Start

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0201 email: post@jaws.co.za

case ID: 1607
ALREADY on SAHRIS

8 March, 2011

Our Ref: **B478**
b478_mwrp_letter_commenting_authoriti es_review_of_dsr_08032011_jh.doc

Attention: South African Heritage Resources Agency

Dear Ms Nonofho Ndobochani

KEY COMMENTING AUTHORITY REVIEW OF THE DRAFT SCOPING REPORT: PROPOSED MIDDELBURG WATER RECLAMATION PLANT PROJECT (MDEDET 17/2/3/N28; DEA 12/9/11/L492/6, MINING LICENSE 9/99 ISSUED UNDER DMR REF: OT/5/3/2/49 CONVERSION UNDER DMR REF NUMBER MP30/5/1/2/2/379MR)

Jones and Wagener (Pty) Ltd has been appointed by BHP Billiton Coal South Africa (BECSA) to undertake an Environmental Impact Assessment (EIA), Environmental Management Plan (EMPR) amendment, Integrated Water Use License Application (IWULA), Waste Management Facility License and Integrated Waste and Water Management Plan (IWWMP) for the proposed Middelburg Water Reclamation Project (MWRP) (near Middelburg, Mpumalanga). We are currently in the Scoping Phase of the project and the Draft Scoping Report is available for public comment.

A combined process is being undertaken for the range of legislative requirements. The table below provides a summary of the various components required for the project, the legislative requirements and the authorising competent authorities.

APPLICABLE LEGISLATION	PROCESS REQUIRED	COMPETENT AUTHORITY
National Environmental Management Act (NEMA)	EIA	Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET)
Minerals and Petroleum Resources Development Act (MPRDA)	EMPR amendment	Department of Mineral Resources (DMR)
National Water Act (NWA	IWWMP & IWULA	Department of Water Affairs (DWA)
National Environmental Management Waste Act (NEMWA	Waste Management Facility License Application	Department of Environmental Affairs (DEA)

As per Government Notice No. 33306 of June 2010, Chapter 2, (6), the Minister, MEC or competent authority (in this case the MDEDET) must consult with every state department that administers a law relating to a matter affecting the environment relevant to that application for an environmental authorisation, when he or she considers an application. A state department consulted must submit its comments within 40 days from the date on which the Minister, MEC or

competent authority requests such state department, in writing, to submit comments.

In terms of the aforementioned Jones & Wagener is in the process of distributing the Draft Scoping Report for the proposed project to the relevant state departments, such as yourself, for comment. The relevant state departments that have received a copy of the report are as follows:

- Department of Water Affairs;
- Department of Environmental Affairs;
- Department of Mineral Resources;
- South African Heritage Resource Agency;
- Mpumalanga Parks and Tourism;
- Nkangala District Municipality; and
- Steve Tshwete Local Municipality.

The project is of strategic importance and as such requires to be prioritised. Jones & Wagener in, an aim to minimise delays, has distributed the Draft Scoping Report to the aforementioned state departments with the objective of facilitating comments to assist the MDEDET in making an informed decision to approve the Scoping Phase of the project without unforeseen delays.

Please submit your comments to Jones & Wagener and the MDEDET by the latest **25 April 2011**. You can submit your comments by fax or email as follows (please remember to quote the reference number (MDEDET REF NO: 17/2/3/N28, DEA Ref number: 12/9/11/L492/6 on your comments):

- Jones & Wagener: Fax: (011) 519 0201
  Email: jacqui@jaws.co.za
- MDEDET: Email: dtswai@mpg.gov.za

Yours faithfully

Marius van Zyl
for Jones & Wagener

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CaseID: 1607 ALREADY on SAHRIS

DOUGLAS TAVISTOCK JOINT VENTURE

MIDDELBURG WATER RECLAMATION PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT

DRAFT SCOPING REPORT

MDEDET REF NUMBER: 17/2/3/N28
DEA REF NUMBER: 12/9/11/L492/6
MINING LICENSE: 9/99 issued under DMR REF: OT/5/3/2/49
Conversion under DMR REF NUMBER MP30/5/1/2/2/379MR

Report No.: JW157/10/B478 - Rev B

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0200 email: post@jawsco.za

DOCUMENT APPROVAL RECORD

Report No.: JW157/10/B478 - Rev B

ACTION	FUNCTION	NAME	DATE	SIGNATURE
Prepared	Environmental Assessment Practitioner	M van Zyl	8 December 2010	
Reviewed				
Approved				

RECORD OF REVISIONS AND ISSUES REGISTER

Date	Revision	Description	Issued to	Issue Format	No. Copies
4 November 2010	A	Draft MWRP scoping report	L. Moore	Electronic	1
12 November 2010	A	Draft MWRP Scoping Report	W Mey	Electronic	1
8 December 2010	B	Draft MWRP Scoping Report	L. Moore	Electronic	1

SUMMARY OF DRAFT SCOPING REPORT

Introduction

The Douglas Tavistock Joint Venture (DTJV) is proposing to construct and operate a water treatment plant for the treatment of impacted mine water from the Middelburg Mines' (now known as Middelburg Colliery) North - and Klipfontein Sections. The North Section consists of the Goedehoop -, Bankfontein - and Hartbeesfontein Sections. The proposed project is formally known as the **Middelburg Water Reclamation Project (MWRP)**.

The DTJV is a joint venture between BHP Billiton Energy Coal South Africa (BECSA) (Pty) Limited and Tavistock Collieries (Pty) Limited.

The DTJV is conducting a definition phase study to investigate the feasibility of establishing the proposed MWRP in the Spookspruit catchment, which forms part of the Upper Olifants River catchment located in the Mpumalanga Province of South Africa. The objective of the proposed MWRP is to treat excess impacted mine water to a standard that is suitable for discharge into the Spookspruit catchment. The project makes provision for two phases, namely Phase 1, which will treat up to 15 000 cubic metres (m^3) (15 Mℓ) of impacted mine water per day, and Phase 2, which will increase the capacity of the plant to 30 000 m^3/day (30 Mℓ/d). Phase 2 will only be established when the need arises for increased treatment capacity.

It is envisaged that Phase 1 of the MWRP will commence with operation in 2014. The MWRP is anticipated to operate at least until 2034, and possibly beyond that, to manage post mining water make.

The plant will be located on mining land managed by Middelburg Mines – see Figure 1-1. Two alternative locations, Option 1 and Option 2, for the MWRP were identified and are described in Section 5, and discussed and evaluated in Appendix B of this draft Scoping Report. Option 1 is located on the Middelburg Mines' Hartbeesfontein Section and Option 2 on the Goedehoop Section – see Figure 1.

Environmental Authorisation Process

As part of the definition phase of the project, the environmental authorisations and licences required to construct and operate the MWRP need to be obtained. In order to do so, a Scoping and Environmental Impact Assessment Process (S&EIR) is being undertaken in line with the

provisions of the National Environmental Management Act, Act 107 (NEMA) of 1998, as amended. The S&EIR and the Environmental Impact Assessment Report (EIR) and specialist studies to be undertaken will also support the applications for the required licences, such as the Integrated Water Use Licence (IWUL) and the Waste Management Facility Licence.

Environmental Impact Assessments (EIAs) are used by developers (e.g. mining companies) and authorities to obtain an objective view of the potential environmental and social impacts that could arise during the construction, operation and closure of a proposed development, such as the proposed MWRP. Negative impacts should be mitigated or avoided, where and if possible, while positive ones should be enhanced. The outcome of the S&EIR is the EIR and the Environmental Management Programme (EMPr), which provides the basis for sound decision-making by the decision-making authority or authorities. The existing Environmental Management Program Report (EMPR) of Middelburg Mines will also have to be amended to accommodate the MWRP.

The S&EIR is summarised in Figure 2.

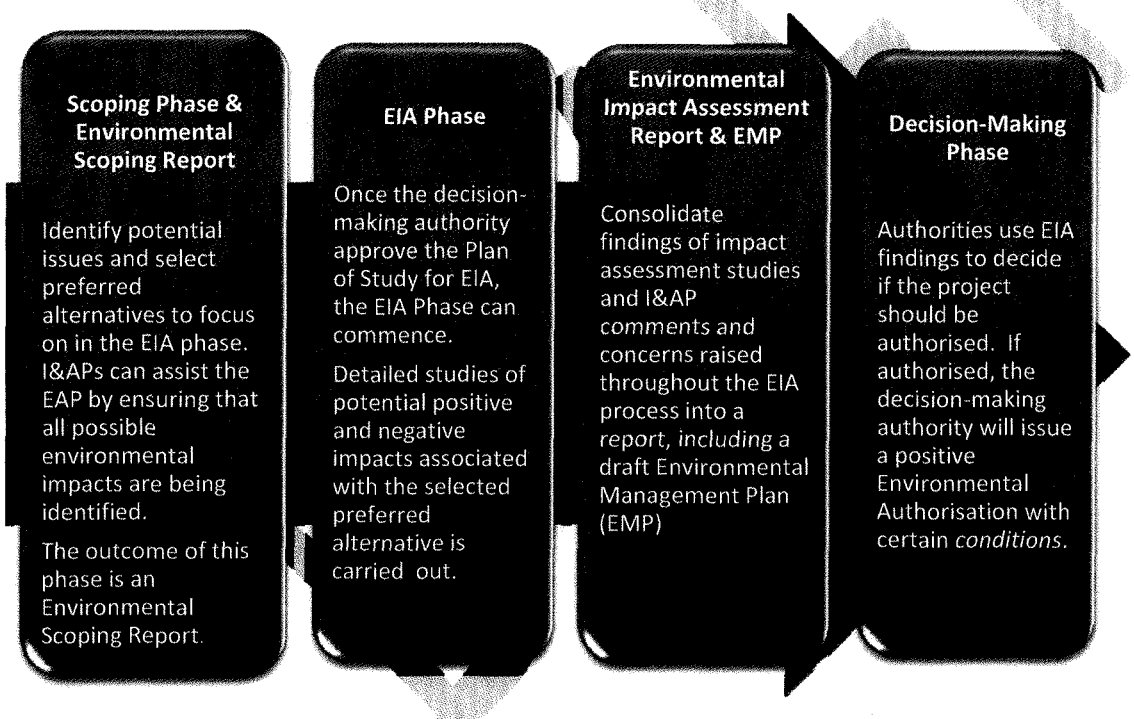

Figure 2: Summary of the S&EIR process

The DTJV has appointed Jones & Wagener (J&W) as the Environmental Assessment Practitioner (EAP), who is undertaking the S&EIR. SiVEST has been appointed as the specialist Public Participation Process practitioner and comments regarding the project can be submitted to them – see their contact details at the bottom of this section.

Scoping Phase

The Scoping Phase, which is the first phase of the S&EIR, has the following objectives:

- Describe the project in sufficient detail so that potential negative and positive impacts can be identified. The positive and negative impacts must be assessed in the Environmental Impact Assessment Phase and, where required, mitigatory measures must be identified,
- Describe and evaluate the various alternatives considered in order for a preferred alternative to be taken forward in the Environmental Impact Assessment (EIA) Phase of the S&EIR, with a view to conduct in-depth investigations on the preferred alternative,
- Identify all issues and concerns that the I&APs may have with the project in order for these to be addressed in the EIA phase of the process, and
- Based on the above, develop a scope of work, also termed a Plan of Study (POS) for the EIA phase, which will address the potential negative and positive impacts, and issues and concerns identified during the Scoping Phase.

The outcome of the Scoping Phase has been compiled in this draft Scoping Report.

The main objective of the EIA phase, the phase following the Scoping Phase, will be to investigate all of the potential positive and negative impacts, as well as the issues and concerns, to determine their significance. Once the significance of a potential impact is known, mitigatory measures can be developed. An Environmental Management Programme (EMPr) will be developed to ensure that all mitigatory measures are listed and implemented during the construction and operational phases of the MWRP. The EMPr will also contain an Environmental Monitoring and Auditing Plan.

Public review of draft Scoping Report

Interested and Affected Parties (I&APs), including authorities, are invited to read and study this draft Scoping Report prepared for the MWRP. The comments, concerns and issues of the I&APs will then be recorded and included in the final Scoping Report to be submitted to the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET), the Department of Environmental Affairs (DEA) and the Department of Mineral Resources (DMR). Once these departments have accepted the final Scoping Report, the EIA phase of the S&EIR can commence.

The draft Scoping Report has been made available at the following places for review and comment:

- Gerald Sekoto Public Library on Wonderers Avenue, Middelburg
- Mhluzi Library, Ngwako Street, Mhluzi
- Eastdene Library, Verdoorn Street, Middelburg
- Middelburg Mines, BHP Billiton Academy, access from R575
- Naledi Village, access from Road 575

The draft Scoping Report is also available on:

- www.jaws.co.za

I&APs can submit comments, issues and concerns regarding the draft Scoping Report by:

- Responding by phone, fax or e-mail to the Public Participation Office – see the contact details of SiVEST below.
- Attending the Public Meeting to be held towards the end of the public comment period on the draft Scoping Report. The public comment period is from 15 March to 19 April 2011.

Public Participation Office: Contact details

SiVEST

Environmental Division
51 Wessels Road, Rivonia, 2128
P O Box 2921, Rivonia. 2128

Contact persons: Nicolene Venter or Andrea Gibb

Phone: + 27 11 798 0600
Fax: + 27 11 803 7272
E- mail: andreag@sivest.co.za
Website : www.sivest.co.za

DOUGLAS TAVISTOCK JOINT VENTURE

MIDDELBURG WATER RECLAMATION PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT

DRAFT SCOPING REPORT REPORT NO: JW157/10/B478 - Rev B

CONTENTS PAGE

List of Tables

List of Figures

APPENDIXES

Abbreviations and acronyms used in this document:

Acronym/Abbreviation	Meaning
AMD	Acid mine drainage
BECSA	BHP Billiton Energy Coal South Africa
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DNWRP	Directorate National Water Resource Planning of the Dept Water Affairs
DTJV	Douglas Tavistock Joint Venture
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Programme
EMPR	Environmental Management Program Report
ha	Hectares
I&APs	Interested and Affected Parties
IGS	Institute of Groundwater Studies of the University of the Free State
IWUL	Integrated Water Use Licence
J&W	Jones & Wagener (Pty) Ltd
m	Metres
mamsl	Metres above mean sea level
Mℓ	1000 cubic metres (m^3)
MDEDET	Mpumalanga Department of Economic Development, Environment and Tourism
MWRP	Middelburg Water Reclamation Project
NEM:WA	National Environmental Management: Waste Act, Act 59 of 2008
NWA	National Water Act, Act 36 of 1998, as amended
RWQO	Resource Water Quality Objectives
SAWS	South African Weather Service
S&EIR	Scoping and Environmental Impact Assessment Process
TDS	Total Dissolved Salts

Jones & Wagener
Consulting Civil Engineers
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DOUGLAS TAVISTOCK JOINT VENTURE

MIDDELBURG WATER RECLAMATION PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT

DRAFT SCOPING REPORT REPORT NO: JW157/10/B478 - Rev B

1. INTRODUCTION

1.1 Background

The Douglas Tavistock Joint Venture (DTJV) is proposing to construct and operate a water treatment plant for the treatment and release of impacted mine water from Middelburg Mines' (now known as Middelburg Colliery) North - and Klipfontein Sections. The North Section consists of the Goedehoop -, Bankfontein - and Hartbeesfontein Sections. The proposed project is formally known as the **Middelburg Water Reclamation Project (MWRP)**.

The DTJV is a joint venture between BHP Billiton Energy Coal South Africa (BECSA) (Pty) Limited and Tavistock Collieries (Pty) Limited. The Heads of Agreement was entered into by Douglas Colliery Limited, Transvaal and Delagoa Bay Investment Company Limited, Tavistock and Johannesburg Consolidated Investment Company Limited in 1994. The DTJV is the legal entity responsible for the construction and operation of the envisaged MWRP.

The DTJV is conducting a definition phase study to investigate the feasibility of establishing the proposed MWRP in the Spookspruit catchment, which forms part of the Upper Olifants River catchment of the Mpumalanga Province of South Africa. The objective of the proposed MWRP is to treat excess impacted mine water to a standard that is suitable for discharge into the Spookspruit catchment. The project makes provision for two phases, namely Phase 1, which will treat up to 15 000 cubic metres (m^3) (15 Mℓ) of impacted mine water per day, and Phase 2, which will increase the capacity of the plant to 30 000 m^3/day (30 Mℓ/d). Phase 2 will only be established when

the need arises for increased treatment capacity.

It is envisaged that Phase 1 of the plant will commence with operation in 2014. The MWRP is anticipated to operate at least until 2034, and possibly beyond that, to manage post mining water make.

The plant will be located on mining land managed by Middelburg Mines – see Figure 1-1. Two alternative locations, Option 1 and Option 2, for the MWRP were identified and are described in Section 3, and discussed and evaluated in Section 7 and Appendix B of this Scoping Report. Option 1 is located on Middelburg Mines' Hartbeesfontein Section and Option 2 on the Goedehoop Section – see Figure 1.1.

1.2 Description of the treatment process

A typical water treatment plant, such as the one proposed, consists of a number of units or components. These include the following:

- Water collection pipe networks and pump systems from contaminated mine water storage areas, located at a number of points on Middelburg Mines' North - and Klipfontein Sections,
- A central plant feed water dam, also called a water holding/balancing dam. This dam allows for mixing of the impacted water obtained from the various storage areas. It also allows for a constant feed of water to the treatment plant. It is proposed that the balancing dam system stores two days of impacted water, based on the treatment capacity at that point in time. For Phase 1 a storage capacity of 30 000 m^3 is required, while for Phase 2, 60 000 m^3 of storage will be required,
- Water treatment plant and office facilities. For this facility a liming, ultrafiltration and reverse osmosis process is proposed, specifically the HiPRO® process. The office facilities will also contain offices, a laboratory and control room, as well as ablution facilities for the employees. In the Water Treatment Plant Area, chemicals, which are required for the treatment process, such as lime, sulphuric- and hydrochloric acid, de-scaling agents, etc., will also be stored.
- Solid waste disposal facilities are required for the disposal/storage of the solid wastes that will be generated during the treatment processes. Two storage facilities are proposed, namely one for the waste generated during the 1st stage treatment, also termed the metal rich waste and the waste generated during the 2nd and 3rd stage treatments, termed gypsum waste,
- Discharge pipeline for the treated water into the Spookspruit catchment, and

- Access road to the facility for employees to gain access to the plant, as well as for trucks to deliver chemicals, such as the lime. During construction access is also required to deliver construction materials.

The plant will require 3.5 MW of electricity, which can be provided by existing electricity allocations to the mine.

The area required for the plant and waste disposal facilities will cover approximately 26 hectares of which the larger area will be used for gypsum waste disposal, if alternative uses for the gypsum cannot be found. The gypsum waste disposal area will cover approximately 17.7 hectares.

Figure 1-2 below details the generic components of a water treatment plant.

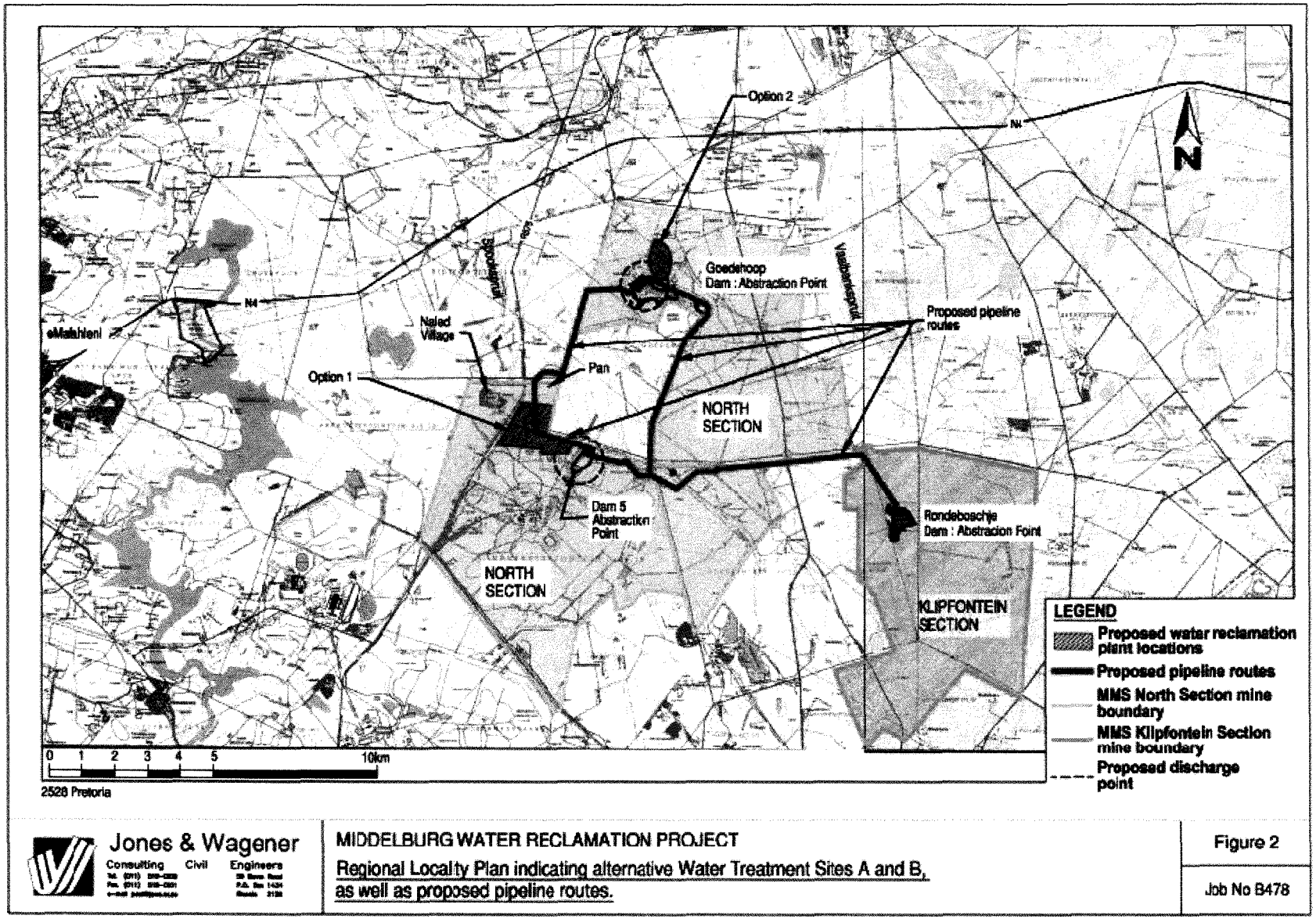

Figure 1-1: **Locality map indicating Option 1 and 2 locations for the MWRP**

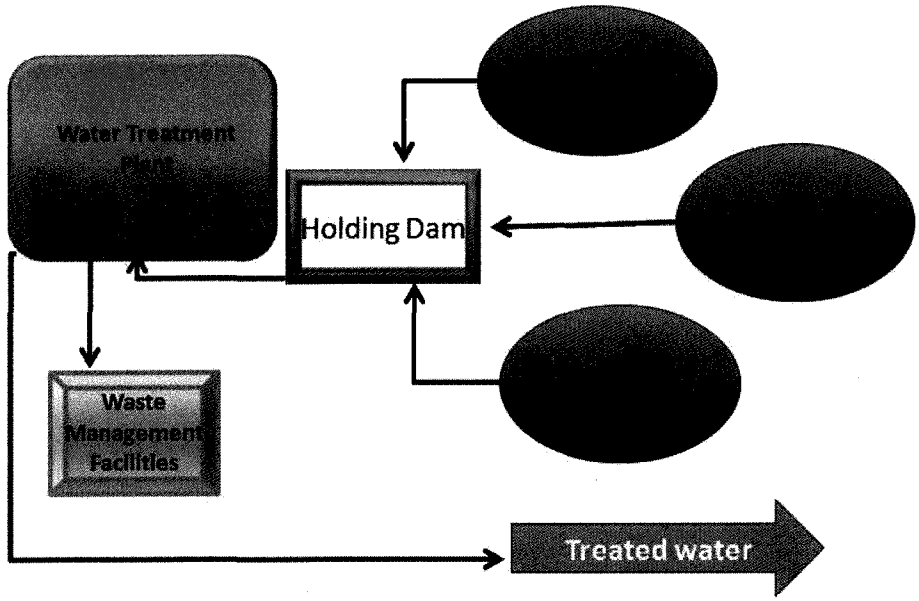

Figure 1-2: Typical Components of an active Water Reclamation Plant

1.3 Details of Applicant

In the section below, the details of the applicant are listed. This is the institution that will be legally responsible for the MWRP. The environmental authorisations and licences to construct and operate the plant will be in the name of the legal institution. Other demographic information of importance is also provided.

1.3.1 Details of Applicant for Environmental Authorisation and Licence Holder

Douglas Tavistock Joint Venture
P. O .Box 61075
Marshalltown
2107

1.3.2 Responsible Person for MWRP

Mr Stephen Brown of BHP Billiton Energy Coal South Africa (BECSA)

1.3.3 Land Owners

The land ownership is explained in **Figure 1-1**. There is shared land ownership in the case of this project and the percentage share is different for the various properties that will be affected or involved in this project – see **Figure** 1-4. Ingwe Surface Holdings Limited is the one land owner and Tavistock Collieries (Pty) Limited the other. Ingwe Surface Holdings Limited is a subsidiary of BHP Billiton Energy Coal South Africa, the 84% partner of the DTJV, while Tavistock Collieries (Pty) Ltd, the 16% partner of the DTJV, belongs to Xstrata Coal South Africa.

Addresses of the two partners are given below:

Ingwe Surface Holdings Limited
P. O .Box 61075
Marshalltown
2107

and

Tavistock Collieries (Pty) Limited
1st Floor
Melrose Arch
Melrose Boulevard
Melrose
2196

1.3.4 Municipal Area within which the project will be located

The proposed MWRP will be situated within the Nkangala District Municipal area. Steve Tshwete Local Municipality, which includes the town of Middelburg, is the responsible local municipality. The area considered for the location of the MWRP falls within Wards 15 and 24 of the Steve Tshwete Local Municipality.

1.3.5 Magisterial District

The proposed MWRP falls within the magisterial district of Middelburg.

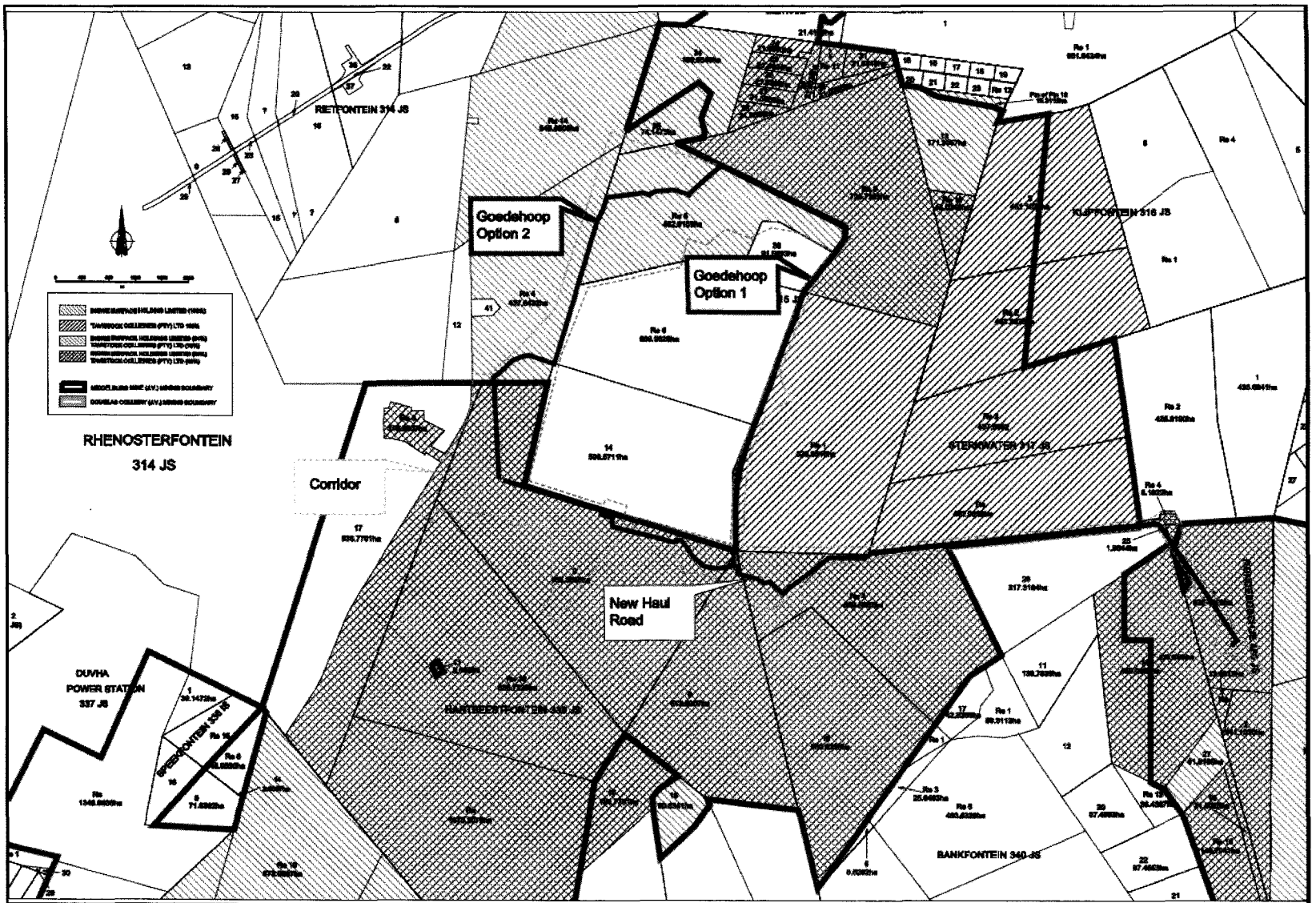

Figure 1-3: Land Ownership at Middelburg

1.4 Environmental Assessment Practitioner (EAP) Team

1.4.1 Name of the EAP

The DTJV appointed Jones & Wagener Consulting Civil Engineers (J&W) to undertake the Environmental Impact Assessment (EIA) process and to obtain the other required environmental authorisations in order to proceed with the proposed project. Where required J&W has and will appoint specialist environmental consultants to conduct specialist studies in order to support the Scoping Report (this report) and the Environmental Impact Assessment Report (EIR).

For this project SiVest Environmental Division has been appointed to undertake the required Public Participation Process.

The addresses of these two consulting firms area:

Jones & Wagener (Pty) Ltd (J&W)
P. O. Box 1434
Rivonia
2128

and

SiVest Environmental Division
P. O. Box 2921
Rivonia
2128

1.4.2 Expertise of the EAP

Table 1-1: EAP Team Members below summarises the expertise of the main J&W and SiVEST team members.

Table 1-1: EAP Team Members

Name	Organisation	Highest Qualifications	Experience	Professional Registrations
Marius van Zyl	J&W	B.Sc Honours Biochemistry B. Sc Honours Environmental Management	26 years	Pr.Sci.Nat
Beth Candy	J&W	M. Sc Environmental Sciences	4 years	Pr.Sci.Natl
Nicolene Venter	SiVEST	Higher National Secretarial Diploma	13 years	None

2. ENVIRONMENTAL LEGISLATION APPLICABLE TO MWRP

2.1 Introduction

Part of the definition phase study, (a study to determine the feasibility of the MWRP), entails obtaining all the required environmental authorisations and licences to construct and operate the proposed MWRP. J&W has been appointed to obtain the following environmental authorisations and licences for the MWRP: -

- An environmental authorisation in terms of the provisions of Government Notice Regulations 543 of 18 June 2010, as contemplated in Chapter 5 of the National Environment Management Act, Act 107 of 1998, as amended, (NEMA, 1998) for the construction and operation of the MWRP. As will be explained in the following sections, this entails conducting a Scoping and Environmental Impact Assessment Process (S&EIR),
- An integrated waste management licence for the waste management facilities associated with the MWRP in terms of the provisions of Section 20 of the National Environmental Management: Waste Act, Act 59 of 2008, (NEM:WA). In order to obtain an integrated waste management licence for the MWRP, a S&EIR has to be undertaken as well. This process will support the Waste Management Facility Licence Application Report, which will contain technical aspects related to the MWRP,
- An Integrated Water Use Licence (IWUL) for all the identified water uses as contemplated in Section 22 of the National Water Act, Act 36 of 1998, as amended (NWA). The EIA will also support the integrated water use licence application,
- A heritage impact assessment of the preferred location of the MWRP and along pipeline routes will also be undertaken in terms of the provisions of the National Heritage Resources Act, Act 25 of 1999. The objective of this assessment is to ensure that cultural and heritage resources of significance are not damaged or destroyed. Based on the findings and mitigatory measures proposed, the South African Heritage Resource Agency will provide an authorisation to proceed with the project.

In addition to the above, J&W will also be responsible for amending the existing IWUL of Middelburg Mines if and where required. Where amendments to the existing Environmental Management Program Report (EMPR) of the mine are required, application for amendments will also be made, as required in terms of the provisions of the Mineral and Petroleum Resources Development Act, Act 28 of 2002, as amended

(MPRDA). The DMR has indicated that in order for the EMPR to be amended, a S&EIR will have to be followed.

2.2 Authorisation required in terms of the provisions of NEMA

On 18 June 2010 new regulations were promulgated by the Department of Environmental Affairs (DEA), which govern the manner in which Environmental Impact Assessments must be conducted (DEA, 2010a). In addition to these regulations, new listing notices were also published. These listing notices list the activities for which a Basic Assessment (DEA, 2010b and DEA, 2010d) or a S&EIR is required (DEA, 2010c).

Table 2-1 lists the activities which were identified in Government Notice R 544 of 18 July 2010 (DEA, 2010b). These activities require that a Basic Assessment be conducted.

Table 2-1: Activities requiring a Basic Assessment

Activity No	Description of Activity as per GNR 544	MWRP Activity or Infrastructure Triggering the Activity
9	The construction of facilities or-infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water: (i) with an internal diameter of 0.36 metres or more; or (ii) with a peak throughput of 120 litres per second or more, excluding where: a) Such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or b) Where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.	This activity is triggered for the transfer of impacted mine water via a pipeline system from Klipfontein -, Goedehoop - and Hartbeesfontein Sections of Middelburg Mines. The diameter of the pipes will be > 0.36 metres and the pipelines will be more than 1000 metres in length. The pipeline for discharging the treated water into the Spookspruit will also be longer than 1000 metres and will transfer > 120 litres/second, while the diameter will also be > 0.36 metres.
12	The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50000 cubic metres or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010.	This activity is triggered for the eventual storage of > 50 000 cubic metres of impacted mine water in the balancing dams when the MWRP is scaled up to treat 30 Mℓ (30 000 cubic metres) of water per day. It is expected that 60 000 cubic metres of impacted mine water will be stored in the balancing dam.
13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 m^3.	As infrastructure for > 250 cubic metres of dangerous goods, such as lime, sulphuric and hydrochloric acids, and sodium hydroxide will be provided at the plant, this activity is triggered.
18	The infilling or depositing of any material of more than 5 m^3 into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from: (i) a watercourse; (ii) the sea; (iii) the seashore; (iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater...	The impacted mine water pipelines will cross water courses, such as the Niekerkspruit and Spookspruit. The pipelines could be buried in the river beds, which will result of the excavation of > 5 m^3 of soil. In some cases existing bridges will be used for the location of the pipelines.

Table 2-2 lists the activities which were identified in Government Notice R 545 of 18 July 2010 (DEA, 2010c). These activities require that a S&EIR be carried out.

Table 2-2: Activities requiring a Scoping and Environmental Impact Assessment Process

Activity No	Description of Activity as per GNR 545	MWRP Activity or Infrastructure Triggering the Activity
5	The construction of facilities or infrastructure for any process or activity which requires a permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities in terms of section 19 of the National Environmental Management: Waste Act (No. 59 of 2008) in which case that Act will apply.	The MWRP will require a Section 21 water use licence as required in terms of the provisions of the NWA. The water use licence will cover, inter alia, the release of treated water into the environment.
15	Physical alteration of undeveloped, vacant or derelict land for residential, commercial, recreational, industrial or institutional use, where the total areas to be transformed is 20 hectares or more, except where such physical alteration takes place for: • Linear development activities; or • Agriculture, or afforestation, where activity 16 in this schedule will apply.	The total area for development could eventually be > 20 hectares, which includes the waste disposal facilities.

Table 2-3 lists the activities which were identified in Government Notice R 546 of 18 July 2010 (DEA, 2010d). These activities require that a Basic Assessment be undertaken.

Table 2-3: Activities triggered in terms of Government Notice Regulation R546 of 18 June 2010 for a Basic Assessment

Activity No	Description of Activity as per GNR 546	MWRP Activity or Infrastructure Triggering the Activity
4	The construction of a road wider than 4 metres with a reserve less than 13.5 metres	The access road to the water treatment plant could be wider than 4 metres with a reserve less than 13.5 metres and it is located in a critical biodiversity area as identified in the Mpumalanga Biodiversity Conservation Plan.
13	The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation, except where such removal of vegetation is required for: • The undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from this list.	More than 1 hectare of land will be cleared, which falls within a critical biodiversity area as identified in the Mpumalanga Biodiversity Conservation Plan.

