Start

Already on SAHRIS Case ID: 372

Zitholele Consulting
Reg. No. 2000/000392/07

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ZITHOLELE CONSULTING

Our Ref : 12625: Let-02

24 February 2011

Attention: To whom it may concern

Dear Mr / Ms

KEY COMMENTING AUTHORITY REVIEW OF THE DRAFT SCOPING REPORT FOR THE PROPOSED PHOLA-KUSILE OVERLAND COAL CONVEYOR

[MDEDET REF NO: 17/2/3 N-13]

As per Government Notice No. 33306 of June 2010, Chapter 2, (6), the Minister, MEC or competent authority (Mpumalanga Department of Economic Development, Environment and Tourism - 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 Zitholele Consulting is in the process of distributing the Draft Scoping Report for this proposed project to the relevant departments and organisations, such as yourself, for comment. The relevant organisations that have received a copy of the report are:

- Department of Water Affairs;
- Department of Mineral Resources;
- Department of Agriculture, Forestry and Fisheries;
- Mpumalanga Tourism and Parks Agency;
- South African Resource Heritage Agency;
- Nkangala District Municipality;
- Victor Khanye Local Municipality;
- eMahlaleni Local Municipality;
- Kungwini Local Municipality; and the
- South African National Biodiversity Institute.

In an aim to minimise delays, Zitholele Consulting has distributed the Draft Scoping Report to the above-mentioned departments and organisations with the objective of facilitating comments to assist the MDEDET in making an informed decision on whether to approve the Scoping Phase of the project without unforeseen delays.

Please submit your comments to Zitholele Consulting and the MDEDET before **1 April 2011**. You can submit your comments by fax or email as follows (please remember to use the reference number [REF NO: 17/2/3 N-13] with your comments) :

- Zitholele Consulting: Fax: 086 674 6121
  Email: alotter@zitholele.co.za / andrej@zitholele.co.za
- MDEDET: Fax: (013) 690 2595
  Email: etnkonyane@wit.mpu.gov.za

Attached to this letter is a schedule of public meetings that will be held as well as a list of public places where the Draft Scoping Report can be viewed. You are welcome to attend any of the meetings listed.

Should you have any queries please don't hesitate to contact me.

Yours faithfully

Anelle Lötter
ZITHOLELE CONSULTING (PTY) LTD

Attachments : 1 x Hard copy of Draft Scoping Report for the proposed Phola Kusile Conveyor;
1 x Schedule of public meetings and a list of public places
1 x Comment Sheet

Zitholele Consulting (Pty) Ltd
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16 February 2011

Dear Stakeholder

PHOLA-KUSILE OVERLAND COAL CONVEYOR

Draft Scoping Report available for public comment and an invitation to a public meeting for the Environmental Impact Assessment and Water Use License Application

Anglo American Inyosi Coal (AAIC) is proposing to develop an overland conveyor to transport coal from the Phola Coal Processing Plant to Eskom's Kusile Power Station currently under construction, just south of the N4 highway between Bronkhorstspruit, and Witbank (eMalahleni). The Phola Coal Processing Plant is an existing operation located approximately 20 kilometres south-east of the Kusile Power Station, between Kendal Power Station, Ogies and Phola.

The project requires a water use license in terms of Section 21 of the National Water Act (No 36 of 1998) and an environmental impact assessment and environmental authorisation in terms of the National Environmental Management Act (No 107 of 1998) and the new EIA regulations (Government Notice Regulation (GNR) 543 to 546, published 18 June 2010).

Ms Mari Wolmarans of **Synergistics Environmental Services** will act as the Independent Environmental Assessment Practitioner responsible for the EIA and Water Use License application.

Notification letters and a background information document have been distributed and two public meetings were held at the end of 2010 to inform stakeholders of this project and to discuss the environmental assessment processes and approvals that are required. Based on the feedback received to date, a draft scoping report has been prepared and will be made available for review.

AVAILABILITY OF DRAFT SCOPING REPORT FOR PUBLIC REVIEW FROM 24 FEBRUARY TO 8 APRIL 2011

In accordance with the EIA Regulations, the draft scoping report will be submitted to the competent authorities for the environmental impact assessment and the water use license, namely the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) and Department of Water Affairs respectively. After this submission, it will be made available for review by the public, relevant organs of state and other government departments for a 40 calendar day period. The public review period will be from **Thursday, 24 February to Friday, 8 April 2011**. Thereafter the report will be updated and resubmitted to the registered interested and affected parties and to the competent authorities.

The report will be available for review from Wednesday, **24 February 2011** at the following locations:

Contact	Location	Contact
	Printed Copies	
Suzie Wolvaardt	El Toro Restaurant on the R545 near the Kendal Power Station.	Tel: 013 648 1688
Ms Ntombi Jela	Ogies Public Library, 61 Main Street, Ogies	Tel: 013 643 1150 or 643 1027
Sidney Sekhukhune	Anglo American Inyosi Coal Environmental Services offices, Witbank.	Tel: 013 691 5197

Contact	Location	Contact
Lierieka Cuyler	Synergistics Environmental Services. 64 Wessels Street, Rivonia, Johannesburg.	Tel: 011 807 8225
Electronic Copies		
Lierieka Cuyler	www.synergistics.co.za	Tel: 011 807 8225
Andre Joubert	www.zitholele.co.za / Phola - Kusile conveyor	011 207 2077
Andre Joubert	On request via email from Zitholele Consulting.	Phone 011 207 2077, or send email request to andrej@zitholele.co.za, or complete the enclosed form.

You are requested to comment on the DSR in any of the following ways:

- Completing the comment sheet enclosed;
- Writing a letter, or producing additional written submissions;
- Sending an email or phoning the public participation office; or
- Attending the public meeting (see below for details).

Invitation to a public meeting on either 22 March or 23 March 2011

Two similar public meetings will be held – one in the evening and one in the morning. You are welcome to choose which one would be most convenient for you to attend. The purpose of the public meeting will be to present the findings of the scoping process, and to allow discussions around those findings and recommendations of the process which will be taken into the EIA phase. The contents of the DSR will also be presented during the meeting.

It is important that you register for the public meeting in advance - please use the **enclosed form and return it by Friday, 11 March 2011**. This will allow us to send you an electronic copy of the DSR in advance. The details of the public meeting are:

Date:	Tuesday 22 March at 18:00 **or** Wednesday, 23 March at 10:00
Venue:	El Toro Conference Centre El Toro is situated next to the Kendal/Balmoral (R545) road, approximately 2 km south of the N12, as you drive from the N12 in a southerly direction towards the Kendal Power Station.
Time of Public Meeting:	Registration: 30 minutes before the time indicated above Meeting: 22 March at 18:00 and 23 March at 10:00

Please complete and return the attached response sheet to Zitholele Consulting to indicate your interest in receiving further information about the EIA as the study progresses and to register as an interested and affected party. You are also welcome to contact Zitholele telephonically on 011 207 2076 / 2074. For technical, EIA and Water Use License related queries you may contact Synergistics on 011 807 8225 (Mari Wolmarans / Marline Medallie). Your input and feedback are highly valued.

Yours sincerely

Anelle Lötter
Public Participation Office

ENVIRONMENTAL IMPACT ASSESSMENT AND WATER USE LICENSE APPLICATION FOR THE PROPOSED PHOLA-KUSILE COAL CONVEYOR

Ref No 17/2/3/ N-13

COMMENT SHEET ON THE DRAFT SCOPING REPORT

Available for public review from 24 February to 8 April 2011

EIA Public Participation Office
Anelle Lötter / Patiswa Mnqokoyi
Zitholele Consulting (Pty) Ltd, P O Box 6002,
Halfway House, 1685
Tel: (011) 207 2076/2074, Fax: 086-676-9950
Email: alotter@zitholele.co.za or
patiswam@zitholele.co.za

Please complete by 8 April 2011, and return to the Public Participation Office (as above)

TITLE		*FIRST NAME*	
INITIALS		*SURNAME*	
ORGANISATION (Please do not use any acronyms)			
ADDRESS		*POSTAL CODE*	
TEL NO		*FAX NO*	
CELL		*EMAIL*	
SIGNATURE		**Farm name and portion number if you are a directly affected landowner**	
DATE			

COMMENTS (Please use separate sheets if necessary)

1. Have your questions, concerns, issues and suggestions been captured? If not, please indicate below.

.....

.....

.....

2. Of the issues already covered, do you wish to add additional aspects that have not yet been mentioned?

.....

.....

.....

