TMG AQUIFER FEASIBILITY STUDY AND PILOT PROJECT: EXPLORATORY PHASE EIA PROCESS

MINUTES OF SECOND PUBLIC MEETING
WP de Kock Lecture Theatre, Geology Building, University of Stellenbosch, 21 August 2004

ATTENDANCE:

Attendees:
PN Vernon
DC Le Maitre (CSIR)
JR Hely-Hutchinson (Breede River)
H Februarie (Nosipho Consultancy)
S Ralston (WESSA: WC)
R Kubayi (WCNCB)
EC Malan (Berg River Irrigation Board)
C Colvin (CSIR)
M Nieuwmeyer (Cape Chamber of Commerce)
W Syster (Omega Trust)
L Bergstedt (Luckhoff High)
S Brownlie (de Villiers Brownlie Associates)
D van der Vyver

Study Team:
Proponent

Mike Killick (City of Cape Town: Bulkwater)	MK

TMG Aquifer Alliance

Karen Shippey (Ninham Shand)	KS
Mike Luger (Ninham Shand)	MKL
Penelope Jones (Ninham Shand)	PLJ
Doreen Februarie (Nosipho Consultancy)	DF

Apologies: James Coopoosamy and Prof Johan Laubscher

1 Welcome and Introduction

DF welcomed everyone and outlined the process to be followed during the course of the meeting. She indicated that she would facilitate the meeting and briefly introduced the study team.

DF presented the proposed agenda for the meeting as follows:

- Introduction & Purpose of meeting
- Brief background
- The EIA process
- Exploratory Phase activities
- Draft Scoping Report
- General Discussion
- The Way Forward

2 Brief Background, EIA Process & Exploratory Phase Activities~ Karen Shippey

KS provided a background to the TMG Aquifer study, described the purpose and nature of the EIA process currently being followed and briefly described the proposed Exploratory Phase Activities (see **Appendix A**).

R Kubayi (WCNCB) queried why some of the boreholes were located in very sensitive areas, and asked whether they could be located elsewhere.

KS responded that the sites had been identified by the hydrogeologists as the optimum sites for exploration purposes. She noted that the main sites of interest were those which are most suitable hydrogeologically and where the aquifer is shallower (requiring less drilling). These sites unfortunately lie mainly in the higher mountainous areas, which tend to be the more sensitive areas.

MKL added that the location of the potential pilot wellfield in the future would depend on a number of factors such as cost, accessibility and environmental acceptability, not just the hydrogeological feasibility. At this stage, sites have been selected based on their suitability for exploration purposes, not for wellfield development.

R Kubayi responded that it would be better to first test in less sensitive areas i.e. not within nature reserves.

H Niewmeyer commented that the benefit of drilling within nature reserves is that it provides more control over the boreholes. He argued that at this stage it is important to have more control in the areas where the boreholes are located.

EC Malan noted that most of the TSAs are located within the vicinity of large existing dams and queried whether infiltration of water into the ground associated with these dams might skew the data obtained from the boreholes.

KS responded that the boreholes are deep and, since the aquifer is generally confined, it is expected that there will be little interaction with localised surface characteristics. She added that until exploration drilling occurs and results are obtained, the detail of these sorts of interactions is uncertain.

T Aston queried whether similar exploration activities had been undertaken previously, and whether the degree of interaction between groundwater abstraction and the surface was known. He queried whether any of these studies would be made available as part of the EIA process.

KS responded that during exploratory drilling, each hole would be grouted/ cased to a depth of 30-50m to ensure that there was no water movement into or out of the borehole in the near surface zone. She stated that a series of reports had been written by the team during the Preliminary Phase of the study, and that references for other applicable studies are given in the reference lists. She said that the Preliminary Phase Reports were still in draft as the City had not yet approved them. However, the information could be made available on request.

3 Draft Scoping Report ~ Mike Luger

MKL briefly presented the findings of the Draft Scoping Report, focusing on the Ecological Sensitivity Analysis (see **Appendix A**).

J Hely-Hutchinson queried how far the confined portion of the aquifer extends and whether drilling in TSS B1 might affect the flow of water in the Breede River.

MKL responded that the hydrogeologists would be better placed to answer this. KS added that this phase of the project was not looking to abstract water and the pilot wellfield would not necessarily be developed within one of the identified TSSs. She noted that the confined aquifer system is very extensive. At this stage, the objective is to obtain more scientific information about the aquifer through exploratory drilling.

4 General Discussion

J Hely-Hutchinson noted that the entire project is motivated by the needs of Cape Town, and queried whether the needs of the people in the Breede River valley would be taken into account.

MK responded that although the project was a City of Cape Town initiative, the Department of Water Affairs and Forestry (DWAF) had given their permission to undertake the study. The results of the study would not only benefit the City of Cape Town, but any other potential water users in the region. The scientific knowledge gained would be made available to the public and would therefore be of benefit to other areas too.

H Niewmeyer noted that a large amount of deep drilling had been undertaken on the Reef and in the Free State, but very little in the Western Cape. He stated that there was very little knowledge of what is beneath the surface, not only hydrogeologically, but from a geological perspective as well.

T Aston queried whether the definition of 'abstraction' implied that the water taken out would be utilised. If so, he queried whether one could remove as much water from the ground as one likes without a permit, as long as it isn't utilised.