Activity No	Description of Activity as per GNR 546	MWRP Activity or Infrastructure Triggering the Activity
	• The undertaking of a linear activity falling below the threshold in Notice 544 of 2010.	
14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for: Purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by a competent authority for agriculture or afforestation purposes: • The undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from this list. • The undertaking of a linear activity falling below the threshold in Notice 544 of 2010.	The total area to be cleared will be > 5 hectares. Although most of the infrastructure will be covered by an integrated waste management licence under the provisions of the NEM:WA, aspects of the plant (see Table 1-1 and 1-2) are covered by the provisions of the NEMA, which could be interpreted as triggering this activity. "Indigenous vegetation" refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

Based on the above it is clear that a S&EIR, the comprehensive impact assessment process, is required for this project. The Basic Assessment activities that were triggered by the MWRP will therefore be covered under the S&EIR. This was agreed with the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) at a pre-registration consultation meeting held on 25 August 2010 – see Appendix A.

As the required authorisation will be issued by the MDEDET, the project was registered with the department and the reference number obtained is: **MDEDET Ref Ref17/2/3/N28.**

Although the MWRP will be located on a mining area, competent authority for processing the application for the required authorisation is the environmental authority in the province, in this case MDEDET. The reason for this being that all the identified activities applicable to this project, bar one, has been assigned, in terms of GNR 544, GNR 545 and GNR 546, to the environmental authority in the province.

2.3 Licences required in terms of the provisions of NEM:WA

The government notice published on 3 July 2009, Government Notice 718 (DEA 2009) lists the waste management activities which require licensing in terms of the provisions of the NEM:WA. These activities are listed in **Table 2-4**.

Table 2-4: Activities triggered in terms of Government Notice 718 of 3 July 2009 (GN 718)

Activity No	Description of Activity	Action/Infrastructure Triggering the Activity
Category B: 4(1)	The storage, including the temporary storage of hazardous waste, in lagoons	This listed waste management activity is triggered for the storage of impacted mine water in a balancing dam before the treatment plant. This activity overlaps with provisions of Section 21 the National Water Act for the storage of water and disposal of waste.
Category B: 4(5)	The treatment of hazardous waste using any form of treatment regardless of the size or capacity of such a facility to treat such waste.	The impacted mine water was classified as a hazardous waste due to it containing dissolved manganese.
Category B: 4(7)	The treatment of effluent, wastewater or sewage with an annual throughput capacity of 15 000 cubic metres or more.	This listed waste management activity is triggered by the treatment plant itself, as > 15 000 cubic metres of impacted mining water will be treated in the plant per annum.
Category B: 4(10)	The disposal of general waste to land covering an area in excess of 200 m^2.	For the disposal of the metallic gypsum waste and the gypsum cake in the formal waste management facilities. Both waste streams were classified as general waste based on chemical analysis conducted on gypsum waste recovered from a pilot water treatment plant using impacted mine water from the Middelburg Mines' North Section.
Category B: 4(11)	The construction of facilities for activities listed in Category B or this Schedule (not in isolation to associated activity)	This activity is triggered because Category B 4(1), (2) and (10) activities are triggered.

The Category B activities listed in GN 718 require that a Scoping and EIA process be conducted in compliance with the EIA regulations promulgated on 18 June 2010. The licence for Category B activities will be issued by the National Department of Environmental Affairs (the DEA), therefore, the project was also registered with the DEA and the reference number is **REF: 12/9/11/L492/6**

The NEM:WA is supported by the Waste Management Series developed by the Department of Water Affairs and Forestry (DWAF). Two of these documents are important to the project under consideration, namely the:

- Minimum Requirements for Waste Disposal by Landfill, Second Edition (DWAF, 1998a), and
- Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (DWAF, 1998b).

2.4 Authorisations required in terms of the provisions of the NWA

2.4.1 Integrated Water Use Licence

Section 21 of the NWA defines various water uses, while Section 22 requires that a person may only use water if licensed in terms of the NWA. The "use" of water does not necessarily mean the consumptive use thereof, but as can be seen from **Table 2-5** below covers many aspects that have or could have an impact on a water course.

Table 2-5: Provisionally identified water uses in terms of Section 21 of the National Water Act (NWA) requiring licensing in terms of the provisions of Section 22 of NWA.

Water Use	Description of Water Use	WMRP activity requiring a Water Use Licence
Section 21(a)	Taking water from a water resource	Abstraction of impacted mine water from Rondeboschje Dam, Goedehoop Dam and Dam 5 for treatment at the MWRP requires that this water use be licensed.
Section 21(b)	Storing water	The storage of water in the balancing dam before treatment takes place requires a water use licence. As the water is already impacted, a Section 21(g) is also required.
Section 21(c) & (i)	(c) Impeding or diverting the flow of water in a watercourse, and (j) Altering the bed, banks, course or characteristics of a watercourse	These water uses need licensing as the water flow can be impacted during construction of the pipelines at river crossings. In addition, the river banks will also be disturbed during the construction period.
Section 21(f)	Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit	This water use is triggered by Section 21(f), which addresses the discharging of the treated impacted mine water containing waste into the Niekerkspruit, which is a tributary of the Spookspruit.
Section 21(g)	Disposing of waste in a manner which may detrimentally impact on a water resource	The storage of the impacted mine water prior to treatment and the disposal of the two gypsum waste streams in engineered waste disposal/storage facilities requires a water use licence.

As an IWUL is required for the water uses listed in **Table 2-5** above, activity 5 of GNR 545, which requires that a S&EIR process be conducted, is also triggered – see Table 2-2. The S&EIR will therefore support the Water Use Licence Application.

The required IWUL for the MWRP was discussed with representatives of the DWA's Mpumalanga Region on 25 August 2010 at a pre-registration consultation meeting - see Appendix A for minutes. The amendments to existing IWULs were also discussed at the meeting.

2.4.2 Registration of Water Care Works

In addition to the requirement for the Integrated Water Use Licence, regulations were promulgated in December 1985, GNR 2834 as amended, under the now repealed Water Act, Act 54 of 1956, which requires that water care works, such as the MWRP, be registered with the Department of Water Affairs.

The objective of these regulations are to ensure that the correct number of people and with the required skills are employed to ensure that the water care works are operated

efficiently and that the treated water complies with the agreed upon water quality for discharge to the environment. These regulations have been carried over to the NWA and are therefore applicable to the MWRP. The MWRP will be registered with the DWA in terms of the requirements of GNR 2834.

2.5 Requirements in terms of the MPRDA

Although the MWRP is an industrial activity, it will be located on mine property. In terms of the provisions of the MPRDA, the EMPR of the North Section of the mine will have to be amended to accommodate the MWRP. The DMR has therefore advised at a pre-project registration meeting that the S&EIR process will also have to be adhered to for the amendment of the EMPR – see Appendix A. Although the same process will be followed, the scoping report and the EIR will have to be compiled in the format dictated by the DMR and in line with the provisions of the MPRDA.

2.6 Summary

The S&EIR is the primary or overarching environmental legislative tool and vehicle for ensuring that the potential negative and positive impacts of the proposed MWRP are identified and addressed. The EIA regulations also require that the interested and affected (I&APs) parties be identified and consulted during the Scoping and EIA process to identify issues and concerns and ensure sound decision making. The consultation will therefore also cover aspects related to the licensing of the MWRP in terms of the provisions of the NEM:WA, the NWA, the National Heritage Resources Act and the MPRDA.

What will also be noticed from the foregoing sections is that there is a significant overlap in the legislative requirements. For instance the gypsum waste disposal/storage facilities require licensing in terms of the provisions of the NEM:WA and the NWA. These overlaps have been discussed with the authorities at the various pre-registration consultation meetings and will again be addressed later in the Integrated Regulatory Process in order to avoid unnecessary overlaps. In addition, although a single S&EIR process will be followed, two scoping reports and EIR's will be developed, one set along the requirements of the NEMA and NEM:WA, the other in line with the requirements of the MPRDA.

Copies of the minutes of the various pre-registration meetings with the authorities are presented in Appendix A.

3. OBJECTIVES OF THE SCOPING AND EIA PHASES OF THE PROJECT

The Scoping Phase, and hence the Scoping Report of the MWRP's S&EIR has the following objectives:

- Describe the project in sufficient detail so that potential negative and positive impacts can be identified. The positive and negative impacts must be assessed in the Environmental Impact Assessment Phase and, where required, mitigatory measures must be identified,
- Describe and evaluate the various alternatives considered in order for a preferred alternative to be taken forward in the Environmental Impact Assessment Phase of the S&EIR, with a view to conduct in-depth investigations on the preferred alternative,
- Identify all issues and concerns that the I&APs may have with the project in order for these to be addressed in the EIA phase of the process, and
- Based on the above, develop a scope of work, also termed a Plan of Study (POS) for the EIA phase, which will address the potential negative and positive impacts, and issues and concerns identified during the Scoping Phase.

The main objective of the EIA phase will be to investigate all of the potential positive and negative impacts, as well as the issues and concerns, to determine their significance. Once the significance of a potential impact is known, mitigatory measures can be developed. These mitigatory measures can entail design and operative changes. In addition, an Environmental Management Programme (EMPr) will be developed to ensure that all mitigatory measures are listed and implemented during the construction and operation of the MWRP. The EMPr will also contain an Environmental Monitoring and Auditing Plan.

For this project, the EIA process only focuses on the construction and operating phase, while a concept closure plan is provided. A separate detailed assessment will have to be undertaken for the decommissioning, demolition and closure of the MWRP. The reason for only addressing the decommissioning phase in concept at this stage is that the plant will operate at least until 2034 and new legislative requirements could be developed in the operative period of the MWRP, which could replace current thinking and requirements.

4. DESCRIPTION OF THE ENVIRONMENT

4.1 Introduction

This section provides a general description of the environment in which the proposed MWRP will be located. The purpose of this section is to provide a perspective of the local environment within which the proposed infrastructure and plant will exist and operate, with a view to identify sensitive issues/areas, such as wetlands or other ecological aspects, which need to be considered when conducting the impact assessment and designing the plant.

During the Scoping Phase, existing baseline information has been used to describe the pre-activity environment. This information has been obtained from previous studies conducted in the surrounding areas. These studies are listed below:

- Environmental Management Programme for Middelburg Mine North and South Sections. Jones & Wagener Report No: JW147/02/8296 October 2002.
- Amendment to Environmental Management Programme for Middelburg Mine North and South Sections, Mpumalanga. Jones & Wagener Report No: JW84/06/A591 May 2006.
- Environmental Management Program Report for Klipfontein Section. Jones & Wagener Report No. UC31/98/6847. January 2000.

In addition to the above, other reference documents were also used. These documents are referenced in the report.

4.2 Description of the Environment

4.2.1 Climate

Middelburg Mines is located in the Highveld Climatic Region of South Africa. This is a summer rainfall area, with rainfall mainly occurring from October to March (Schulze, 1986). Rainfall occurs mostly as showers and thunderstorms. The winter months are normally dry.

The closest weather station with a long rainfall record is Vandyksdrift, South African Weather Service (SAWS) Station Number 0478546. The average annual rainfall at this station is approximately 682 mm. In addition, data have been obtained from rainfall records kept by Middelburg Mines, Vlaklaagte and Schoonoord – see **Table 4-1**. Rainfall records have been kept at Middelburg Mines for a period of 20 years. Although

the gauge is not registered with the SAWS, the rainfall figures recorded at Vlaklaagte and Schoonoord confirm that of the SAWS station.

The mine lies in a zone of the Highveld Climatic Region characterised by hail storms with a recurrence frequency of between 4 and 7 per area per annum. This is the area with the highest hail storm frequency in South Africa. Occasionally hail stones can be as large as hen's eggs and tennis balls (Schulze, 1986). In the design of the MWRP consideration should be given to protecting infrastructure against hail damage.

The maximum rainfall with a 1:50 year return frequency is between 113 and 117 mm and the 1:100 year return event is between 127 and 132 mm for the area – see **Table 4-2** and **Table 4-3.**

Table 4-1: Rainfall figures for the MWRP area

Month	Twenty Year Average of Monthly Rainfall in millimetres (mm)		
	Middelburg Mines	Vlaklaagte	Schoonoord
January	128	119	127
February	76	80	99
March	56	77	72
April	41	48	41
May	11	15	14
June	7	9	8
July	4	8	5
August	8	9	8
September	31	24	18
October	73	74	68
November	129	111	109
December	118	109	112
Annual	**682**	**683**	**678**

Source: SAWS

Table 4-2: Rainfall depths (mm) during 24 hour period

Station	2 years	5 years	10 years	20 years	50 years	100 years	200 years
Vandyksdrift	54	72	85	99	117	132	148
Witbank	51	69	82	95	113	127	142

Table 4-3: Rainfall depths (mm) for 7 day period

Station	2 years	5 years	10 years	20 years	50 years	100 years	200 years
Vandyksdrift	102	132	152	171	197	216	235
Witbank	98	127	146	165	190	208	227

Average S-pan evaporation totals 1 874 mm per annum, which for open water surfaces amounts to approximately 1 650 mm per annum. When comparing the annual rainfall with the annual evaporation, the area can be classified as relatively arid.

The frequency of wind direction, average speed during the year and a wind rose for Witbank are shown in **Figure 4-1**: Wind Roses for Witbank for the period 1998 - 2004. The wind roses indicate that during the summer and autumn, the wind is primarily from an easterly and east-south-easterly direction. During winter the wind direction is primarily from the north, with south and easterly directions. During spring the wind has a significant northerly component, with a prominent component from the east-south-east as well. The Highveld Climatic Region is characterised by occasional tornadoes (for example the very high winds experienced on 4 October 1991). During thunderstorms high speed winds can also be experienced.

The temperature profiles for Witbank are presented in **Table 4-5**. The average daily maximum temperature of 27.5^0 C occurs in February, while the average daily mean is 21.1^0 C. In winter the average daily minimum is in July at 5.6^0 C, while the average daily mean is 12.1^0 C. February is the warmest month and July the coldest month in the year.

Sunshine duration in summer is about 60% and in winter about 80% (Schulze, 1986).

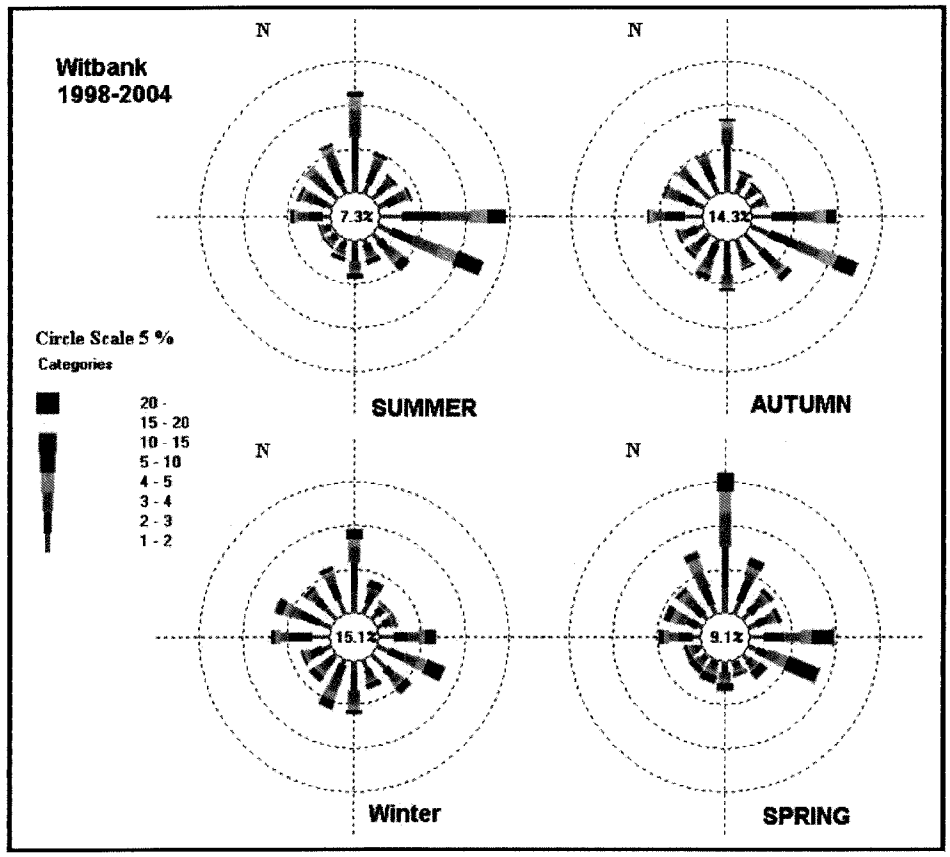

Figure 4-1: **Wind Roses for Witbank for the period 1998 - 2004**

Table 4-4: **Temperature Profiles for Witbank Area**

Month	Average daily maximum (°C)	Average daily minimum (°C)	Average daily mean (°C)
January	26.0	15.1	20.6
February	27.5	14.7	21.1
March	26.9	14.0	20.5
April	24.6	11.0	17.8
May	20.4	8.0	14.2
June	19.4	5.0	12.2
July	18.6	5.6	12.1
August	21.3	6.0	13.7
September	22.7	8.6	15.7
October	24.7	10.2	17.5
November	25.7	14.3	20.0
December	25.2	14.8	20.0
Year	**23.6**	**10.6**	**17.1**

Source: SAWS

4.2.2 Geology

The MWR Project falls within the Witbank Coalfield, which consists of sedimentary rocks of the coal-bearing Ecca Group of the Karoo Sequence. The regional geology is shown in Figure 4-2. Five coal seams are contained in a 70 m average thick succession in the coalfield, consisting primarily of sandstone with subordinate siltstone and mudstone. The succession is the Vryheid Formation of the lower Ecca group and followed the deposition of the Dwyka. The latter is of glacial origin and comprises mainly tillite. A Volcanic pre-Karoo floor underlies this. This basement consists mainly of rhyolitic rocks of the Rooiberg Group, Pretoria.

Of importance to this project is that coal deposits and the adjacent geological formations, such as the coal shale, contain pyrite (FeS). When mining occurs and the coal and coal shale are exposed to air, which contains oxygen, oxidation of the pyrite occurs. This results in the formation of sulphate (SO_4) and dissolving of iron (Fe) and other minerals, which increases the salt content of water. This high salt content water will again increase the salt content of streams and rivers when a mine fills with water and commence discharging into the environment. This phenomenon occurs at all mines all over the world where pyrite is present in the geological formation.

4.2.3 Topography and Drainage

The topography of the larger area and Middelburg Mines is typical of the Transvaal Highveld Region, namely, gentle undulating areas with mostly northerly flowing drainage systems. The area has an elevation varying between 1500 and 1650 metres above mean sea level (mamsl). The drainage systems are often accompanied by hill seeps, which resulted in the development of wetlands. Within the boundaries of Middelburg Mines there are also a number of pans (non-draining lows) with associated wetlands.

The proposed MWRP will be established in the Spookspruit catchment of the Upper Olifants River Catchment. The headwaters of the Upper Olifants River study area are located along the Highveld Ridge in the Secunda-Bethal area. The Highveld Ridge is the catchment divide between the Vaal River system, flowing to the west, and the Olifants River system, flowing in a northerly direction, then mostly easterly until discharging into the Indian Ocean. The Vaal River system discharges into the Orange River System, which again discharges into the Atlantic Ocean.

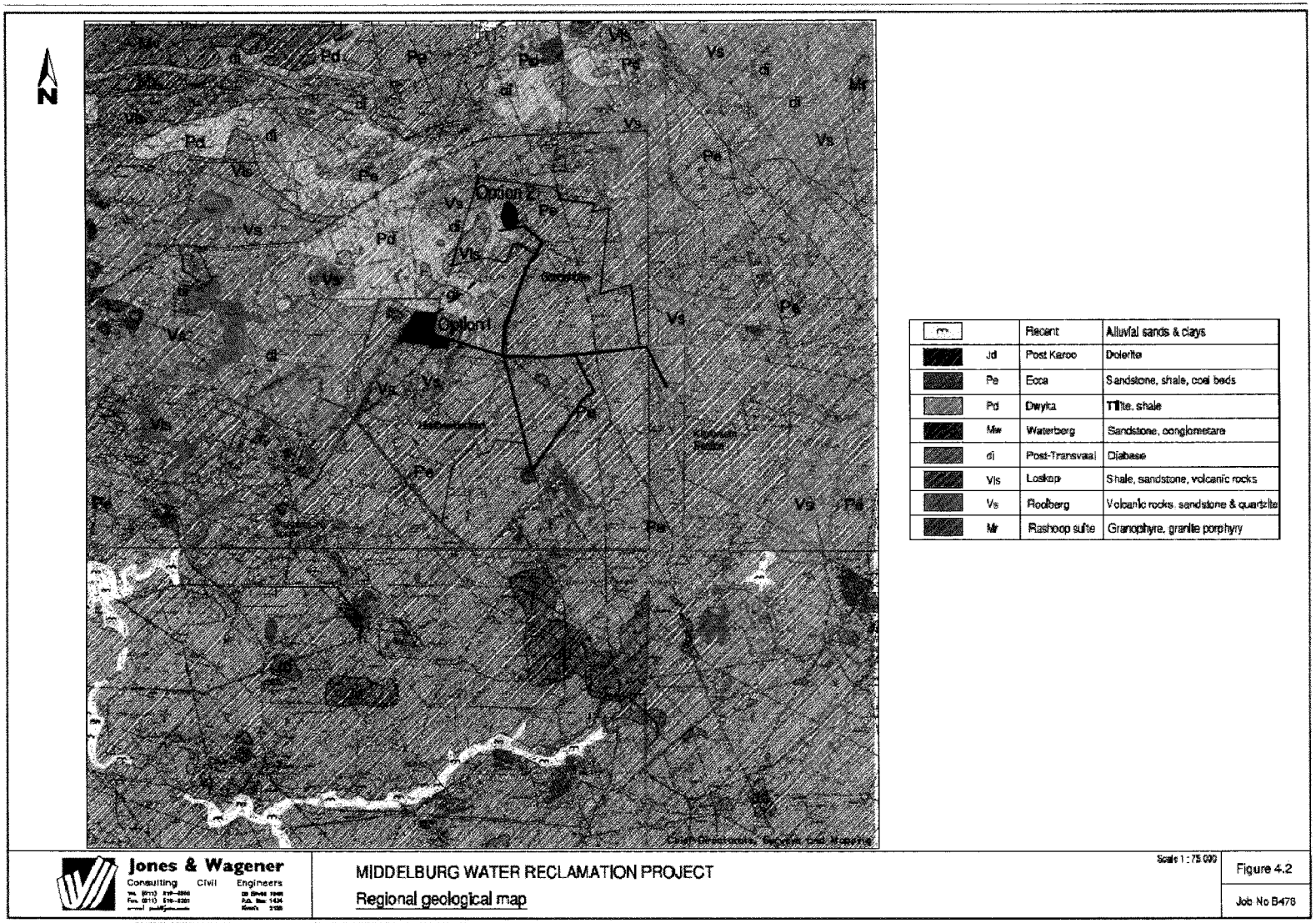

Figure 4-2: Regional Geology

The Upper Olifants Catchment consists mainly of the Olifants River, fed by the Wilge River, Klein Olifants River, Klipspruit and Spookspruit, all of which join the Olifants River before discharging into the Loskop Dam. Middelburg Mines' Hartbeesfontein -, Bankfontein - and Goedehoop Sections fall into the Spookspruit catchment, while the Klipfontein section falls within the Vaalbankspruit catchment. The Spookspruit discharges into the Olifants River approximately 8 km after crossing the N4 highway. The Vaalbankspruit discharges into the Klein Olifants River within the town of Middelburg.

4.2.4 Groundwater Occurrence and Use

In 2006 the Institute of Groundwater Studies of the University of the Free State conducted a groundwater hydrocensus of boreholes and springs on the farms surrounding Middelburg Mines (IGS, 2006). The conclusions reached by them were as follows:

- The yields of most of the boreholes are unknown, but according to the farmers, they are all between 1 500 and 3 000 litres per hour. These are therefore low yield boreholes.
- Those families that are still living on the surrounding farms, mostly to the western side of the mine, are dependent on the abstraction of borehole water for domestic and agricultural use. A few springs occur in the area, some of which are also in use for domestic purposes. The boreholes and springs are therefore sole water supplies and must be protected.
- Due to the high precipitation during the summer of 2006, when IGS undertook the hydrocensus, the ground water levels are relatively high, between 1 and 20 m below surface.
- Based on inorganic analyses conducted on some water samples taken from the boreholes, the water can be classified as Class 0 water in terms of the South African Drinking Water Standard, which is the best water class. Therefore the water poses no threat and is of ideal quality for domestic and agricultural use.

Based on the above findings, the regional aquifer can be classified as low yielding, of good quality and an only supply source to farmers and employee families living on farms surrounding the Middelburg Mines.

4.2.5 Surface Water

4.2.5.1. Surface water quality of the Spookspruit

Surface water sampling is being undertaken by the Department of Water Affairs in the Spookspruit at their flow gauge station. The station is located to the south of the eMalahleni –Middelburg Road (R555). **Table 4-5** below reflects the average, maximum and minimum values for various water quality indicators in the Spookspruit for the period 12 September 2007 to 17 June 2010. Sample frequency for the period was once per week.

Table 4-5: Water Quality at the DWA Spookspruit Weir for the period 12 September 2007 to 10 June 2010

Constituent/Parameter	Unit	Value		
		Average	Minimum	Maximum
Total Dissolved Solids	mg/ℓ	1476	330	3624
Suspended Solids	mg/ℓ	10	1	102
Chlorides as Cl	mg/ℓ	12	1	25
Total Alkalinity as $CaCO_3$	mg/ℓ	54	9	96
Fluoride as F	mg/ℓ	0.43	Not Detected	1
Sulphate as SO_4	mg/ℓ	949	203	2290
Calcium as Ca	mg/ℓ	150	40	298
Magnesium as Mg	mg/ℓ	157	28	369
Sodium as Na	mg/ℓ	30	14	52
Potassium as K	mg/ℓ	9	4	20
Total Iron as Fe	mg/ℓ	0.08	Not Detected	2
Dissolved Iron as Fe	mg/ℓ	0.03	Not Detected	1
Total Manganese as Mn	mg/ℓ	0.76	Not Detected	19
Dissolved Manganese as Mn	mg/ℓ	0.47	Not Detected	10
Total Aluminium as Al	mg/ℓ	0.08	Not Detected	3
Dissolved Aluminium as Al	mg/ℓ	0.05	Not Detected	2
Conductivity at 25° C	mS/m	173	50	342
pH-Value at 25° C	_	7.56	7	8
Chemical Oxygen Demand	mg/ℓ	16	4	315

Source: Department of Water Affairs, 2010

As can be seen from the above qualities presented in **Table 4-5** the water in the Spookspruit is not pristine, with elevated values for sulphate, magnesium and calcium being shown.

Surface water demand and uses

The Olifants River catchment is a stressed catchment with the year 2000 water requirements exceeding the available water by 192 million m^3/annum (Directorate National Water Resource Planning [DNWRP], 2009). The water reconciliation for the Upper Olifants River catchment showed that the area was in balance, but that the Middle Olifants River catchment was 94 million m^3/a in deficit, with the rest of the catchment making up the rest of the deficit.

There has been significant growth in the water requirements in the Middle Olifants River in the Burgersfort and Steelpoort areas due to new mining activities there and in addition, water allocated to the ecological reserve is used for irrigation purposes (DNWRP, 2009). In addition, significant growth has taken place since the year 2000 in the Steve Tshwete and eMalahleni Local Municipalities, which is increasing the demand in the upper Olifants River catchment. The proposed MWRP is therefore seen as an important project to augment the water supply of the catchment.

In the Spookspruit itself, three surface water uses and requirements have been identified during the compilation of the Middelburg Mines' EMPr in 2002. These are:

- Stock watering for mostly cattle and sheep, including dairy farming,
- Crop irrigation, mostly vegetables, which is sold to the public, and
- The aquatic environment.

The Spookspruit is an important tributary of the Loskop Dam. Water from the Loskop Dam is used extensively for irrigation, domestic supply, industrial and stock watering. Aquaculture has also been identified as an important water use down-stream of the Loskop Dam (DNWRP, 2009).

In order to ensure that the water quality of the Loskop Dam is improved and protected for long term use, the DNWRP defined Interim Resource Water Quality Objectives (RWQO) for the Spookspruit (DNWRP, 2009). These are summarised in Table 4-5.

Table 4-5: Interim RWQO for the Spookspruit

Water Quality Variable	Unit	Spookspruit: Management Unit 26
Conductivity	mS/m	90
Dissolved Oxygen	% Sat	70
pH		6.5
Suspended solids	mg/ℓ	-
Turbidity	NTU	-
Alkalinity	mg/ℓ	120
Boron	mg/ℓ	0.5
Calcium	mg/ℓ	150
Chloride	mg/ℓ	20
Fluoride	mg/ℓ	0.75
Magnesium	mg/ℓ	100
Potassium	mg/ℓ	20
Sodium	mg/ℓ	70
SAR	meq/$\ell^{0.5}$	2.0
Sulphate	mg/ℓ	400
Total Dissolved Salts	mg/ℓ	650
Iron	mg/ℓ	1.0
Manganese	mg/ℓ	0.4
Aluminium	mg/ℓ	0.02
Chromium (VI)	mg/ℓ	0.05
Dissolved Organic Carbon	mg/ℓ	10
Ammonia*	mg/ℓ as N	0.007
Nitrate	mg/ℓ as N	
Total Inorganic Nitrogen	mg/ℓ as N	2.5
Phosphate	mg/ℓ as P	0.05
Total Phosphorus	mg/ℓ as P	0.25
E. Coli	Counts/100 mℓ	130
Chlorophyll	mg/ℓ	0.02

Source: DNWRP, 2009

4.2.6 Flora and Fauna

The area in which the MWRP will be located, falls within the Grassland Biome of southern Africa (Rutherford & Westfall, 1994). This biome is found mainly on the high central plateau of South Africa. It covers 16.5% of South Africa and is therefore subject to altitudes ranging from 300 to 2 850 metres above mean seal level (mamsl). The biome is limited to summer rainfall varying between 400 and 2 000 mm/annum. Frost is common in the winter.

The vegetation of the biome follows a rainfall gradient, with sweet and sour grasses occurring as plant cover. In the past blesbok, black wildebeest and springbok were abundant, but due to human activities, such as town development, farming, mining, etc., much of the free roaming of these antelope has disappeared (Rutherford & Westfall, 1994).

The Grassland Biome can be further divided into vegetation types. Acocks (1988) described the vegetation of the region as Bankenveld and, more recently, the regional vegetation in the eMalahleni area was classified as Rand Highveld Grassland and Eastern Highveld Grassland (Mucina & Rutherford, 2006). The wetland systems that occur in this region were classified as the Eastern Temperate Freshwater Wetlands by Mucina and Rutherford.

The Rand Highveld Grassland and Eastern Highveld Grassland are poorly conserved vegetation communities with much of its area transformed by cultivation, grazing, and mining. Where disturbances occur, the invasive exotic tree Black Wattle (*Acacia mearnsii)* can become dominant and displace the natural vegetation. Over grazing also caused pioneer plants, such as the Bankrupt Bush *(Seripheum plumosum)* to invade large areas. Due to the extensive usage of the areas covered by the endangered Rand Highveld Grassland and Eastern Highveld Grassland vegetation types, the remaining portions are of high conservation value and sensitivity and are thus classified as endangered vegetation communities (Mucina & Rutherford, 2006). The MWRP should therefore be located in an area where it will cause the least impact during construction and long term operation.

Within the Middelburg Mines area, evidence of jackal, porcupine, duiker and hedgehogs were identified, while numerous surricates (meerkat) and mongooses were observed during site visits.

4.2.7 Sensitive Landscapes

The Department of Environmental Affairs and Tourism (DEAT, 1992) guidelines for sensitive landscapes are given as follows:

- Nature conservation and/or ecological sensitive areas, including indigenous plant species (particularly rare communities and forests), wetlands, rivers and river banks, lakes (including pans) islands, lagoons and estuaries, reefs, intertidal zones, beaches, and habitats of rare animal species,

- Unstable physical environments, such as unstable geological formations, for instance, certain areas underlain by dolomites,
- Important natural resources, such as surface and ground water systems, including grasslands,
- Sites or areas of scientific importance,
- Sites of social significance or interest, such as archaeological, historic, cultural, spiritual, or religious importance and burial sites, and
- Green belts or public open space in municipal areas.

Within the boundaries of Middelburg Mines sensitive areas have been identified such as rocky grasslands and rocky outcrops, particularly on the northern portions of the Farm Goedehoop 315 JS. Rocky outcrops are important predictors of biodiversity, which in turn makes these sensitive landscapes.

In addition, within Middelburg Mines boundaries, the following wetland types were identified, namely:

- Valley bottom wetlands: These are valley bottom areas with no clearly defined stream channel, usually gently sloped and characterized by alluvial sediment deposition, generally leading to a net accumulation of sediment. Water input is mainly from channels entering the wetland and adjacent slopes.
- Hill-slope seepage: Slopes on hillsides, which are characterized by the colluvial (transported by gravity) materials, with water inputs mainly from sub-surface flow and outflow above less permeable geological formations. In some cases these wetlands do not feed surface water bodies directly.
- Endorheic (internally draining) Pans: These are pans that do not decant, in other words the drain internally (endorheic). These pans are normally associated with significant bird life.
- Man-made Dams: There are both water pollution control dams and clean water dams within the boundaries of Middelburg Mines. The clean water dams are considered as sensitive landscapes. This is motivated on the basis that, although the dams are man-made, they are constructed within natural watercourses and support a range of ecological functions.

The wetlands and streams in the vicinity of Middelburg Mines have been mapped by the Mpumalanga government as critical biodiversity areas in the provinces' Biodiversity Conservation Plan CD-ROM (Lötter, M.C. 2006).

4.3 Summary

Based on the above, it can be concluded that the area in which the MWRP is proposed to be located is suitable for the development of such as facility, but cognisance must be taken of the:

- High rainfall events that can occur. The maximum rainfall with a 1:50 year return frequency is between 113 and 117 mm and the 1:100 year return event is between 127 and 132 mm in a 24 hour period,
- Hail storms, with stones occasionally being as large as hen's eggs and tennis balls, and
- Occasional occurrence of hurricanes, with accompanying high wind speeds.

In addition, there are sensitive landscapes in the area and virgin grasslands and wetlands should be considered in the location of the MWRP. The groundwater quality is good and as groundwater is a sole supply source to farmers and their employees this should be protected from potential impacts by the MWRP.

The surface water quality of the Spooksruit has been impacted by human activities, such as mining. This is evident with the high calcium, magnesium and sulphate values. The Spookspruit is also an important tributary of the Upper Olifants River and, hence, the Loskop Dam. The Loskop Dam is again a very important supply source to human and ecological activities associated with the Olifants River downstream of the Loskop Dam. The water quality of the Loskop Dam, therefore, needs to be protected and the water deficit of the Middle Olifants River augmented, which relates to the desirability of the project, which is also discussed in Section 5.

5. CONSIDERATION AND DESCRIPTION OF ALTERNATIVES

5.1 Introduction

In terms of the EIA regulations (DEA, 2010a) consideration must be given to alternatives. Alternatives are different approaches and ways of meeting the need, purposes and objectives of a proposed activity. Alternatives may include location or site alternatives, activity alternatives, processes or technology alternatives, temporal

alternatives, etc. The no-go alternative or option is also considered, as it provides the baseline against which the impacts of other alternatives can be compared.

For the MWRP, several alternatives, including the need for the project, have been considered. These will be discussed and evaluated below.

The objective of presenting, evaluating and motivating the feasible alternatives during the Scoping Phase, is to identify the preferred option. The preferred option will then be investigated in depth in the Environmental Impact Assessment phase of the S&EIR.

5.2 Alternatives considered

5.2.1 Background

Mining activities adversely affects water quality and the impacted water can pose a significant risk when entering the receiving environment. This is also the case in South Africa, where primarily gold and coal mining activities impact on ground and surface water resources. The Upper Olifants River catchment system is an area where coal mining activities have been impacting on ground and surface water since the commencement of coal mining in the eMalahleni area in circa 1890 (Wikipedia, 2010). As was already mentioned, Middelburg Mines is located in the Upper Olifants River Catchment in the Mpumalanga Province of South Africa.

During coal mining the geological formations are disturbed, either by underground or opencast mining methods. In the process ground and surface water, as well as rain water, flow into the mine workings. The water needs to be removed in order to make the mining operations safe for the workers. However, as the water has been exposed to chemicals in the coal and other geological formations, in most cases, the total dissolved salt content of the water increases. In addition, the mineral pyrite is associated with all of South Africa's gold and coal deposits. When exposed to oxygen, the pyrite is oxidised, inter alia, under bacterial action to yield sulphuric acid, which could give rise to what is commonly known as acid mine drainage (AMD). Once AMD commences, the low pH of the water results in the mobilisation of metals and an increase in their concentrations, such as manganese, aluminium and iron. The low pH and high salinity water can have a major impact on the quality of downstream water resources, unless the problem can be successfully addressed.

Middelburg Mines has been operating for more than 25 years and is one of the largest opencast thermal coal mines in the world. Some of this coal is exported to the export market, but the mine also supplies 10 million tonnes per annum (Mtpa) of power quality

coal to the adjacent Duvha Power Station. Middelburg Mines has a supply contract until the end of year 2034 with Duvha for the supply of coal.

At Middelburg Mines, the mine workings result in the generation of excess impacted mine water. Because the generation of impacted mine water exceeds the re-use capacity, impacted mine water is stored in mined out areas and dams with the required water use licences. However, as storage capacity is running out, alternative impacted water management options need to be considered. These alternatives are summarised in the following sections.