3. Please tell us, did you find the Draft Scoping Report useful? Please indicate below.

YES, USEFUL	
NEED IMPROVEMENT	
NO, NOT USEFUL	

Please tell us why:

.....

.....

.....

4. Any other comments you may have:

.....

.....

THANK YOU FOR YOUR CONTRIBUTION

Working Together

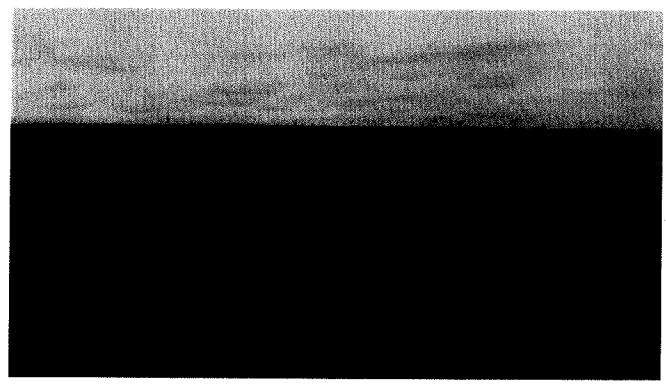
Project Applicant: **ANGLO AMERICAN INYOSI COAL**

Project: # Phola-Kusile Overland Coal Conveyor

Report Name: # ENVIRONMENTAL SCOPING REPORT

Report Status: # (Draft)

Revision No:	00
Report Date:	February 2011
Report Number:	S0403/SR01
Prepared by:	Marline Medallie, Mari Wolmarans
Reviewed by:	Mari Wolmarans
For Submission to:	Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET), as part of the EIA in terms of the National Environmental Management Act. Department of Water Affairs (DWA), as part of the Water Use License Application in terms of Section 21 of the National Water Act.
Reference No:	MDEDET: 17/2/3 N-13 DWA: to be announced



HEAD OFFICE
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Suite 71, P Bag X13130, Humewood,
Port Elizabeth, Nelson Mandela Bay, 6013

KwaZulu Natal: **Tel/Fax: 033 343 4642**
15 Quarry Road, Hilton, 3201

Synergistics
Environmental Services

PROJECT INFORMATION SHEET

PROJECT:

Phola-Kusile Overland Coal Conveyor

REPORT DETAILS:

Report Name: **Phola-Kusile Overland Coal Conveyor - DRAFT Environmental Scoping Report**

Report Number: S0403/SR01
Report Status: DRAFT

Revision No: 00
Date: February 2011

PROJECT APPLICANT:

Anglo American Inyosi Coal (*AAIC*)
Contact Person: Henri Nieuwoudt
Designation: Head of Mining and Property Law: South Africa
Tel: 011 6383781
Fax: 011 6384608
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Postal Address: PO Box 61587, Marshalltown, Johannesburg, 2017

INDEPENDENT ENVIRONMENTAL CONSULTANT:

Synergistics Environmental Services (Pty) Ltd *(Synergistics)*

Contact Persons: Mari Wolmarans / Marline Medallie
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Postal Address: PO Box 1822, Rivonia, Johannesburg, 2128

EAP: Mari Wolmarans

EAP Expertise: BL Arch, UP, 1991.

Environmental Assessment Practitioner Certified by the Interim Certification Board (EAPSA).

Professional member South African Institute of Ecologists & Environmental Scientists (SAIE&ES).

15+ years' environmental management and assessment experience, specifically in the mining and infrastructure development sectors.

Environmental Impact Assessment: Project Management.

S0403/SR01 February 2011

ANGLO AMERICAN INYOSI COAL

Phola-Kusile Overland Coal Conveyor

Environmental Scoping Report (Draft)

EXECUTIVE SUMMARY

Introduction to the Project

Anglo American through its subsidiary Anglo American Inyosi Coal (AAIC) is proposing to construct an overland conveyor system, the Phola-Kusile Overland Coal Conveyor, to transport coal from the Phola Coal Processing Plant to Eskom's Kusile Power Station.

Kusile is a coal-fired power station currently under construction just south of the N4 highway between Bronkhorstspruit and Witbank (Emalahleni), in the Mpumalanga Province. The majority of South Africa's electricity is generated from coal. Kusile Power Station forms part of South African National Government strategy to supply much needed electricity to the South African national electricity grid.

The Phola Coal Processing Plant is an existing operation located approximately 20 kilometres south-east of Kusile, between the Kendal Power Station, Ogies and Phola. The primary coal products from the plant are exported and the secondary products (or middlings coal) are dispatched to various Eskom power stations.

Eskom has identified the middlings coal from the Phola Coal Processing Plant as an important future source of coal to be fed to the Kusile Power Station. The purpose of the proposed overland conveyor is therefore to ensure a timeous and secure supply of coal to Kusile and therefore electricity to the national electricity transmission grid. In order to prepare the Kusile Power Station for commercial operations, delivery of the first coal via the Phola-Kusile Coal Conveyor is planned for October 2013.

The Phola-Kusile Overland Coal Conveyor will be designed to transport approximately 10.4 million tonnes of coal per year, over the life of the Kusile Power Station. It will start at the Phola Coal Processing Plant and end at coal stockyards in the vicinity of the Kusile Power Station. From the coal stockyard, there will be feed conveyors into the Kusile Power Station. The conveyor system will be approximately 21 km in length, depending on the final route selection. There will be up to five conveyor flights and a total of six transfer stations. Lighting will be provided at the transfer points.

Transfer stations and stream crossings will be provided with bunded concrete floors (impervious floors designed to contain spillages) and will be linked to local pollution control systems. The conveyor will be approximately 1.35 meters wide and will run at an average speed of approximately 4.2 metres per second. It will be provided with a sheeted metal cover, open on one side. The conveyor belt will be equipped with on-line quality and mass monitoring equipment.

The fenced conveyor servitude will be approximately 25 metres wide and will include a service road and a stormwater management system along the length of the conveyor. Pedestrian and road crossings will be provided where required. Power will be supplied via a 22 kV power line.

Alternative Conveyor Routes

Three alternative corridor routes for the conveyor have been identified. The corridor routes are illustrated in the Figure 1 in the main report. All three corridor routes will cross streams associated with valley bottom wetlands. As in the case of the transfer stations, stream crossings will be provided with bunded floors and local pollution control systems to prevent contamination of streams and wetlands.

Description of the Affected Environment

The study area can be roughly defined as the area of land between the Phola Coal Processing Plant and the Kusile Power Station (the area over which a route for the conveyor has to be found), incorporating the three alternative route corridors. Each route corridor comprises a one kilometre wide strip of land within which the final alignment of conveyor will be determined.

The study area is mainly used for maize cultivation and grazing. Other land uses include a chicken farm, sand mining operations, Kendal Forest Holdings and Wilge Village. Some of the grazing land is natural grassland while some areas have been modified with introduced pasture species. A number of centre pivot irrigation systems are found in the area, mainly to the west of Kendal Forest Holdings.

The area is located within the grassland biome of South Africa and in two regional vegetation communities, namely Rand Highveld Grassland, and the Eastern Highveld Grassland, both considered endangered vegetation communities with a poor conservation status. The conveyor route straddles a watershed, with streams to the east feeding the Saalklapspruit, and those to the west and south-west feeding the Wilge River. The streams are often associated with valley bottom wetlands. The land is gently undulating and a number of hill-slope seepage wetlands are also found on slopes associated with deep sands.

The New Largo coal prospecting area covers most of the land between the Phola Coal Processing Plant and the Kusile Power Station. A number of coal mines are located in close proximity to the Phola Coal Processing Plant and the conveyor. These include Vlakfontein, Zibulo, and Klipspruit Collieries.

Environmental Legal Requirements

The proposed Phola-Kusile Coal Conveyor requires an environmental impact assessment (EIA) and environmental authorisation, as well as a water use license before the project may commence. The EIA and water use license application processes will be conducted simultaneously as integrated processes complemented by a combined public participation process.

The EIA regulations also require that an environmental management programme (EMP) be developed. The EMP will provide recommendations on how to construct, operate and maintain the overland conveyor and associated infrastructure. Once approved by the relevant authorities, the provisions of the EMP are legally binding on the developer and its contractors.

Water Use License

The proposed corridor routes will cross streams associated with valley bottom wetlands and will therefore require a water use license in terms of Section 21 of the National Water Act (No 36 of 1998). The water use license application will be submitted to the Department of Water Affairs (DWA) and will be for the following anticipated water uses:

- Section 21(*c*): Impeding or diverting the flow of water in a water course.
- Section 21 (*i*): Altering the bed, banks, course or characteristics of a water course.