MKL responded that the water being pumped out during pump testing would not be utilised, and therefore did not technically constitute 'abstraction'. Some excess water may be discharged from the holes during drilling, but only 2-3 holes would be pump tested. Pump tests would have a limited duration (3-14 days) and any holes where artesian flow occurs would be capped when drilling was completed.

KS added that in terms of the legal definition, only water abstracted for utilisation would require a permit from DWAF. However, restrictions could be imposed by the environmental authorities due to the potential impact of discharging water into the environment.

T Aston asked what the volumes pumped during pump testing would be.

KS responded that the volumes would be limited by the pump size which could be placed down the borehole and it was likely to be about 40l/sec. She reiterated that pump testing would be for a limited period of 3-14 days and would be continuously monitored. The discharge and disposal of water would require management and would be mitigated through the compilation and implementation of a site specific Environmental Management Programme. MKL added that the details of where and how the water would be discharged and the chemistry of the water could not be properly answered until the boreholes had been sited and drilled.

T Aston noted that his concern was the possible 'draw down' in surrounding areas.

MK responded that pump testing would result in the abstraction of a minute amount of water. KS added that the ecologists had considered this issue and that these ecosystems were likely to have adapted to some water stress during the summer. Pump testing would be undertaken for a maximum period of two weeks and it was therefore unlikely that it would have any significant impact on surrounding ecosystems.

T Aston stated that it is important to know the volumes of water being removed in order to determine the potential impacts on the ecology of the area.

MKL stated that a monitoring workshop would be held for key stakeholders and specialists to discuss the risks associated with the exploratory phase and the finer details regarding monitoring. He noted that various ecologists who have applied their minds to this issue would provide their input at the workshop.

KS noted that monitoring is important to obtain as much information as possible during the exploration phase and to answer some of the big unknowns. If monitoring shows any major impact, the project may need to be halted. At this stage, too little is known, however.

T Aston noted that ecosystems sometimes only respond to impacts over a long period of time.

C Colvin stated that a parallel Water Research Commission (WRC) project was being undertaken to address some of the unknowns, including the water stress vulnerability of groundwater-dependent ecosystems. She noted that the WRC research is currently underway and that in 2 years time there should be a better understanding of these issues. This information could then feed into the Pilot Wellfield Phase. She agreed that the amount of water removed during pump testing would be negligible but noted that impacts that are not evident on a large scale, may be significant on a smaller scale i.e impacts on very local ecosystems.

H Niewmeyer noted that until pump testing occurs, these answers could not be known.

J Hely-Hutchison stated that the assumption seemed to be that there are significant cracks in the aquifer, but queried how far these cracks extended and how the faults linked with each other.

KS responded that this question could not be answered until exploratory drilling is undertaken. She noted that although hydrogeologists have mapped the geology and fault systems of the area, they could not be certain what lies below the surface without drilling.

C Colvin added that it is well-known that hydrogeologically the faults are connected over large areas, and these structures are targeted as they are likely to yield the most water. However, the exact details of the interconnectivity are not known.

ML noted that pump tests would not undertaken in isolation. Nearby holes would be used to monitor any effects during pump testing.

S Brownlie stated that the challenge was to achieve a sensible balance between the risks being taken and the scientific information sought. Where there are unacceptable risks involved, it is necessary to say no. She noted that there are Acts in place against which acceptability of the risk can be measured.

MKL noted that the Draft Scoping Report recommended that the highly sensitive sites be subject to an EIA. Furthermore, even within less sensitive TSSs, more site-specific work, such as a site-specific EMP, would be undertaken where required.

D le Maitre noted that a once-off botanical survey is not sufficient, as various plants have different flowering times, or may only emerge after fire. He queried whether further botanical surveys would be undertaken over the next 2 years.

MKL responded that there is no intention to undertake any seasonal surveys for footprint impacts.

KS noted that the botanical and ecological specialists would visit the sites and assist with the siting of the boreholes and this would mean that *ad hoc* surveys would be undertaken. Highly sensitive habitats would also be surveyed in more detail when proceeding to a more detailed EIA, if necessary.

D le Maitre raised a concern that the impact of the access routes was not fully established. MKL noted the concern and said that once boreholes were located, the access routes could be evaluated and necessary mitigation undertaken in consultation with the landowner/ manager.

DF confirmed that there were no other issues or questions the participants wished to raise. She thanked those present for attending the public meeting and for the comments and questions raised.

5 Way Forward and Closure ~ Karen Shippey

KS briefly presented the way forward, indicating that the comments period had been extended to 20 September 2004, after which the Scoping Report would be finalised and submitted to the City of Cape Town. Based on the findings of the report, as well as technical and financial considerations, the City of Cape Town will decide which of the TSSs, if any, they wish to seek authorisation for. They will submit the document, together with a letter motivating their selection, to the Department of Environmental Affairs and Development Planning (DEA&DP). Thereafter, DEA&DP will issue a Record of Decision (RoD) regarding the proposed TSSs. All registered I&APs will be notified of the RoD, after which there will be a 30 day period in which to appeal DEA&DP's decision.

There being no further discussion, the meeting was closed at approximately 11h50.