5.2.2 Alternative mine water management options

In order to address the issue of a positive impacted mine water balance, the DTJV conducted a Pre-Feasibility Study in 2006 to identify issues and opportunities, develop and process alternatives, and evaluate these with a view to eventually implement a workable and sustainable impacted mine water management solution.

The approach in identifying and evaluating alternatives by the DTJV is in line with the internally accepted hierarchy of waste and water management, namely:

- Prevent or minimise the generation of impacted mine water, for instance implement a good rehabilitation plan,
- Re-use impacted mine water where possible, such as in the coal washing plant and for dust suppression in impacted areas,
- Store in mined out areas or in specially constructed surface water dams. The latter also assist in evaporating the impacted water,
- Treat and release by means of passive and active processes, and
- Discharge impacted mine water in a controlled manner, which may only be with the approval of the DWA.

In the above hierarchy, prevention is more desirable than re-use and so forth. The last option of discharging impacted mine water is the least desirable but is allowed by the DWA in some instances.

5.2.2.1. Prevent and minimise the generation of impacted water

A mining plan, including a mine closure and rehabilitation plan, has been prepared and approved by the DMR for Middelburg Mines. This plan defines the sequence and nature of the coal extraction operations and details the methods to be used in closure

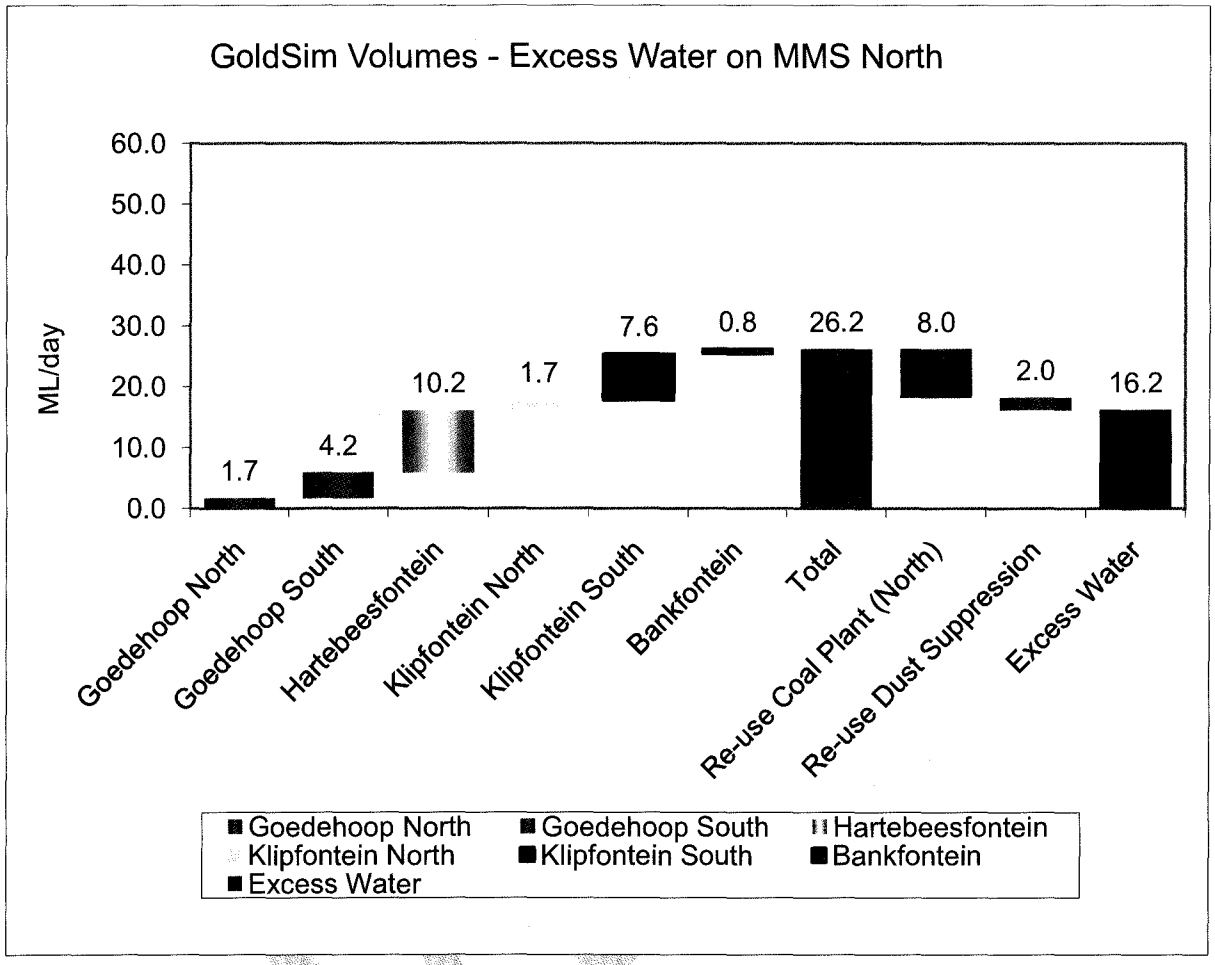

Figure 5-1: Total make of excess impacted mine water

5.2.2.5. Irrigation using Contaminated Mine Water

The use of gypsiferous mine (high sulphate, calcium and magnesium) water for irrigation was investigated in a number of studies, where a wide range of crop and pasture species were screened for tolerance to irrigation with lime-treated AMD (Jovanovic *et al.*, 2004, Annandale et al, 2009).

The results of the screening trials indicated that higher crop yields can be obtained under irrigation with mine water compared to dry land production, and dry season production is possible, whilst possible nutritional problems occurring due to calcium and sulphate dominating the irrigation water can be solved through fertilization management. Crops like sugar beans, wheat and maize can be commercially produced under irrigation with gypsiferous mine water.

Studies with gypsiferous water did, however, prove that gypsum precipitates in the soil profiles. Gypsum accumulated in the soils over the duration of the project to the extent

that the solutions became saturated with gypsum. It is not known how long this accumulation of salts in the upper layers can continue before leaching into the underlying aquifers will occur, but in the short to medium term, the evidence from the groundwater monitoring shows that irrigation with mine water does not hold significant threats to regional groundwater quality. At this point in time, the DTJV prefer not to implement such a system due to the uncertainties about long term impacts.

5.2.2.6. Treatment of Impacted Water

Based on the foregoing, it leaves treatment of impacted water as a management option. There are two possible approaches for the treatment of impacted mine water, namely passive systems and active systems.

Passive Treatment Systems

Passive treatment technology, such as lime contact canals followed by reed beds, was developed as an alternative to chemical and physical water treatment. Passive water treatment was hoped to provide a low cost, self-sustaining, low maintenance alternative to active treatment systems for mines to deal with mine water decant during both operation and closure.

Passive treatment systems, however, require longer retention times and greater space with less certainty in terms of treatment efficiency than active treatment systems. In addition, passive treatment plants generally have limited capacity and are usually restricted to small decant volumes in the order of 0.01 to 4 Mℓ/day.

Based on the volume and treated water quality requirements, passive systems are not a feasible solution to Middelburg Mines' impacted mine water situation.

Active Treatment Systems

The treatment of Middelburg Mines' mine water to a standard fit for release to the receiving environment requires proper and reliable treatment. Two broad categories of mine water desalination treatment are established in the market, namely Biological Sulphate Removal followed by polishing treatment and Membrane Based desalination treatment. These two technologies are proven and many reference plants exist. A number of other mine water desalination technologies have been developed to, but have generally not been developed beyond laboratory or pilot plant scale and are not proven in large-scale applications.

The DTJV selected membrane based desalination treatment as the preferred treatment options due to the following reasons:

- Reliable production of high quality treated water, with high confidence in meeting the strict environmental discharge water quality standards consistently.
- Limited reliance on volatile market forces related to the cost of carbon fuels.

Various configurations of membrane based technology water treatment plants exist. The selected water treatment plant process is based on the High Recovery Reverse Osmosis (HiPRO) design developed by Keyplan, a division of the Aveng Group and was chosen based on life-cycle cost and characteristics of the waste streams produced.

5.2.3 "No-Go" Option

Coal mining generates a significant volume of water due to increased recharge associated with disturbing the natural environment in order to remove the coal seams. At Middelburg Mines, where mining has been ongoing for many years, the water surplus is such that the mine has difficulty in containing the water on site. As already discussed in the foregoing sections:

- Water is currently stored in dams and within the spoils, and pumping systems have allowed the development of a hydraulic gradient within the spoils, which allows additional storage of water, but the gradients are increasing such that the pumping systems are having to be made progressively larger, and
- Certain areas of the mine are targeted for re-mining, which will require dewatering significant volumes of water.

Without an alternative strategy to address the water generated on the mine, the mine will need to cease mining in certain areas and sterilise those reserves that require dewatering, all of which will significantly affect the viability of Middelburg Mines and hence coal supply to the Duvha Power Station. This will have a significant negative impact on the economic stability of the area and the country as a whole.

Even with drastic cut backs in mining operations, the mine will still need a facility to manage surplus water once water levels in storage facilities reach decant levels.

Based on the above, without implementation of a strategy to treat water prior to discharge, the following will occur:

- Increased risk of discharge of high total dissolved salts (TDS) water into water courses. In addition, due to the pyrite in the spoils and discard, acid rock drainage can occur over time. High TDS and acidic water can have a dramatic impact on downstream users through potentially fatal impacts on fish, cattle and bird life due to elevated metals. Any downstream domestic and irrigation users of such water could also be at risk,
- The decreasing quality of in-stream water associated with large scale discharges of untreated water would significantly impact on other users, with additional treatment costs for those utilising the water, and
- Shortage of local water resources to be utilized in the future. Industrial, mining, agricultural growth and development already exist as local towns and industries are growing steadily. If these local resources become increasingly saline, as has been occurring in the Spookspruit, additional water will need to be imported from other catchments, which may not be possible in the longer term, as these catchments are also over utilized.

Based on the above, it is more likely that the government will request large scale water treatment facilities, which will be for the cost of the generator of the impacted water. The "no go option" is therefore not an option.

5.2.4 Need and desirability of the project

From the above it was concluded that the opportunities for reducing the positive make of impacted mine water would lie in a combination of already implemented impacted mine water management options and the establishment of an active water treatment system. Managing the day-to-day mine activities, such as good rehabilitation practices, optimisation of re-use, optimum management of existing storage and evaporation, and discharge of clean water (when possible) will reduce the volume of impacted mine water to be treated. However, as these management practices will only assist in reducing the net positive water balance to a degree, the risk of uncontrollable releases must be addressed by implementing some treatment technology. As was mentioned above, the no-go option is therefore not a viable option in this case.

Of the treatment technologies considered, large scale evaporation -, irrigation - and passive water treatment schemes will also not be viable due to size of area required, capital cost, long term impact and maintenance costs.

Based on the above, it was therefore decided to compliment the current water management practices with an active water treatment plant. This approach will also reduce the ultimate risk of controlled and uncontrollable water releases, as water of the desired quality will be released to the environment.

5.2.5 Consideration of Alternative Locations of the MWRP

Two potential sites were identified, namely:

- **Option 1:** This site is located to the east of the R575 and the Naledi Village. Access to the site will have to be established from the R575. The plant and infrastructure will be located on a portion of the farm Hartbeesfontein 339 JS, Portion 9 – See **Figure 1-1**.
- **Option 2:** This site is located on a portion of the farm Goedehoop 315 JS, near Dam 10 and to the south of the N4 national road. Access to the site is from a tertiary road that links the R575 with south western parts of Middelburg – See **Figure 1-1**.

The location of the sites was based on the fact that both the areas would not be mined due to them not being underlain with economically viable reserves of coal.

A detailed description of each location option for the MWRP is presented in Appendix B. In order to establish which site would be the most suitable, a matrix was developed in which a number of aspects were evaluated by the EAP team. Each aspect was given a score and these were then totalled in order to identify the most suitable site location option – See Appendix B. In some instances, the scores were based on actual fieldwork and site investigations performed. These specialist studies are referenced and included in the Appendices to this report.

The results from the evaluation is summarised in the **Table 5-1** below, but for the detailed evaluation Appendix B should be studied.

Based on the scoring system used, Option 1 was found to be the best site for locating the MWRP. This is provided that, the facility is located well away from the endorheic pan located on the northern half of the area and wetlands located on the western boundary. Fortunately, due to the relatively large size of the area, this can be achieved by locating the plant on the south eastern corner of the site – see Figure 5-2. This also meant, however, that the site had to be extended to the south to accommodate the gypsum waste disposal facilities.

Table 5-1: Evaluation of Alternative Site Location Options

Aspect	Technical and economical				Environmental and Cultural				Adjacent land uses	Land use	Total Score
	Ease of Access	Size	Ease of incorporating other mining sections	Ease and cost of construction	Lack of floral and faunal species	Lack of Groundwater occurrence	Distance to surface water	Lack of Cultural Resources	Lack of distance to sensitive land uses	Agricultural land capability	
Potential Score	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**100**
Option 1 + Extended Area	9[1]	10	8[2]	10	6[3]	6	8	7	7	6	77
Option 2	5	7	7	6	7	6	10[4]	8	8	7	71

Notes:

1: For Option 1 a new road from the R575 will have to be constructed, while the existing road to Option 2 will have to be significantly upgraded to accommodate large vehicles. Option 2 is also significantly more remote and used by others large vehicles, which makes it more dangerous.

2: Although Option 1 is located higher up in the catchment, Option 2 is located at a slightly higher elevation. Therefore Option 1 received a higher score.

3: A score of 7 is given to Option 1 for lack of floral and faunal species provided the identified wetland areas and pan is avoided.

4: An impacted mine water spillage at Option 2 would enter into an impacted mine water system.

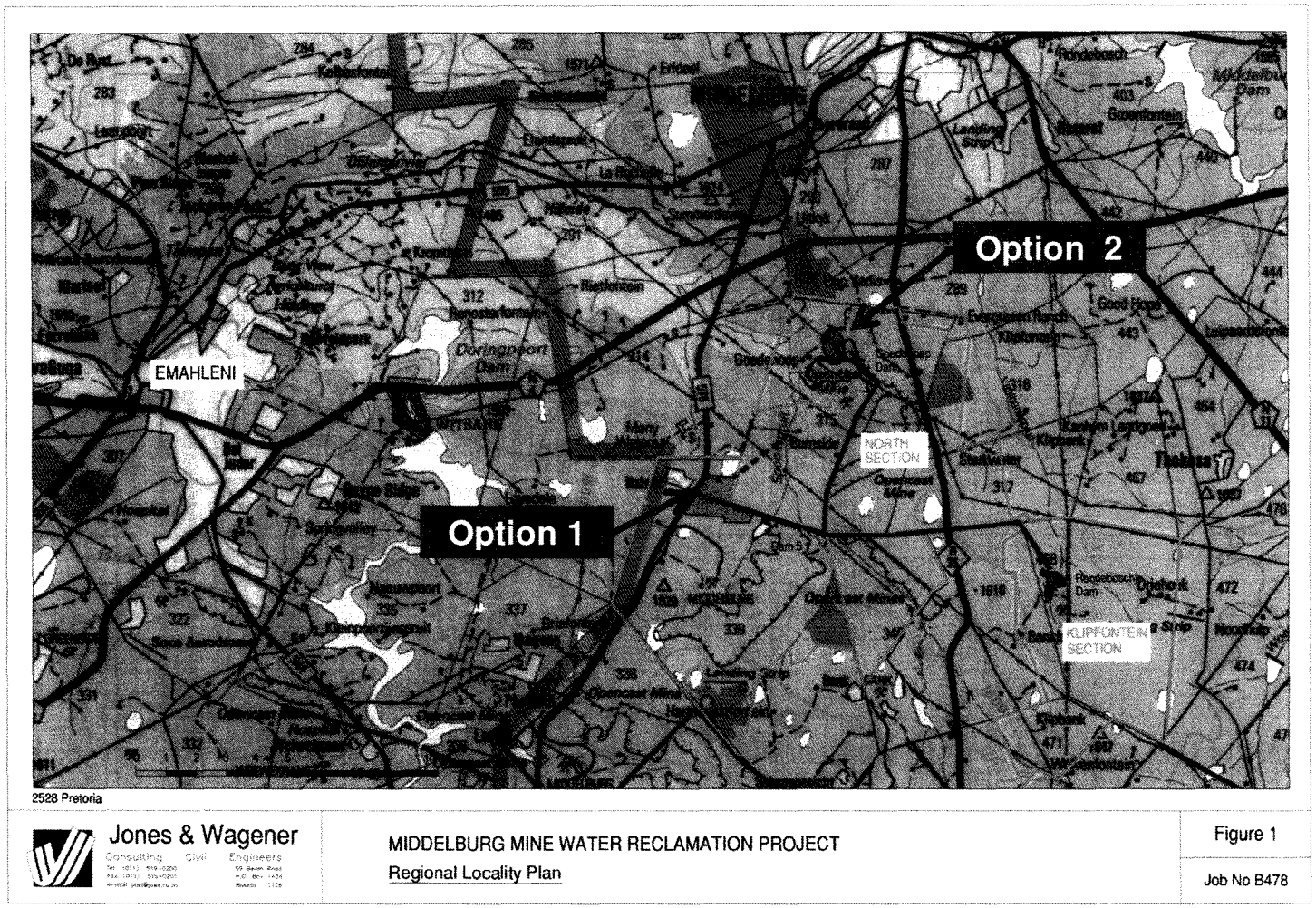

Figure 5-2: Option 1 and Option 2 site Locality Plan

5.2.6 Alternative Impacted Water Supply Pipeline Routes

Alternative pipeline routes were also considered for the MWRP for both the Option 1 and Option 2 locations. However, as Option 1 is the preferred option for locating the MWRP, the routes transferring impacted water from the various mine water storage facilities to the Option 1 location are discussed. For Option 2, the pipeline routes are the same but transfer mine impacted water from the southern and eastern areas to the north as opposed to the south in Option 1.

As a point of departure it was agreed that:

- Pipelines should follow existing routes, such as roads and conveyor systems, in order to minimise the potential impacts, and
- Pipelines must be located as far as practical on land belonging to Middelburg Mines.

In line with the approach adopted above, the pipeline from the Klipfontein Section will follow an existing mine road and conveyor system inside an existing servitude for most of the distance to the MWRP. Near the crossing of the Spookspruit it will deviate in a south westerly direction to collect water from the Hartbeesfontein Section of Middelburg Mines – see **Figure 5-3**. It will then revert back to the farm boundary, where it will follow a line parallel to an existing ESKOM high voltage power line. At the MWRP it will discharge water into the plant feed water dam. Because the Klipfontein pipeline will follow an existing conveyor route, the existing bridges at river crossings can be used.

Approximately 6 000 m^3 per day of impacted water will be pumped from the Klipfontein Section's Rondebosche Dam, which is a storage facility for impacted water. As was already mentioned, the Klipfontein Section is partially located in the Vaalbankspruit catchment. There will therefore be a transfer of water from one catchment to the other.

From the Hartbeesfontein Section, which is located in the Spookspruit catchment, approximately 3 000 m^3 per day of water will be abstracted for treatment at the MWRP from Dam 5.

There are currently two alternative pipeline routes for transferring impacted mine water from the Goedehoop Section. A decision will only be made once all the environmental assessments have been conducted to determine which alternative will be the most suitable. Alternative 1 will follow a westerly route on land that belongs to Middelburg Mines, while Alternative 2 will follow an easterly route on mining land belonging to Middelburg Mines. The easterly route, Alternative 2, will join the Klipfontein pipeline in the vicinity where the Klipfontein pipeline crosses the Spookspruit – see **Figure 5-3**.

The westerly route will cross the Spookspruit and then follow a farm boundary, where after it will veer to the west along an existing dirt road to avoid the pan. Once past the pan it will run in a south easterly direction to discharge water into the balancing dam.

Water from the Goedehoop Section will be abstracted from Goedehoop Dam, an impacted water storage facility on the Goedehoop Section. On average 6 000 m^3 per day of impacted water will be transferred to the MWRP from the Goedehoop Section.

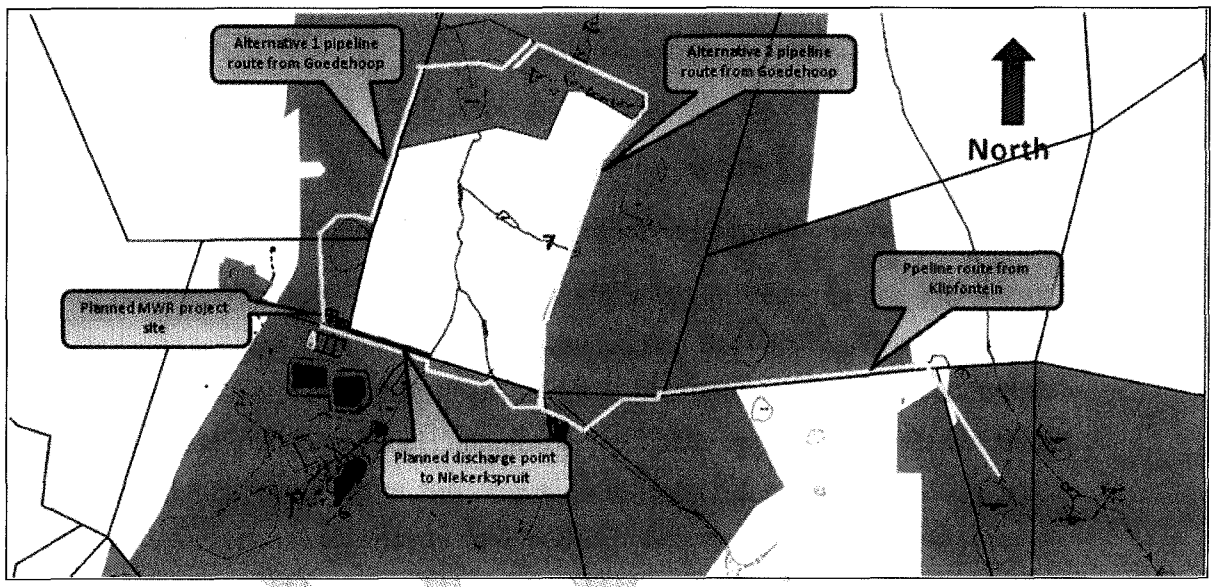

Figure 5-3: Planned routes for the impacted water from the various mine sections (yellow lines) and discharge line for treated water to the Niekerkspruit. Green areas indicate land belonging to Middelburg Mines.

5.2.7 Treated Water Discharge Pipeline Route

The proposed treated water discharge pipeline route from the Option 1 location is also indicated in Figure 5-3. The water will be discharged into the Nierkerkspruit, which is a tributary of the Spookspruit. The engineers have indicated that, due to geotechnical conditions, the last section of the route should be directed over a small portion of Portion 14 of the Farm Goedehoop. This land does not belong to either Ingwe Surface Holdings or Tavistock Collieries, but is owned by Muhanga Mining.

In terms of the provisions of the NEMA EIA regulations, Muhanga Mining has been made aware of MWRP – see Appendix C.

5.3 Conclusions and Recommendation

Based on the above it can be concluded that Middelburg Mines:

- Already have an approved ongoing rehabilitation plan, which is being implemented at the mine,
- Re-uses impacted mine water where possible, such as in the coal washing plants and for dust suppression in impacted areas. This reduces the usage of clean water on the mine, and
- Stores excess impacted mine water in mined out areas or in specially constructed surface water dams. The latter also assist in evaporating the impacted water.

The mine is, however, still impacted making water in the order of 15 Mℓ/day. This water cannot be released to the environment prior to treatment. The best is to treat the water in an active membrane treatment process, namely reverse osmosis. The selected water treatment plant process is based on the High Recovery Reverse Osmosis (HiPRO® process). The passive treatment processes are limited in capacity, quality of treated water cannot be guaranteed at all times and covers large portions of land. These passive systems also require long term maintenance.

Two areas, identified by the DTJV, and evaluated by the EAP resulted in the Option 1, located on a portion of Portion 9 of the farm Hartbeesfontein being the preferred option. It is recommended that this option be taken forward in the S&EIR for in-depth investigation and evaluation. Although Option 1 is located adjacent to a sensitive pan and associated wetlands, it has very good access, is close to other mine amenities and should allow for easier construction due to the topography of the land. The necessary steps can be taken to protect the adjacent sensitive ecological areas.

6. PUBLIC PARTICIPATION PROCESS DURING THE SCOPING PHASE

6.1 Introduction

Public Participation (PP) is the cornerstone of the EIA process. The principles of the NEMA, also underpinned in the NWA, the NEM:WA and the MPRDA, govern the many aspects of the S&EIR, which includes the required PP. These include provision of sufficient and transparent information on an ongoing basis to stakeholders to allow them to become familiar with a project in order to comment, and raise issues and concerns regarding a project. The principles also require that previously disadvantaged people, women and the youth participate in the PP process.

6.2 Objectives of Public Participation

The public participation process was designed to provide sufficient and accessible information to interested and affected parties (I&APs) in an objective manner to assist them to:

- Raise issues of concern and suggestions for enhanced benefits
- Contribute local knowledge and experience,
- Verify that their issues have been captured,
- Verify that their issues have been considered in the technical investigations and mitigatory measures, and
- Comment on the Scoping report, findings of the EIA and EMPR, as well as specialist reports.

The public participation process undertaken as part of the scoping process for the MWRP is summarized below.

6.3 Notification of I&APs

In line with the EIA regulations of 18 June 2010 (DEA, 2010a), a list of potential I&APs was developed as part of the Scoping phase of the project. These people and organisations were then notified of the project and invited to register as I&APs via mail and e-mail. In addition, site notices were placed at the Naledi Village and opposite the entrance to the Naledi Village inviting people to contact the PP office in order to register as I&APs. Advertisements of the project were placed in two newspapers inviting people to register.

Copies of examples of the letter of invitation and I&AP registration form is attached as Appendix D. Copies of the notices as they appeared in the newspapers and photos of the site notices can be seen in Appendix E.

The Background Information Document (BID) was attached to mail and e-mail invitations. The BID contains a short description of the project and explains the S&EIR process – see Appendix D.

6.4 Registered IAPs

A list of the I&APs that registered to date is listed in Appendix F. The list will be regularly updated as more I&APs register for this particular project.

6.5 Meetings with Authorities and I&APs

6.5.1 Meetings with Authorities

Pre-registration consultation meetings were held with the MDEDET, DWA Mpumalanga Region and DMR Mpumalanga. The minutes of these meetings are included in Appendix A. At these meetings a number of issues and requirements were raised. These are included in the list of issues and concerns raised to date (see Section 7).

7. ISSUES AND CONCERNS RAISED BY I&APS AND AUTHORITIES

All issues and concerns that were identified during the Scoping process and comments received during the PP process are tabulated in Table 7-1 together with responses and short explanations by the EAP (where applicable to the comment or issue). The issues and concerns were evaluated and considered in the Plan of Study for EIA. The issues and concerns will also be considered in the EIA, and the EMPR of the project and the EMPR amendment of Middelburg Mines.

As can be seen from **Table 7-1**, the issues and comments were grouped under relevant headings. This arrangement streamlines the evaluation.

Table 7-1: List of Issues and Concerns Raised by IAPs

SUBJECT	ISSUE/CONCERN /ALTERNATIVE	Raised during/at	COMMENT/MITIGATION	REFERENCE
Health / Safety Issues				
Environmental pollution and impacts	Can the purified water not be supplied to local authorities for domestic purposes?	Ms Sonia Chipu, Pre-registration meeting with DMR, 22 October 2010 & Mr S Macevele, Pre-registration meeting with the DWA, 3 September 2010	This opportunity can be looked at in the future. The catchment also requires water and this plant will add to the water supply.	
	Suggested that alternative management options for the gypsum waste, as well as waste minimisation, should be addressed. This should include waste re-use, disposal alternatives and delisting of waste.	Fikile Theledi, Pre-registration meeting with MDEDET, 25 August 2010	This will be considered in the EIA.	
Operational Issues	Will the contaminated mine water be treated to drinking water standards?	Fikile Theledi, Pre-registration meeting with MDEDET, 25 August 2010	Yes, it will comply with the SANS 241:2006 standard.	
	Who would take over the management of the plant once the mining has been decommissioned?	Garth Batchelor, Pre-registration meeting with MDEDET, 25 August 2010.	The DTJV will remain liable for the impacted mine water and therefore will continue treating water post closure of the mine.	
Buffer zones				
Environmental degradation				
Legal requirements	Update the Middelburg Mine's EMPR at the same time as incorporating the MWRP	Ms Sonia Chipu, Pre-registration meeting with DMR, 22 October 2010.	No comment.	
	The treatment plant operations should tie in with the mine closure and decommission plans of Middelburg Mines.	Fikile Theledi, Pre-registration meeting with MDEDET, 25 August 2010	This request will be complied with.	
	Construction of the MWRP cannot	Mr Stanford Macevele,	Cognisance is taken of this requirement.	

SUBJECT	ISSUE/CONCERN /ALTERNATIVE	Raised during/at	COMMENT/MITIGATION	REFERENCE
	commence until the water use licence is granted	Pre-registration meeting with DWA, 3 September 2010		
	Who would take over the management of the plant once mining has been decommissioned?	Garth Batchelor, Pre-registration meeting with MDEDET, 25 August 2010.	The DTJV will remain liable for the impacted mine water and therefore will continue treating water post closure of the mine.	
Public participation				
Other	The social and labour plan of Middelburg Mines should be adjusted to include the MWRP	Ms Sonia Chipu, Pre-registration meeting with DMR, 22 October 2010.	This will be done.	
	SM suggested that the licence conditions should allow the MWRP to, in future, make the facility available to other companies. This is to promote the development of large regional treatment plants rather than many small ones.	Mr Stanford Macevele, Pre-registration meeting with DWA, 3 September 2010	The MWRP plant area can potentially be used by others, but currently the needs of Middelburg Mines need to be catered for. The issue will, however, be addressed on the EMPR.	

8. PLAN OF STUDY FOR EIA

8.1 Introduction

A Plan of Study for the EIA is required in terms of the EIA regulations when a S&EIR is undertaken. The objective is for the approving authority, in this case the DEA, the DWA and MDEDET to verify that those issues and concerns identified by the EAP and the I&APs are investigated and addressed in the Environmental Impact Assessment Phase of the project. Where significant impacts have been identified and mitigatory measures developed, these measures have to be included in the EMPr.

In Section 5.2.5 it shows that Option 1 is the preferred option for in-depth investigation. Therefore further attention is not given to Option 2, except in the case where a fatal flaw is identified at the Option 1 location. A fatal flaw normally prohibits the project from being developed at the particular location.

There are two proposed pipeline routes to transfer impacted mine water from the Goedehoop Section, but more work is required to identify the most suitable option. While the eastern pipeline route has been investigated, the proposed western line has not. Aspects that need to be investigated on the western line are the biodiversity (including wetlands) and the occurrence of heritage resources. The technical consulting team will also need to investigate the soil conditions along this proposed western pipeline route from an engineering perspective. The above investigations will be undertaken as part of the S&EIR. Once all the investigatory work has been completed, the two lines will be evaluated in a similar manner as the two MWRP locations and a preferred option identified.

8.2 Potential impacts of significance

Potential issues, concerns and impacts were identified and are presented in Table 8-1 as part of the scoping phase. In the investigation/comment column, the suggested specialist studies, where required, are listed. In some instances a specialist study may not be required. It must also be pointed out that, in order to evaluate the two options for locating the MWRP, specialist studies have already been performed. These studies are also listed in Table 8-1, as information from these will be used in the required EMPr for the MWRP, as well as the amended EMPr of Middelburg Mines.

The list have been divided into two sections, one addressing the construction phase and the other the operating phase of the MWRP – see Table 8-1.

Table 8-1: List of Aspects, Issues and Potential Impacts

Aspect	Issue	Potential Impact	Investigation Required/Comment
Construction Phase Activity			
Construction camp	Camp is established in a sensitive ecological area	• The establishment of the camp could cause extensive damage to sensitive floral and faunal areas if located in a sensitive area, loss of ecological habitat. • Heritage resources are damaged during development of construction camp.	Conduct Biodiversity Impact Assessment and Heritage Impact Assessment to identify suitable areas for the establishment of the construction camp. Then demarcate suitable site on map and stipulate in EMPR.
Construction camp activities	• Vehicles spill diesel and oil • Vehicle emissions occurs • Fuel leaks from storage areas into the environment • Waste is generated and disposed of on site • Domestic wastewater is generated • Heavy machinery movement	• Soil, water and air resources are polluted • Windblown litter pollutes surrounding areas • Odours and smells impact on adjacent areas • Noise and dust pollution • Visual impact and aesthetics	• Fuel storage facilities to comply with required construction and storage standards(bunded areas, drip trays) • Waste management plan for construction camp &site to be developed. • Acceptable wastewater management system to be implemented • Conduct noise impact assessment
Construction of pipelines	• Pipelines are constructed through sensitive areas, such as streams, wetlands and grasslands. • A number of jobs are created.	• Damage is caused to wetlands, grasslands and stream embankments, loss of habitat • Water quality is affected, due to suspended matter • Erosion occurs, soil contamination • Stream sedimentation. • Employment provided during construction phase.	• Conduct biodiversity study to identify suitable area(s) for river crossings • Limit use of heavy machinery • Limit vegetation removal • Erosion control methods, sediment barriers • Conduct socio-economic study.
Construction of treatment plant and waste storage facilities	• Topsoil is stripped and stockpiled • Construction material lay-down areas are developed • Heavy equipment movement occurs. • Construction waste is generated. • A number of jobs are created.	• Indiscriminate overburden stockpiles cause loss of ecological habitat • Equipment movement causes damage to sensitive habitats • Construction waste causes damage to environment and aesthetic impacts. • Dust is generated. • Employment provided during construction phase. • Agricultural land-use potential is lost.	• Biodiversity study is required to identify suitable areas for overburden stockpiles, equipment roads and construction lay-down areas. • Waste management plan required. • Develop dust management plan. • Conduct socio-economic study. • Locate MWRP in least sensitive area from biodiversity and

Aspect	Issue	Potential Impact	Investigation Required/Comment
			land-use perspective.
Construction of access road to MWRP	• Topsoil is stripped and stockpiled • Construction material lay-down areas are developed • Heavy equipment movement occurs • Domestic wastewater is generated at construction site. • Construction waste is generated. • A number of jobs are created.	• Indiscriminate overburden stockpiles cause loss of ecological habitat • Equipment movement causes damage to sensitive habitats • Construction waste causes damage to environment and aesthetic impacts. • Dust is generated due to heavy equipment movement • High pH cement wastewater impacts on soil and vegetation. • Employment provided during construction phase. • Agricultural land-use potential is lost.	• Biodiversity study is required to identify suitable areas for overburden stockpiles, equipment roads and construction lay-down areas • Waste management plan required • Develop dust management plan • Wastewater management plan is required. • Conduct socio-economic study. • Align road with other infrastructure such as ESKOM power line.
Operational Phase Activity			
MWRP is operated to clean impacted water	• People are employed to work at MWRP. • Equipment creates noises	• Permanent jobs are provided. • Noise impacts occur around site.	• Conduct socio-economic study. • Employees to be trained for specific tasks. • Conduct noise impact assessment.
Impacted mine water is pumped to MWRP.	• Pipe leaks and bursts occur.	• Impacted mine water pollutes the environment.	• Non-return valves to be installed in pipelines at strategic points.
Storage of impacted mine water in balancing dam.	• Impacted mine water seeps into underlying area. • Veld fires occur in dam area. • Workers clear vegetation on dam perimeter. • Employees work in dam area.	• Ground water pollution occurs • Small mammals fall into plastic lined dam and drown. • Fires damage plastic liner. • Liner system is damaged by spades, etc. • Employees fall into dam and drown.	• Liner system for balancing dam must be designed to protect groundwater. • Conduct geohydrological investigation. • Make provision for coarse strips in order for animals to get out of water. • Fire break / ring road around balancing dam required. • Balancing dam to be fenced and Employee buddy system to be used when working in dam area
Storage of chemicals for treatment process	• Chemicals are spilled	• Spilled chemicals cause soil and water pollution • Spilled chemicals cause safety and health hazard.	• Chemical storage areas to comply with relevant health and safety aspects. • HAZOP study to be conducted for chemicals storage

Aspect	Issue	Potential Impact	Investigation Required/Comment
			and handling. • Detailed plant operating plan to be developed. • Emergency response plant to be developed for spill clean-up.
Gypsum wastes	• Waste is generated and disposed of.	• Land is used for disposal of waste. • Gypsum leachate seeps into underlying groundwater resource.	• Investigate alternative uses for various gypsum wastes. • Disposal facility to be provided with suitable liner to protect the environment.
Treated water discharged to Niekerkspruit	• Treated water contains low oxygen. • Discharging water has high energy. • Quality of treated water is better than water in Spookspruit.	• Low oxygen level impacts negative on receiving water body. • Treated water impacts on Spookspruit and Loskop Dam. • Water causes erosion at discharge point.	• Conduct aquatic impact assessment. • Conduct water quality impact assessment of Spookspruit and Loskop Dam. • Aerate treated water before final discharge. • Energy dissipation of water to be ensured.