The general authorisation for Section 21 (c) and (i) does not apply due to the presence of wetlands, which therefore defaults to the application for a water use license.

Environmental Impact Assessment (EIA)

An environmental authorisation is required in terms of the National Environmental Management Act (No 107 of 1998), as amended, and the new EIA regulations (Government Notice Regulation (GNR) 543 to 546, published 18 June 2010). Activities from GNR 544 and 545 apply to the Phola-Kusile Coal Conveyor and thus a full scoping and environmental impact assessment will be conducted. The following listed activities are currently regarded as applicable listed activities:

- GNR 545 Listing Notice 2: Activities requiring an environmental authorisation subject to a scoping and environmental impact assessment
    - GNR 545 List 2 – Activity 5: The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent.
- GNR 544 Listing Notice 1: Activities requiring an environmental authorisation subject to a basic assessment
    - GNR 544 List 1 - Activity 11: The construction of: (iii) bridges; or (viii) infrastructure or structures covering 50 square meters or more where such construction occurs within a watercourse or within 32 meters of a watercourse, measured from the edge of a watercourse.
    - GNR 544 List 1 - Activity 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 cubic meters [80000 to 500000 litres].
    - GNR 544 List 1 - Activity 18: The infilling or depositing of any material of more than 5 cubic meters into, or the dredging, excavation, or removal or moving of soil, sand, shells, shell grit, pebbles or rock from a watercourse.
    - GNR 544 List 1 - Activity 22: The construction of a road, outside urban areas, with a reserve wider than 13,5 meters or, where no reserve exists where the road is wider than 8 meters.

- GNR 544 List 1 - Activity 26 - Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA).

Responsible Authorities

Environmental Impact Assessment Process

MDEDET is the competent authority in terms of the NEMA and EIA Regulations. This scoping report will be submitted to MDEDET in terms of the NEMA and EIA Regulations.

Water Use License

The Department of Water Affairs (DWA) will administrate and review the application for an integrated water use license. The scoping report will be submitted to the DWA as the first phase in the water use license application process.

Structure of the Scoping Report and Study Approach and Methodology

The scoping report was structured in accordance with GNR 543 and includes the consolidated results of the public participation and authority consultation processes conducted to date. Table 1-1 (see main report) provides a summary of the requirements of GNR 543, with cross references to the report sections where these requirements have been addressed.

Study Objectives

The specific objectives for the scoping phase of the EIA process are to:

- Collate project and baseline environmental information.
- Identify landowners, adjacent landowners, local authorities, environmental authorities, as well as other stakeholders which may be affected by the project, or that may have an interest in the environmental impacts of the project.
- Inform interested and affected parties (I&APs) about the proposed project.
- Engage with I&APs and identify their issues and concerns.
- Document key I&AP issues and concerns for consideration in the EIA phase.
- Engage with environmental authorities and confirm legal and administrative requirements.
- Identify and describe potential environmental issues associated with the proposed conveyor development.
- Introduce and evaluate the alternative route options at desktop level.
- Identify the nature and extent of further investigations and specialist input required in the EIA phase.

Baseline information

Baseline information for this scoping report was gathered through visual inspections of the project area and surroundings, desktop studies and review of existing reports.

Public Participation and Authority Consultation Process

The scoping report provides details of the public participation process followed to date, which included:

- Identification of interested and affected parties.
- Notifications to interested and affected parties.
- Notifications to relevant authorities.
- Press advertisements and site notices.
- Registration of interested and affected parties.
- Distribution of a background information document.
- Announcement of public meetings.
- Public meeting on 24 and 25 November 2010 at the El Toro Conference Facilities.
- Consultation with landowners and mining / prospecting right holders.
- Focussed authority meetings with MDEDET and Department of Water Affairs.
- Site visit with MDEDET official, Ms Thuli Nkonyana and the Deputy Director Ms Dineo Tswai on 8 December 2010.

Review of the Draft Scoping Report

The draft scoping report will be made available for public and authority review in February 2010 for 6 weeks (40 calendar day period). Following the closure of the draft scoping report review period, modifications will be made to the scoping report. Comments submitted by registered I&APs on the draft scoping report will be included in the final scoping report.

Development Alternatives

The AAIC project team has investigated road and rail transport options as alternatives to the overland conveyor for transportation of coal from Phola Coal Processing Plant to the Kusile Power Station, but the road and rail options were not regarded as feasible by AAIC and will therefore not be assessed further in the EIA phase of the project (see main report Section 3.3.1 on page 18).

Three conveyor routes were presented to I&APs in the background information document and at the public meetings. Prospecting and mining right holders along all three routes raised concerns regarding sterilisation of mining resources and development of the conveyor on previously mined areas, particularly corridor route 2 and corridor route 3 where options for mitigating impacts on mining resources are limited (Figure 1-1, page 3). However, due to the widespread occurrence of coal in the area, it was not possible to identify alternative route corridors where there will be no coal resources sterilised.

The EIA will only assess the three corridors as presented in this scoping report, focusing on optimising the route alignments along the corridors in order to minimise and mitigate impacts on the environment – including impacts on prospecting and mining right holders. In conclusion, the development alternatives to be investigated in the EIA phase will be:

- Corridor Route 1 (Blue Route), with refinements to mitigate impacts.
- Corridor Route 2 (Red Route), with refinements to mitigate impacts.
- Corridor Route 3 (Purple Route), with refinements to mitigate impacts.
- No-go development option.

Issued Raised During Consultation with Interested and Affected Parties

Questions and issues raised by IAPs during the scoping phase are listed in Table 5-1 in the main report. Most questions were to clarify the design and location of the alternative routes.

The key comments and issues raised during scoping, to be addressed in the EIA phase, are as follows:

- **Preferred development option - overland coal conveyor**
  The overland coal conveyor is the preferred development alternative. Current dust levels and road safety issues due to coal trucks are major existing issues to people living in the area and the conveyor option is therefore preferred to the road transport option.

- **The railway option should not be discarded**
  A representative from Homeland Mining and Energy SA and Shanduka Coal suggested that the rail option should not be discarded at this stage (public meeting 25 November 2010). AAIC will thus provide more comprehensive information regarding the rail option and why it is not a feasible option. However, a full environmental assessment of the rail option will not be conducted as part of this EIA. A more comprehensive comparison (environmental and economic) of the rail and conveyor options should be provided.

- **Air quality management**
  Dust is already a major concern for people living in the area. Regular monitoring and dust control is therefore important, both during construction and operation.
  Size of coal particles transported on the conveyor should not be too small, to avoid wind blown coal.

- **Inspections and maintenance**
  Regular inspections and maintenance are generally a problem at existing mines. There is a concern that the same lack of inspections and maintenance will occur for this project. This could result in fences or metal sheeting being stolen, which would result in additional safety risks and air quality impacts.

- **Conveyor noise emissions**
  Receptors near the conveyor will be affected due to noise generated by the conveyor.

- **Long-term enforcement, monitoring and implementation of environmental management plan commitments**
  There is a general concern about long-term enforcement of environmental management programme commitments at mines in the area, mitigation measures are often only implemented when external audits of the operations are expected. When there is a change in ownership of the project, the new owners are often not committed to implementing the environmental management programme measures.

  There is a concern that the same lack of long-term enforcement, monitoring and implementation of environmental management plan commitments will occur for this project; if AAIC is no longer the owner, AAIC's environmental management programme commitments will not be implemented by the new owners.

Individuals that have lived in the area for a long period of time, have witnessed that mines in the area have often not delivered on promises made during the EIA phase and environmental management programme.

- **Disruptions at conveyor-road and conveyor-stream crossings**
  Traffic disruptions should be avoided.
  Aquatic environmental impacts at stream crossings should be investigated.

- **Appointment of community liaison officer will be required**

- **Negotiations will be required with affected landowners and prospecting / mining right holders**

- **Cumulative impacts on existing and all planned future mining areas**
  Impacts on people living in the area are already high. There are concerns about all the proposed projects and that living conditions would further deteriorate.

- **Cattle and farm crossings should be provided along the conveyor route**

- **Wildlife migration routes should be considered**

- **Theft and fencing of the conveyor servitude**
  Theft is a big problem in this area. Fencing as well as any parts of the conveyor such as the metal roof and side panels will be stolen. Once the fence has been stolen, there will be safety risks for people and livestock.

- **Impact of veld fires**

- **Sterilisation of prospecting and mining rights**
  There are concerns with all three route corridors.

