Human Rights Commission;
- CSIR;
- Council for Geo Science (CGS);
- Water Research Commission (WRC);
- Trans Caledon Tunnel Authority (TCTA)
- o Rand Water
- o World Bank

#### • Organised Agriculture:

- Agri Gauteng;
- Agricultural Research Council



- Transvaal Agricultural Union SA
- National African Farmers Union (NAFU)
- Organised Business and Industry & Mining Sector:
  - NEDLAC;
  - Chamber of Mines
- Environmental NGOs and Conservation Groups:
  - Federation for a Sustainable Environment
- Community Representation
- **PSP Advisory Committee (**and Team Leaders as and when required)

#### 8. MEETINGS

The SSC will meet about three times during the course of the Study at key milestone dates.