8.3 Specialist Studies

The specialist studies to be conducted will inform and support:

- The EIA and EMPr, which is required for the environmental authorisation in order to proceed with the project applicable listed activities identified in GNR 544 to 546 of 18 June 2010 (see **Table 2-1** to **Table 2-3**).
- The IWWMP and IWULA, which is required to motive for the identified water uses as listed in the NWA (see Table **Table 2-4**), and
- The Waste Management Activity Licence Application Report, as required for those waste management activities as identified in terms of GN 718 of 3 July 2009.

From foregoing section and **Table 8-1**, the following specialist studies have been identified, which will be conducted during the EIA Phase of the S&EIR:

8.3.1 Biodiversity Impact Assessment

This study has already been completed for Option 1, including the Expanded Area, and Option 2. The results of this study have been used to evaluate the Option 1 and Option 2 site locations (see Appendix B). Further work is required for the proposed western pipeline route transferring impacted water from Goedehoop to the MWRP. Copies of the assessment reports, compiled by Strategic Environmental Focus (SEF), is included

in Appendices H to J. SEF will also conduct the additional work required on the proposed western pipeline route.

8.3.2 Heritage Impact Assessment

Cultmatrix undertook the required Heritage Impact Assessment for Option 1, including the Expanded Area, and Option 2. The results of this study have been used in the evaluation of the Option 1 and Option 2 MWRP site locations. However, additional work is required for the proposed western pipeline route. Cultmatrix will also conduct the additional work.

The Heritage Impact Assessment is included in this report as Appendix K.

8.3.3 Geotechnical Investigation and Land-capability Study

A geotechnical investigation and land-capability investigation was conducted for Option 1 and Option 2. This work was done by J&W and has been used in the evaluation of the two site location options. Additional geotechnical work is required for the expanded area at Option 1, as well as along the pipeline route. This work will be conducted by the technical consultants for the project.

The geotechnical report compiled by J&W is included as Appendix G to this report.

8.3.4 Hydraulic Impact Assessment

In order to verify whether or not the discharge of treated water into the Niekerkspruit will have a significant impact on the flow patterns of the Nierkerkspruit and Spookspruit, a hydraulic assessment is to be undertaken. The study is to be conducted in two phases and for both the 15 and 30 Mℓ/day discharges. The study will be conducted from the treated water discharge point to the confluence of the Spookspruit with the Olifants River. The hydraulic assessment is also important for the aquatic and wetland assessment.

If it is found that the base-flow and mean annual run-off could be significantly changed, i.e., the treated water will result in the flow capacity or patterns of the existing flow channels being significantly changed, sites will be identified where the changed flow regime could have a significant impact on flow patterns and water levels. The flow changes at these sites will then be illustrated by cross section assessments, which will be of value for the aquatic impact assessors.

This hydraulic assessment will be undertaken by J&W.

8.3.5 Water Quality Impact Assessment on the Spookspruit and Loskop Dam

The MWRP will discharge 15 Mℓ/day, maximum 18 - 20 Mℓ/day, of treated water during the Phase 1 development, which will increase to 30 Mℓ/day when the second phase is added. In order to establish what the likely impact, positive or negative, of the treated water on in-stream water quality of the Spookspruit and the Loskop Dam will be, a water quality impact assessment is required. The objective of this study is thus to indicate what likely impact of the treated water will be on the receiving environment. The DWA, as the custodian of South Africa's water resources, will require this information in order to make a decision regarding the required water use licence.

This study will be conducted by Golder Associates Africa using the Goldsim model.

8.3.6 Aquatic Impact Assessment (Biodiversity Study of Water Environment)

This study will look at two aspects, namely the current aquatic status and whether or not the discharge of treated water into Spookspruit is likely to have a positive or negative influence on the aquatic environment. This study has already been undertaken by Nepid Consultants – see Appendix L.

The main conclusion reached in this report was that the treated water will have a positive impact on the surface water quality of the Spookspruit. The report also identified a number of issues that need to be considered in the EIA phase of the project – see Appendix L.

8.3.7 Geohydraulic Impact Assessment of the Option 1 Location

The Institute of Groundwater Studies of the University of the Free State (IGS) already undertook a comprehensive hydrocensus of Middleburg Mines and surrounding areas to determine the groundwater users and uses, and quality of the groundwater in 2006 (IGS, 2006). However, this study was not site specific, and in order to establish the groundwater status of Option 1, and the extension, a site specific study is required. The objective of such a study is to determine the vulnerability of the groundwater with regard to impacts from the MWRP waste water sensitivity of the groundwater, which again influences the design of the impacted mine water balancing dam as well as the gypsum waste storage/disposal areas.

Some boreholes have been drilled on Option 1, but additional holes need to be drilled and evaluated. The results of this study will be considered in the impact assessment phase of the S&EIR. The work will be undertaken by IGS. The boreholes will also be

used as monitoring boreholes to establish whether or not the MWRP has an impact on the surrounding groundwater quality.

8.3.8 Noise Impact Assessment

During the construction of the MWRP and the operation thereof, noise will be generated, which could have an influence on adjacent land uses, such as the Naledi Village. A specialist study is therefore required to establish whether or not a significant noise impact can be expected. If a significant noise impact is identified, mitigatory measures need to be developed.

8.3.9 Ambient Air Quality Impact Assessment

This study is required with a focus on mostly the operational phase of the project. The objective is to identify whether or not the MWRP will impact negatively on the ambient air quality of the surround area. As with the other investigation, should a significant potential impact be identified, mitigatory measures need to be developed to address these.

Dust will be generated during the construction phase of the project and this can be addressed by regular wetting of areas frequented by equipment. This dust generation will be a short term impact, which should terminate once construction of the MWRP and the access road has been completed.

8.3.10 Socio-economic Impact Assessment

Although the development of the MWRP is expected to have a positive impact from a socio-economic perspective, this needs to be verified and optimised. The objective of this specialist study is therefore to identify the potential negative and positive socio-economic impacts of the MWRP both during construction and operation. During the construction phase a number of short term jobs might be provided, which could result in the influx of people to the area, which again could result in a number of socio-economic impacts, both negative and positive. These potential impacts need to be identified and addressed in the EMPr.

This assessment is will be undertaken by Ezendalo Environmental Solutions.

8.3.11 Traffic Impact Assessment

The envisaged access road to the Option 1 location of the MWRP will be from the R575 on the opposite side to the entrance to the Naledi Village. The R575 is a busy road used by many heavy vehicles and in order to ensure that traffic flow is not

11. REFERENCES

1. Department of Environmental Affairs, 2010a. *National Environmental Management Act, 1998 (Act 107 of 1998). Environmental Impact Assessment Regulations.* Government Gazette 33306, Government Notice R 543 of 18 June, 2010, Government Printer, Pretoria.
2. Department of Environmental Affairs, 2010b. *National Environmental Management Act, 1998 (Act 107 of 1998). Listing Notice 1: List of activities and competent authorities identified in terms of Section 24(2) and 24D.* Government Gazette 33306, Government Notice R 544 of 18 June, 2010, Government Printer, Pretoria.
3. Department of Environmental Affairs, 2010c. *National Environmental Management Act, 1998 (Act 107 of 1998). Listing Notice 2: List of activities and competent authorities identified in terms of Section 24(2) and 24D.* Government Gazette 33306, Government Notice R 545 of 18 June, 2010, Government Printer, Pretoria.
4. Department of Environmental Affairs, 2010d. *National Environmental Management Act, 1998 (Act 107 of 1998). Listing Notice 3: List of activities and competent authorities identified in terms of Section 24(2) and 24D.* Government Gazette 33306, Government Notice R 546 of 18 June, 2010, Government Printer, Pretoria.
5. Department of Environmental Affairs, 2009. *National Environmental Management: Waste Act (59/2008): List of waste management activities that have, or are likely to have a detrimental effect on the environment.* Government Gazette 32368, Government Notice 718 of 3 July 2009, Government Printer, Pretoria.
6. South Africa, Republic, 1998. *National Water Act, Act No. 36 of 1998.* Government Gazette 19182, Government Printer, Pretoria.
7. South Africa, Republic, 1998. *National Environmental Management Act, Act No. 107 of 1998.* Government Gazette 19519, Government Printer, Pretoria.
8. South Africa, Republic, 1998. *National Environmental Management Act: Waste Act, Act No. 107 of 1998.* Government Gazette 32000, Government Printer, Pretoria.
9. Institute of Groundwater Studies of the University of the Free State, 2006. *Middelburg Mine Hydrocensus Study*, Report 2006/13/PDV. Middelburg Mine Services.
10. Directorate National Water Resource Planning, 2009. *Development of an Integrated Water Resource Management Plan for the Upper and Middle Olifants*

Catchment: Integrated Water Resource Management Plan. Report number: P WMA 04/000/00/7007, Department of Water Affairs and Forestry, Pretoria.

11. Lötter. M.C. 2006. Mpumalanga Biodiversity Conservation Plan CD-Rom. Mpumalanga Tourism & Parks Board, Nelspruit.
12. Rutherford & Westfall, 1994. *Biomes of Southern Africa: An Objective Categorization*. National Botanical Institute, Pretoria.
13. Department of Water Affairs and Forestry (DWAF), 1998a. *Minimum Requirements for Waste Disposal by Landfill, Waste Management Series, Second Edition*. Department of Water Affairs and Forestry, Pretoria
14. Department of Water Affairs and Forestry (DWAF), 1998b. *Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste, Waste Management Series*, Department of Water Affairs and Forestry, Pretoria.
15. Wikipedia, 2010, http://en.wikipedia.org/wiki/Witbank.
16. Jovanovic, N.Z., Annandale, J.G,. Van der Westhuizen, A.M., and Steyn, J.M., 2004. *Monitoring the effect of irrigation with gypsiferous mine wastewater on crop production potential as affected by soil water and salt balance*. The Journal of the Institute of Mining and Metallurgy, March 2004.
17. Annandale, J.G., et al, 2009. http://www.imwa.info/docs/imwa_2009/IMWA2009_Annandale.pdf.

Marius van Zyl
Environmental Assessment Practitioner

for Jones & Wagener

8 December 2010

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Appendix A

MINUTES OF MEETINGS WITH AUTHORITIES

APPENDIX A - Table of Contents

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: (011) 519-0200 Fax: (011) 519-0201 Email: post@jaws.co.za

MINUTES

DESCRIPTION	Pre-registration meeting with Mpumalanga Department of Economic Development, Environment and Tourism for Middelburg Water Reclamation Project	JOB NO.	B478
FILE NAME	B478_MWR_DPS_Final_Minutes_MDEDETmeeting_25Aug2010.doc	DATE	25 August 2010

Present:

Name:	Company:	Contact no.:	Email
Steve Brown (SB)	BECSA (Project Director)	082 460 1962	steve.brown@bhpbilliton.com
Wendy Mey (WW)	BECSA (Process Manager)	013 689 3051 / 082 564 5958	wendy.mey@bhpbilliton.com
Lindie Moore (LM)	BECSA (Env. Specialist)	013 689 3051 / 079 694 6907	lindie.moore@bhpbilliton.com
Andrew Modise (AM)	BECSA (Communications Manager)	011 376 2166 / 079 520 3040	andrew.modise@bhpbilliton.com
Michelle Williams (MW)	BECSA (Project Leader DMO External)	082 372 0739	michelle.williams@bhpbilliton.com
Vicki Shaw (VS)	XCSA (Env. Specialist)	013 653 5457 / 084 205 6287	vshaw@xstratacoal.co.za
Fikile Theledi (FT)	DEDET (Director: Pollution waste Management)	013 759 4100 / 079 189 5599	mtheledi@mpg.gov.za
Garth Batchelar (GB)	DEDET (Director: Environment Impact Management)	013 759 4099 / 082 771 7998	gbatchelar@mpg.gov.za
Marius van Zyl (MvZ)	Jones & Wagener (Env. Process Project Manager)	011 519 0200 / 082 880 1250	vanzyl@jaws.co.za
Beth Candy (BC)	Jones & Wagener (Env. Consultant)	011 519 0200 / 082 330 1479	candy@jaws.co.za

Issues/concerns/updates:

Item	Minutes	Action
1.	**Welcome and introductions**	
1.1	SB welcomed everyone to the meeting and introduced the Middelburg Water Reclamation Project (MWRP). He started off by highlighting that the project will be a joint venture between BHP Billiton Energy Coal South Africa Limited (BECSA) and Xstrata Coal South Africa (Pty) Limited (XCSA), as water liabilities are shared by these parties with regard to Middelburg Mines in terms of the Douglas Tavistock Joint Venture, as amended (DTJV).	
1.2	SB indicated the possible locations of the proposed MWRP – see attached Power Point presentation.	
1.3	WM stated that the project will be located in the Upper Olifants River catchment, within the Steve Tshwete Local Municipality. The proposed project is within the quaternary sub-catchment B11H and B12D and is within Water Management Unit 26.	
2.	**Project description**	

2.1	WM outlined that the proposed project consists of a collection system, where impacted mine water is transferred to the proposed water reclamation plant site. Water will be pumped from MMS Hartbeesfontein, Goedehoop and Klipfontein Sections. The plant will also require the construction of gypsum waste disposal facilities. WM mention that the proposed water treatment plant will treat the excess mine water to acceptable standards, and it is proposed that the treated water will be released into the Spookspruit.	
2.3	It was further discussed that the project will be developed in two phases, with an initial plant treatment capacity of 15 Mℓ/day, increasing to 30 Mℓ/day when required. WM indicated that the mine currently re-uses contaminated water as part of their processes. However when the mine closes the re-use will be terminated thereby resulting in increased volumes of impacted mine water to be treated.	
2.4	WM introduced the treatment process in a flow diagram that illustrated total dissolved solids (TDS) and heavy metals removal, and the generation of gypsum waste during the treatment process. WM mentioned that the treatment process will be a compilation of precipitation, ultra-filtration and membrane technology, similar to that of the eMalahleni and Optimum water reclamation plants. The differences, however, are that the chemistry of the water has significant lower sodium and chloride concentrations, and therefore brine will not be generated.	
2.5	WM pointed out that if, the plant for some reason experiences problems, the impacted water can be taken back to the mine water management facilities.	
2.6	GB pointed out that a research project is currently underway at Optimum with regards to alternative uses of the gypsum. Before alternative uses and applications have not been approved, the gypsum waste streams will be stockpiled in waste management facilities at the proposed MWRP.	
2.7	WM mentioned that it is proposed to provide capacity to store waste for at least 5 years, however it would be preferred that alternative waste management options are investigated.	
2.8	MvZ stated that the water qualities for the MWRP are very different to Optimum and therefore the gypsum cake could potentially delist to general waste.	
2.9	WM highlighted that the layout of the MWRP plant will be similar to the eMahlaheni plant, however, there is no need for: • Clean water reservoirs as the treated water is to be discharged, and • Brine waste management facility, as brine will not be generated due to the quality of the impacted mine water.	
2.10	*FT enquired if the contaminated mine water will be treated to drinking water standards.*	
2.11	MW confirmed that the water will be treated to drinking water standard and the Department of Water Affairs' receiving water quality requirements for the Spookspruit.	
2.12	FT suggested that inputs from the Department of Water Affairs (DWA) and I&APs are required, as it may have an influence on the water quality requirements. It was stated that meetings with the DWA and I&APs will be held.	
2.13	*GB enquired what the extent of the mining is at MMS.*	
2.14	SB clarified that the MMS covers approximately 25 km2. There are currently no underground mining activities within the MMS mining operations.	
2.15	GB highlighted that the land has been sterilised, which could influence future land use of the rehabilitated mine area.	

2.16	*FT mentioned that the treatment plant operations should tie in with the mine closure and decommission plans. All agreed that this will be the case.*	*Address these in the EIA*
2.17	WM said that MMS covers a large area and therefore significant volumes of excess impacted mine water is generated even though MMS strives to optimize the use and re-use of impacted mine water. Mine rehabilitation is also occurring, which minimizes the generation of impacted water. However, surplus water is generated and this is expected to increase with time as the life of mine is another 20 to 25 years. As a result the MWRP will have an initial capacity of 15 Mℓ/day, but will increase to 30 Mℓ/day when the need arises.	
2.18	*GB enquired who would take over the management of the plant once the mining has been decommissioned.*	
2.19	SB clarified that the DTJV will remain liable for the impacted mine water and therefore will continue treating water post closure of the mine.	
2.20	MvZ further mentioned that it would be possible for an external company to take over the management of the treatment plant, and as a result the application for the MWRP will be made separate to the environmental authorisations of the mining operations.	
2.21	MvZ recommended that the treated water released from the plant be aerated. He also commented that the discharged water will be within drinking water standards.	
3.	**Environmental Authorisation Process**	
3.1	MvZ mentioned that the existing IWULA for MMS North Section and Klipfontein Section, as well as EMPR's would need to be updated to include the water reclamation activities. As it is proposed to operate the MWRP as a separate entity, a separate Integrated Water Use Licence (IWUL) will be applied for purely for the treatment plant activities.	
3.2	MvZ stated that, in order to obtain the required environmental authorisation, the project will be registered in terms of the new EIA Regulations, which became effective on 2 August 2010.	
3.3	*MvZ enquire who will be the contact person from MDEDET.*	
3.4	GB clarified that the communication for the MWRP project will need to go through the regional office in Emalahleni, and that the details of the contact person will be forwarded to the MWRP environmental team.	Obtain MDEDET responsible person contact details
3.5	*MvZ enquired if any environmental management framework is available for the project area.*	
3.6	GB confirmed that the environmental management framework for the MWRP project area has not yet been promulgated, and therefore the Conservation Plan should be used. GB offered to distribute a copy of the conservation plan to the MWRP environmental team.	Use Mpumalanga Conservation Plan for biodiversity studies
3.7	MvZ highlighted that the water use license requirements overlaps significantly with the National Environmental Management: Waste Act (NEM:WA) waste management facility licensing requirements. He also stated that the project needs to be registered as a Water Care Works in terms of provisions of the National Water Act.	
3.8	*MvZ queried that as there will be an overlap with the National Water Act and NEM:WA, resulting in duplication of licensing, could the project team motivate for an application for exemption from NEM:WA requirements.*	
3.9	FT mentioned that he would need to confirm with National if an application for exemption from NEM:WA requirements can be applied for. He, however, stated that NEM:WA looks at the whole project, while the NWA only looks at the water environment. He also mentioned that waste management licences take the water environment into consideration, and therefore the DWA issues a ROD after approval of the waste management facility licence application. DWA would	FT to discuss NEM:WA licence issues with DEA

	comment on the waste license where as Environmental Affairs Regional Offices would not comment on the water license application. FT suggested that the waste management facility license application should be reviewed by DWA.	
3.10	MvZ concluded that in order to prevent the process from being delayed, a waste management facility license will be applied for, as apposed to an Application for Exemption from NEM:WA.	Apply for NEM:WA licences
3.11	GB recommended that there should be interaction between the two Departments.	
3.12	*The MWRP will include both general and hazardous waste and therefore MvZ enquired who would be the competent authority.*	
3.13	FT and GB confirmed that they would follow up with the National Department of Environmental Affairs (the DEA).	FT to discuss licensing issues with DEA
3.14	MvZ mentioned that a number of specialist studies have already been undertaken for alternatives locations of the MWRP and pipeline route alternatives.	
3.15	GB mentioned that the project may need to be registered with the DEA, as the EIA process would include waste issues and applications.	Register project with the DEA as well
4.	**Discussion and way forward**	
4.1	MvZ stated that the timeframes of the project are quite tight, due to the urgency of the water reclamation plant, and therefore there will be regular follow-ups with the authorities.	
4.2	GB mentioned that, for both the eMalahleni and Optimum water reclamation projects, joint authorities meeting were held, which were very effective.	
4.3	All present agreed that authorities meetings would be organised at specific milestones during the project.	Joint authority meetings to be held at specific milestones
4.4	*GB enquired if any of the surrounding mines will be included in the MWRP.*	
4.5	SB stated that AngloCoal's Bank Colliery have expressed an interest in the project. Pumping costs are, however, a limiting factor due to the watershed separating some of the surrounding mining operations. SB further mentioned it would in the long term be more sustainable to have a larger plant and therefore highlighting the need to position the plant in a strategic location. It was also mentioned that the project team was not aware of any other projects in the area.	
4.6	MvZ confirmed that a review of alternatives will be included in the Scoping Phase, together with the identification and motivation of the preferred site. The preferred site will then be taken forward in the impact assessment phase of the EIA.	Include site evaluation in scoping report
4.7	GB confirmed that this approach is acceptable.	
4.8	FT suggested that alternative management options for the gypsum waste, as well as waste minimisation should also be addressed. This should include waste re-use, disposal alternatives and delisting of waste.	Consider alternative gypsum waste management options in the EIA
5.	**Closure**	
5.1	SB concluded the meeting by thanking all present for attending and invited all present on a site visit.	
5.2	Both potential locations of the MWRP were visited during the site visit.	

Date 11 October 2010

Minuted by: Beth Candy
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Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: (011) 519-0200 Fax: (011) 519-0201 Email: post@jaws.co.za

MINUTES

DESCRIPTION	Pre-registration meeting with Mpumalanga Department of Water Affairs	JOB NO.	B478
FILE NAME	B478_MWR_DPS_FinalMinutes_DWAmeeting_3Sep2010.doc	DATE	3 September 2010

Present:

Name:	Company & Designation:	Contact no.:	Email
S Brown (SB)	BECSA (Project Director)	082 460 1962	steve.brown@bhpbilliton.com
L Moore (LM)	BECSA (Env. Specialist)	013 689 3051 / 079 694 6907	lindie.moore@bhpbilliton.com
A Modise (AM)	BECSA (Communications Manager)	011 376 2166 / 079 520 3040	andrew.modise@bhpbilliton.com
V Shaw (VS)	XCSA (Env. Specialist)	013 653 5457 / 084 205 6287	vshaw@xstratacoal.co.za
S Macevele (SM)	DWA (Deputy Director)	013 932 2061 / 078 460 3439	maceveles@dwa.gov.za
M Moloto (MMo)	DWA (ASD)	013 932 2061 / 082 887 4332	molotom@dwa.gov.za
K Meso (KM)	DWA (PT)	013 932 2061 / 078 146 8055	mesok@dwa.gov.za
M Mashaba (MMa)	DWA (WPCO)	013 932 2061 / 073 688 7059	mashabaa@dwa.gov.za
M van Zyl (MvZ)	Jones & Wagener (J&W) (Env. Process Project Manager)	011 519 0200 / 082 880 1250	vanzyl@jaws.co.za
B Candy (BC)	J&W) (Env. Consultant)	011 519 0200 / 082 330 1479	candy@jaws.co.za

Issues/concerns/updates:

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1.2	SB indicated the location of the proposed MWRP – see attached power point presentation.	
1.3	SB stated that the project will be located in the Upper Olifants River catchment, within the Steve Tshwete Local Municipality's area of	

Item	Minutes	Actions
	jurisdiction. The proposed project is within the quaternary sub-catchment B11H and B12D and is within the Water Management Unit 26.	
2.	**Project description**	
2.1	SB outlined that the proposed project will consist of a pipeline collection system, where contaminated mine water is transferred to the proposed water reclamation plant site from the various water storage facilities. Water is pumped from both Middelburg Mine Services (MMS) North and Klipfontein Sections. The water is then treated in a reverse osmosis plant. The plant will also require the construction of gypsum waste disposal facilities. SB said that the project will be similar to that of the eMalahleni water reclamation project. However due to the water qualities at MMS no brine pond will be required.	
2.2	It was further discussed that the project will be developed in two phases, with the initial plant treatment capacity being 15Mℓ/day, increasing to 30Mℓ/day when required. MvZ indicated that the mine currently re-uses contaminated water as part of the coal washing processes. When the mine closes re-use will no longer occur resulting in increased volumes of impacted mine water. The MWRP is therefore likely to operate post closure.	
2.3	SB introduced the treatment process in a flow diagram that illustrated TDS and heavy metals removal and the generation of waste during the treatment process. SB mentioned that the treatment process will be a combination of precipitation, filtration and membrane technology, similar to the eMalahleni and Optimum water reclamation projects. The difference, however, is that the impacted water has lower sodium and chloride and therefore brine will not be generated.	
2.4	SB discussed the different types of waste that will be produced during the treatment process and mentioned that the last phase of the treatment phase produces process water, which can be either used in the coal washing plant or blended with the treated water. Blending will not result in the treated water exceeding the treated water quality requirements.	
2.5	SM asked what will happen with the process water when the mine is no longer operational.	
2.6	SB clarified that the MMS operations still has a further 25 years life of mine, during which time technology is advancing, and as a result it is anticipated that eventually no process water will be produced during the reclamation process.	
2.7	SB stated that an initial storage area for gypsum has been provided for. It is believed that there will be a market for the gypsum in the long term. If the sale of gypsum does not prove to be feasible then the gypsum storage area can be extended.	
2.8	SM voiced concerns that water reclamation plants appear to be mushrooming in South Africa, and therefore planning is required for the construction of regional plants. SM enquired if there is sufficient space available on the reclamation plant site to expand to include other companies, therefore consolidating treatment to a catchment area.	
2.9	SB confirmed that there is sufficient land available to extend the site significantly. The proposed location is also at the lower part of the mining operations within the Spookspruit catchment.	
2.10	SM suggested that the licence conditions should allow the MWRP to, in future, make the facility available to other companies.	J&W to address in EIA and IWWMP
2.11	MvZ stated that this is one of the reasons why the MWR project team has decided to ring fence the project as a separate JV.	
2.12	MvZ mentioned that the water reclamation plant will treat the impacted water to meet the interim catchment water quality criteria recently updated by Golder on behalf of the Dept of Water Affairs.	
2.13	SM highlighted that there are still gaps in the updated water quality guidelines, as the impacts on the water users in the catchment has not	

Item	Minutes	Actions
	been sufficiently addressed. The Spookspruit water qualities are very poor, and the downstream users have not yet been consulted on the new interim water quality objectives. SM mentioned that Water Affairs is looking at further improving the water quality objectives in order to improve water quality for downstream users. However, the guidelines need to be viable to large companies.	
2.14	SM also pointed out that the catchment has pressures with regards to the supply of potable water and that this demand is expected to increase significantly.	
2.15	SB mentioned that in the long term the MWRP could investigate supplying potable water to other water users in the catchment, however in the short term the construction and operation of the plant is urgent. In order to avoid delays, the objective is to release treated water to the environment.	
2.16	SM suggested that the MWR project team investigate supplying power stations within the catchment, as they are current pumping water long distances from the Vaal River catchment. There is currently a high demand for potable water in the catchment.	
2.19	MMo asked if MMS will still have water available to supply Duvha Power Station, as outlined in the water use licence.	
2.20	LM clarified that currently Duvha Power Station is supplied by MMS South Section, where as the MWRP will only receive water from North Section and Klipfontein Sections, and therefore the supply of water to the Power Station will not be affected.	
2.21	MvZ pointed out that water from MMS was used in the pilot plant at eMalahleni in order to determine the likely quality of the gypsum waste that will be produced. A waste classification was then undertaken of the gypsum waste produced in order to determine the liner requirements for the storage areas of the gypsum wastes.	
3.	**Environmental Authorisation process**	
3.1	MvZ mentioned that the waste disposal facilities will need to be licence under the provisions of the NEM:WA Category B:4(2) as well as the provisions of the NWA.	
3.2	SM confirmed that there is a huge amount of duplication in legal requirements. He said that Government is investigating dispensing with duplications. He also said that the MWRP designs will have to be approved by the DWA.	
3.3	MvZ pointed out that the MWRP will also be required to register as a Water Care Works.	
3.4	SM mentioned that it might not be necessary to apply for an amendment of the North Section and Klipfontein Section IWULs. He suggested that the Section 21(a) applications for abstraction from the pollution control dams be included as part of the MWRP IWULA. It was also discussed that the payment for the use of water is separate to the licencing of the use, and the charge is based on the size of the footprint of the water use rather than volumes.	J&W to take note
3.5	SM stated that the Section 21(c) and (i) applications may result in time delays during the compilation of the wetland reserve determination. He mentioned that the MWRP environmental project team could minimise delays in the approval process by assisting in the determination of the Present Ecological Status (PES) and Functions and Ecological Importance and Sensitivity (EIS) of the wetlands impacted on.	J&W to discuss this with biodiversity specialist and then approach the DWA
3.6	SM also mentioned that, as this is a high priority project, the Minister can fast tract the decision for the application for exemption from the provisions of the NEM:WA . He also suggested that, as there is an overlap in licencing processes, high level discussions should be held between the DWA and DEA Head Offices in order to fast tract the approval process.	
3.7	SM highlighted that the construction of the Section 21(c) and (i) activities	J&W take note of

Item	Minutes	Actions
	cannot commence until the licence is granted, which again is dependent on the reserve determination by RDM. He suggested that the consultants fast track the reserve determination process.	reserve determination
3.8	MvZ confirmed that the EIA for the MWRP will be submitted to the MDEDET, DEA and DWA for approval.	J&W
3.9	MM and SM stated that public participation is required during the water use licence process.	
3.10	MvZ confirmed that a PP process will be undertaken during the EIA and Water Use Licence process.	
3.11	MvZ highlighted that integrated authorities meetings will be held at key milestones during the project.	J&W to arrange
3.12	SM mentioned that all communication with regards to the MWRP project should go through MMo.	
4.	**Discussion and way forward**	
4.1	MvZ stated that the timeframes of the project are quite tight, due to the urgency of the water reclamation plant, and therefore there will be regular follow-ups with the authorities.	
4.2	All present agreed that authorities meetings would be organised at specific milestone during the project.	
5.	**Closure**	
5.1	SB concluded the meeting by thanking all present for attending and invited all present on a site visit.	

Date 13 October 2010

Minuted by: Beth Candy
Document source:
C:\Alljobs\B478 Water Treatment Plant\Meetings\DWA Meeting\B478_MWR_DPS_FinalMinutes_DWAmeeting_3Sep2010.doc

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: (011) 519-0200 Fax: (011) 519-0201 Email: post@jaws.co.za

MINUTES

DESCRIPTION	Pre-registration meeting with the Department of Mineral Resources (DMR) for Middelburg Water Reclamation Project	JOB NO.	B478
FILE NAME	B478_Kdj_MWRP_DMRmeeting_Minutes_25October2010.doc	DATE	22 October 2010

Present:

Name:	Company:	Contact no.:	Email
Steve Brown (SB)	BECSA (Senior Manager Project Delivery)	082 468 1967	steve.brown@bhpbilliton.com
Wendy Mey (WW)	BECSA (Process Manager)	013 689 3051 / 082 564 5958	wendy.mey@bhpbilliton.com
Lindie Moore (LM)	BECSA (Environmental Specialist)	013 689 3051 / 079 694 6907	lindie.moore@bhpbilliton.com
Andrew Modise (AM)	BECSA (Communications Manager)	011 376 2166 / 079 903 4342	andrew.modise@bhpbilliton.com
Michelle Williams (MW)	BECSA (External Relations)	082 372 0739	michelle.williams@bhpbilliton.com
Mashudu Mutengwe (MM)	DMR (Assistant Director)	013 656 1448	mashudu.mutengwe@dmr.gov.za
Sonia Chipu (SC)	DMR (Environmental Officer)	013 656 1448	sonia.chipu@dmr.gov.za
Marius van Zyl (MvZ)	Jones & Wagener (Environmental Process Project Manager)	011 519 0200 / 082 880 1250	vanzyl@jaws.co.za
Katherine de Jong (KdJ)	Jones & Wagener (Environmental Consultant)	011 519 0200 / 082 805 9989	katherine@jaws.co.za

Issues/concerns/updates:

Item	Minutes	Action
1.	**Welcome and Introductions**	
1.1	SB welcomed everyone to the meeting and introduced the Middelburg Water Reclamation Project (MWRP). He said that the meeting would give an overview of the Douglas Tavistock Joint Venture (DTJV) feasibility study to establish a mine water reclamation scheme on Middelburg Mine (now known as Middelburg Colliery).	
2.	**Project Introduction**	
2.1	SB outlined that the proposed project would be undertaken by the DTJV, which is a joint venture between BHP Billiton Energy Coal South Africa Limited (BECSA) and Tavistock Collieries (Pty) Limited. At Middelburg Mines North and Klipfontein Sections, Tavistock Collieries is responsible for 16% of the impacted mine water to be treated and BECSA 84%. The MWRP will be situated in the Upper Olifants River catchment, within the Steve Tshwete Local Municipality and it will treat excess mine water produced at	

	Middelburg Mines' Hartbeesfontein, Goedehoop and Klipfontein Sections and release this into the Spookspruit catchment.	
3.	**Project Description**	
3.1	WM stated that the area has been mined for approximately 30 years. In the mining process excess impacted mine water has been generated. In order to comply with legislation the impacted mine water needs to be treated to a suitable level for release into the catchment.	
3.2	WM indicated that the project would include water transfer pipelines (from Hartbeesfontein, Goedehoop, and Klipfontein Sections) to the water treatment plant and that it will be located on the Hartbeesfontein Section. The water would be treated to an acceptable standard and released back into the Spookspruit catchment. Other infrastructure needed would include; balancing dams, water treatment infrastructure, gypsum waste disposal facilities and supporting infrastructure, which includes the process control room, office, access roads to the site, change rooms for staff, etc.	
3.3	It was further discussed that the project will be developed in two phases, with an initial plant treatment capacity of 15 Mℓ/day, increasing to 30 Mℓ/day when required.	
3.3	WM outlined the HiPRO® process based on a flow diagram – see attached Power Point presentation. This process illustrated the dissolved solids and heavy metals removal, and the generation of two gypsum waste streams during the treatment process. The treatment process will be a compilation of precipitation, ultra-filtration and membrane technology, similar to that of the eMalahleni Water Reclamation Plant. It was also mentioned that, following membrane desalination, potable water can be obtained with additional infrastructure.	
3.4	MM then enquired if the water is clean after this treatment process?	
3.5	WM confirmed that the water would be fit for release to the catchment after treatment.	
3.6	WM said that after the first stage treatment a metal rich sludge is generated, while after the second and third stage of the process, gypsum cake and a small amount of process water are produced. It may be possible to partner with a third party to use the gypsum cake waste. The small percentage of process water produced would be put back to the coal washing process.	
3.7	SC enquired about the possibility to supply water to the local municipalities? In this case the water is pumped back into the river system.	
3.8	WM stated that currently they want to solve the problem of impacted mine water so that it is fit to release into the catchment. The scope of the project may change later to include the provision of water to municipalities.	Long-term – providing the water to other parties
3.9	SB confirmed that long term they may want to explore ways to provide the water to other parties, but in the short term the water needs to be treated.	
3.10	MvZ indicated that the catchment does need more clean water.	
3.11	WM highlighted that the layout of the MWRP plant will be similar to the eMalahleni Water Reclamation Plant, with a few variations. The MWRP will be slightly smaller holding 30 Mℓ in two holding facilities whereas eMalahleni holds 40 Mℓ. WM illustrated that the membrane buildings, office and workshop at the eMalahleni Water Reclamation Plant give a good idea of what the MWRP will look like.	
3.12	MvZ stated that there would be no clean water reservoirs at MWRP as the treated water is to be discharged.	
3.13	SC enquired about the size of MWRP in relation to the eMalahleni plant.	