- **Impact on groundwater due to coal pollution**

- **Impact on Transnet Pipeline**

- **Security of coal supply to Kusile and Kendal Power Station**
  The coal earmarked for Kusile is currently used at Kendal and other power stations. There are concerns that there will not be sufficient supplies to supply Kusile and the other power stations. Sizing of stockpiles should be sufficient to eliminate stoppages due to shortage of coal supplies.

- **Water supply to conveyor for dust suppression**
  Unnecessary use of drinking water quality water should be prevented.

- **Options for sharing the conveyor belt with mines along the route should be investigated**

Environmental Impacts and EIA Tasks

This report provides a scoping-level identification of potential environmental impacts (physical, biological, social and economic) associated with the proposed overland coal conveyor as well as a strategy of how these impacts will be assessed further in the EIA phase. These impacts include:

Climate
- Greenhouse gas emissions.

Topography
- Change in the natural topography.

Noise
- Increase in ambient noise levels.
- Disturbances to sensitive receptors.

Air quality
- Increase in dust levels.
- Fallout dust nuisances.
- Health impacts due to fine particulate emissions.

Geology and soils
- Loss of soil as vegetation growth medium.
- Loss of soil productivity.
- Erosion.
- Contamination of soils.
- Sterilisation of coal resources.

Surface water
- Changes in natural surface water flow parameters.
- Contamination of surface water resources.
- Disruption to stream banks and wetlands.

Groundwater
- Restricted access to boreholes and livestock watering points.
- Contamination of groundwater resources.

Ecology
- Disturbance of sites of conservation importance.
- Loss of species of conservation importance.
- Restriction on animal movement patterns.

Heritage resources
- Disturbance of graves and other heritage sites and artefacts.

Social and economic environment
- Economic benefits and risks.
- Increased theft risk and potential for damage to private property during the construction phase.

- Impacts on neighbours and landowners.
- Impact on property values.
- Impacts on power generation and supply of power to the national electricity grid.

Land use and land capability

- Loss of agricultural land.
- Disruption of land uses.

Existing services infrastructure

- Damage to and disruption of existing services and infrastructure.

Visual environment

- Changes to landscape character, visual appeal and sense of place of the area.

Plan of Study for Environmental Impact Assessment

This plan of study for EIA (Section 7 of the main report) includes a description of the EIA process and tasks, specialist studies and consultation to be undertaken during the EIA phase of Phola-Kusile Overland Coal Conveyor environmental studies as well as a proposed impact assessment methodology and impact assessment and rating criteria.

Project Implementation Schedule

The anticipated project implementation schedule, with opportunities for public and authority participation is tabled below.

Table B: Simplified Project Implementation Programme

Project Phase	Opportunities for Participation by Competent Authorities, I&APs, State Departments and Organs of State	Schedule	
Planning Phase	EIA and Water Use License Public Participation Process and Authority Consultation Process	Current to July 2012	2010 2011 2012
Construction Phase	EMP Implementation Monitoring	Aug-2012 to Sep-2013	2013
First Coal Delivered to Kusile	EMP Implementation Monitoring	Oct 2013	
Operation of the Phola-Kusile Coal Conveyor	EMP Implementation Monitoring	For the Life of Kusile Power Station	beyond 2070

EIA Process

The EIA process has been developed to ensure that it complies with GNR 543 Section 26 to 33 and the associated guidelines. The proposed EIA process and public consultation activities are illustrated below, with specific reference to the opportunities for consultation.

Table A: Simplified Project Planning and EIA Process

EIA Phase		Opportunities for Consultation and Participation		Schedule	
		Competent Authorities (MDEDET and DWA)	I&APs, State Departments and Organs of State		
Project Announcement and Application Phase	Specialist Baseline Studies	Initial telecommunication.	Project notification to affected landowners.	Oct-10	2010
			Advertisements and project notifications to potential interested and affected parties.	Oct-10 to Nov-10	
		Submit NEMA application form to MDEDET. MDEDET acceptance of application.		Nov-10	
		Initial consultation with authorities.		Nov-10 to Dec-10	
Scoping Phase		Focused consultation with MDEDET and DWA.	Initial public meetings. Focused consultation with SANBI.	Nov-10 to Dec-10	
		Draft scoping report to MDEDET and DWA. Meetings with MDEDET and DWA during scoping. Final scoping report to MDEDET and DWA. Review and acceptance of final scoping report (30 days)	Review of draft scoping report (40 days, ±6 weeks). Public meeting and authority meeting during scoping (14 days' notice). Review of final scoping report (21 days, ±3 weeks).	Feb-11 to May-11	2011
EIA Phase EMP Development	Specialist Assessments	Meetings with MDEDET and DWA to discuss specialist studies. Submit draft EIA report to MDEDET and DWA. Submit draft IWWMP to DWA. Meetings with MDEDET and DWA during EIA.	Results of specialist assessments and recommendations made available for review Review of draft EIA report (40 days, ±6 weeks) Review of draft IWWMP (40 days, ±6 weeks) Public and authority meetings during EIA phase (14 days' notice)	Aug-11 to Feb-12	2012
Authority review and Authorisation Phase		Final EIA report to MDEDET and DWA. SUBMIT IWWMP with IWULA to DWA. MDEDET Acceptance of EIA report (60 days) Environmental Authorisation Granted / Refused (45 days) IWULA approved / rejected by DWA.	Review of final EIA report (21 days, ±3 weeks) Review of Final IWWMP (21 days, ±3 weeks) Notifications to I&APs regarding environmental authorisation (granted or refused).	Mar-12 to Jun-12	
Appeal Phase / Pre-Construction Period		Consultation during processing of appeal.	Consultants to provide guidance regarding the appeal process as and when required.	variable	

Study Team

Synergistics Environmental Services (Pty) Ltd (Synergistics) has been appointed by Anglo American as independent environmental consultant to undertake the EIA for the Phola-Kusile Overland Coal Conveyor.

Mari Wolmarans, a director of Synergistics, is an Environmental Assessment Practitioner (EAP) certified by the interim certification board of South Africa. A full list of the study team and specialists, with qualifications and role in the project are provided in the main report (Table 7-4).

Consultation Process

The following opportunities will be provided to I&APs Competent Authorities, and relevant State Departments and Organs of State for input into the EIA process:

- Public Feedback Meeting during Scoping
- Public Review of Scoping Report
- Public Feedback Meeting during EIA
- Public Review of the EIA Report
- Report Distribution (all draft and final reports)
- Consultation with Competent Authority, State Departments and Organs of State
- Authorities Meetings
- Review of the Scoping and EIA Report (draft and final reports)

Specialist Studies

Specialist input and studies will be conducted for the following environmental components. The scope of work for these studies is outlined in the main report:

- Ecology and Biodiversity (including Natural Vegetation and Animal Life) Assessment
- Wetland Assessment
- Soils Assessment
- Air Quality Assessment
- Traffic Impact Assessment (Specialist Opinion)
- Noise Assessment
- Vibrations and Blasting Specialist Opinion
- Heritage Resources Assessment
- Surface Water Assessment
- Water Use License and Integrated Water and Waste Management Plan
- Groundwater Assessment
- Visual Assessment
- Social Assessment
- Economic Assessment
- Agricultural and Land Use Potential Assessment

The content of the EIA Report will be structured in terms of GNR 543 Section 31. A draft EMP will be submitted as a supporting part of the EIA Report. The EMP will be structured in terms of GNR 543 Section 33. It will provide recommendations on how to construct, operate and maintain the overland conveyor and associated infrastructure. Once approved by the relevant authorities, the provisions of the EMP are legally binding on the project applicant and all its contractors and suppliers.

Conclusions and Key Findings

This report concludes the scoping phase of the Phola-Kusile Coal Conveyor environmental assessment. It outlines the results of the public participation and authority consultation processes to date, and defines the plan of study for the EIA phase. The next step will be to conduct the specialist studies and further consultation processes that will inform the EIA and authority decision-making process.

The development alternatives to be investigated in the EIA phase will be:

- Corridor Route 1 (Blue Route), with refinements to mitigate impacts.
- Corridor Route 2 (Red Route), with refinements to mitigate impacts.
- Corridor Route 3 (Purple Route), with refinements to mitigate impacts.
- No-go development option.

There have been no fatal flaws identified during the scoping phase and the project will proceed to the EIA phase, where the selection process on the preferred corridor route option will be finalised after the three corridor route options have been investigated and assessed in more detail. Additional impacts/issues identified during the EIA phase will be addressed accordingly.

It is deemed that the environmental process followed to date meets the requirements of the legislation to ensure that the regulatory authorities receive sufficient information to enable an informed decision to accept the scoping report and approve the plan of study for EIA as outlined in Section 7 of this report.

ANGLO AMERICAN INYOSI COAL

Phola-Kusile Overland Coal Conveyor

Environmental Scoping Report (Draft)

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TERMS AND ABBREVIATIONS

~	approximately
AA	Anglo American
AAIC	Anglo American Inyosi Coal
AEMFC	African Exploration Mining and Finance Corporation
dBA	decibels adjusted (measurement for determining the sound exposure of humans)
DAFF	Department of Agriculture, Forestry and Fisheries
DARDLA	Mpumalanga Department of Agriculture, Rural Development and Land Administration
DEA	Department of Environmental Affairs (National)
MDEDET	Department of Economic Development, Environment and Tourism (Mpumalanga)
DMR	Department of Mineral Resources
DPWRT	Mpumalanga Department of Public Works, Roads and Transport
DRPW	Department of Roads and Public Works
DWA	Department of Water Affairs
DWEA	Department of Water and Environmental Affairs (National)
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMP	Environmental Management Programme
GN	Government Notice
GNR	Government Notice Regulation
ha	hectare
I&AP	Interested and Affected Party
km	kilometre
Kusile	Eskom's Kusile Power Station
kV	kilovolt
m	metre (measurement for distance)
m^2	square meter (measurement for surface area)
m^3	cubic metre (measurement for volume)
mg	milligram
MPRDA	Mineral and Petroleum Resources Development Act No. 28 of 2002, as amended
NEMA	National Environmental Management Act No. 107 of 1998, as amended
NEMAQA	National Environmental Management Air Quality Act
NEMWA	National Environmental Management Waste Act

NWA	National Water Act No. of 1998
PM10	Particular matter smaller than 10 microns (<10 µm)
Phola CPP	Phola Coal Processing Plant
R/E	remaining extent
SANBI	South African National Botanical Institute
SAHRA	South African Heritage Resources Agency
SANS	South African National Standards
Synergistics	Synergistics Environmental Services (Pty) Ltd
WCS	Wildlife Conservation Society
y	year

GLOSSARY OF TERMS

Aquiclude
Solid, impermeable area underlying or overlying an aquifer. If the impermeable area overlies the aquifer, pressure could cause it to become a confined aquifer.

Baseline Environment
Pre-development environmental conditions. The prevailing environmental conditions (or status quo) prior to the start of an activity or project, including current / existing environmental damage / degradation.

Baseline Impacts (Existing Impacts)
The current level of environmental degradation associated with existing developments, including those currently under construction. Determination of the current level of degradation associated with existing developments is essential to understand and enable the assessment of cumulative impacts.

Cumulative Impacts
Combined impacts of two or more activities, or the combined impacts of an activity with that of current activities. For this report, cumulative impacts are described as:

Existing Impacts + Incremental Impacts of the project = Cumulative Impacts

Conveyor Flight
A section of the overland conveyor which runs in a relatively uniform direction between two points (these points can be transfer stations or a start and end point if no direction change is needed). When materials are conveyed over a long distance, the overland conveyor is divided into sections (or conveyor flights) due to mechanical and topographical limitations.

Conveyor Transfer Station
The structure where material are being transferred from the end of one conveyor flight onto the beginning of the next conveyor flight in series usually as a result of the need to change direction. The transfer station houses a transfer chute to control the flow of coal between two conveyor flights. It also houses mechanical items including drives, pulleys and maintenance facilities.

Environment
Surroundings in which organisms operate, including air, water, land, natural resources, flora, fauna, humans and their inter-relations (includes bio-physical and socio-economic components).

Environmental Impact Assessment (EIA)
An EIA is an assessment of the positive and negative environmental consequences of the proposed project. The primary objective of the EIA is to aid decision-making by providing factual information on the assessment of these impacts, and determining their significance, as well as making valued judgements in choosing one alternative over another. For this EIA a combination of checklists, overlays and mapping, scoping and professional experience will be used to identify the possible negative and positive impacts on the environmental components.

Ephemeral

Ephemeral water bodies (wetlands, springs, streams, rivers, ponds or lakes), are found in semi-arid to arid upland areas, that only flow (exists) for a brief period of time during and shortly after rain. The banks of these water bodies have scattered riparian vegetation including trees, shrubs, and grasses, but often with incomplete or discontinued tree canopy cover.

It is not the same as intermittent, seasonal or non-perennial water bodies, which exist for longer periods, but not all year round.

Fatal Flaw

A factor or situation, which prevents the development of an environmentally acceptable project, except at prohibitive cost. These are critical issues with the ability to stop a project's implementation.

Existing Impacts

See Baseline Impacts.

Incremental Impact

This is the impact of an activity looked at in isolation (impact of an individual activity), thus not considering the combined, cumulative or synergistic impacts of the activity, or the cumulative impacts of the activity with other activities or the current level of degradation. For this report, incremental impacts refer to impacts of only the conveyor development.

Interested and Affected Parties (I&APs)

These are individuals or groups concerned with or affected by the environmental impacts and performance of a project. Interested groups include those exercising statutory environmental control over the project, local residents/communities (people living and/or working close to the project), the project's employees, customers, consumers, investors and insurers, environmental interest groups, the general public, etc.

Microgram

One millionth (1/1 000 000) of a gram, or equivalently one thousandth (1/1 000) of a milligram.

Micrometre / Micron

One millionth (1/1 000 000) of a metre, or equivalently one thousandth (1/1 000) of a millimetre.

Mineral (in terms of the Minerals and Petroleum Resources Development Act)

Any substance, whether in solid, liquid or gaseous form, occurring naturally in or on the earth or in or under water and which was formed by or subjected to a geological process, and includes sand, stone, rock, gravel, clay, soil and any material occurring in residue stockpiles or in residue deposits, but excludes: Water, other than water taken from land or sea for the extraction of any material from such water; Petroleum; or Peat.

Mining (in terms of the Minerals and Petroleum Resources Development Act)

Mining is the making of any excavation for the purpose of winning a mineral, and it includes any other associated activities and processes (MPRDA).

Mining Area (in terms of the Minerals and Petroleum Resources Development Act)

The area for which a mining authorisation/permission to mine has been granted. It includes:

- Any adjacent surface of land;
- any non-adjacent surface of land, if it is connected to such an area by means of any road, railway line, powerline, pipeline, cableway or conveyer belt; and
- any surface of land on which such road, railway line, power line, pipeline, cableway or conveyer belt is located, under the control of the holder of such permit or authorisation and which the holder is entitled to use in connection with the operations performed or to be performed under such permit or authorization (MPRDA).

Pedocrete

An infertile and compact soil structure which formed through the concentration of minerals due to terrestrial weathering which enclosed, cemented or replaced the original soil.

PM10

Fine inhalable particles (smaller than 10 μm) found in the air. When inhaled, PM10s could cause damage to the lower airways and lungs.

Receptor

A receptor is the target or object on which the impact, stressor or hazard is expected to have an effect.

Sensitive Area

A sensitive area or environment can be described as an area or environment where a unique ecosystem, habitat for plant and animal life, wetlands or conservation activity exists. Sensitive areas are often associated with eco-tourism activities or have a high potential for future eco-tourism.

Significant Impact

An impact can be deemed significant if scientific environmental studies, consultation with the relevant authorities and other interested and affected parties, on the context and intensity of its effects, provide reasonable grounds for mitigating measures to be included in the environmental management report and environmental management programme. The onus will be on the proponent to include the relevant authorities and other interested and affected parties in the consultation process. Present and potential future, cumulative and synergistic effects should all be taken into account.

S0403/SR01 February 2011

ANGLO AMERICAN INYOSI COAL

Phola-Kusile Overland Coal Conveyor

Environmental Scoping Report (Draft)

1. Introduction to the Project

1.1 Project Motivation and Location

Anglo American (AA) through its subsidiary Anglo American Inyosi Coal (AAIC) is proposing to construct an overland conveyor system, the Phola-Kusile Overland Coal Conveyor, to transport coal from the Phola Coal Processing Plant (Phola CPP) to Eskom's Kusile Power Station (Kusile) in the Mpumalanga Province, to meet the demand for coal at the Kusile Power Station.

The Kusile Power Station is a coal-fired power station currently under construction just south of the N4 highway between Bronkhorstspruit and Witbank (Emalahleni). It will consist of six units of 800 megawatts (MW) capacity each and a total capacity of 4800 MW. Kusile will require approximately 17 million tons of coal a year, depending on the quality of the coal.

The proposed Phola-Kusile Overland Coal Conveyor will fall within the Nkangala District Municipality, and the Victor Khanye (Delmas) and eMalahleni (Witbank) Local Municipalities. The towns in close proximity to the proposed conveyor are Wilge (~4 km east), Phola (~3 km southeast), Ogies (~5 km south-southeast) and eMalahleni (~25 km east).