3.14	WM confirmed that MWRP would treat 15Mℓ/day whereas eMalahleni treats 25Mℓ/day	
3.15	MvZ stated that this is with regards to Phase 1 of the MWRP. Phase 2 would treat 30Mℓ/day.	
3.16	WM then introduced the generic MWRP HiPRO Plant layout. The plant area will provide the capacity to store waste in sludge disposal facilities for at least 5 years and provide an overall lifespan of 20 years.	
3.17	WM indicated that water will be treated to drinking water standards in terms of salinity. The treated water will also meet the Department of Water Affairs' receiving water quality requirements.	
3.18	WM discussed the various wastes generated in the process where approximately 21% would be metal rich sludge and 75% a gypsum cake. These two waste streams are kept separate for potential market purposes. Approximately 21 tons/day of waste will be generated for every 15Mℓ of water treated. WM stated that MvZ is currently working on classifying the gypsum waste.	
3.19	MvZ stated that using the existing minimum requirements, as well as the new waste classification system, the gypsum cake is considered inert and can therefore be delisted to general waste.	
3.20	SB then gave a perspective that the volume of waste generated per day could fill the room where everyone was sitting.	
3.21	MvZ then indicated that in Phase 2 the waste stream would double.	
4.	**Environmental Authorisation Process**	
4.1	MvZ mentioned that Jones and Wagener (J&W) has been appointed to obtain all the required environmental licenses and authorisations for the project to proceed.	
4.2	As it is proposed to operate the MWRP as a separate entity, in case of mine closure, a separate Integrated Water Use Licence (IWUL) will be applied for purely for the treatment plant activities. Also the existing IWULA for Middelburg Mines North Section and Klipfontein Section, as well as EMPR's would need to be updated to include the water reclamation activities.	
4.3	MvZ stated that, in order to obtain the required environmental authorisation, the project will be registered in terms of the new EIA Regulations, which became effective on 2 August 2010.	
4.4	MvZ gave an overview of the primary environmental legislation applicable to the project - refer to the Power Point presentation attached for details.	
4.5	MvZ then went over all the listed activities and gave an example that in terms of the National Environmental Management Act's (NEMA) GNR 544, the storage of lime triggers Activity 13 and will therefore require a Basic Assessment.	
4.6	SC enquired if lime triggers this activity based on its quantity?	
4.7	MvZ confirmed this. In total approximately $250m^3$ of hazardous chemicals will be stored on site and thus falls within $80m^3$ to $500m^3$ bracket, which triggers activity 13. He added that lime has a high pH and can burn one's eyes and skin.	
4.8	MvZ indicated that based on all the listed activities, a full EIA process was triggered and the necessary specialist input would be obtained.	
4.9	MvZ outlined the diagram of the NEM:WA and NEMA listed activities in relation to the project footprint. He indicated that these diagrams were to explain it in simpler terms for the interested and affected parties (I&APs).	
4.10	MvZ introduced the Integrated Regulatory Process. MvZ indicated that according to this process, the DMR are required to approve the amended EMPRs.	
4.11	MvZ highlighted that the water use licence requirements overlaps	

	significantly with the National Environmental Management: Waste Act (NEM:WA) waste management facility licensing requirements. He indicated that it was discussed with MDEDET and DEA to apply for exemption from the Waste Act, but it was not granted and at this point both licences will have to be applied for.	
4.12	SC enquired where the MWRP plant would be situated.	
4.13	MvZ responded by stating that it would be located on the current Middelburg Mine property.	
4.14	SC stated that the MWRP is an industrial activity on mining land and because it has new triggers relating to water, the EMPR would need to be amended. SC also illustrated that DMR have a guideline document for compiling an EMP based on various activities.	Get hold of DMR guideline document.
4.15	SC enquired about the cost of the EMP relating to the management of the water issues. The cost of the MWRP needs to be determined.	
4.16	MvZ responded by stating that he is aware of the cost requirement, as MDEDET were also enquiring about the cost.	Determine cost of MWRP as part of Mine Environmental Management Program
4.17	MvZ noted that the mine EMPs can be amended to cover the new activities.	
4.18	LM said that there are two EMPs, one for the North & South Section and one for the Klipfontein section.	
4.19	SC then indicated that just one of the EMPs will need to be amended, namely the one where the MWRP will be located. The transfer of water from the one mine to another will just need to be explained in the EMP amendment application.	
4.20	MvZ illustrated that MDEDET is the lead authority due to NEMA EIA requirements[1]. However, the DMR will not be by-passed in the process due to the MPRDA requirements.	
4.21	LM stated that MWRP is a separate entity belonging to the DTJV.	
4.22	SC responded by stating that there needs to be internal agreement between the two parties (Middelburg Mines and DTJV) on responsibility for the MWRP.	
4.23	SB then explained ownership rights to show the separate entities.	
4.24	MvZ then indicated that the specialist studies needed for this EIA would be sent out to DMR and MDEDET as part of the EIR.	
4.25	MvZ gave a summary of the environmental authorisation process.	
4.26	SC asked whether there was a Social and Labour plan for Middelburg Mines and that this should be amended to include this project. This would ensure that people can still benefit even when the mine is closed.	
4.27	MvZ responded by indicating that Middelburg Mine's Social and Labour plan will be updated to include the MWRP.	Study MMS social plan and update to include the MWRP
4.28	MvZ then stated that, according to the timeframe, each department would receive documents at the same time so that there is maximum engagement and interaction.	
4.29	SC suggested that the team consult with the eMalahleni Water Reclamation Plant and Optimum Coal Holdings to see how they went about the whole process.	
4.30	MvZ responded by stating that he would contact the relevant stakeholders at Optimum.	Contact relevant stakeholders at eMalahleni and Optimum

[1] **In this case the MDEDET is the lead authority as explained in GNR 545 of 18 June 2010 due to Activity 5 being applicable to the MWRP project. In the case of all activities identified under GNR 544 and GNR 546 for the MWRP, the MDEDET also is the lead activity.**

5.	**Discussion and way forward**	
5.1	SC stated that, with the development of the MWRP, the Spookspruit forum would probably not be required anymore.	
5.2	WM indicated that there are, however, many other issues and areas that require attention within the Spookspruit catchment.	
5.3	SC also suggested that the team consults with the Principal Inspector of the Mines to indicate what the intentions are to avoid risk of collapse of flooded underground workings.	
5.4	WM responded by stating that all mining activities are opencast and so fewer risks are predicted.	
5.5	SC stated that DMR had directed Middelburg Mines to update their EMPR in terms of the provisions of the MPRDA. She suggested that the project team enquire how far they are in that process and then integrate this project with the updating of the EMPR. SC stated that one integrated document could then be developed, which would make the approval process a lot easier.	Consideration be given to integrating the MWRP with that of the upgrading of the existing EMPR
5.6	WM enquired whether the DMR would be open to meetings and updates.	
5.7	SC stated that it does help to attend meetings to answer queries, but their branch has cut down on meetings due to workload. SC said that they would attend and advise on the process, but not necessarily on a regular basis.	
5.8	MvZ suggested meetings be held at strategic decision points in the project.	Invite the DMR to authority meetings at strategic decision points
5.9	SC responded by stating DMR has a busy schedule until February 2011 and driving out to site for meetings is time consuming, so they would prefer to have meetings in their offices.	
6.	**Closure**	
6.1	MvZ concluded the meeting by thanking DMR for their time.	

Date 25 October 2010

Minuted by: Katherine de Jong

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DOUGLAS TAVISTOCK JOINT VENTURE

MIDDELBURG WATER RACLAMATION PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT

DRAFT SCOPING REPORT

Appendix B

EVALUATION OF MWRP LOCATION: OPTION 1 AND 2

DOUGLAS TAVISTOCK JOINT VENTURE

MIDDELBURG WATER RECLAMATION PROJECT
ENVIRONMENTAL IMPACT ASSESSMENT

EVALUATION OF MWRP LOCATION: OPTION 1 AND 2

Report No.: JW157/10/B478 - Rev B

November 2010

Jones and Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 0027 (0)11 519 0200 Fax: 0027 (0)11 519 0201 email: post@jaws.co.za

DOCUMENT APPROVAL RECORD

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Prepared	Environmental Assessment Practitioner	M van Zyl		
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CONTENTS PAGE

List of Tables

List of Figures

Jones and Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 0027 (0)11 5190200 Fax: 0027 (0)11 5190201 email: post@jaws.co.za

1. INTRODUCTION

In this section MWRP location Option 1 and 2 is evaluated with a view to only taking one option, the preferred option, forward in the impact assessment phase of the S&EIR. In order to evaluate the two sites or locations, a description of each is presented. In addition, the site evaluation criteria are also described, while finally a matrix is used to score each site against the evaluation criteria and then, based on the overall score, identify the option to be further investigated. This approach was agreed with the MDEDET at the pre-registration consultation meeting.

As was already mentioned, the location of the two sites was based on the fact that both the areas would not be mined due to them not being underlain with economically viable reserves of coal.

The two options, Option 1 and Option 2, are firstly described in terms of a number of aspects, such as location, access, geology, topography, biodiversity, land capability, etc.

2. OPTION 1 AND EXTENDED AREA: HARTBEESFONTEIN

2.1 Location and ownership

Option 1 and the extension of Option 1 (Extended Area) are located on the Portion 9 of the Farm Hartbeesfontein 399 JS – See **Figure B2.1**. The site covers an area of approximately 180 hectares. The land belongs to Ingwe Surface Holdings Limited (60%) and Tavistock Collieries (Pty) Ltd (40%). The surface rights belong to BECSA and the land is managed by Middelburg Mines.

As can be seen from **Figure B2.1**, the site is located to the immediate east of the R575 opposite the entrance to the Naledi Village. The Naledi Village belongs to BHP Billition and some of their employees reside there. The R575, a secondary road, links Van Dyksdrift and Middelburg with each other. The road is frequented by large vehicles and the condition of the road is poor in a number of areas.

A chicken farm is located approximately 800 metres to the north-north-east of the northern boundary of Option 1, while two coal slurry dams are located to the immediate south of the extended area.

A large pan, with associated wetlands, is located on the northern portion of Option 1 – see **Figure B2.1**.

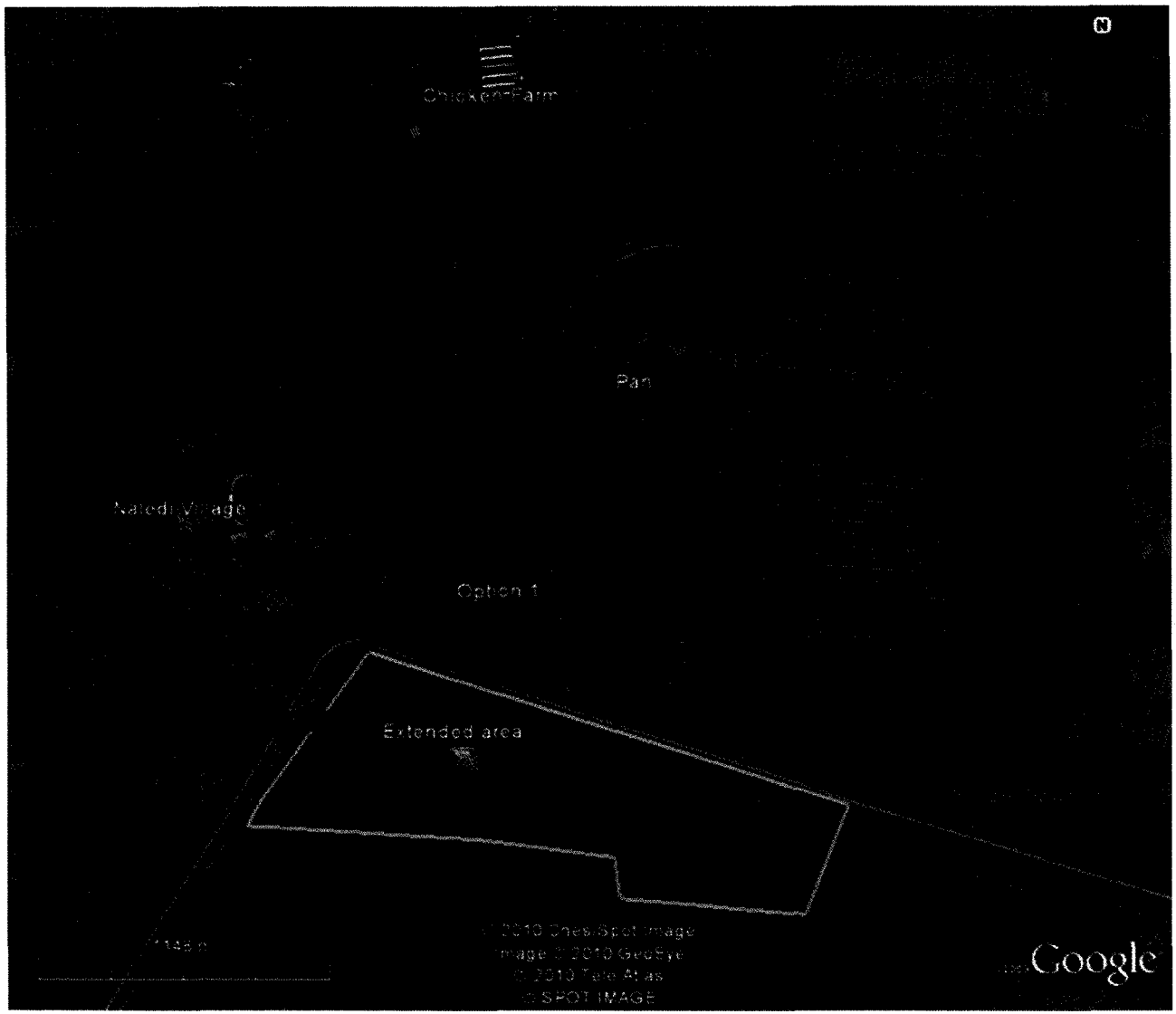

Figure B2.1: Location of Option 1

2.2 Access

There is currently no direct access from the R575to Option 1 and the Extended Area. Access is from small service roads within the Middelburg Mines' boundaries.

Access to the site can be gained from the R575, which requires that a formal entrance from the R575 be developed and a road to the MWRP be constructed. The proposed road has been aligned with the ESKOM high voltage power line – see **Figure B2.1.**

2.3 Topography and Drainage

Option 1 and the Extended Area are located on a relatively flat portion of land on a topographic high. The mamsl is approximately 1560. The south-eastern portion of the land slopes to the east at a gradient of approximately 0.8 %, which makes it suitable from a development perspective. Portions of Option 1 drain northwards towards the pan, which in itself is not free draining. The areas draining towards the pan are less suitable for development than those draining towards the east. The western sections of Option 1 drain towards the Hartbeesloop, a non-perennial stream which is located approximately 250 metres from the western boundary of Option 1. At its nearest point, Option 1 and the Extended Area are approximately 1 250 metres from the Niekerkspruit, which is located to the east of the two sites – see **Figure B2.1**.

2.4 Geology and Soils

Option 1 and the Extended Area are underlain by sedimentary rocks of the Karoo Sequence, which includes shales and sandstones of the Vryheid Formation, Ecca Group.

The soils at Option 1 are controlled by the topographic expressions on site and consequently consist of:

- A crestal profile: Typically 800 mm of hillwash, followed by a ferruginised hillwash zone, a ferruginised transition zone and residual siltstone. The crestal profile covers most of Option 1.
- A gully profile, which is located along the south western border of Option 1, comprising of 800 mm wet, grey-brown, loose, silty sand on moist, dark orange-brown mottled grey, very dense, moderately cemented and ferruginised, silty sand.
- A pan profile, which is present in the north eastern corner of the site and comprises a 300 mm grey, leached hillwash on a well cemented to hardpan ferricrete around the sides of the pan, while in the pan basin approximately 700 mm of wet, mottled grey, sandy clay on a wet clay-silt was present. (J&W, 2008).

For foundations, the hillwash horizon is not considered suitable for foundations due to the potential for both collapse and consolidation settlements that could occur. However, the well cemented and ferruginised hillwash to transition horizon, generally encountered at a depth of approximately 0.8 m and deeper, is suitable for founding purposes (J&W, 2008). See Appendix G for geotechnical report.

2.5 Services and Servitudes

A high voltage ESKOM power line is located on the southern boundary of Option 1 and the northern boundary of the Extended Area. The line runs in an east-west direction – see **Figure B2.1**.

The necessary permissions will have to be obtained where infrastructure could possible cross the servitude, while during construction, cranes and other high equipment should not come near the lines for safety reasons.

2.6 Land use

From the floral and faunal evaluation done on Option 1 by Strategic Environmental Focus (SEF), the specialist consulting firm employed to investigate and evaluated Option 1 and Option 2, it was indicated that disturbance of the grassland did occur in the past, probable due to grazing of cattle (SEF, 2008).

The foundations of two old homesteads were also identified on Option 1, which would have caused additional land disturbance during the time that they were inhabited – see Section 2.8 of Appendix B.

2.7 Biodiversity and Sensitive Landscapes

SEF undertook a floral and faunal assessment of the site in order to establish its ecological status (SEF, 2008a and SEF, 2008b). Based on the work conducted by them, Option 1 was divided into four distinct vegetation communities namely:

- Hydrophilic vegetation (wetland and pan);
- Primary grassland;
- Disturbed grassland; and
- Alien invasive bush clumps.

These four communities are depicted in **Figure B2.7 (a)**. SEF indicated that both the hydrophilic vegetation and primary grassland types are high sensitive areas and these should therefore be protected. The disturbed and alien invasive bush clumps, mostly located on the south-eastern portions of the site, was assigned a low sensitivity. The areas of high and low floral sensitivity on Option 1 are indicated in **Figure B2.7 (b)**.

From a faunal perspective, Option 1 was classified as a high sensitive area, with only a few sections of low sensitivity – see **Figure 2.7 (c)**. This was found because the alien invasive bush clumps recorded the Namaqua Rock Rat (*Aethomys namaquensis*), the Bushveld Gerbil (*Tateraleu cogaster*) and the Single Stripped Mouse (*Lemnis comysroscilia*) (SEF, 2008b).

Although a high faunal sensitivity was assigned by SEF to the low floral sensitivity area, the high concentration of small mammal occurrence is opportunistic due to the presence of the invasive vegetation. In addition, the plants in the invasive bush clumps are mostly black wattles (*Acacia mearsnii)*, which is a declared invasive species and should be removed in terms of the provisions of GNR 280 of March 2001.

Based on the above findings, only the south eastern corner of Option 1 is suitable for development and only that area draining away from the pan. As a large portion of Option 1 was not suitable for development, it was decided to investigate an additional portion of land, the Extended Area to the south of Option 1 – see **Figure B 2.1.**

Based on the evaluation done by SEF (SEF, 2009 - see Appendix J) two veld types were identified on the Extended Area, namely an Eastern Highveld Grassland and Rand Highveld Grassland. Similarly to the work conducted on Option 1, investigations and evaluations resulted in the area mapped in terms of sensitivity – see **Figure B2.7 (d)**. After the Extended Area was investigated, a single map, containing both the Option 1 and Extended Area was prepared – see **Figure B2.7 (e)**. This combined area was subjected to a scoring and evaluation to determine the most suitable area.

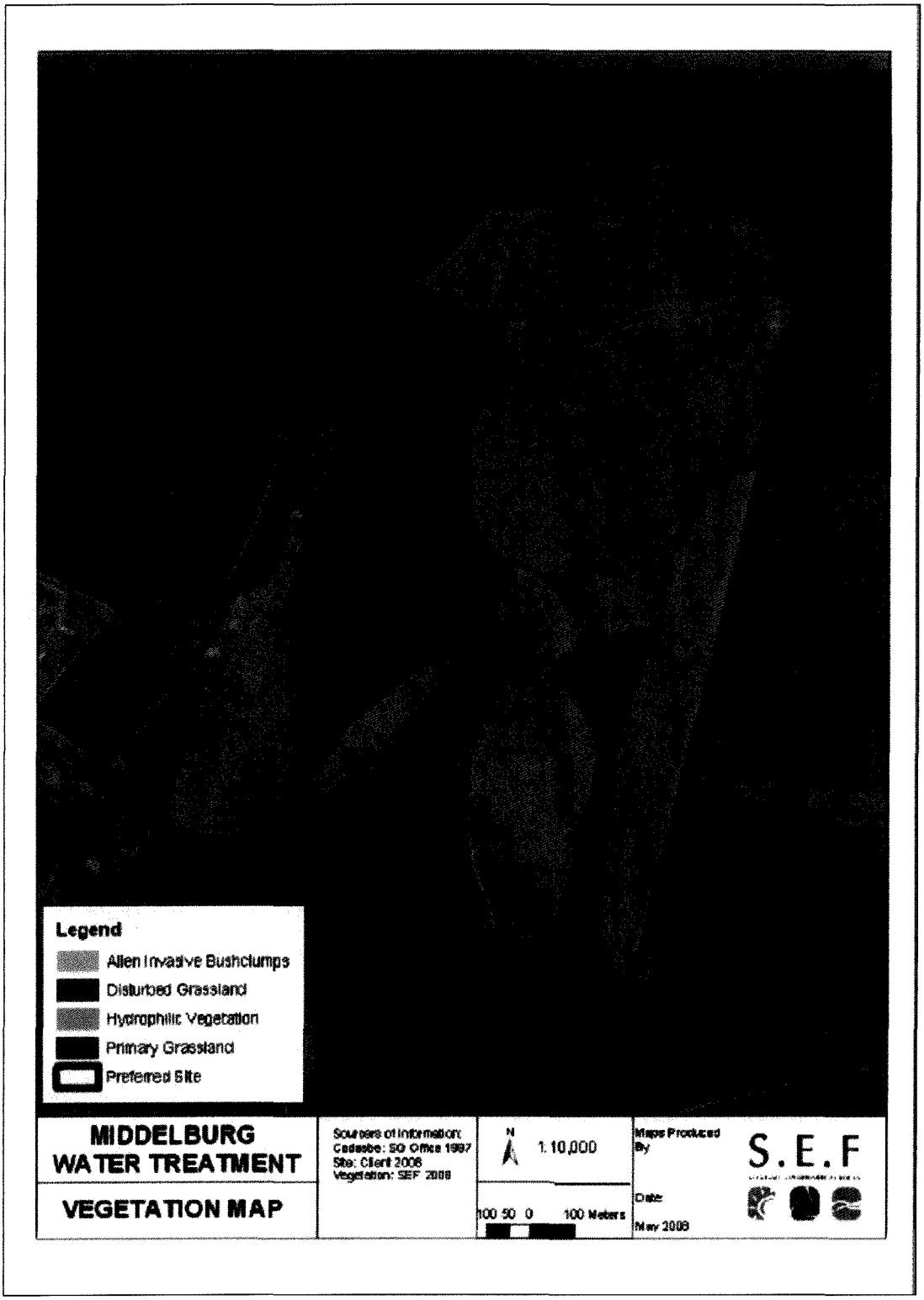

Figure B2.7 (a): Option 1: Vegetation Types (Source SEF, 2008a)

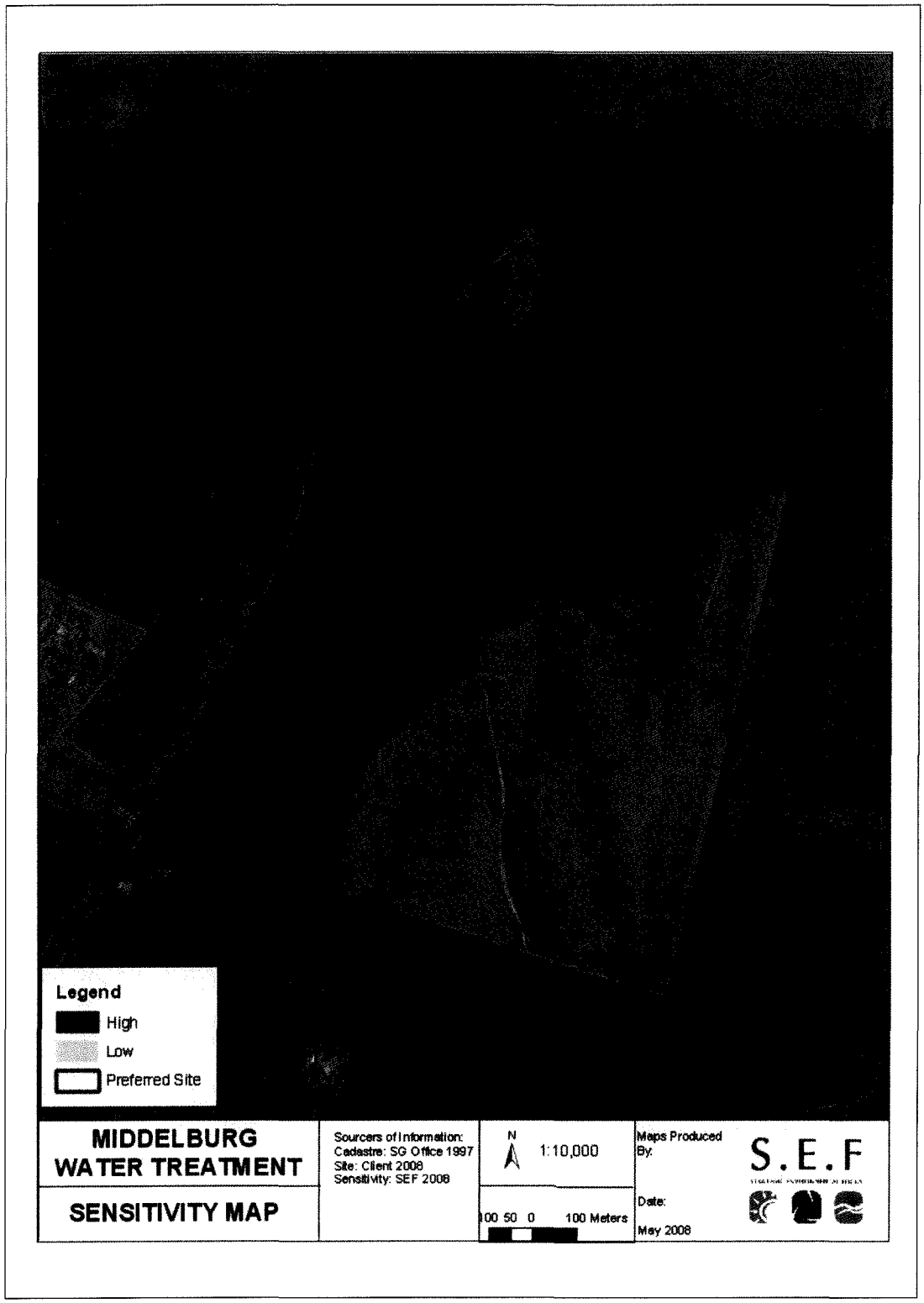

Figure B2.7 (b): Option 1: Floral Sensitivity Map (Source SEF, 2008a)

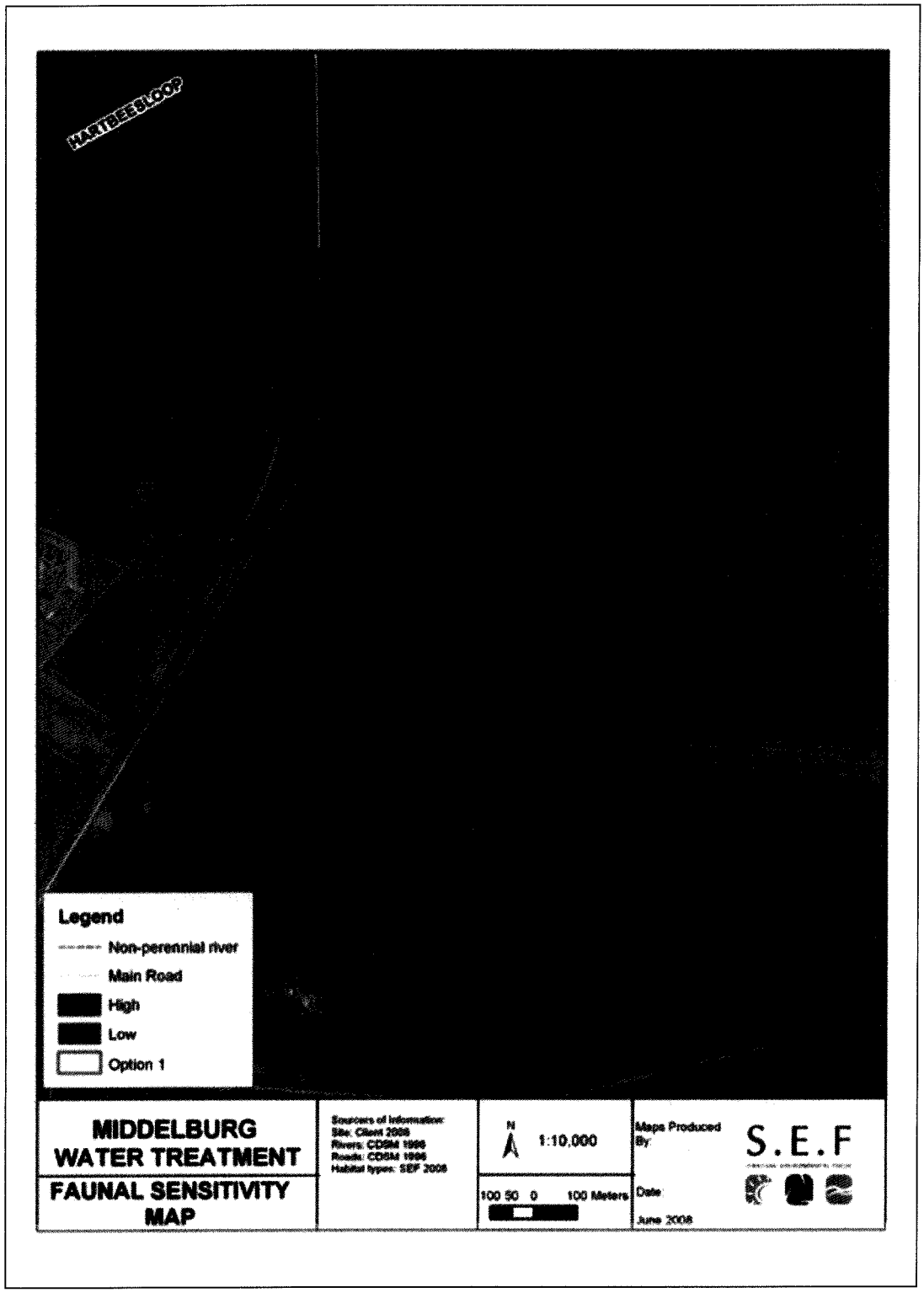

Figure B2.7 (c): Faunal Sensitivity Map: (Source: SEF, 2008b)

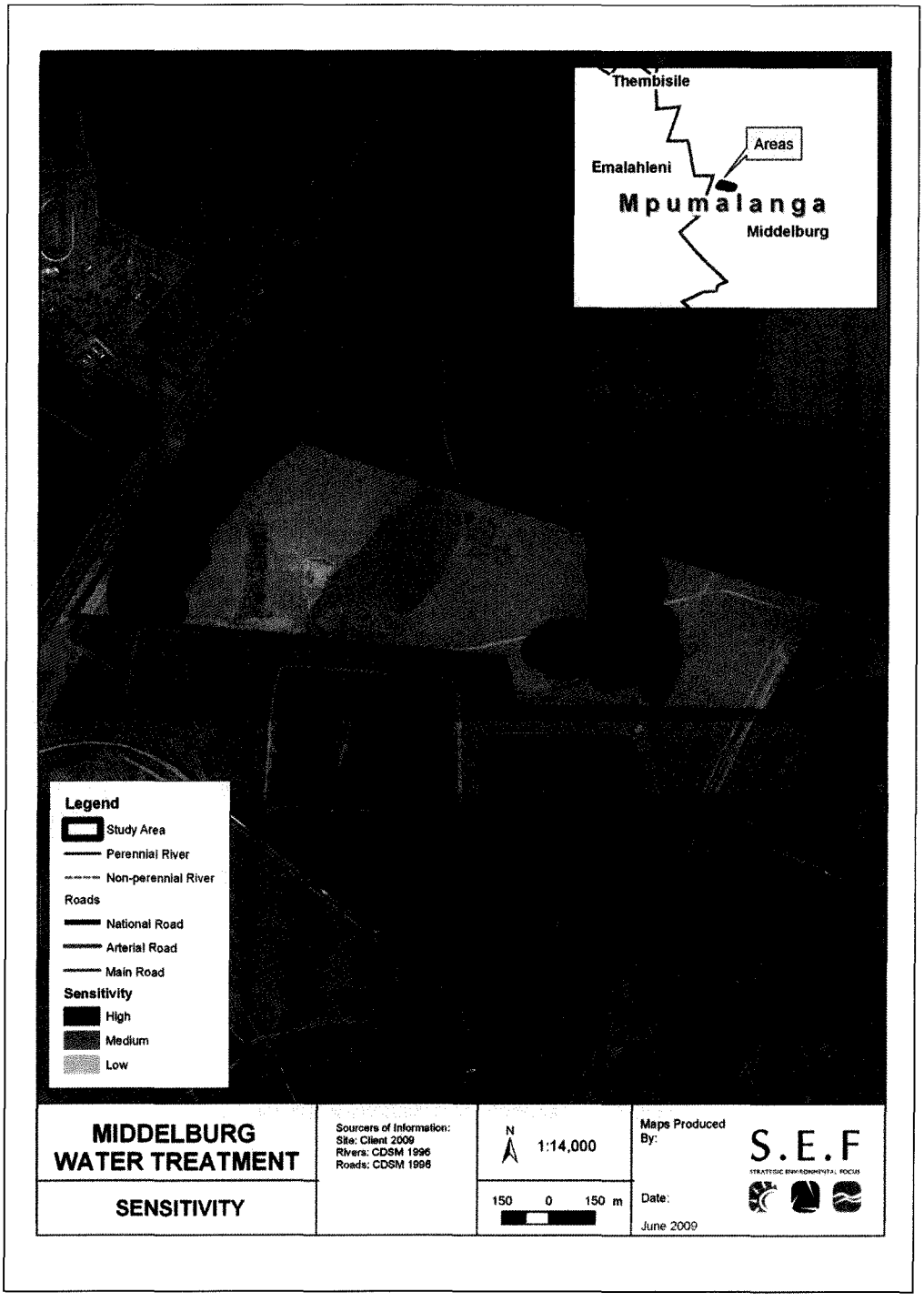

Figure B2.7 (d): Sensitivity Map of Extended Area (Source: SEF, 2009)

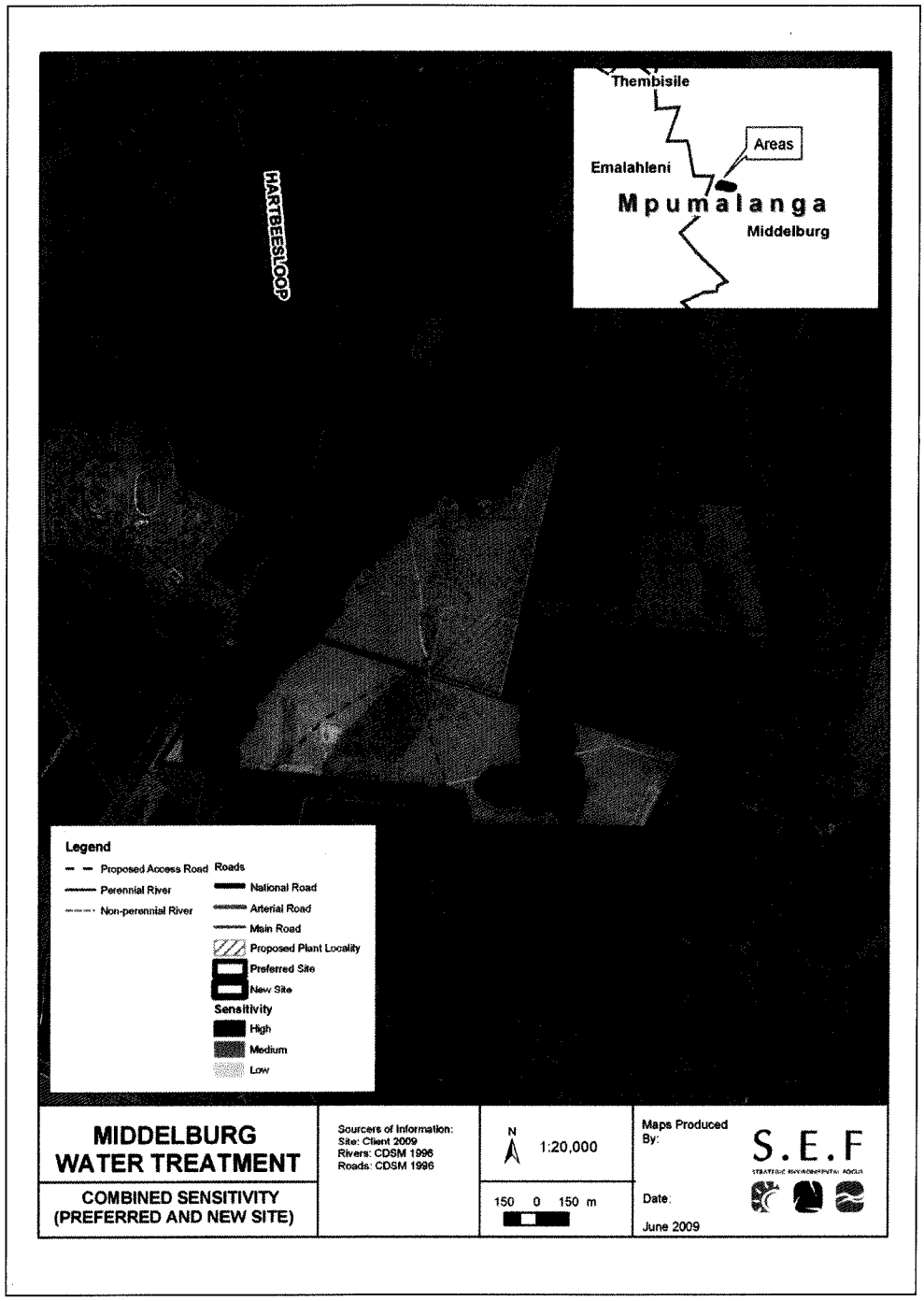

Figure B2.7 (e): Sensitivity Map of Combined Area (Source: SEF, 2009)

2.8 Heritage Resources

Although two ruins were identified by Cultmatrix when conducting the Heritage Impact Assessment, the heritage value of these were find to be low, although, for the one site it was recommended that the plans and elevations should be documented and the middens sampled for artifacts before demolition (Cultmatrix, 2008 – see Appendix K). From a heritage resources conservation perspective, Option 1 was found suitable for development. In addition, Cultmatrix did not find any potential heritage resources on the Extended Area to the south of Option 1.

2.9 Agricultural Land Capability

Based on work carried out by J&W in 2008, and using the Chamber of Mines' land capability guidelines, the land capability of Option 1 is as follows:

- Potential arable land comprises 56.2%
- Grazing 18.3%
- Wetland 25.5%

Although 56% is potentially arable, it is expected to be only fair unless treated and consequently considered better suited to grazing. The land capability of Option 1 is illustrated in **Figure B2.9**.