The Phola Coal Processing Plant is an existing operation located approximately 20 kilometres south-east of Kusile, between the Kendal Power Station, Ogies and Phola. The plant is a 50/50 joint venture between BHP Billiton (BECSA) and AAIC and has been in operation since 2009. It has capacity to beneficiate (wash and sort) 16 million tonnes per annum and receives coal from Klipspruit (BECSA), and Zibulo (AAIC) mines. The primary coal products from the Phola Coal Processing Plant are exported and the secondary products (or middlings coal) are dispatched to various Eskom power stations.

1.2 Project Need and Desirability

The majority of South Africa's electricity is generated from coal. The Kusile Power Station forms part of the South African National Government strategy to supply much needed electricity to the South African national electricity grid.

The Ministry of Energy and Eskom maintain that:

> *"In the absence of Kusile there will not be enough power into the South African electricity grid"* (Ministry of the Energy spokesperson Bheki Khumalo[1]).
>
> *"Without the additional power from Kusile from 2014, there could be constraints on South Africa's economic growth"* (Eskom's Finance Director, Paul O'Flaherty[1]).

Eskom has identified the middlings coal from the Phola Coal Processing Plant as an important future source of coal to be fed to the Kusile Power Station. The purpose of the proposed overland conveyor is therefore to ensure a timeous and secure supply of coal to Kusile and therefore electricity to the national electricity transmission grid. In order to prepare the Kusile Power Station for commercial operations, delivery of the first coal via the Phola-Kusile Coal Conveyor is planned for October 2013.

The locations of the three alternative route corridors for the overland conveyor are illustrated on Figure 1-1.

1 Media release compiled by the Government Communication and Information System, 26 Aug 2010. http://www.buanews.gov.za/rss/10/10082611151001

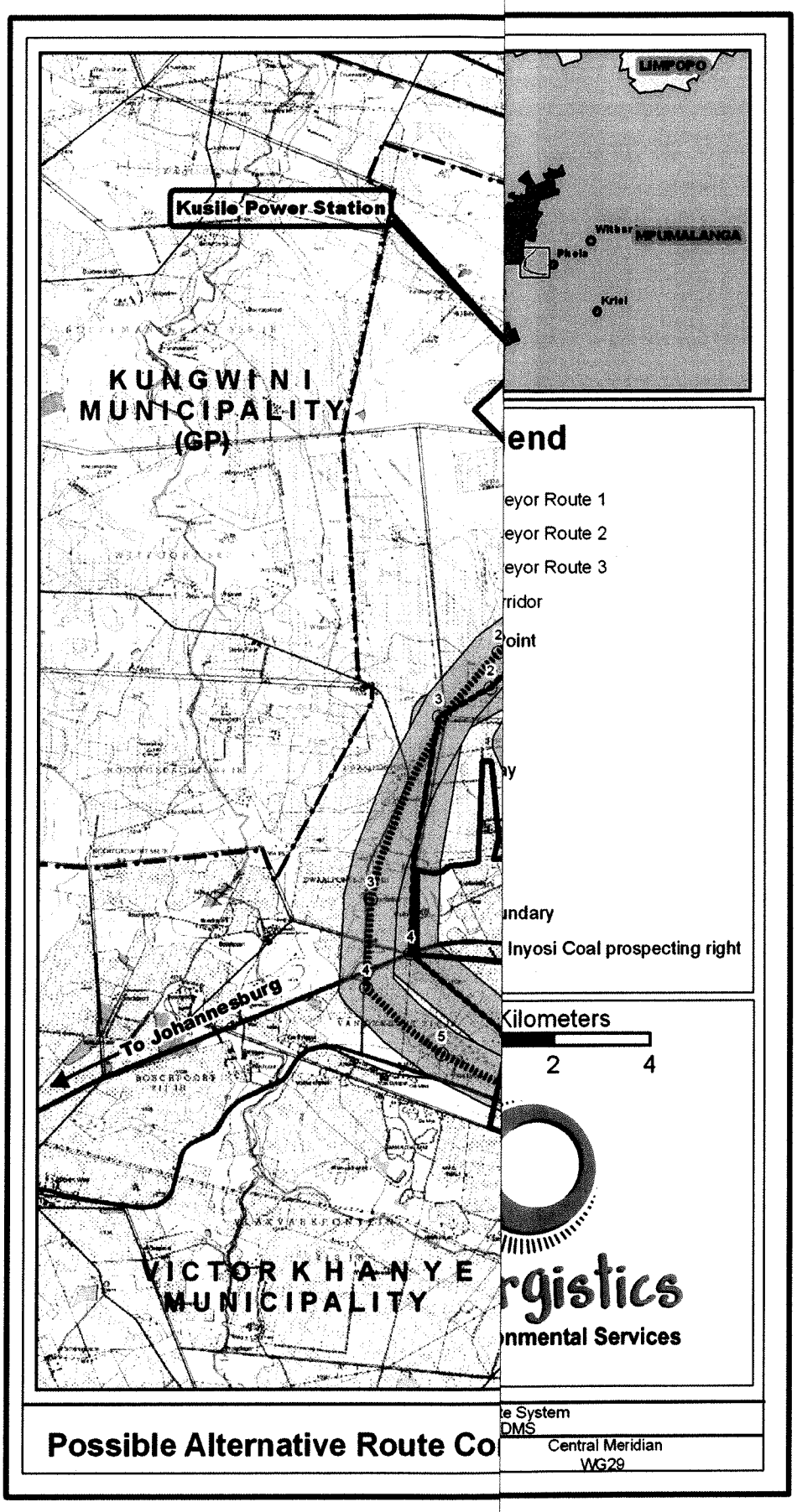

Figure 1-1: Locality of the proposed Phola-Kusi

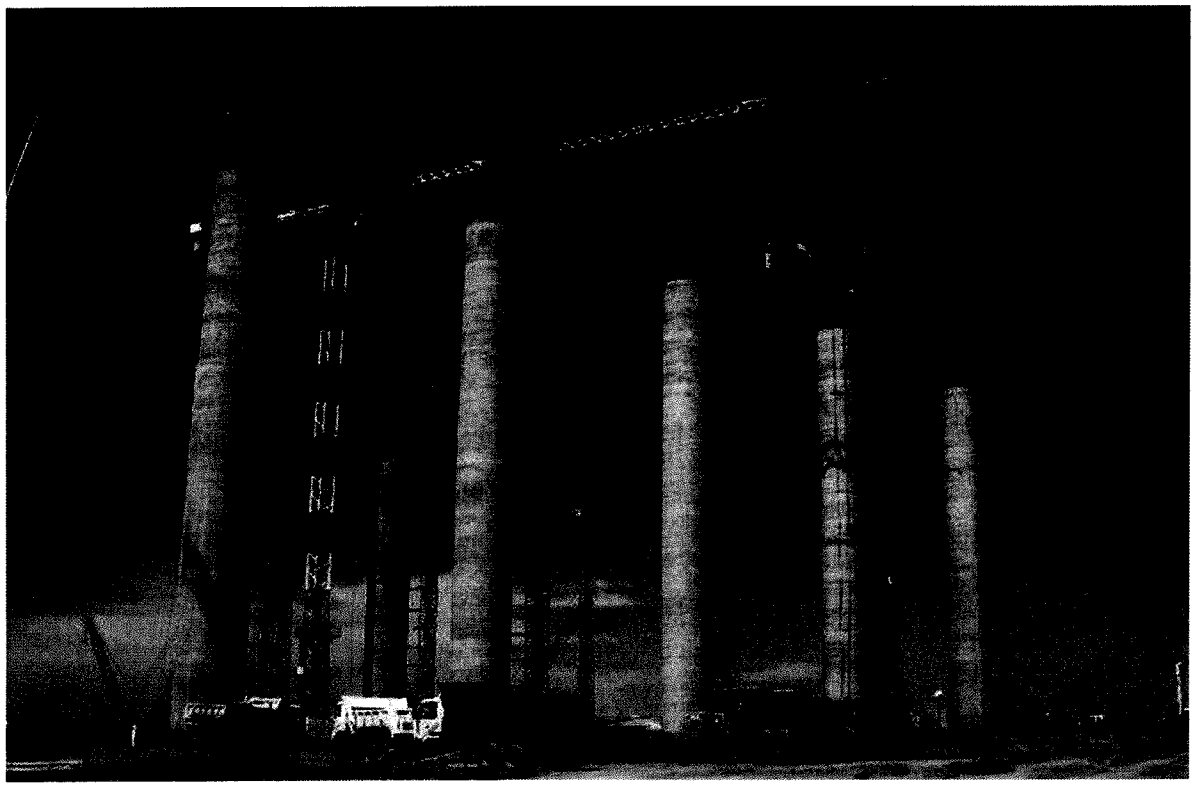

Plate 1-1: Kusile Power Station under construction (January 2010)

Plate 1-2: Phola Coal Processing Plant

1.3 Environmental Legal Requirements

The proposed Phola-Kusile Coal Conveyor requires an environmental impact assessment (EIA) and environmental authorisation, as well as a water use license (WUL) before the project may commence. The EIA and water use license application processes will be conducted simultaneously as integrated processes complemented by a combined public participation process.

1.3.1 Environmental Impact Assessment (EIA) Process and Listed Activities

The listed activities described in Table 1-1 are currently regarded as applicable to the project and thus covered in the EIA process.

Table 1-1: Listed Activities Applicable to the Phola-Kusile Overland Coal Conveyor (GNR 544, GNR 545 and GNR 546)

Listed Activity		Applicability to the Phola-Kusile Overland Coal Conveyor
Activities requiring a Basic Assessment in terms of GNR 544 (Listing 1)		
544-11	**The construction of:** (i) canals; (ii) channels; **(iii) bridges;** (iv) dams; (v) weirs; (vi) bulk storm water outlet structures; (vii) marinas; (viii) jetties exceeding 50 square meters in size; (ix) slipways exceeding 50 square meters in size; (x) buildings exceeding 50 square meters in size; or **(xi) infrastructure or structures covering 50 square meters or more** **where such construction occurs within a watercourse or within 32 meters of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.**	The conveyor structure and service road will cross streams associated with wide valley bottoms, thus requiring bridges (culverts for the service road and bridges to carry the conveyor) to span the valleys. Structures at stream crossings would exceed 50 square meters.
544-13	**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 cubic meters [80000 to 500000 litres];**	A typical diesel bowser / construction site diesel installation is 30 cubic meters [30000 litres]. If three bowsers are used during construction, this activity would be triggered. Should construction take place concurrently at different places along the length of the conveyor, it is likely that three or more bowsers would be used. Site construction vehicles will have to be refuelled close to the construction area (i.e. water bowser, graders, dozers, etc.).

Listed Activity		Applicability to the Phola-Kusile Overland Coal Conveyor
544-18	**The infilling or depositing of any material of more than 5 cubic meters into, or the dredging, excavation, or 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 meters inland of the high-water mark of the sea or an estuary, whichever distance is the greater-but excluding where such infilling, depositing, dredging, excavation, removal or moving (i) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or occurs behind the development setback line.	The conveyor and service road will cross streams associated with wide valley bottoms, thus requiring bridges (culverts for the service road and bridges to carry the conveyor) to span the valleys. Stream crossings would require earthworks (excavation / fill) of more than 5 cubic meters.
544-22	**The construction of a road, outside urban areas,** **(i) with a reserve wider than 13,5 meters or,** **(ii) where no reserve exists where the road is wider than 8 meters,** or for which an environmental authorization was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Notice 545 of 2010.	The servitude for the conveyor, including the service road is 25 m wide. Service road could disturb an area wider than 8 m during construction.
544-26	**Any process or activity identified in terms of section 53(2) of the National Environmental Management: Biodiversity at, 2004 (Act No. 10 of 2004) (NEMBA).**	There are currently no legally binding ecological / biodiversity sensitivity classification systems in Mpumalanga Province. The following are used as general guidelines: Mpumalanga Biodiversity Management Plan (MBCP): In terms of the MBCP, all the conveyor route alternatives will traverse habitats listed as IMPORTANT & NECESSARY. Vegetation Type Sensitivity: All three routes traverses the following THREATENED ECOSYSTEMS, based on information obtained from SANBI: • Eastern Highveld Grassland • Rand Highveld Grassland
Activities requiring a full Environmental Impact Assessment in terms of GNR 545 (Listing 2)		
545-5	**The construction of facilities or infrastructure for any process or activity which requires a permit or license 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 published in terms of section 19 of the National Environmental Management: Waste Act, 2008 *Act No: 59 of 2008) in which case that Act will apply:	The conveyor will cross streams associated with valley bottom wetlands. A water use license (WUL) will be required in terms of Section 21 of the National Water Act (NWA), for the following water uses: - Section 21(c): Impeding or diverting the flow of water in a water course. - Section 21(i): Altering the bed, banks, course or characteristics of a water course. The General Authorisation for Section 21(c) and (i) does not apply due to the presence of wetlands, which therefore defaults to a WUL.

1.3.2 Water Use License

The proposed corridor routes will cross streams associated with valley bottom wetlands and will therefore require a water use license in terms of Section 21 of the National Water Act (No 36 of 1998). The water use license application will be submitted to the Department of Water Affairs (DWA) and will be for the following anticipated water uses:

- Section 21(c): Impeding or diverting the flow of water in a water course.
- Section 21 (i): Altering the bed, banks, course or characteristics of a water course.

The general authorisation for Section 21 (c) and (i) does not apply due to the presence of wetlands, which therefore defaults to an application for a water use license.

1.3.3 Structure of the Scoping Report

The scoping report was structured in accordance with GNR 543 and includes the consolidated results of the public participation and authority consultation processes conducted to date. The table below provides a summary of the requirements of GNR 543, with cross references to the report sections where these requirements have been addressed.

Table 1-2: Structuring of the Scoping Report in terms of GNR 543 Requirements

Legal and Regulatory Requirement	Cross Reference to Report Section
GNR 543 Section 27	
After having submitted an application, the EAP managing the application must:	
(f) Prepare a **scoping report** in accordance with regulation 28	This Report.
GNR 543 Section 28(1)	
A scoping report must contain all information that is necessary for a proper understanding of the nature of the issues identified during scoping and must include:	
a) Details of: (i) the **EAP** who prepared the report; and (ii) the **expertise** of the EAP to carry out scoping procedures;	See Project Information Sheet in front of the report, and Table 7-4: Study Team on page 72.
b) A **description of the proposed activity**;	See Section 3.3, page 18.
c) A **description of any feasible and reasonable alternatives** that have been identified;	See Section 1.1 on page 1, and Section 3 (entire chapter from page 15).
d) A **description of the property** on which the activity is to be undertaken and the location of the activity on the property, or if it is: (i) a linear activity, a **description of the route of the activity**; or (ii) an ocean-based activity, the coordinates where the activity is to be undertaken;	See Section 3.3.3 on page 21 for description of the alternative route corridors, Table 4-6 to Table 4-8 for list of affected properties, and Table 3-1 for preliminary centreline coordinates of alternative corridor routes.
e) A **description of the environment that may be affected** by the activity and the **manner in which activity may be affected** by the environment;	See Section 4 (entire chapter from page 15) - Description of the Affected Environment
f) An **identification of all legislation and guidelines** that have been considered in the preparation of the scoping report;	See Section 1.3 on page 5.
g) A description of **environmental issues and potential impacts, including cumulative impacts**, that have been identified;	See Section 5, from page 52 and Section 6, from page 61.

Legal and Regulatory Requirement	Cross Reference to Report Section
h) Details of the **public participation process** conducted in terms of regulation 27(a), including: (i) The **steps that were taken** to notify potentially interested and affected parties of the application; (ii) **Proof** that notice boards, advertisements and notices notifying potentially interested and affected parties of the application have been displayed, placed or given; (iii) A list of all persons or organisations that were identified and **registered** in terms of regulation 55 **as interested and affected parties** in relation to the application; and (iv) A **summary of the issues** raised by interested and affected parties, the date of receipt of and **the response of the EAP to those issues**;	See Section 2.5 (steps taken and process followed), and Section 5 (results of process followed with summary of issues raised), as well as Appendix A (copies of all relevant documentation and correspondence).
i) A description of the **need and desirability** of the proposed activity;	See Section 1.2 on page 2.
j) A description of **identified potential alternatives** to the proposed activity, **including advantages and disadvantages that the proposed activity or alternatives** may have on the environment and the community that may be affected by the activity;	See Section 3 and Section 6.
k) **Copies of any representations, and comments** received in connection with the application or the scoping report from interested and affected parties;	See Appendix A.
l) **Copies of the minutes of any meetings** held by the EAP with interested and affected parties and other role players which record the views of the participants; and	See Appendix A.
m) Any **responses by the EAP** to those representations and comments and views;	See Section 5 and Appendix A.
n) A **plan of study for environmental impact assessment** which sets out the proposed approach to the environmental impact assessment of the application, which must include:	See Section 7.
(i) A description of **the tasks that will be undertaken** as part of the environmental impact assessment process, and the manner in which such tasks will be undertaken;	See Section 7.7 on page 76.
(ii) An indication of the **stages at which the competent authority will be consulted**;	See Section 7.5.2 on page 75
(iii) A description of the **proposed method of assessing the environmental issues and alternatives**, including the option of not proceeding with the activity;	See Section 7.3 on page 66.
(iv) **Particulars of the public participation process** that will be conducted during the environmental impact assessment;	See Section 7.5.1 on page 74.
o) Any specific information required by the competent authority; and	No request received to date.
p) Any other matters required in terms of sections 24(4)(a) and (b) of the Act.	None identified.
GNR 543 Section 28(2):	
In addition, a scoping report must **take into account any guidelines applicable to the kind of activity** which is the subject of the application.	None identified.
GNR 543 Section 28(3):	
The EAP managing the application must provide the competent authority with detailed, **written proof of an investigation** as required by section 24(4)(b)(i) of the Act **and motivation** if no reasonable or feasible alternatives, as contemplated in sub regulation (1)(c), exist.	Alternatives discussed in scoping report and alternatives taken further to the EIA phase listed in Section 3.3 from page 18.