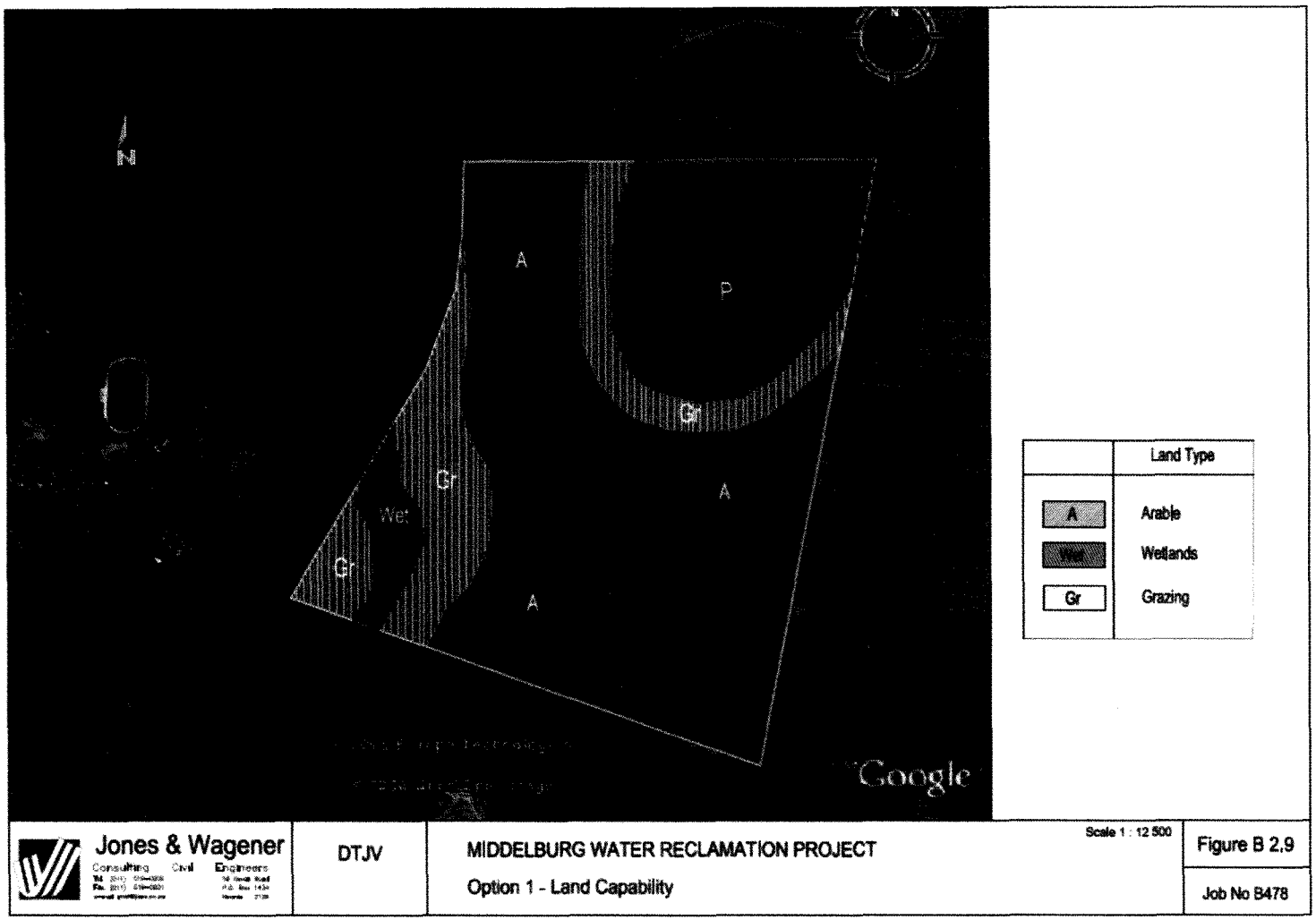

Figure B2.9: Land capability map of Option 1

3. OPTION 2: GOEDEHOOP

3.1 Location and ownership

Option 2 is located on Portions 25, 26 and 27 of the Farm Goedehoop 315 JS – See **Figure B3.1**. The site covers an area of approximately 35 hectares. As with Option 1, the land belongs to Ingwe Surface Holdings Limited (60%) and Tavistock Collieries (Pty) Ltd (40%). The surface rights belong to BECSA and the land is managed by Middelburg Mines.

The site is located to the immediate west of a mined area. The nearest farm residency is located approximately 880 metres to the south west of Option 2.

A large portion of the site has most probable been used for dry land farming in the past, as the blue gum trees appear to have been planted as a windbreak. Currently the land is lying fallow.

3.2 Access

Access to the site is firstly from a tertiary road that links the R575 with the south western suburbs of Middelburg on the northern side of the N4. The tertiary road is linked to the southern side of the N4 with a bridge. The tertiary road is mainly used for the transport of coal. The tertiary road splits into a number of farm and small mine service roads of which one leads to Option 2.

If the plant is to be established on Option 2, the small roads will have to be upgraded as large vehicles will often have to access the MWRP to deliver chemicals. Access to the site is seen as problematic, as the work force will also have to travel this road.

3.3 Topography and Drainage

Option 2 is located on the western slope of a topographic high, with surface water draining to the west and south. A pollution control dam is located to the immediate south of the site, which was developed for the open cast mine located to the east of Option 2. Option 2 is located at an elevation of approximately 1570 mamsl.

The site slopes at approximately 2.5% from the north eastern corner to the south western corner. Such slopes promote the free drainage of water. Although Option 2 has a good slope, the area has rocky outcrops, which will make levelling of land and preparation of terraces and foundations difficult and hence more expensive.

At its nearest point, Option 2 is approximately 2 000 metres from the Spookspruit located to the south west. To the immediate south, Option 2 is approximately 1 500 metres from an unnamed tributary of the Spookspruit in which a number of dams have been constructed.

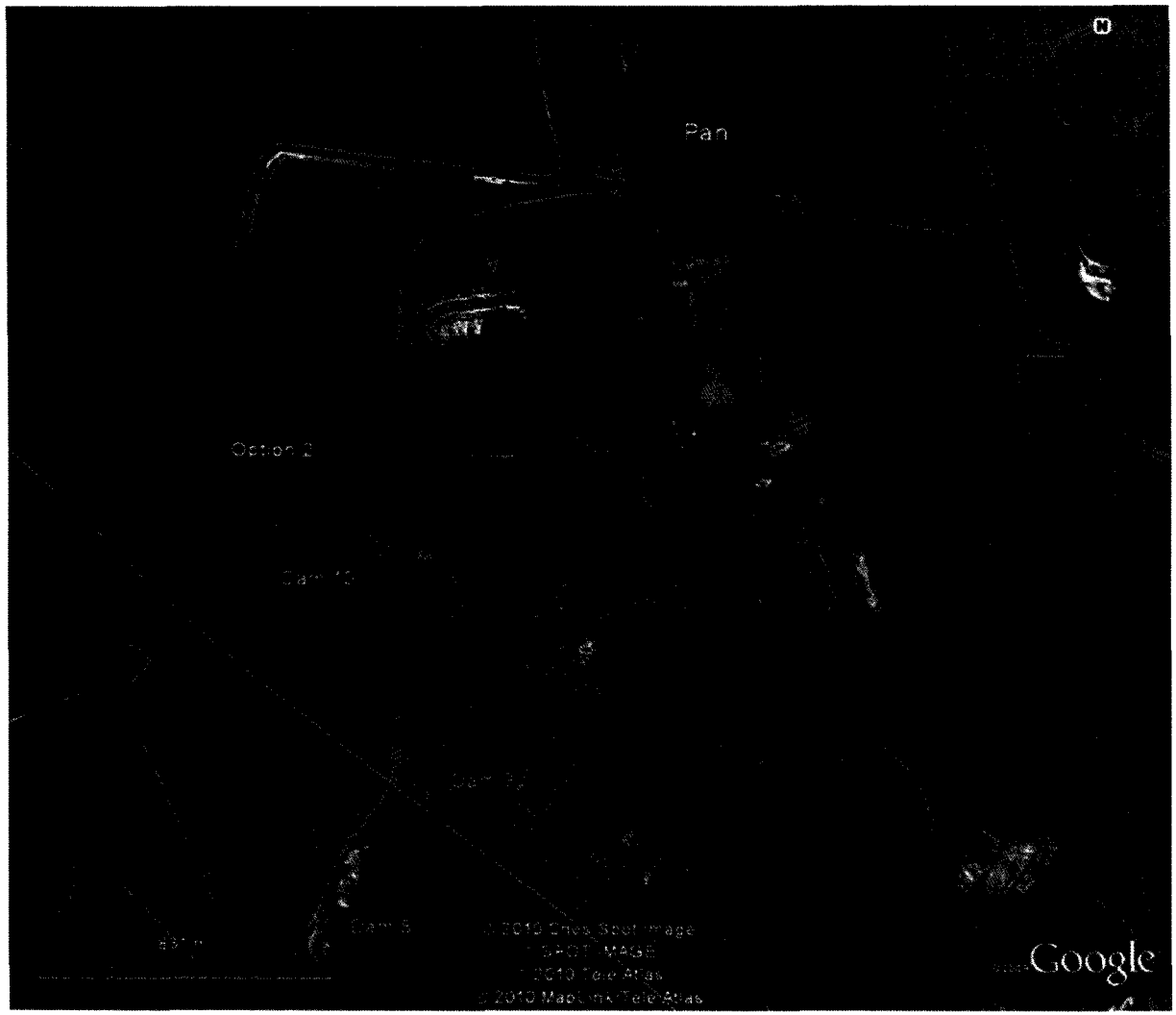

Figure B3.1: Locality of Option 2

3.4 Geology and Soils

Option 2 is also underlain with sedimentary rocks of the Karoo Sequence, which include shales and sandstones of the Vryheid Formation, Ecca Group. At Option 2 a dolorite sill is present above the Karoo sediments.

The typical soil profiles recorded can be summarised as follows:

- Side slope profile: This consists of a colluvium / hillwash horizon of 400 mm of brown silty sand with relatively closely packed gravels and ferricrete nodules, which overlies a residual sandstone of slightly moist, reddish brown streaked yellow-brown, dense, silty sand with fine residual gravels. Below a depth of approximately 1,4m this grades into a dense to very dense residual sandstone.
- Crestal profile, which consists of 700 mm thick boulder dolerite in a brown clayey sand matrix with ferricrete nodules on a residual dolerite of moist, reddish brown, soft to firm, silty clay with scattered hard rock dolerite boulders. The dolerite boulders encountered on surface and within the profile are highly variable in size.

The residual dolerite is not considered a suitable founding horizon due to settlement, but the residual sandstone, however, would provide suitable founding conditions (J&W, 2008 – see Appendix G).

3.5 Services and Servitudes

A power line, running in a north-west to south-easterly direction skirts the southern boundary of the site. Similarly to Option 1, the necessary permissions will have to be obtained where infrastructure could possible cross this servitude, while during construction, cranes and other high equipment, should not come near the lines for safety reasons.

3.6 Land use

SEF did not indicate in their report what the land was used for in the past, but some dry land farming could have taken place on the north eastern portion of the site. However, on large portions of the site rocky outcrops occur, which would only have made these areas suitable for grazing.

3.7 Biodiversity and Sensitive Landscapes

SEF undertook a floral and faunal assessment of the site in order to establish its ecological status (SEF, 2008a and SEF, 2008b – see Appendices H and I). Based on the work conducted by them, Option 2 contains two vegetation types namely:

- Primary grassland, and
- Alien invasive bush clumps

These two floral communities are depicted in **Figure B3.7 (a)**. SEF indicated that the rocky grasslands, characteristically, have a higher biodiversity and are also regarded as a sensitive vegetation type. Furthermore, the Rand Highveld Grassland is an endangered vegetation community, which resulted in Option 2 being classified as medium to high sensitivity.

As the entire Option 2 is of a medium to high sensitivity in terms of floral status, it is not suitable for development – see **Figure B3.7 (b)**. However, from a faunal perspective, Option 2 revealed a low status and was therefore considered more suitable for development when evaluating the site from only a faunal perspective.

3.8 Heritage Resources

Cultmatrix found the ruins of four kraals on Option 2. These have low heritage conservation significance and no management measures were proposed (Cultmatrix, 2008 – see Appendix K). From a heritage resources conservation status, the site should be suitable for development.

3.9 Agricultural Land Capability

The land capability of the area, as classified by J&W, is shown on **Figure B3.9** and summarised below:

- Arable land 56.6%
- Grazing 25.3%
- Wetland 20.1%

The Glenrosa Form, although potentially arable, is characterised by a shallow effective depth and probably more suited to grazing.

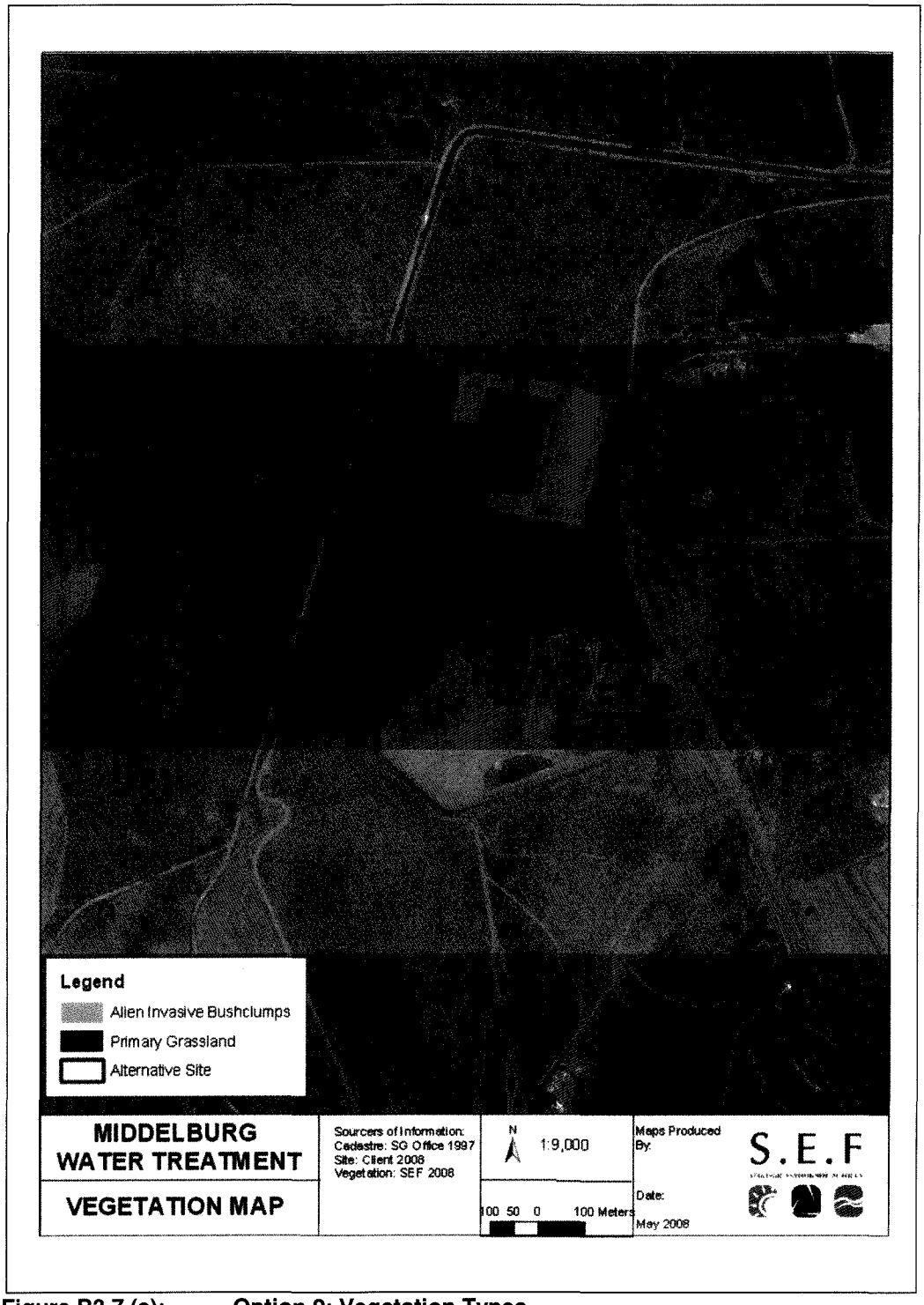

Figure B3.7 (a): Option 2: Vegetation Types

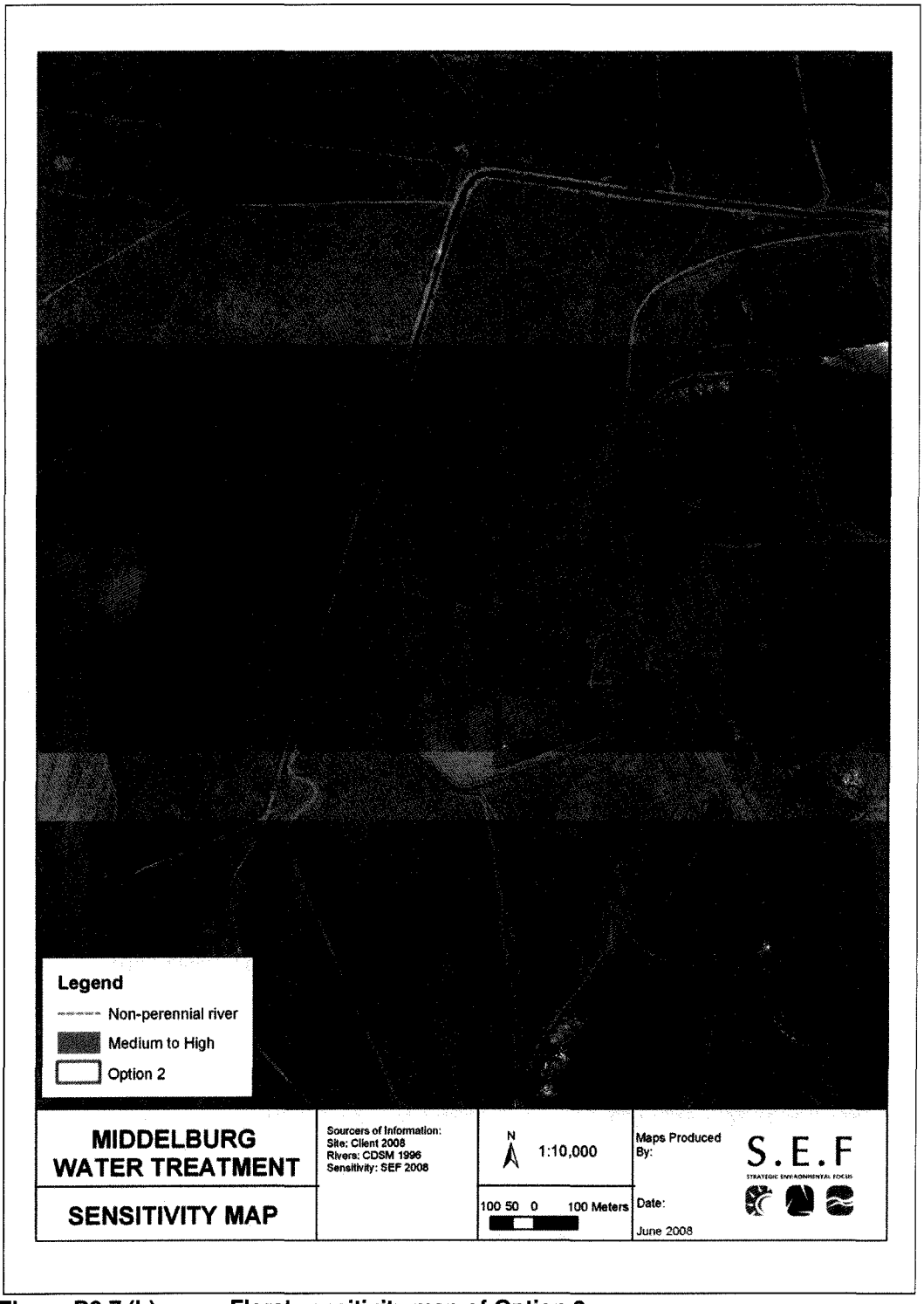

Figure B3.7 (b): Floral sensitivity map of Option 2

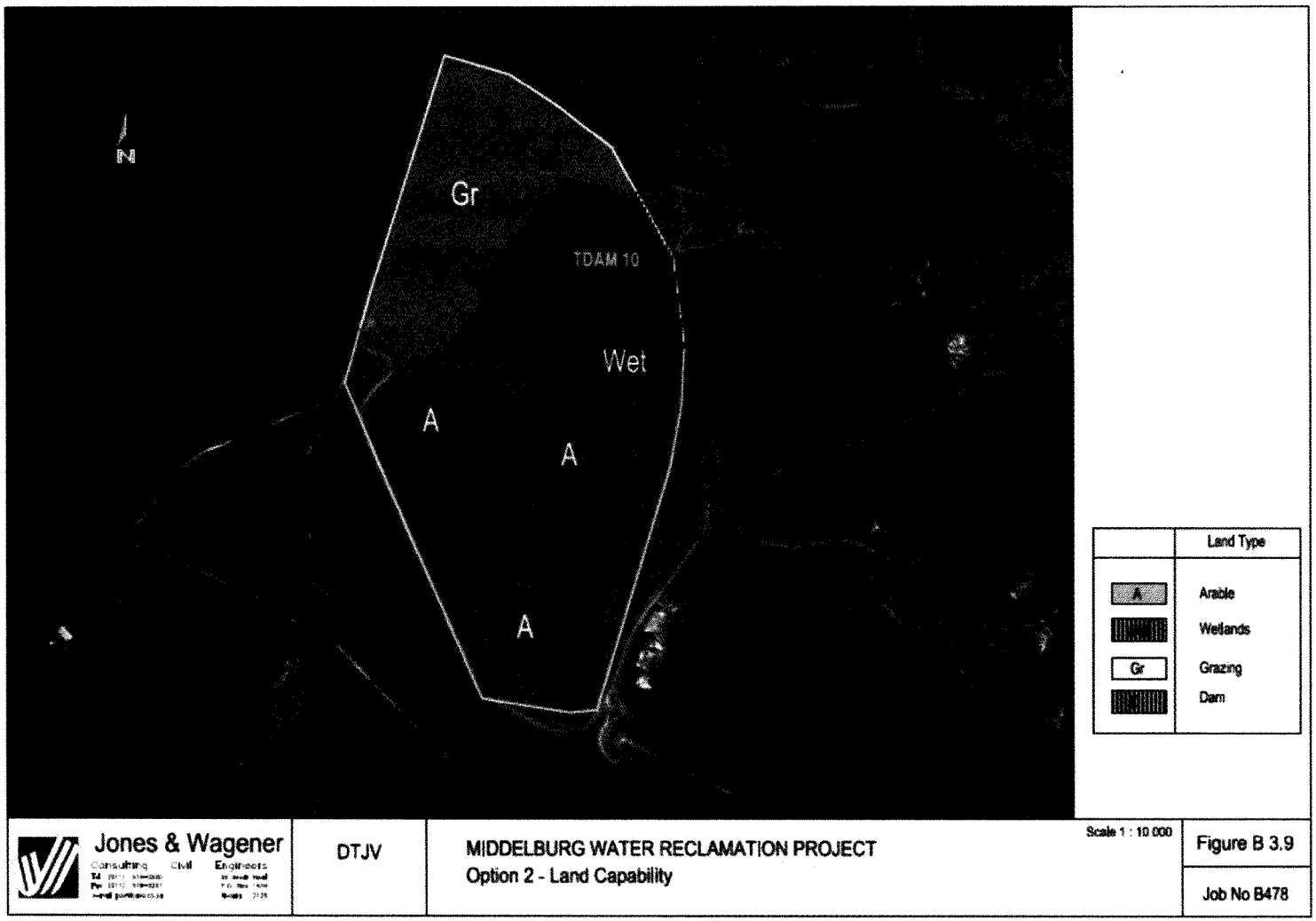

Figure B3.9: Land capability map for Option 2

4. DESCRIPTION OF CRITERIA USED FOR OPTION EVALUATION AND RANKING

4.1 Introduction

In order to evaluate the two options one has to develop some criteria for scoring and comparing the options. In this section an overview is given of the criteria used and the scoring system.

4.2 Technical and Economical Criteria

4.2.1 Ease of access

This criterion covers aspects such as:

- Remoteness of site and distance from secondary and tertiary roads to the site,
- Quality of existing road and ease with which access road can be upgraded or constructed if required, and
- Usage of road by others

The points allocated to a site or option with easy access will score a maximum of ten (10) if a good road is already in existence and it is not being frequently used by others.

Security at the mine is also an issue and a remote area is more vulnerable than an area with improved access.

4.2.2 Size of the Option

This is an obvious as a large site, which can accommodate both the water balancing dam, treatment plant and gypsum waste disposal facilities will score maximum points, namely ten (10).

4.2.3 Ease of incorporating other sources of impacted water

The lower the option is located in the catchment, the easier it should be to incorporate other sources of impacted water for treatment should the need arise. The most favourable option will score maximum points of ten (10). If water needs to be pumped uphill, points will be deducted.

4.2.4 Ease of construction

The two main issues here are slope or gradient and excavatability of soil. A site with an excessively steep slope could make construction more expensive due to cut and fill requirements. A site with rocky outcrops could also increase construction costs, as blasting has to be done, and additional equipment is required to handle large boulders and pieces of rock. The maximum point that can be obtained under this criterion is ten (10).

4.3 Environmental and Cultural Criteria

4.3.1 Floral and faunal status

A site with a low floral and faunal status would be given increased points out of ten (10), while a site with a high status would be penalised. The sensitivity of a landscape was taken into account under this criterion. A hillside or kopie would be penalised, while a flat portion of land, depending on its features, would be less penalised.

4.3.2 Groundwater occurrence and usage

Sites with low groundwater yields and far from existing groundwater users would obtain a high score out of ten (10), while a site where there are groundwater users and with high yield boreholes will be penalised.

4.3.3 Distance to surface water bodies

The closer a site is located to surface water bodies, the lesser the score. The reason for this is, should a plant malfunctions, surface water bodies close by has an increased risk of being impacted. A score of ten (10) is indicative of a plant that is sufficiently well away from any sensitive surface water bodies, which includes pans and wetlands.

4.3.4 Cultural resources

A site on which cultural resources, either on the site or immediately adjacent to, would be penalised. If the cultural resource is of high significance, this could constitute a fatal flaw, i.e., the site needs to be abandoned and another site or option identified. A score of 10 indicates a site with no cultural resources.

4.4 Adjacent Land Uses

A site close to sensitive land uses would obtain a lower evaluation than one far away from any sensitive uses. For this criterion one should take wind direction into account, as this aspect influences how far noise and odours could travel. From the environmental description of the area in the main report, the area is known to be subjected to northerly winds for a large percentage of the time. It is also noted that the plant and the gypsum waste should not be generating any odours.

5. EVALUATION

Based on the above and the site descriptions given, the two options were evaluated and ranked – see Table 5below against a number of criteria. The score obtained for Option 1 is 78%, while that obtained for Option 2 is 72%. This score is obtained provided that the high sensitive floral areas, and the pans and associated wetlands of Option 1 and the Expanded Area are excluded for the development of any of the plant infrastructure. In addition, care should be taken during the construction phase for the location of material lay-down and equipment lay-down areas, construction offices, ablution facilities, etc. These aspects need to be carefully considered by the EAP and the technical design team during the EIA phase.

Based on this evaluation, it is motivated that Option 1 and the Expanded Area be taken forward in the S&EIR process for in depth evaluation during the assessment phase of the project.

Table 5: Evaluation of Alternative Site Location Options

Aspect	Technical and economical				Environmental and Cultural				Adjacent land uses	Land use	Total Score
	Ease of Access	Size	Ease of incorporating other mining sections	Ease and cost of construction	Lack of floral and faunal species	Lack of Groundwater occurrence	Distance to surface water	Lack of Cultural Resources	Lack of distance to sensitive land uses	Agricultural land capability	
Potential Score	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**100**
Option 1 + Extended Area	9[1]	10	8[2]	10	6[3]	6	8	7	7	6	77
Option 2	5	7	7	6	7	6	10[4]	8	8	7	71

Notes:

1: For Option 1 a new road from the R575 will have to be constructed, while the existing road to Option 2 will have to be significantly upgraded to accommodate large vehicles. Option 2 is also significantly more remote and used by others large vehicles, which makes it more dangerous.

2: Although Option 1 is located higher up in the catchment, Option 2 is located at a slightly higher elevation. Therefore Option 1 received a higher score.

3: A score of 7 is given to Option 1 for lack of floral and faunal species provided the identified wetland areas and pan is avoided.

4: An impacted mine water spillage at Option 2 would enter into an impacted mine water system, which is a positive aspect.

6. REFERENCES

i. Jones & Wagener, 2008. *Feasibility geotechnical evaluation of two proposed water treatment plants*, Middelburg Mine, Middelburg, Report No: JW107/08/B478. Middelburg Mine Services, Middelburg.
ii. Strategic Environmental Focus, 2008a. *Middelburg mine water treatment plant: Floral assessment, SEF Ref No. 502018.* Jones and Wagener, Rivonia, Johannesburg.
iii. Strategic Environmental Focus, 2008b. *Middelburg mine water treatment plant: Faunal assessment, SEF Ref No. 502018.* Jones & Wagener, Rivonia, Johannesburg.
iv. Strategic Environmental Focus, 2009. *Middelburg mine water reclamation plant: Ecological assessment of new site. SEF Ref No. 502018.* Jones & Wagener, Rivonia, Johannesburg.
v. Cultmatrix, 2010. *Final heritage impact assessment report: Heritage specialist study as input into the EIA, EMPR, IWWMP and IWULA for the proposed Middelburg Mine Water Treatment Plant, Mpumalanga Province.* Jones & Wagener Consulting Civil Engineers, Rivonia, Johannesburg.

Marius van Zyl
Project Manager

Tolmay Hopkins
Review Manager

John Glendinning
Project Director
for Jones & Wagener

9 March 2011

Document source: C:\Alljobs\B478 - MWRP\Reports\Scoping Report\DSR Appendices\Appendix B\B478_Appendix_B.doc
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Appendix C

NOTICE OF INTENT: MUHANGA MINING

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0201 email: post@jawsco.za

Ms D. Tswai
Directorate: Impact Assessment
Mpumalanga Department of Economic Development, Environment and Tourism
Private Bag X7255
WITBANK
1035

25 November, 2010

Our Ref: **B478**
b478mvz01_l_mwrp_mdedet_sept2010.docx

Attention: Ms Dineo Tswai

Dear Madam

MIDDELBURG WATER RECLAMATION PROJECT: APPLICATION FOR PROJECT REGISTRATION NUMBER

Please find attached hereto the completed project registration form and supporting figures for the registration of the proposed Middelburg Water Reclamation Project (MWRP) with a view to proceeding with a Scoping and EIA process for the project. The MWRP is a project of the Douglas Tavistock Joint Venture (DTJV). The DTJV is a joint venture between BHP Billiton Energy Coal South Africa (Pty) Limited and Tavistock Collieries (Pty) Limited.

We have identified a number of activities from those listed in GNR 544, 545 and 546 of 18 June 2010, which require that a Basic Assessment and Scoping and Environmental Impact Assessment (EIA) be undertaken. These activities are listed and described in the attached registration form. As GNR 545 activities have been triggered by the proposed MWRP, a Scoping and EIA process will be required.

Jones & Wagener will be conducting the EIA process for authorisation and prepare the required Scoping Report, EIA report and EMP. These documents will be supported by specialist studies where required. Technical input, such as the preliminary design and operating plans will be provided by the technical design team. We will obtain the technical information from that team in order to inform the EIA process and EMP.

The MWRP also requires an integrated water use licence under the provisions of the National Water Act, which will be prepared by us. A number of waste management activities also require licensing under the provisions of the National Environment Management: Waste Act from the National Department of Environmental Affairs. Although a number of acts are applicable to the project, we will be conducting one integrated EIA process, which includes the required Public Participation Process (PPP).

A meeting was held with the Mpumalanga Department of Economic Development, Environment and Tourism's (MDEDET's) Dr G. Batchelor and Mr F. Theledi on 25 August 2010. The approach suggested in the foregoing paragraph was discussed with them at that meeting. Due to circumstances, there was no representation from MDEDET's eMalahleni office at this meeting but authority feedback meetings at strategic points in the project to discuss progress and issues will be arranged.

Please contact the undersigned at telephone 011 519 0200 or e-mail vanzyl@jaws.co.za should the department have any queries.

Yours faithfully

for Jones & Wagener

Cc: Mr S. Brown: BHP Billiton Energy Coal South Africa
Mr F Theledi: Mpumalanga Department of Economic Development, Environment and Tourism.

Document source: C:\A\ljobs\B478 Water Treatment Plant\Reports\Licence Application Form\B478mvz01_L_MWRP_DEA_Reg_Sept2010.docx
Document template: Letter_tem_Rev2_Jun10.dotx

the **dedet**

Department:
Economic Development, Environment and Tourism
MPUMALANGA PROVINCIAL GOVERNMENT

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	
Responsible Official:	

PROJECT TITLE

Middelburg Water Reclamation Project

Kindly note that:

1. This application form is current as of 2 August 2010. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
2. The application must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.
3. Where applicable **black out** the boxes that are not applicable in the form.
4. Incomplete applications may be returned to the applicant for revision.
5. The use of the phrase "not applicable" in the form must be done with circumspection. Should it be done in respect of material information required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the Regulations.
6. This form must be submitted to the Department at the postal address of the relevant **DISTRICT OFFICE** given below or by delivery thereof to the relevant **DISTRICT OFFICE**. Should the application form not be submitted at the relevant district office, it will not be considered.
7. No faxed or e-mailed applications will be accepted.
8. If the applicant is not the owner or person in control of the land on which the activity is to be undertaken, the written notice of the proposed activity as referred to in Regulation 15, as well as proof of serving such notice on the owner or person in control of the land, must be attached to this form. Should the application form not be accompanied by such notice, it will be rejected.
9. If permission has been granted in terms of Regulation 20(3) to apply S&EIR instead of basic assessment to the application, or if permission has been granted in terms of 20(4) to apply basic assessment instead of S&EIR to the application, a copy of such authorisation must be attached to this application form.
10. Unless protected by law, all information filled in on this application will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this application on request, during any stage of the application process.

HEAD OFFICE (18 Jones Street, Nelpruit)	EHLANZENI DISTRICT (18 Jones Street, Nelspruit)	NKANGALA DISTRICT (Pavilion Centre, Cnr Botha & Northey Streets, Witbank)	GERT SIBANDE DISTRICT (13 De Jager Street, Ermelo)
Attention: Directorate: Environmental Impact Management Private Bag X 11219 Nelspruit, 1200 Queries should be directed to the Directorate: Environmental Impact Management at: Tel: (013) 759 4000 Fax (013) 759 4165	Attention: Directorate: Environmental Impact Management Private Bag X 11219 Nelspruit, 1200 Queries should be directed to the Directorate: Environmental Impact Management at: Tel: (013) 759 4000 Fax (013) 759 4165	Attention: Directorate: Environmental Impact Management P. O. Box 7255 Witbank, 1035 Queries should be directed to the Directorate: Environmental Impact Management at: Tel: Fax:	Attention: Directorate: Environmental Impact Management P. O. Box 2777 Ermelo, 2351 Queries should be directed to the Directorate: Environmental Impact Management at: Tel: Fax:

SITE IDENTIFICATION AND LINKAGE

Please indicate all the Surveyor-general 21 digit site (erf/farm/portion) reference numbers for all sites (including portions of sites) that are part of the application.

S	E	E		A	N	N	E	X	U	R	E		"A"		A	T	T	A	C	H	E	D

(if there are more than 6, please attach a list with the rest of the numbers)
(These numbers will be used to link various different applications, authorisations, permits etc. that may be connected to a specific site)

PROJECT TITLE

Middelburg Water Reclamation Project

The entire project will entail the following (full detail of the project can also be appended):

The construction and operation of a water treatment plant and associated pipelines for the transfer and treatment of excess impacted mine water from Middelburg Mine -North and Klipfontein Sections. The treatment plant will have capacity to treat 30 000 cubic metres of water per day.

1. BACKGROUND INFORMATION

Project applicant:	DOUGLAS-TAVISTOCK JOINT VENTURE (DTJV)		
Trading name (if any):			
Contact person:	Mr Stephan Brown		
Physical address:	6 HOLLARD STREET JOHANNESBURG		
Postal address:	P.O.BOX 61075 MARSHALLTOWN		
Postal code:	2107	**Cell:**	
Telephone:	013 689 3051	**Fax:**	013 689 3085
E-mail:	Steve.brown@bhpbilliton.com		

Environmental Assessment Practitioner:	Jones & Wagener Consulting Civil Engineers Marius van Zyl		
Contact person:	Marius van Zyl		
Postal address:	PO Box 1434, Rivonia		
Postal code:	2128	**Cell:**	082 880 1250
Telephone:	011 519 0217	**Fax:**	011 519 0201
E-mail:	vanzyl@jaws.co.za		
Qualifications & relevant experience	BSc Honours Biochemistry and Environmental Management Experience: 25 years experience in water and waste management		
Professional affiliation(s) (if any)	Pr.Sci.Nat (Registration no.:400171/87)		

Landowner:	See Annexure B		
Contact person:			
Postal address:			
Postal code:		**Cell:**	
Telephone:		**Fax:**	
E-mail:			

In instances where there is more than one landowner, please attach a list of landowners with their contact details to this application.

District Municipality in whose jurisdiction the proposed activity will fall (Delete which is not applicable):	Ehlanzeni	**Nkangala**	Gert Sibande
Local authority in whose jurisdiction the proposed activity will fall:	Steve Tshwete Local Municipality		
Nearest town:	Middelburg		
Contact person:	Ms B Maleka		
Postal address:	PO Box 14, Middelburg		
Postal code:	1050	**Cell:**	
Telephone:	013 249 7000	**Fax:**	013 243 2550
E-mail:	council@stevetshwetelm.gov.za		

In instances where there is more than one local authority involved, please attach a list of local authorities with their contact details to this application.

Property description/physical address:	Undeveloped land within the Middelburg Mine Services North Section mine boundary. Two sites have been identified for the construction of the water treatment plant – See attached Figure 1 There are no formal access roads to the alternative sites. The Middelburg Water Reclamation Project, including the plant area and pipelines could be located on the farms and portions indicated on Annexure B.

(Farm name, portion, registration division etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

Current land-use zoning:	Agricultural

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Locality map:

A locality map must be attached to this document. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used). The scale must be indicated on the map. The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality **GPS co-ordinates** (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

2. ACTIVITIES APPLIED FOR TO BE AUTHORISED

For an application for authorisation that involves more than one listed or specified activity that, together, make up one development proposal, all the listed activities pertaining to this application must be indicated.

Indicate the number and date of the relevant notice:	**Activity No (s) (in terms of the relevant notice) :**	**Describe each listed activity as per the detailed project description (and not as per wording of the relevant Government Notice)[1]:**
GNR 544 (June 2010)	9	The project involves the construction of several pipelines for the transfer of excess impacted mine water from various sections of the mine to the treatment plant. In addition, a pipeline will also be constructed to discharge the treated water into the Niekerkspruit. The pipelines will be: • Longer than 1 km in most cases • Pass over several properties, • Have a diameter of 0.36 metres or more, and • In some instances convey > 120 litres per second
GNR 544 (June 2010)	12	In order to blend the water from the various sections of the mines, a balancing dam is required. For Phase 1, treatment of 15 000 cubic metres (m^3) of water per day, the balancing dam will only be 30 000 m^3 in size, but when Phase 2 is added, the capacity will increase to 60 000 m^3.
GNR 544 (June 2010)	13	In the water treatment process hazardous substances (goods) such as lime, hydrochloric and sulphuric acid, etc, will be used. The total amount to be stored and handled on site will be in the order of 250 m^3.
GNR 544 (June 2010)	18	The pipelines to be used for the transfer of the impacted water to the treatment plant will cross watercourses at some points. During the construction of these pipelines more than 5m^3 of in situ material will be excavated in order to lay the pipes. The removed material will be placed back.
GNR 544 (June 2010)	22	Depending on the location of the water treatment plant, an access road with a width of 12.5 metres will be required.
GNR 545 (June 2010)	23	The water treatment plant, together with the gypsum waste disposal

[1] Please note that this description should not be a repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description

GNR 545 (June 2010)	23	The water treatment plant, together with the gypsum waste disposal facilities and mine water balancing dam will cover an area of more than 20 hectares. In addition, the treatment plant, which is a separate entity, is regarded as an industrial activity.
GNR 545 (June 2010)	5	The construction and operation of the water treatment facility requires an integrated water use licence in terms of the provisions of the National Water Act for, inter alia, the storage of impacted water and the discharge of treated water to the environment.
GNR 546 (June 2010)	4	The access road to the water treatment plant could be wider than 4 metres with a reserve less than 13.5 metres, which is located within a critical biodiversity area as identified in the Mpumalanga Biodiversity Conservation Plan.
GNR 546 (June 2010)	10	It is expected that during construction more than 30 cubic metres of diesel will be required on the construction site.
GNR 546 (June 2010)	12	More than 300 m^2 of land will have to be cleared within a critical biodiversity area for the plant and construction lay down areas.
GNR 546 (June 2010)	13	More than 1 hectare of land will be cleared, which falls within a critical biodiversity area as identified in the Mpumalanga Biodiversity Conservation Plan.
GNR 546 (June 2010)	14	In order to construct the water treatment plant and associated infrastructure, an area of > 5 hectares of indigenous vegetation will be cleared.

Please note that any authorisation that may result from this application will only cover activities specifically applied for.

3. TYPE OF APPLICATION

3.1 Application for Basic Assessment

Is this an application for conducting a basic assessment (as defined in the Regulations)? NO

Please indicate when the basic assessment report will be submitted:

3.2 Application for Scoping and Environmental Impact Assessment (S&EIR)

Is this an application for Scoping and EIR (as defined in the Regulations)? YES

Please indicate when the Scoping Report (including the Plan of Study for EIA) will be submitted:

THE INDICATIVE DATE FOR SUBMISSION IS FEBRUARY 2011

4. DECLARATIONS

4.1 The Applicant

I, S. Brown declare that I -

- am, or represent[2], the applicant in this application;
- have appointed / will appoint (delete that which is not applicable) an environmental assessment practitioner to act as the independent environmental assessment practitioner for this application / will obtain exemption from the requirement to obtain an environmental assessment practitioner[3];
- will provide the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the Environmental Impact Assessment Regulations, 2010, including but not limited to –
  - costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
  - costs incurred in respect of the undertaking of any process required in terms of the Regulations;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the Regulations;
  - costs in respect of specialist reviews, if the competent authority decides to recover costs; and
  - the provision of security to ensure compliance with conditions attached to an environmental authorisation, should it be required by the competent authority;
- will ensure that the environmental assessment practitioner is competent to comply with the requirements of these Regulations and will take reasonable steps to verify whether the EAP complies with the Regulations;
- will inform all registered interested and affected parties of any suspension of the application as well as of any decisions taken by the competent authority in this regard;
- am responsible for complying with the conditions of any environmental authorisation issued by the competent authority;
- hereby indemnify the Government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action which the applicant or environmental assessment practitioner is responsible for in terms of these Regulations;
- will not hold the competent authority responsible for any costs that may be incurred by the applicant in proceeding with an activity prior to obtaining an environmental authorisation or prior to an appeal being decided in terms of these Regulations;
- will perform all other obligations as expected from an applicant in terms of the Regulations;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Signature of the applicant[4] / Signature on behalf of the applicant:

Name of company (if applicable):

2010/11/25

Date:

Signature of Commissioner of Oaths

2010/11/25

Date:

Security Co ordinator

Designation:

Official stamp (below)

SIGNED:
COMMISSIONER OF OATH
EX-OFFICIO: R.S.A.
ASSIST. SECURITY MANAGER
MIDDELBURG MINE SERVICES PTY LTD
VAN DYKSDRIFT ROAD
HARTEBEESFONTEIN FARM
MIDDELBURG
1050

MIDDELBURG MIN
NORTH SECTION
SECURITY DEPT.
2010 -11- 25
SIGNATURE:

[2] If this is signed on behalf of the applicant, proof of such authority from the applicant must be attached.
[3] If exemption is obtained from appointing an EAP, the responsibilities of an EAP will automatically apply to the person conducting the environmental impact assessment in terms of the Regulations.
[4] If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority.

4.2 The Environmental Assessment Practitioner

I, Marius van Zyl declare that -

General declaration:

- I act as the independent environmental practitioner in this application
- I act independently
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act; and
- I will adhere to and comply with all responsibilities as indicated in the National Environmental Management Act and Environmental Impact Assessment.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2010;

- I have a vested interest in the proposed activity proceeding, such vested interest being:

Not applicable

Signature of the environmental assessment practitioner:

Jones & Wagener (Pty) Ltd

Name of company:

26 November 2010

Date:

7009591-3
C&T
VDNEDZINGAITE

Signature of Commissioner of Oaths

2010 -11- 26

Date:

CONSTABLE

Designation:

Official stamp (below)

SUID AFRIKAANSE POLISIEDIENS
DIST 60
KLIENTE DIENS SENTRUM
2010 -11- 26
CLIENT SERVICE CENTRE
BUCCLEUCH
SOUTH AFRICAN POLICE SERVICE

T	O	J	S	0	0	0	0	0	0	0	0	0	4	6	8	0	0	0	0	1	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	4	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	2	5	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	2	6	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	3	9	0	0	0	0	6	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	3	9	0	0	0	0	8	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	3	9	0	0	0	0	9	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	3	9	0	0	0	1	0	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	5	0	0	0	0	9	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	5	0	0	0	1	4	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	5	0	0	0	3	8	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	5	0	0	0	0	5	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	5	0	0	0	0	6	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	5	0	0	0	3	5	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	5	0	0	0	0	1	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	4	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	1	4	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	7	0	0	0	0	2	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	7	0	0	0	0	4	
T	O	J	S	0	0	0	0	0	0	0	0	0	3	1	7	0	0	0	0	0	

Registered Owner	Title Deed Number	Property Name	Portion Description	Province	Reg.Div.	Decimal Share held in respect of the Property
Ingwe Surface Holdings Ltd	Title Deed No: T137060/99	BANKFONTEIN 340	PORTION 25	Mpumalanga	JS	0.84
Tavistock Collieries (Pty) Limited	Title Deed No: T137060/99	BANKFONTEIN 340	PORTION 25	Mpumalanga	JS	0.16
Ingwe Surface Holdings Ltd	Title Deed No: T76564/1999	BANKFONTEIN 340	REMAINING EXTENT OF PORTION 4 (PTN OF PTN 1)	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	Title Deed No: T89166/1992	BANKFONTEIN 340	REMAINING EXTENT OF PORTION 4 (PTN OF PTN 1)	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	Title Deed No: T141788/98	GOEDEHOOP 315	REMAINING EXTENT OF PORTION 1	Mpumalanga	JS	1
Tavistock Collieries (Pty) Limited	Title Deed No: T18663/1999	GOEDEHOOP 315	REMAINING EXTENT OF PORTION 5 (PTN OF PTN 3)	Mpumalanga	JS	0.16
Ingwe Surface Holdings Ltd	Title Deed No: T18663/1999	GOEDEHOOP 315	REMAINING EXTENT OF PORTION 5 (PTN OF PTN 3)	Mpumalanga	JS	0.84
Ingwe Surface Holdings Ltd	Title Deed No: T76588/99	GOEDEHOOP 315	REMAINING EXTENT OF PORTION 9	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	Title Deed No: T63007/1992	GOEDEHOOP 315	REMAINING EXTENT OF PORTION 9	Mpumalanga	JS	0.4
Ingwe Surface Holdings Ltd	Title Deed No: T18663/1999	GOEDEHOOP 315	REMAINING EXTENT OF PORTION 35	Mpumalanga	JS	0.84
Tavistock Collieries (Pty) Limited	Title Deed No: T18663/1999	GOEDEHOOP 315	REMAINING EXTENT OF PORTION 35	Mpumalanga	JS	0.16
A.J.Visser	T3820/1970	GOEDEHOOP 315	PORTION 14	Mpumalanga	JS	1

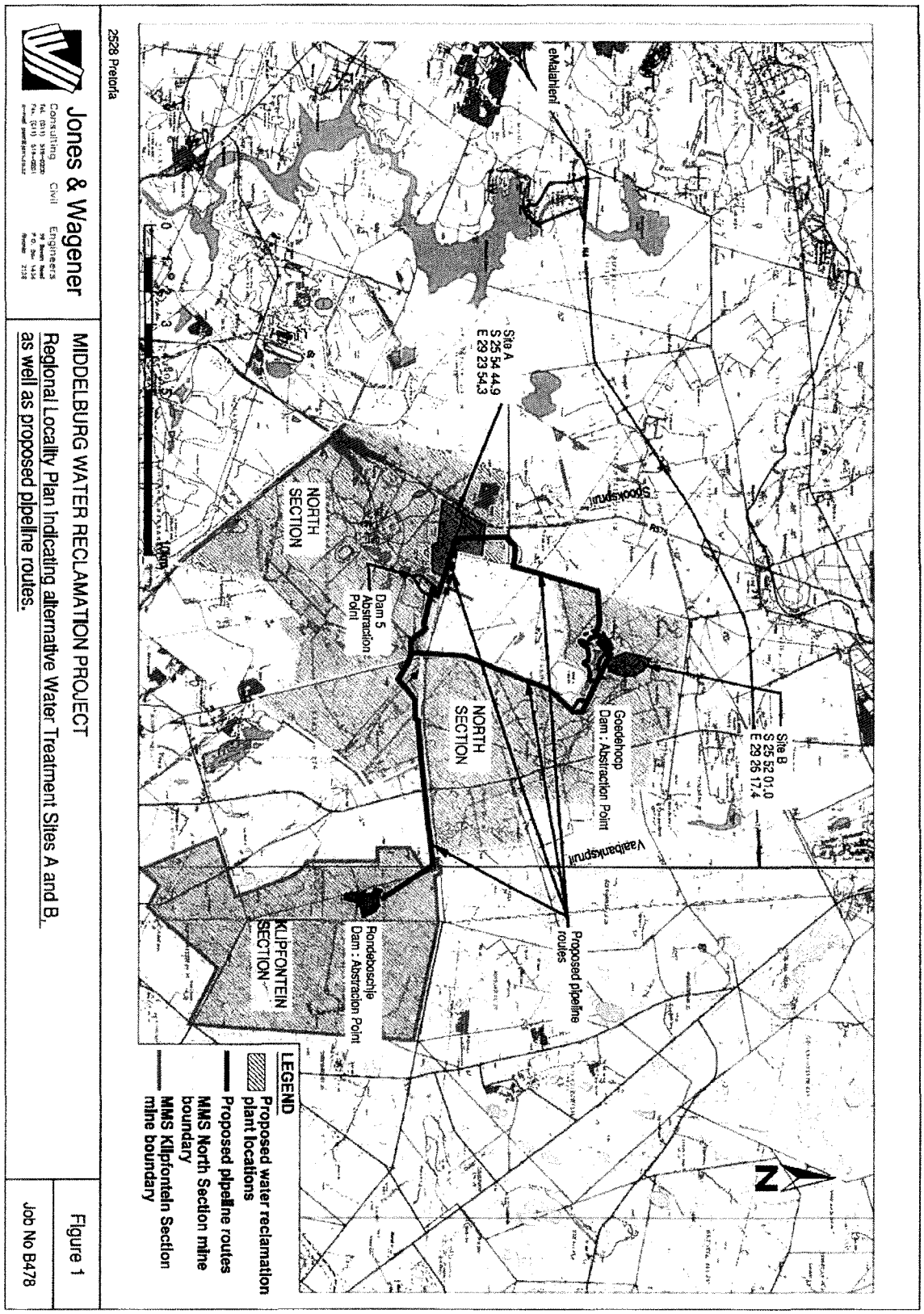
Registered Owner	Title Deed Number	Property Name	Portion Description	Province	Reg.Div.	Share Decimal
Ingwe Surface Holdings Ltd	Title Deed No: T76564/1999	HARTBEESTFONTEIN 339	PORTION 6 (PTN OF PTN 1)	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	Title Deed No: T89166/1992	HARTBEESTFONTEIN 339	PORTION 6 (PTN OF PTN 1)	Mpumalanga	JS	0.4
Ingwe Surface Holdings Ltd	Title Deed No: T76564/1999	HARTBEESTFONTEIN 339	PORTION 8	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	unknown	HARTBEESTFONTEIN 339	PORTION 8	Mpumalanga	JS	0.4
Ingwe Surface Holdings Ltd	Title Deed No: T76564/1999	HARTBEESTFONTEIN 339	PORTION 9	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	Title Deed No: T89166/1992	HARTBEESTFONTEIN 339	PORTION 9	Mpumalanga	JS	0.4
Ingwe Surface Holdings Ltd	Title Deed No: T76564/1999	HARTBEESTFONTEIN 339	REMAINING EXTENT OF PORTION 10	Mpumalanga	JS	0.6
Ingwe Surface Holdings Ltd	unknown	HARTBEESTFONTEIN 339	REMAINING EXTENT OF PORTION 10	Mpumalanga	JS	0.4
Ingwe Surface Holdings Ltd	Title Deed No: T18663/1999	RIETFONTEIN 314	REMAINING EXTENT OF PORTION 4 (PTN OF PTN 3)	Mpumalanga	JS	0.84
Ingwe Surface Holdings Ltd	Title Deed No: T59244/2005	RIETFONTEIN 314	REMAINING EXTENT OF PORTION 14	Mpumalanga	JS	1
Ingwe Surface Holdings Ltd	Title Deed No: T52916/2001	RONDEBOSCHJE 468	PORTION 1	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	Title Deed No: T48409/1993	RONDEBOSCHJE 468	PORTION 1	Mpumalanga	JS	0.4
Ingwe Surface Holdings Ltd	Title Deed No: T52917/2001	STERKWATER 317	PORTION 4 (PTN OF PTN 2)	Mpumalanga	JS	0.6
Tavistock Collieries (Pty) Limited	Title Deed No: T52917/2001	STERKWATER 317	PORTION 4 (PTN OF PTN 2)	Mpumalanga	JS	0.4
Tavistock Collieries (Pty) Limited	Title Deed No: T141787/1998	STERKWATER 317	REMAINING EXTENT	Mpumalanga	JS	1

Landowner:	INGWE SURFACE HOLDINGS LIMITED		
Contact person:	Vikesh Dhanooklal		
Postal address:	P.O.BOX 61075 MARSHALLTOWN		
Postal code:	2107	**Cell:**	082 333 6500
Telephone:	011 376-2410	**Fax:**	011 376-2160
E-mail:	Vikesh.dhanooklal@bhpbilliton.com		

Landowner:	TAVISTOCK COLLIERIES (PTY) LIMITED		
Contact person:	Barry Fourie		
Postal address:	1ST FLOOR, MELROSE BOULEVARD, MELROSE ARCH, MELROSE		
Postal code:	2196	**Cell:**	082 320 3486
Telephone:	011 772-0600	**Fax:**	011 772-0698
E-mail:	bfourie@xstratacoal.co.za		

Landowner:	A.J. VISSER c/o MUHANGA MINING		
Contact person:	Hento Deale		
Postal address:	P.O. BOX 1070, MIDDELBURG		
Postal code:	1050	**Cell:**	0824176866
Telephone:	013 243-2225	**Fax:**	013 282-6099 / 9013
E-mail:	hento@telkomsa.net		

Figure 1


Jones & Wagener
Consulting Civil Engineers
2528 Pretoria
MIDDELBURG WATER RECLAMATION PROJECT
Regional Locality Plan Indicating alternative Water Treatment Sites A and B as well as proposed pipeline routes.
Figure 1
Job No B478
eMalahleni
Site A
S 25 54 44.9
E 29 23 54.3
Site B
S 25 52 01.0
E 29 26 17.4
Goedehoop Dam : Abstraction Point
Vaalbankspruit
Spookspruit
NORTH SECTION
NORTH SECTION
Dam 5 Abstraction Point
Rondeboschje Dam : Abstraction Point
KLIPFONTEIN SECTION
Proposed pipeline routes
N
LEGEND
Proposed water reclamation plant locations
Proposed pipeline routes
MMS North Section mine boundary
MMS Klipfontein Section mine boundary

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0201 email: post@jaws.co.za

Muhanga Mining
P.O. Box 1070
MIDDELBURG
1050

5 November 2010

Our Ref: **B478**
mwr_irp_reg notification to owner
muhanga_final_101105.doc

Attention: Mr H. Deale

Dear Sir

NOTICE OF INTENT TO CONSTRUCT A WATER DISCHARGE PIPELINE ON A PORTION OF PORTION 14 OF THE FARM GOEDEHOOP 315 JS

Middelburg Colliery generates excess impacted mine water and intends constructing a water treatment plant, called the Middelburg Water Reclamation Project (MWRP) to treat excess impacted mine water from the Hartbeesfontein, Goedehoop and Klipfontein sections to a suitable standard for release into the Spookspruit catchment, a tributary of the Upper Olifants River catchment. The MWRP is a joint venture between BHP Billiton Energy Coal South Africa Limited (BECSA) and Tavistock Collieries (Pty) Limited, called the Douglas Tavistock Joint Venture (DTJV). The DTJV has conducted a pre-feasibility study to determine the viability of constructing and operating a water treatment plant located on Middelburg Mine Services' North Section. The project is now at a definition phase study to determine its ultimate feasibility.

If feasible and the plant becomes operative, the final product of the MWRP will be treated water complying with the Department of Water Affairs interim receiving water quality objectives or RWQOs. The envisaged point of discharge of this water will be in the Niekerkspruit, a tributary of the Spookspruit. Due to geotechnical conditions indentified by the engineers involved in the project, the clean water discharge pipeline will in all likelihood have to traverse a small portion of Portion 14 of the Farm Goedehoop – see attached figure for the proposed pipeline route.

For this project an Environmental Impact Assessment (EIA) will be carried out and if successful an environmental authorisation will be granted to the DTJV to construct and operate the MWRP. In terms Section 15 of the newly promulgated EIA regulations, the applicant for an authorisation must give written notice of the proposed activity to the owner or person in control of the land on which the activity is to be undertaken. In this case the activity will be the construction of a fall-out pipeline over a small portion of Portion 14 of the Farm Goedehoop. The owner of the land must be informed that he/she may participate in the public participation process as contemplated in the EIA regulations, which is the purpose of this letter.

Once the required public participation process (PPP) commences, you will automatically be added to the list of Interested and Affected Parties. During the PPP you will be invited to attend open days, as well as to provide input and comment on documents such as the draft and final Scoping Report and the draft and final Environmental Impact Assessment Report. Your input into the impact assessment process will be valued and all issues and concerns identified by yourself (and others) will be taken into account by the Environmental Assessment Practitioner, which is Jones & Wagener (Pty) Ltd.

We request, on behalf of the DTJV, for you to sign proof that you have received this letter. A copy of this letter and proof of receipt will be attached to the project registration form that needs to be submitted to the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) in order for the project to formally commence.

This letter must not be construed as giving consent that the pipeline may be constructed on a portion of Portion 14 of the Farm Goedehoop, but merely that you have been informed that there is intention to construct a pipeline and that the potential issues and impacts associated with this need to be addressed in the EIA process.

You are welcome to contact, Mr M van Zyl of Jones & Wagener, either by phone or e-mail, to discuss the matter. Mr Van Zyl's telephone number is 011 519 0200 and e-mail address is vanzyl@jaws.co.za.

Yours faithfully

Marius van Zyl (Pr.Sci.Nat.)
for Jones & Wagener

Document source: D:\MWR_IRP_Reg Notification to owner Muhanga_Final_101105.doc
Document template: Letter_tem_Rev2_Jun10.dotx

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0201 email: post@jaws.co.za

By hand

Muhanga Mining
P.O. Box 1070
MIDDELBURG
1050

5 November 2010

Our Ref: **B478**
b478mvz01_l_mwrp_proof_of_receipt.doc

Attention: Mr H. Deale

ACKNOWLEDGEMENT OF RECEIPT

I hereby acknowledge receipt of a letter, titled: **NOTICE OF INTENT TO CONSTRUCT A WATER DISCHARGE PIPELINE ON A PORTION OF PORTION 14 OF THE FARM GOEDEHOOP 315 JS,** with reference number mwr_irp_reg notification to owner muhanga_approved_browns_101020.doc, **dated 5 November 2010.**

Name: HJT DEALE.

ID Number: 6902105121082

Signature: .....

Date: 05/11/10

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0200 email: post@jaws.co.za

B478

BY HAND

Ms. Dineo Tswai

19 January, 2011

Directorate: Impact Assessment

Our Ref: **B478**
b478cl02_let_acknowlegementofreceipt2.doc

Mpumalanga Department of Economic Development,
Environment and Tourism
Pavillion Building
Cnr. Botha Avenue & Northey Street
Witbank
1035

Attention: Ms Dineo Tswai

Dear Madam

ACKNOWLEGEMENT OF RECEIPT

I herewith acknowledge receipt of four (4) copies of the letter entitled Middelburg Water Reclamation Project: Application for Project. Registration number with attached registration forms.

Dineo Tswai
Name

Signature

2011/01/20
Date

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0201 email: post@jawsco.za

Mr M Tshitangoni
Directorate: Authorisation and Waste Disposal Management
Department of Environmental Affairs
Private Bag X447
Pretoria
0001

25 November, 2010

Our Ref: **B478**
b478mvz01_l_mwrp_dea_reg_sept2010.docx

Attention: Mr Mpho Tshitangoni

Dear Sir

MIDDELBURG WATER RECLAMATION PROJECT: APPLICATION FOR PROJECT REGISTRATION NUMBER

Please find attached hereto the completed Waste Management Activity Licence Application form and supporting figures for the licensing of the waste management activities associates with the Middelburg Water Reclamation Project (MWRP). The MWRP is a project of the Douglas Tavistock Joint Venture (DTJV). Douglas Tavistock Joint Venture (DTJV) is a joint venture between BHP Billiton Energy Coal South Africa (Pty) Limited and Tavistock Collieries (Pty) Limited.

We have identified four activities from those listed in GN 718 of 3 July 2009 that require a Scoping and Environmental Impact Assessment (EIA) process and licensing under the provisions of the National Environmental Management: Waste Act, namely:

- The storage of impacted mine water in a lagoon. As the water is classified as hazardous waste, the waste management activity triggered is Category B 4(1) of GN 718.
- The treatment of impacted mine water in a treatment plant, which will eventually treat up to 30 000 cubic metres of impacted mine water per day. The treatment plant triggers waste management Category B 4(7) of GN 718. As hazardous waste will be treated in the treatment plant, one can argue that Category B 4(5) of GN 718 is also applicable.
- The treatment plant will generate a gypsum slurry with metal hydroxides and gypsum cake and both materials will be disposed of in dedicated engineered waste disposal facilities. These streams were provisionally hazard rated and were classified as general waste depending verification. Therefore Category B 4(10) is applicable. If the classification is not accepted, the applicable activity could be Category B 4(9) , and
- Due to the fact that the infrastructure to manage the above listed activates still need to be constructed, Category B 4(11) is also applicable.

Jones & Wagener will be conducting the EIA process for authorisation and prepare the Waste Management Licence Application Report. Technical input, such as the preliminary design and operating plans will be provided by the technical design team. We will obtain the technical information from that team, but I will request that they discuss the designs with the Department of Water Affairs to obtain approval in principle before we submit the Waste Management Licence Application Report and Environmental

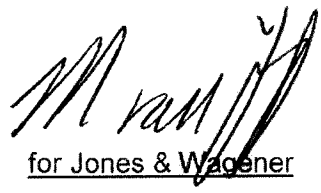
Management Plan to your directorate. We will also update the Waste Management Activity Licence Application form once we have all the required information.

The MWRP also requires an integrated water use licence under the provisions of the National Water Act, which will also be prepared by us. There are also National Environment Management Act activities, which have been triggered by the MWRP and which require an authorisation from the MDEDET following the EIA process. We will be conducting one integrated EIA process, which includes the required Public Participation Process (PPP).

A meeting was held with the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) and I am aware that Mr Fikile Theledi did discuss the project with you. He gave me verbal feedback on the outcome of the discussions. We will arrange a meeting with your directorate to present and discuss the project formally, but in the interim we request a reference number for the project in order to allow us to commence with the PPP.

Please contact me at telephone number 011 519 0200 or e-mail vanzyl@jaws.co.za should you have any queries.

Yours faithfully



for Jones & Wagener

Cc: Mr S. Brown: BHP Billiton Energy Coal South Africa
Mr F Theledi: Mpumalanga Department of Economic Development, Environment and Tourism.

Document source: C:\Alljobs\B478 Water Treatment Plant\Reports\Licence Application Form\B478mvz01_L_MWRP_DEA_Reg_Sept2010.docx
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WASTE LICENCE APPLICATION PROCESS FOR WASTE ACTIVITIES IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT :WASTE ACT 2008 (No. 59 of 2008)

TABLE OF CONTENTS

THE WASTE LICENSING APPLICATION PROCESS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT 2008 (No. 59 of 2008) "NEMWA".

PART 1: WASTE ACTIVITIES LICENSING APPLICATION PROCESS EXPLAINED:

1.1 Licensing process:

1.1.1 The waste licensing process for listed activities under Schedule 1 in the National Environment Management Waste Act 2008 is as defined in the environmental impact assessment (EIA) regulations made under section 24(5) of the National Environment Management Act 2008 (NEMA) No. 107 of 1998.

1.1.2 This application form is the official form in terms of Regulation 13 (2) (a) of the EIA regulations R385 of 2006 and must accompany every licence application pertaining to waste activities in terms of NEMWA.

1.2 Where to submit applications

1.2.1 The Minister of Water and Environmental Affairs is the licensing authority in respect of all activities listed in both categories of Schedule 1 of NEMWA pertaining to hazardous waste. The application for a waste license in terms of section 45 of the National Environment Management Waste Act 2008 (59 of 2008) for hazardous waste activities must be submitted by lodging an application with the National Department of Environment. The application must be marked for the attention of:

The Director: Authorisation and Waste Disposal Management
Private Bag X447
Pretoria 0001
Tel: 012 310 3920
Fax: 012 310 3753

1.2.2 The Member of the Executive Council of a province who is responsible for waste management in the province "MEC" is the licensing authority in respect of all activities listed in both categories of Schedule 1 of NEMWA pertaining to general waste. The application for a waste license in terms of section 45 of the National Environment Management Waste Act 2008 (No. 59 of 2008) for general waste activities must be submitted by lodging an application with the relevant provincial department and applications must be marked for the attention of the Head of Department in the relevant province at the following addresses:

Head of the Department
Department of Environmental Affairs and Development Planning
Private Bag X 9086
CAPE TOWN
8000
Fax: 021 483 4425
Tel: 021 483 5109

Head of Department
Department of Economic Development and Environmental Affairs
Private Bag X 0054
BHISHO
5605
Fax: 040 609 4700
Tel: 040 609 4702

Head of Department
Department of Economic Development Tourism and Environment Affairs
Private Bag X 20801
BLOEMFONTEIN
9300
Fax: 051 400 4772
Tel: 051 400 4917

Head of Department
Department of Agriculture and Rural Development
P.O. Box 8769
JOHANNESBURG
2000
Fax: 011 333 0667
Tel: 011 355 1927

Head of Department
Department of Agriculture Environmental Affairs and Rural Development
Private Bag X 9059
PETERMARITZBURG
3200
Fax: 033 355 9593
Tel: 033 355 9621

Head of Department
Department of Economic Development, Environment and Tourism
Private Bag X 9484
POLOKWANE
0700
Fax: 015 291 5809
Tel: 015 291 5447

Head of Department
Department of Economic Development Environment and Tourism
Private Bag X 11219
NELSPRUIT
1200
Fax: 013 766 8445
Tel: 013 766 6063

Head of Department
Department of Agriculture, Conservation and Rural Development
Private Bag X 2039
MMABATHO
2735
Fax: 018 389 5006
Tel: 018 389 5341

Head of Department
Department of Environmental Affairs and Nature Conservation
Private Bag X 6102
KIMBERLEY
8300
Fax: (053) 807 7367

1.3 Making an Application

1.3.1 The applicant must fill in all relevant sections of this form. Incomplete applications will not be processed. The applicant will be notified of the missing information in the acknowledgement letter that will be sent within 14 days of receipt of the application. Sections in the form that do not apply to the applicant must be marked "not applicable"

1.3.2 There is no prescribed fee.

1.3.3 This application form is in effect as of 01 July 2009. It is the responsibility of the Applicant/Environmental Assessment Practitioner "EAP" to ascertain whether subsequent versions of the form have been published or produced by the licensing authority. It is the applicant's responsibility to download the current version of the application form from the South African waste information centre website (www.sawic.org.za).

1.3.4 The application form may be submitted electronically **and** four hardcopies of the form must be submitted to the Directorate: Authorisation and Waste Disposal Management where the national department is the licensing authority. The applicant must contact the relevant provincial office regarding the number of copies required to process the application where provincial departments are the licensing authorities. All application forms must be signed as stipulated in the form. Applications that are not signed or completed accordingly will not be considered.

1.3.5 Where the national department is the licensing authority, all applications forms must be accompanied by four copies of reports and other documents required in terms of the EIA Regulations.

1.3.6 Where the provincial department is the licensing authority, all applications forms must be accompanied by the number of copies required by that province for reports and other documents required in terms of the EIA Regulations.

1.3.7 The applicant must clearly mark confidential sections of the information submitted in the application form and supporting documents. All other information will become public information on receipt by the licensing authority.

2. DEFINITIONS:

2.1 Definitions in this form are as per EIA Regulation in terms of Chapter 5 of the National Environmental Management Act, 1998 and waste management activities list in terms of the National Environmental Management: Waste Act 2008, No. 59 of 2008.

3. THE WASTE LICENSING APPLICATION STAGES:

3.1 Stage 1: Pre-application

Before making an application:

- The applicant must appoint an EAP in terms of EIA regulations
- The EAP must comply with general requirements as given in EIA regulations
- The EAP may be disqualified in terms of EIA regulations

3.2 Criteria for determining whether basic assessment or scoping is to be applied to applications

3.2.1 Basic assessment must be applied to an application if the authorisation applied for is in respect of an activity listed in Category A in schedule 1 of the NEMWA (59 of 2008).

3.2.2 Scoping and EIA must be applied to an application if the authorisation applied for is in respect of an activity listed in Category B in schedule 1 of the NEMWA (59 of 2008).

WASTE LICENCE APPLICATION FORM

PART 2: APPLICATION FORM FOR NEW LICENCE

(For official use only)

File Reference Number:	
Date Received:	
Classification:	

WASTE LICENCE APPLICATION FORM
in terms of the National Environmental Management: Waste Act, 2008 (No. 59 of 2008)

THE APPLICATION FORM MAY BE TYPED OR HAND-WRITTEN.

SECTION 1 – TYPE OF APPLICATION AND FACILITY:

Indicate the type of application by marking with a cross and fill in the required sections only

TYPE OF APPLICATION	MARK	SECTIONS OF THE FORM TO BE FILLED IN
A new licence	X	Part 2 and see table of activities below for relevant sections of part 2
A licence amendment		Part 3 and Part 2 only if there are changes to the information or the applicant holds a permit issued in terms of section 20 of ECA (No. 78 of 1989) as amended.
A licence for closure		Part 4, Section 2, 3a, 3b, & 3c. of part 2 of this application form

Indicate the type of facility/operation and fill in the required sections only

TYPE OF ACTIVITY	MARK	SECTIONS OF THE FORM TO BE FILLED IN
Recycling and/or recovery Facility		All except Section 8
Storage and or transfer Facility	X	All except Section 8
Treatment facility	X	All except Section 8
Disposal facility	X	All

Activities applied for

An application may be made for more than one listed or specified activity that, together, make up one development proposal. All the listed activities that make up this application must be listed.

INDICATE THE NO. & DATE OF THE RELEVANT NOTICE:	ACTIVITY NUMBERS (AS LISTED IN THE WASTE MANAGEMENT ACTIVITY LIST) :	DESCRIBE EACH LISTED ACTIVITY:
No. 718 of July 2009	Category B: 4(1)	The storage, including the temporary storage of hazardous waste, in lagoons. This activity is triggered as impacted mine water, which is classified as hazardous waste, will be stored in an engineered storage facility prior to treatment.
No. 718 of July 2009	Category B: 4(2)	The treatment of effluent, wastewater or sewage with an annual throughput capacity of 15 000 cubic metres or more. The proposed facility will initially treat 15 000 cubic metres of water per day, but eventually treatment capacity could reach 30 000 cubic metres per day.
No. 718 of July 2009	Category B: 4(10)	The disposal of general waste to land covering an area in excess of 200 m² The initial phase of the gypsum waste disposal facility will cover an area of approximately 5 500 m².
No. 718 of July 2009	Category B: 4(11)	The construction of the above listed activities triggers this activity.

NB: Authorisation issued will only cover activities applied for and listed above. Activities added in the middle or after the processing of this authorisation may mean a totally new application.

Application for Category A (equivalent to Basic Assessment)

Is this an application for a basic assessment (as defined in the EIA regulations)?	NO
If, YES, is a basic assessment report attached?	NO

If, NO, please indicate when the basic assessment report will be submitted:

Not applicable

Is information required as per Appendix B1 of this form attached?	NO

If, NO, please ensure that it is submitted together with the basic assessment report (BAR)

Application for Category B (equivalent to Scoping and Environmental Impact Assessment (EIA))

Is this an application for Scoping and EIA (as defined in the EIA regulations)?	YES

Please indicate when the Scoping Report and Plan of Study for EIA will be submitted:

Provisionally it will be submitted in February 2011

Please ensure that both Appendix B1 and B2 are completed and included in reports

The scoping report and/or the plan of study for EIA will be submitted after consultation with the competent authority	YES
A consultation with the competent authority is hereby requested:	YES

SECTION 2: SITE IDENTIFICATION, LOCATION AND LANDUSE

Please indicate all the Surveyor-general Cadastral Code 21 digit site (erf/farm/portion) reference numbers:

T	O	J	S	0	0	0	0	0	0	0	0	0	3	3	9	0	0	0	0	9		
1	2				3				4								5					

LEGEND:
1. Refers to the Surveyor's-General Office (T = Pretoria, F = Free State, C = Cape Town & N = Kwazulu-Natal)
2. Major Code (Registration Division)
3. Minor code
4. Property No (i.e. Farm No./Erf No./Holding Area No./Sheme No.)
5. Portion Number

If the property type is not surveyed, complete the following:

Full name of leader of village, community or tribal authority	Not applicable
Local Authority	
Magisterial District	
Tribal Authority/Council	

Ownership of the property (mark only one with an X)

Property owned by applicant (100% Share value)		**Property leased by applicant**	
Property owned by applicant (Share value less than 100%)	X*	**The property is communal land**	
Applicant has Land Owners Consent			

**See cover letter for explanation*

Size of Site and Classification

Size of facility for a waste management activity	23.3 hectares for all waste management activities
Area where the waste management activity takes place	Steve Tshwete Local Municipality, +/- 15km east of eMalahleni
Classification of facility in terms of climatic water balance	Negative
Classification of Facility in terms of the type and the quantity of waste received	H:H

Current land-use where the site is situated:

Industrial		Recreation	
Agriculture	X	Commercial	
Residential		Mining & quarrying	X
Forestry		Wilderness areas	
Wetlands		Nature area	
Open spaces			

Other current land-use.....

	MARK YES/NO	SECTION IN THE REPORTS WHERE RELAVANT AUTHORISATION IS ATTACHED
Is a change of land-use or a consent use application required?	**No**	**Application has not been made**
Must a building plan be submitted to the local authority for approval?	**Yes**	**Plans have not yet been submitted**

Geographical coordinates of all external corner points of the site:

Number of corner	Latitude			Longitude		
.....A.....	25°	54'	42.9"	29°	24'	00.3"
.....B.....	25°	54'	33.8"	29°	24'	02.4"
.....C.....	25°	54'	35.1"	29°	24'	09.3"
.....D.....	25°	54'	38.6"	29°	24'	08.4"
.....E.....	25°	54'	39.6"	29°	24'	13.8"
.....F.....	25°	54'	45.5"	29°	24'	12.5"
.....G.....	25°	54'	45.5"	29°	23'	53.4"
.....H.....	25°	54'	51.1"	29°	24'	13.7"
.....I.....	25°	55'	00.3"	29°	24'	10.6"
.....J.....	25°	54'	54.7"	29°	23'	50.0"
.....	°	'	"	°	'	"

See Figure 1 for position of corners

Site Address:

Building Name or Number	Middelburg Water Reclamation Plant		
Street	Undeveloped land		
City/Closest Town	Middelburg		
Province	Mpumalanga		
Local Municipality	Steve Tshwete Local Municipality		
District Municipality	Nkangala District Municipality		
Property Description (Deeds Act or name of farm, town, city or agricultural holding	Portion 9 of the farm Hartbeesfontein 339 JS		
Postal address	None as the site is located on a farm		
Postal code:		**Cell:**	
Telephone:	013 689 3051	**Fax:**	013 689 3085
E-mail:	Steve.brown@bhpbilliton.com		

Local authority in whose jurisdiction the proposed activity will fall:	Steve Tshwete Local Municipality		
Contact person:	Ms B Maleka		
Postal address:	P O Box 14, Middelburg		
Postal code:	1050	**Cell:**	
Telephone:	013 249 7000	**Fax:**	013 243 2550
E-mail:	council@stevetshwetelm.gov.za		

In instances where there is more than one local authority involved, please attach a list of local authorities with the contact person and contact details to this application.

SECTION 3: CONTACT INFORMATION

A) Person to contact about application (EAP)

First name & Surname	**Marius van Zyl**		
Company name (if any):	**Jones & Wagener (Pty) Ltd**		
Company Registration/Identity number for individuals	**93/02655/07**		
Physical address:	**59 Bevan Road, Rivonia,**		
	Sandton		
Postal address:	**P.O. Box 1434**		
	Rivonia		
Postal code:	**2128**	**Cell:**	**082 880 1250**
Telephone:	**011 519 0217**	**Fax:**	**011 519 0201**
Email Address	**vanzyl@jaws.co.za**		

B) Person wishing to hold licence

First name & Surname of Applicant	**DOUGLAS-TAVISTOCK JOINT VENTURE**		
Company name (if any):	**BHP BILLITON ENERGY COAL SOUTH AFRICA LIMITED**		
Company Registration/Identity number for individuals	1963/000537/06		
Physical address	6 HOLLARD STREET JOHANNESBURG		
Postal address	P.O.BOX 61075, MARSHALLTOWN		
Postal code:	2107	**Cell:**	082 468 1967
Telephone:	013 689 3051	**Fax:**	013 689 3085
E-mail:	Steve.brown@bhpbilliton.com		

C) Landowner where activity takes place

First name & Surname	**N/A**		
Company name (if any):	INGWE SURFACE HOLDINGS LIMITED		
Company Registration/Identity number for individual(s)	1969/016351/06		
Physical address	6 HOLLARD STREET JOHANNESBURG		
Postal address	P.O.BOX 61075, MARSHALLTOWN, 2107		
Telephone:	011 3762410	Cell:	0823336500
		Fax:	011 3762160
E-mail:	VIKESH.DHANOOKLAL@BHPBILLITON.COM		

First name & Surname	**N/A**		
Company name (if any):	TAVISTOCK COLLIERIES (Pty) LIMITED		
Company Registration/Identity number for individual(s)	1937/010110/07		
Physical address	1ST FLOOR, MELROSE BOULEVARD, MELROSE ARCH, MELROSE		
Postal address	1ST FLOOR, MELROSE BOULEVARD, MELROSE ARCH, MELROSE 2196		
Telephone:	011 7720600	Cell:	082 320 3486
	011 772-0698	Fax:	011 3762160
E-mail:	bfourie@xstratacoal.co.za		

Operational times

PERIOD	FROM	UNTIL
Weekdays	00:00	24:00
Saturdays	00:00	24:00
Sunday	00:00	24:00
Public holidays	00:00	24:00

The water treatment plant will be operated on a 24 hour basis for 365 days per annum.

SECTION 4: PROCESS/ACTIVITY DESCRIPTION:

Project Title

Middelburg Water Reclamation Project

Project Description:

Please provide a brief description of the activities and operations at the site. Provide a flow chart of the operation showing all inputs and outputs of the process. Give particulars of the source, location, nature, composition and quantity of emission to the atmosphere, surface water, sewer, and ground-water including noise emissions. Solid waste must be in tons and specify units for liquids and gases.

The MWRP will consist of two main components, namely infrastructure to transfer impacted mine water from various sections of the Middelburg Mines (now known as Middelburg Colliery) to a central point, the treatment plant, where the water will be mixed and then treated in a state of the art treatment facility.

At the treatment plant the water will be temporarily stored in balancing dams of which the initial capacity will be 30 000m^3. The impacted water contains high dissolved salt levels, but also a small amount of manganese, which classifies it as a hazardous waste, therefore the balancing dams are classified as H:H waste lagoons. From the balancing dams the impacted water will be treated in a HiPRO© plant, which consists of liming, settling, ultra filtration and reverse osmosis units. Once treated the water will be discharged to the catchment (Spookspruit). A small stream of process water will be used as wash water at one of the Middelburg Mine Services' coal washing facilities. In the process, two waste types will be generated, namely a metal-rich gypsum slurry, generated in the Stage 1 liming process, and a 95% pure gypsum cake, which will be generated in the Stage 2 and 3 liming processes. Both these waste types were classified as general wastes, based on waste generated in a pilot plant and using the Minimum Requirements waste classification system. The two gypsum waste types will be disposed of in engineered waste disposal facilities.

A typical lay-out plan of the proposed facility is attached hereto. The plant will initially treat 15 000 m^3 (15 Mℓ) of water per day and will be expanded to treat 30 000 m^3 (30 Mℓ) of water per day at the end of the life of the mine. The application is therefore for the 30 Mℓ capacity.

SECTION 5: WASTE QUANTITIES

Indicate or specify types of waste and list the estimated quantities expected to be managed daily (should you need more columns, you are advised to add more)

Hazardous waste	Non hazardous waste	Total waste handled (tonnes per day)
Impacted mine water		**Phase 1: 15 000 m^3/day; Peak: 19 150 m^3/day Phase 2: 30 000 m^3/day**
	Metallic gypsum	**Phase 1: 32 (Based on Peak) Phase 2: 51**
	Gypsum cake	**Phase 1: 96 (Based on Peak) Phase 2: 150**
	Office, operational and maintenance waste, such as packaging, waste metal, etc.	**Unknown at this stage**
Oil and grease waste		**Unknown at this stage**
Waste fluorescent tubes		**Unknown at this stage**

Source of information supplied in the table above Mark with an "X"

Determined from volumes	
Determined with weighbridge/scale	
Estimated	X

Recovery, Reuse, Recycling, treatment and disposal quantities:

Indicate the applicable waste types and quantities expected to be disposed of and salvaged annually:

TYPES OF WASTE	MAIN SOURCE (NAME OF COMPANY)	QUANTITIES		ON-SITE RECOVERY REUSE RECYCLING TREATMENT OR DISPOSAL	OFFSITE RECOVERY REUSE RECYCLING TREATMENT OR DISPOSAL	OFFSITE DISPOSAL
		TONS/MONTH	M³/MONTH	method & location	method location and contractor details	
Metal-rich Gypsum	**MMS**	**1512 (Phase 1 & 2)**		**Liquid disposal in lagoon**		
Gypsum cake	**MMS**	**4563 (Phase 1 & 2)***		**Disposal on general waste disposal facility**		
Impacted Mine Water	**MMS**		**900 000 (Phase 1 & 2)**	**Storage in H:H lagoon**		
Paper, metal & plastic		**Not available**			**X**	

Office and non-recyclable waste		**Not available**				**X**
Oil and Grease		**Not available**			**X**	
Other hazardous waste		**Not available**				**X**

SECTION 6: GENERAL

Prevailing wind direction (e.g. NWW)

November – April	**North-east & East**
May - October	**South & North-east**

The size of population to be served by the facility: Not applicable

	Mark with "X"	**Comment**
0-499	**Not Applicable**	
500-9,999	**Not Applicable**	
10,000-199,999	**Not Applicable**	
200,000 upwards	**Not Applicable**	

This is an industrial waste disposal facility

The geological formations underlying the site:

Granite		Quartzite	
Shale	X	Dolomite	
Sandstone	X	Dolerite	X

Other: **Siltstone**_____

SECTION 7: COMPETENCE TO OPERATE SITE

It is imperative that the holder of the waste licence is a fit person in terms of section 59 of the NEMWA (59 of 2008). To assess the holder's competence to operate the site, please disclose the following:

Legal compliance

	YES/NO	DETAILS
Has the applicant ever been found guilty or issued with a non compliance notice in terms of any national environmental management legislation?	No	
Has the applicant's licence in terms of the Waste Act 2008 ever been revoked?	No	
Has the applicant ever been issued with a non compliance notice or letter in terms of any South African Law?	No	

***NB**: Details required above include any information that the applicant wants the Department to take into consideration in determining whether they are a "fit person" and this includes reasons why the offence happened and measures in place to prevent recurrence*

Technical competence

What technical skills are required to operate the site?	**A person with a tertiary qualification, either in engineering or chemistry will be responsible for operating the MWRP**
How will the applicant ensure and maintain technical competency in the operation of the site?	**Operators of the site will be given the necessary training and will be sent for additional training as and when required.**

Details of applicant's experience and qualification along with that of relevant employees must be summarised as shown in the table below:

NAME	POSITION	DUTIES AND RESPONSIBILITIES	QUALIFICATIONS AND EXPERIENCE
Wendy Mey	Process Manager	Management and control of all activities relating to the operation of the Middelburg Water Reclamation Plant.	BSc Engineeing (Chemical), registered Professional Engineer with the Engineering Council of South Africa. 18 Years experience in the mining industry ranging from coal processing plant operation and quality control, establishment and management

			of the Environmental Monitoring Section of Yanka Laboratories to 5 years experience in projects.

Financial Provisions

Provide a plan of estimated expenditure for the following:

	ATTACHED/NOT ATTACHED	SECTION OF THE REPORT WHERE IT IS ATTACHED
Environmental Monitoring	**Not attached. Will be completed later**	
Provision and replacement of infrastructure	**Not attached. Will be completed later**	
Restoration and aftercare	**Not attached. Will be completed later**	

SECTION 8: LANDFILL PARAMETERS

The method of disposal of waste:

Land-building [ ] Land-filling [ ] Both [X]

The dimensions of the disposal site in metres

	At commencement	After rehabilitation
Height/Depth	14/14	14/0
Length	556 metres	556 metres
Breadth	310 metres	310 metres

Dimensions are for the total 20 year facility

See Figure 1

The total volume available for the disposal of waste on the site:

Volume Available	Mark with "X"	Source of information (Determined by surveyor/ Estimated)
Up to 99		
100-34 999		
35 000- 3,5 million	X	Calculated by design engineers
>3,5 million		

The total volume already used for waste disposal:

(a) Will the waste body be covered daily		NO
(b) Is sufficient cover material available	YES	
(c) Will waste be compacted daily:	YES	

If the answers (a) and/or (b) are No, what measures will be employed to prevent the problems of burning or smouldering of waste and the generation of nuisance?

The impacted mine water will not give rise to odours or dust and therefore it does not have to be covered.

The metal-rich gypsum could be disposed of as a liquid waste and will not give rise to odour or dust. Therefore covering is not required.

The gypsum cake, which is generated in the second and third stages of the treatment process, will be compacted on a regular basis, but daily cover is not required as the waste is unlikely to give rise to dust generation. Gypsum does not generate odours.

There is sufficient cover material available to provide the metal-rich gypsum and gypsum cake disposal areas with a final capping layer once the final disposal height has been reached.

The Salvage method

Mark with an "X" the method to be used.

At source	
Recycling installation	
Formal salvaging	
Contractor	
No salvaging planned*	X

***Note: Research will be conducted for alternative uses of the gypsum cake.**

Fatal Flaws for the site:

Indicate which of the following apply to the facility for a waste management activity:

Within a 3000m radius of the end of an airport landing strip		NO
Within the 1 in 50 year flood line of any watercourse		NO
Within an unstable area(fault zone, seismic zone, dolomitic area, sinkholes)		NO
Within the drainage area or within 5 km of water source	YES	
Within an area with shallow and/or visible water table	YES	
Within an area adjacent to or above an aquifer		NO

Within an area with shallow bedrock and limited available cover material	NO
Within 100 m of the source of surface water	NO
Within 1km from the wetland	YES
Indicate the distance to the boundary of the nearest residential area	1200 metres
Indicate the distance to the boundary of the industrial area	>1000 metres

Wettest six months of the year

November- April	X
May -October	

For the wettest six month period indicated above, indicate the following for the preceding 30 years

	Total rainfall for 6 months	Total S-pan evaporation for 6 months*	Climatic water balance
For the 1st wettest year	1138.9	871.6	371.89
For the 2nd wettest year	988.4	737.3	339.58
For the 3rd wettest year	885.4	881.1	110.03
For the 4th wettest year	669.2	848.4	-77.39
For the 5th wettest year	750.9	771.5	71.98
For the 6th wettest year	678.6	1087.7	-278.58
For the 7th wettest year	651.2	867.5	-112.2
For the 8th wettest year	697.6	922.1	-113.85
For the 9th wettest year	733.5	851.8	-16.08
For the 10th wettest year	564.5	993.3	-309.6

***Note: S-Pan evaporation data was used in calculating the climatic water balance**

Location and depth of ground water monitoring boreholes:

Codes of boreholes	Borehole locality	Depth (m)	Latitude			Longitude		
BH01D.....	.....	39	25°	54'	43"	29°	24'	03"
BH01S.....	.....	12	25°	54'	43"	29°	24'	03"
BH02D.....	.....	34.62	25°	54'	36"	29°	24'	17"
BH02S.....	.....	12	25°	54'	36"	29°	24'	17"
BH03D.....	.....	27.87	25°	54'	30"	29°	24'	12"
BH03S.....	.....	12	25°	54'	30"	29°	24'	12"
.....	.....		°	'	"	°	'	"
.....	.....		°	'	"	°	'	"
.....	.....		°	'	"	°	'	"
.....	.....		°	'	"	°	'	"
.....	.....		°	'	"	°	'	"

Location and depth of landfill gas monitoring test pit:

Codes of boreholes	Borehole locality	Latitude			Longitude		
.....	.....	°	'	"	°	'	"
.....	.....	°	'	"	°	'	"
.....	.....	°	'	"	°	'	"
.....	.....	°	'	"	°	'	"
.....	.....	°	'	"	°	'	"
.....	.....	°	'	"	°	'	"
.....	.....	°	'	"	°	'	"

Gas monitoring wells are not required for the gypsum waste disposal facility

SECTION 9: DECLARATIONS

The independent Environmental Assessment Practitioner

I, **Marius van Zyl**, declare under oath that I –

- act as the independent environmental assessment practitioner in this application ;
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2006;
- have and will not have no vested interest in the proposed activity proceeding;
- have no, and will not engage in, conflicting interests in the undertaking of the activity;
- undertake to disclose, to the competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
- will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- will keep a register of all interested and affected parties that participated in a public participation process; and
- will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Environmental Assessment Practitioner:

Jones & Wagener (Pty) Ltd

Name of company:

26 November 2010

Date:

7009591-3 Est

Signature of the Commissioner of Oaths:

2010-11-26

Date:

CONSTABLE

Designation:

SUID-AFRIKAANSE POLISIEDIENS
DIST 60
KLIENTE DIENS SENTRUM
2010 -11- 26
CLIENT SERVICE CENTRE
BUCCLEUCH
SOUTH AFRICAN POLICE SERVICE

Official stamp (Above)

The Applicant

We, DOUGLAS-TAVISTOCK JOINT VENTURE, herein represented by Stephan Brown declare under oath that I -

- Am, or represent, the applicant in this application;
- appointed the environmental assessment practitioner as indicated above to act as the independent environmental assessment practitioner for this application;
- will provide the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the Environmental Impact Assessment Regulations, 2006, including but not limited to –
- costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
- costs incurred in respect of the undertaking of any process required in terms of the regulations;
- costs in respect of any fee prescribed by the Minister in respect of the regulations;
- costs in respect of specialist reviews, if the competent authority decides to recover costs; and
- the provision of security to ensure compliance with conditions attached to an environmental authorisation, should it be required by the competent authority;
- will ensure that the environmental assessment practitioner is competent to comply with the requirements of these regulations;
- am responsible for complying with the conditions of any environmental authorisation issued by the competent authority;
- hereby indemnify, the government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible in terms of these regulations; and
- will not hold the competent authority responsible for any costs that may be incurred by the applicant in proceeding with an activity prior to an appeal being decided in terms of these regulations.

Signature of Applicant

Name of company:

2010/11/25

Date:

Signature of the Commissioner of Oaths:

2010/11/25

Date:

Security Ops Manager

Designation:

SIGNED:
COMMISSIONER OF OATH
EX-OFFICIO; R.S.A.
ASSIST. SECURITY MANAGER
MIDDELBURG MINE SERVICES PTY LTD
VAN DYKSDRIFT ROAD
HARTEBEESFONTEIN FARM
MIDDELBURG
1050

MIDDELBURG MINE
NORTH SECTION
SECURITY DEPT.
2010 -11- 25

SIGNATURE:

WASTE LICENCE APPLICATION FORM

PART 3: APPLICATION FORM FOR AMENDMENT TO AN EXISTING AUTHORISATION

Details of Current Licence:

Current Licence or Permit reference number	

The Proposed Modification:

Give details of changes required in the authorisation:

Condition Number	Condition as written in the current authorisation	Proposed condition	Motivation for change

Will the amendment amount to increase in the environmental impact regulated by the waste management licence? YES/NO

If yes:

- attach waste impact report
- Attach proof of notification of relevant organs of state
- Attach proof of notification of interested and affected parties

Change of Information

Will there be any changes to information supplied in the original application? YES/NO

If yes fill in sections that have changed of Part 2: Application for new licence

Signature of Applicant

Name of company:

Date:

Signature of the Commissioner of Oaths:

Date:

Designation:

Official stamp (Above)

WASTE LICENCE APPLICATION FORM

PART 4: APPLICATION FORM FOR CLOSURE

Not applicable

Details of Current Licence:

Current Licence or Permit reference number	

Section of this form to fill:

Section 2, 3a, 3b, 3c of part 2 of this form.

Documentation Requirements:

Every closure application for facilities shown in the table below must as a minimum be accompanied by documentation as indicated hereafter

Requirements	Recycling &/ recovery Facility	Storage &/ transfer Facility	Treatment facility	Disposal facility
Design of storm-water management	X	X	X	X
Design of leachate management				X
Design & duration of landfill gas monitoring and management				X
Design of settlement/surface pondage				X
Design of access roads				X
Topographic Map indicating the property	X	X	X	
Topographic Map indicating the landfill property boundary, cells (fill areas), wells, and structures within and surrounding the landfill site				X
Plan Drawings (including Final Contour Grade Map) indicating (a) the final contours and vegetation in relationship to the surrounding land and any run-off control structures				X

Plan Drawings (including Final Contour Grade Map) indicating (b) well location(s), depth to groundwater and flow direction				X
Plan Drawings (including Final Contour Grade Map) indicating (c) the locations at which gas monitoring takes place				X
drawings showing the proposed final restored profile for the landfill accompanied by calculations of the remaining tonnages of waste (void space) and materials necessary to close, cap and restore the landfill				X
Provision of services that were provided by the facility being closed	X	X	X	X
Post Closure Site management & Operation	X	X	X	X
Monitoring Plan	X	X	X	X
Emergency Preparedness plan	X	X	X	X
Rehabilitation measures including removal of site structures,	X	X	X	X
Rehabilitation measures including waste compaction and capping; application of topsoil & vegetation establishment				X
Procedures for the inspection or auditing of the rehabilitation process and mechanisms for reporting to the licensing authority.	X	X	X	X
long and short term stability				X
procedures and timescales for ensuring final levels are achieved				X

Signature of Applicant

Name of company:

Date:

Signature of the Commissioner of Oaths:

Date:

Designation:

Official stamp (Above)

APPENDIX: A1

Information needed when applying for scheduled activities listed under Category A, but is not limited thereto:

Basic Assessment Report which must include supplementing documentation such as:

Description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity
Description of significant environmental impacts, including cumulative impacts, that may occur as a result of the undertaking of the activity
Conducting public participation as outlined in EIA Regulations
Waste disposal facility designs
Closure plan (report)
Operational plan
All applicable legislation, policies and/or guidelines
End-use plan (only apply to site landfill closure)
Closure/Remedial designs (only apply to the landfill closure)
Latest external audit report (only apply for permit amendment)
Application and report documents (four hard copies for all applications)
A3 size layout plans (four hard copies for all applications)
Landfill conceptual designs (only apply for construction and decommissioning of landfill sites)
Geo-hydrological report (only apply to landfill sites, storage facilities and treatment of waste)
Consideration of alternatives
Description of mitigation measures and risk assessment
Any inputs made by specialists to the extent that may be necessary
Any specific information as may be required by the competent authority

Information needed when applying for scheduled activities listed under Category B, but is not limited thereto:

Scoping and Environmental Impact Assessment Report which should include:

Description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity
Description of significant environmental impacts, including cumulative impacts, that may occur as a result of the undertaking of the activity
Conducting public participation as outlined in EIA Regulations
Closure plan (report)
Operational plan
Waste disposal facility designs
End-use plan (only apply to site closure)
Closure/Remedial designs (only apply to site closure)
Latest external audit report (only apply to permit amendment)
Application and report documents (four hard copies for all applications)
A3 size layout plans (four hard copies for all applications)
Landfill conceptual designs
Geo-hydrological report (only apply to landfill sites, storage and treatment of waste)
Consideration of alternatives
Description of mitigation measures and risk assessment
Any inputs made by specialists to the extent that may be necessary
Any specific information as may be required by the competent authority

Plan of study for environmental impact assessment which must among others include:

Description of the tasks to be undertaken as part of the environmental impact assessment process, including specialist report or specialized processes, and a manner in which such tasks will be undertaken
An indication of stages of stages at which the competent authority will be consulted
Description of methods for assessing issues and alternatives, including the no-go alternative
Particulars of participation process that will be conducted during the EIA process

NB: Compilation of EIA report must be based on tasks outlined in the Plan of Study for EIA, and the below listed reports must also be attached.

Draft environmental management plan (only apply to EIA reports. No draft EMP should be included in the scoping report)
Copies of any specialist reports and specialized processes (only apply to EIA reports. No copies of specialist studies and specialized processes should be included in the scoping report)

APPENDIX B1

The following MUST be included in the application as supporting documentation and the applicant must indicate specific section(s) where they are appended in the reports.

REQUIRED PIECE OF INFORMATION	SECTION IN THE REPORTS WHERE IT CAN BE FOUND	COMMENTS (if any)
1. Extremely clear Google Earth colour picture of the site (dated not more than a month from the date of the application)	The reports have not yet been drafted	This will be included in the licence application report
2. 1:50 000 topography /topo-cadastral map of the area showing		
2.1 the site and 5km radius		See attached Figure 2
2.2 Existing residential and industrial areas		See attached Figure 2
2.3 Possible future development (indicate the type of development)		
2.4 Other waste handling sites (existing or closed) in the area		
2.5 Existing and possible future residential areas.		Not planned for the area
2.7 Sites which are listed as national monuments or archaeological, paleontological and cultural historical sites or objects worthy of conservation;		To be investigated
		To be investigated
3. Security and access aspects of the site		
4. The site plan drawn to scale showing the site's boundary showing:		See attached Figure 1
4.1 Activities or development existing on all 4 directions of the site.		To be provided
4.2 Waste receipt, storage and handling areas		To be provided
4.3 Impermeable surfaces		To be provided
4.4 Sealed drainage systems		To be provided
4.5 Drainage system for the site including sumps and discharge points		To be provided
4.6 Road names and access from all major roads in the area		See attached Figure 1 and 2
4.7 Land Owner's consent (letter with signature)		Not required
5. Waste hierarchy implementation plan		To be completed
6. Emergency preparedness plan		To be completed

APPENDIX B2

The following MUST be included in the application documentation for landfill sites and the applicant must indicate specific section(s) where they are appended in the reports.

REQUIRED PIECE OF INFORMATION	SECTION IN THE REPORTS WHERE IT CAN BE FOUND	COMMENTS (if any)
Design for site roads	Reports have not yet been drafted	To be included in the Licence Application Report
The 1 in 50 year flood-line of all watercourses	Reports have not yet been drafted	To be included in the Licence Application Report
Laboratory facilities	Reports have not yet been drafted	To be included in the Licence Application Report
Design and location of fuel storage areas	Reports have not yet been drafted	To be included in the Licence Application Report
Design and location waste quarantine areas	Reports have not yet been drafted	To be included in the Licence Application Report
Design and location of waste Inspection areas	Not applicable	Not required for this facility
Site's drainage system	Reports have not yet been drafted	To be included in the Licence Application Report
Site's emergency control system and plan	Reports have not yet been drafted	To be included in the Licence Application Report
Liner specifications	Reports have not yet been drafted	To be included in the Licence Application Report
Leak detection system and monitoring	Reports have not yet been drafted	To be included in the Licence Application Report
Leachate management plan	Reports have not yet been drafted	To be included in the Licence Application Report
Calculations of leachate generation	Reports have not yet been drafted	To be included in the Licence Application Report
Leachate collection and treatment	Reports have not yet been drafted	To be included in the Licence Application Report
Gas generation and management	Not applicable	Not required for this facility
Air quality monitoring and management	Not applicable	Not required for this facility
Co-disposal ratio calculation	Not applicable	Not co-disposal to be practiced
Stability monitoring and management	Reports have not yet been drafted	To be included in the Licence Application Report
Daily and intermediate cover requirements	Not applicable	Not required for this facility
Temporary and permanent capping requirements	Reports have not yet been drafted	To be included in the Licence Application Report

Jones & Wagener
Consulting Civil Engineers
59 Bevan Road PO Box 1434 Rivonia 2128 South Africa
Tel: 00 27 (0)11 519 0200 Fax: 00 27 (0)11 519 0200 email: post@jaws.co.za

BY HAND

Mr. Mpho Tshitangoni

26 November, 2010

Directorate: Authorisation and Waste Disposal Management

Our Ref: **B478**
b478cl01_let_acknowlegementofreceipt

Department of Environmental Affairs
Fedsure Building
Corner of Pretorius and Van der Walt Streets
PRETORIA

Attention: Mr Mpho Tshitangoni

Dear Sir

ACKNOWLEGEMENT OF RECEIPT

I herewith acknowledge receipt of four (4) copies of the letter entitled Middelburg Water Reclamation Project: Application for Project. Registration number with attached registration forms.

Name

Signature

26/11/2010
Date

(on behalf of
M. Tshitangoni)

the **dedet**

Department:
Economic Development, Environment and Tourism
MPUMALANGA PROVINCIAL GOVERNMENT

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Middelburg Water Reclamation Project (MWRP)

Specialist:	Willem Lubbe		
Nature of specialist study compiled:	Wetland assessment		
Contact person:	Willem Lubbe		
Postal address:	PO Box 74785 Lynnwood Ridge		
Postal code:	0040	**Cell:**	0724826307
Telephone:	012 349 1307	**Fax:**	
E-mail:	Willem@sefsa.co.za		

Qualifications & relevant experience:

TERTIARY QUALIFICATIONS

- National Higher Certificate Nature Conservation (2000) Technikon South Africa
- National Diploma Nature Conservation (2003) Technikon South Africa
- B.Tech Nature Conservation (2005) University of South-Africa

OTHER QUALIFICATIONS & SHORT COURSES

- Terra soil: Soil classification pertaining to wetland delineation (2008).
- Short course in wetland delineation, legislation and rehabilitation, University of Pretoria (2007)

	• S.E.A.T. (Socio Economic Assessment Toolbox) implementation • WISH: A G.I.S. based database for the geohydrologist • Metago: Electronic Environmental Management system/database • An introduction to sewage treatment • EMS implementation and Internal auditors **Some of the more recent projects include:** • Koornfontein mine, Biodiversity assessment – Wetland Component • Integrated Environmental Implementation Plan – Bushbuckridge Municipality: Wetland Specialist investigations and EMP; • Northern Mozambique Strategic Tourism Plan – Wetland delineation, Functional and Strategic assessment • Koornfontein mine Wetland Impact Mitigation Strategy • Inoland wetland age determination • Richards Bay Casino – Terrestrial Ecological, Wetland and Hydrological investigations; • Middelburg mines Treatment Plant and Pipeline – Wetland delineation & Functional assessment; • Rabie Ridge – Wetland delineation, Functional Assessment and Rehabilitation initiatives;
Professional affiliation(s) (if any)	• The South African Council for Natural Scientific Professions (Cand. Sci. Nat. Ecology & Botany) • South African Soil Surveyors Organisation • Gauteng Wetland Forum

The specialist appointed in terms of the Regulations

I, **Willem Lubbe** declare that -

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist:

S.E.F

Name of company:

10/12/2010.

Date:

Signature of Commissioner of Oaths

10/12/10

Date:

Manager Operations

Designation:

Official stamp (below)

It is hereby certified that this is a true copy of the original document.

Magdalena Susanna Nieuwoudt
Commissioner of Oaths
PO Box 39646
Faerie Glen 0043
Reference Number 9/1/8/2 Pretoria

the **dedet**

Department:
Economic Development, Environment and Tourism
MPUMALANGA PROVINCIAL GOVERNMENT

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Middelburg (Mine) Water Reclamation Project

Specialist:	Dr ROBERT DE JONG		
Nature of specialist study compiled:	HERITAGE IMPACT ASSESSMENT		
Contact person:	Dr ROBERT DE JONG		
Postal address:	BOX 12013 QUEENSWOOD		
Postal code:	0121	**Cell:**	0825774776
Telephone:	012 3258668	**Fax:**	0866127383
E-mail:	cultmat@iafrica.com		
Qualifications & relevant experience:	PhD (Cult. History), Post-Grad. Museum Diploma		
Professional affiliation(s) (if any)	Member ICOMOS SA		

MPUMALANGA
A Pioneering Spirit

The specialist appointed in terms of the Regulations

I, Robert Cornelis de Jong declare that -

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist

CULTMATRIX CC

Name of company:

17/12/2010

Date:

Signature of Commissioner of Oaths

17/12/2010

Date:

Acty. Branch Manager

Designation:

Official stamp (below)

S.A. POST OFFICE LTD. BRANCH MANA 17 DEC 2010 QUEEN S.A. POST OF

S.A. POST OFFICE LTD
BRANCH MANAGER
QUEENSWOOD
COMMISSIONER OF OATHS

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Middelburg Water Reclamation Project (MWRP)

Specialist:	Antoinette Eyssell		
Nature of specialist study compiled:	Vegetation		
Contact person:	Byron Grant (Pri Sci Nat)		
Postal address:	PO Box 74785, Lynnwood Ridge		
Postal code:	0040	**Cell:**	083 642 6295
Telephone:	012 349 1307	**Fax:**	012 349 1229
E-mail:	AntoinetteE@sefsa.co.za		

Qualifications & relevant experience:

MSc Environmental Education (University of Pretoria)

Recent Projects include:

1. Biodiversity Assessment for Koornfontein mine, Mpumalanga;
2. Strategic Environmental Assessment for Eskom Electricity Master Plans, Thohoyandou, Limpopo
3. Vegetation Assessment for the Proposed Open Cast Mine, Elisras;
4. Alien Vegetation Identification and Removal Methodology: Boekenhoutskloof quarry;
5. Vegetation Assessment for Rangeview Ext 2 Status Quo Report and Mitigation for a rectification in terms of Section 24G and 24F of NEMA -Mogale City Local Municipality
6. Floral Assessment for the link road from Toekomsrust to Rietvlei, West Rand District Municipality (WRDM);
7. Vegetation Assessment for the mixed-used development at Tatu, Kenya; and
8. Ecological Management Plans for Steyn City development, Johannesburg.

Professional affiliation(s) (if any)

Cand Sci Nat
SACNASP Reg. No. 100040/08

The specialist appointed in terms of the Regulations

I, **Antoinette Eyssell** declare that -

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist:

Name of company:

Strategic Environmental Focus

Date:
10/12/.2010

Signature of Commissioner of Oaths

10/12/2010
Date:

Manager Operations
Designation:

Official stamp (below)

It is hereby certified that this is a true copy of the original document.

Magdalena Susanna Nieuwoudt
Commissioner of Oaths
PO Box 39648
Faerie Glen 0043
Practice Number 9/1/8/2 Pretoria

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Socio-Economic Impact Assessment of the Middleburg Water Reclamation Project

Specialist:	Mr DC Lachenicht - Environmental Management		
Nature of specialist study compiled:	Socio-economic impact assessment		
Contact person:	Mr DC Lachenicht		
Postal address:	PO Box 76174, Lynwood Ridge, Pretoria		
Postal code:	0040	**Cell:**	0828278873
Telephone:	0123652546	**Fax:**	0865249641
E-mail:	Daniel@ezendalo.co.za		
Qualifications & relevant experience:	• B-Tech : Environmental Management (Technikon Pretoria • Msc: Environmental Management (University of Johannesburg) • Post Graduate Diploma: Environmental Engineering (University of Johannesburg) Experience is listed in Curriculum Vitae attached.		
Professional affiliation(s) (if any)	IAIA-SA		

The specialist appointed in terms of the Regulations

I, **D.C Lachenicht** declare that -

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist:

Ezendalo Environmental Solutions

Name of company:

5/01/2011

Date:

Signature of Commissioner of Oaths

EPHRAEM MSIZA

2011-01-05

Date:

BRANCH MANAGER

Designation

Official stamp (below)

S.A. POST OFFICE LTD.
BRANCH MANAGER
05 JAN 2011
LYNNWOODRIF
S.A. POST OFFICE LTD.

MPUMALANGA
A Pioneering Spirit

the **dedet**

Department:
Economic Development, Environment and Tourism
MPUMALANGA PROVINCIAL GOVERNMENT

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Middelburg Water Reclamation Project (MWRP)

Specialist:	Freshwater Ecologist		
Nature of specialist study compiled:	Aquatic Ecosystems		
Contact person:	Rob Palmer		
Postal address:	PO Box 4349; White River		
Postal code:	1240	**Cell:**	0825744486
Telephone:	0137511533	**Fax:**	0866828220
E-mail:	rob@nepid.co.za		
Qualifications & relevant experience:	PhD Zoology		
Professional affiliation(s) (if any)	SA Environmental Assessment Practitioner: No 0080/06 SA Council for Natural Scientific Professions: No 400108/95		

The specialist appointed in terms of the Regulations

I, **Robert William Palmer** declare that -

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist:

Nepid Consultants CC
Name of company:

14-12-2010
Date:

0429897203
R.A. LIBISI WJO
Signature of Commissioner of Oaths

2010-12-14
Date:

White River
Designation:

Official stamp (below)

SUID AFRIKAANSE POLISIEDIENS
STAATSKOMMISSARIS
14 DEC 2010
SOUTH AFRICAN POLICE SERVICE

the dedet
Department:
Economic Development, Environment and Tourism
MPUMALANGA PROVINCIAL GOVERNMENT

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

MIDDELBURG WATER RECLAMATION TREATMENT (MWRT)

Specialist:	Pieter Olivier		
Nature of specialist study compiled:	Faunal Assessment		
Contact person:	Strategic Environmental Focus		
Postal address:	CSIR Building 4 Lynwoodridge Pretoria		
Postal code:	0002	**Cell:**	084 6127724
Telephone:	012 349 1307	**Fax:**	012 349 1229
E-mail:	pieter@sefsa.co.za		
Qualifications & relevant experience:	MSc. Zoology Recent projects: • Hoekplaats Dolomite Faunal Assessment • BHP Biliton Biodiversity Assessment • Magaliesberg Pipeline Faunal Assessment • Khutala Colliery Grass Owl Assessment • Smitspan Faunal Assessment		
Professional affiliation(s) (if any)	SACNSP Registration Pending Birdlife South Africa		

The specialist appointed in terms of the Regulations

I, **Pieter Olivier** declare that -

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist:

Strategic Environmental Focus
Name of company:

2010-12-10
Date:

Signature of Commissioner of Oaths

10/12/10
Date:

Manager Operations
Designation:

Official stamp (below)

It is hereby certified that this is a true copy of the original document.

Magdalena Susanna Nieuwoudt
Commissioner of Oaths
PO Box 36646
Faerie Glen 0043
Reference Number 9/1/8/2 Pretoria