The EIA process that was executed for this project to date is described in Section 2 (Study Approach and Methodology) of this report.

1.4 Responsible Authorities

1.4.1 Environmental Impact Assessment Process

MDEDET is the competent authority in terms of the NEMA and EIA Regulations. An application form for environmental authorisation was submitted to the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) on 2 November 2010 and accepted by MDEDET on 16 November 2010. The MDEDET accepted the application and issued a reference number for the project (17/2/3 N-13).

This scoping report will be submitted to MDEDET in terms of the NEMA and EIA Regulations.

1.4.2 Water Use License

The Department of Water Affairs (DWA) will administrate and review the application for an integrated water use license. The scoping report will be submitted to the DWA as the first phase in the water use license application process.

2. Study Approach and Methodology

2.1 Study Objectives

The specific objectives for the scoping phase of the EIA process are to:

- Collate project and baseline environmental information.
- Identify landowners, adjacent landowners, local authorities, environmental authorities, as well as other stakeholders which may be affected by the project, or that may have an interest in the environmental impacts of the project.
- Inform interested and affected parties (I&APs) about the proposed project.
- Engage with I&APs and identify their issues and concerns.
- Document key I&AP issues and concerns for consideration in the EIA phase.
- Engage with environmental authorities and confirm legal and administrative requirements.
- Identify and describe potential environmental issues associated with the development of the conveyor.
- Introduce and evaluate the alternative route options at desktop level.
- Identify the nature and extent of further investigations and specialist input required in the EIA phase.

2.2 Consideration of Alternatives

Development alternatives considered are discussed in Section 3.3.

2.3 Study Area

The study area can be roughly defined as the area of land between the Phola Coal Processing Plant and the Kusile Power Station (the area over which a route for the conveyor has to be found), incorporating the three route alternative route corridors as illustrated in Figure 1-1. Each route corridor comprises a one kilometre wide strip of land within which the final alignment of conveyor will be determined.

2.4 Baseline Environmental Description

The baseline environment represents the current prevailing environmental conditions prior to the construction of the proposed Phola-Kusile Overland Coal Conveyor. It is indicative of the level of environmental degradation due to naturally occurring phenomena and existing human activities such as mining, residential development, agriculture, traffic on existing roads, and existing infrastructure such as railway lines, powerlines and pipelines.

Baseline information for this scoping report was gathered through visual inspections of the project area and surroundings, desktop studies and review of existing reports.

2.5 Public Participation and Authority Consultation Process

2.5.1 Identification of Interested and Affected Parties

Potential I&APs were identified through networking and the use of the existing Anglo American and Eskom I&AP databases that have been developed since 2006. The existing databases included landowners, neighbouring landowners and people who participated in previous EIA processes in the area. Press advertisements and site posters were used to identify new I&APs (Section 2.5.4).

A list of all parties that were consulted during the public participation and authority consultation process is provided in Appendix A2.

2.5.2 Notifications to Interested and Affected Parties

Potential I&APs were notified about the project and the public participation process by means of:

- Direct letters to affected landowners along all three route corridors (parties listed in Table 4-6 to Table 4-8).
- Press advertisements and site notices (Section 2.5.4).
- Individual notifications to people who may be affected by the proposed conveyor development on the existing New Largo and Kusile Power Station I&AP databases (via telephone, email and/or fax (Appendix A 6).
- Individual meetings with holders of mining or prospecting rights along the infrastructure routes (Section 2.5.8).
- Meetings with owners of land along and adjacent to the infrastructure routes (Section 2.5.7 and Section 2.5.8).
- Individual written notifications to all registered I&APs (by registered mail), in accordance with sub-regulation 54 2(b) of GNR 543.
- Individual written notifications to Victor Khanye Local Municipality, previously Delmas (Mayor and Councillor), Emalahleni Local Municipality, previously Witbank (Municipal Manager), and Nkangala District Municipality (Mayor and Municipal Manager).

2.5.3 Notifications to Relevant Authorities

The following provincial government departments were notified about the project and invited to a general public announcement meeting (Section 2.5.7):

- The Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET).
- The Department of Environmental Affairs (DEA), part of the Department of Water and Environmental Affairs (DWEA).
- The Department of Agriculture, Forestry and Fisheries (DAFF).
- The Mpumalanga Department of Agriculture, Rural Development and Land Administration.
- The Mpumalanga Department of Public Works, Roads and Transport (DPWRT).
- The Department of Public Works.
- The Department of Mineral Resources.
- The Department of Water Affairs (DWA), part of the DWEA.
- The South African Heritage Resources Agency (SAHRA).
- Mpumalanga Tourism and Parks Agency.
- The Mpumalanga Department of Labour.
- South African National Botanical Institute (SANBI).

2.5.4 Press Advertisements and Site Notices

Press advertisements were placed in the following newspapers between 12 and 19 November 2010:

- Streeknuus;
- Corridor Gazette;
- Ekasi News;
- Witbank News;
- Mpumalanga News;
- Middelburg Herald;
- Middelburg Observer;
- Ridge Times;
- The Echo;
- Springs Advertiser.

Site notices (posters) were placed at the following locations during the week of 15 to 19 November 2010:

- Turn-off to the Kusile Power Station on the R545.
- T-junction near Kendal Power Station.
- Road near Heuwelfontein, west of Kendal Power Station.
- Van Dykspruit, west of Kendal Power Station where the proposed alternative routes turn north.
- Turn-off to the N12 south of the Kusile Power Station.
- Road south of the Kusile Power Station.
- Northern alternative route at the turnoff to the N12.
- Road east of Kendal Power Station.
- Entrance to Phola Coal Processing Plant.

Copies of the advertisements and site notices (with photographs of site notice as proof) are included in Appendix A3.

2.5.5 Registration of Interested and Affected Parties

People and/or organisations were registered as I&APs for the project if they:

- Attended one of the consultation meetings.
- Responded to notification letters and documentation, press advertisements or site posters.
- Own land along and adjacent to the proposed infrastructure routes.
- Hold mining or prospecting rights along the infrastructure route.
- Own, operate or administrate infrastructure affected by the project.
- Contacted Zitholele and/or Synergistics telephonically, or via fax, E-mail or post.

2.5.6 Background Information Document

A background information document (Appendix A4) was circulated to all landowners either personally or via registered mail, while all the identified I&APs received an electronic copy via E-mail. The document included a response sheet and a request for written comments by 8 December 2010.

2.5.7 General Public Announcement Meetings

A general public announcement meeting was held on 24 and 25 November 2010 at the El Toro Conference Facilities, situated next to the Kendal/Balmoral road. Minutes of the meeting are included in Appendix A6.

2.5.8 Consultation with Landowners and Mining / Prospecting Right Holders

One of the proposed Phola-Kusile Overland Coal Conveyor routes crosses Vlakfontein Colliery where African Exploration Mining and Finance Corporation (AEMFC) holds the mining right. AEMFC was registered as an I&AP and has received the relevant public participation notifications and documentation issued to date.

Representatives from AAIC and Synergistics met with Mr Mpho Tlala (AEMFC) on 14 January 2010, to discuss the implications of the conveyor route across their mineral resource area. AAIC is currently investigating the possibility of the realignment of the route. Minutes of the meeting is attached in Appendix A10.

2.5.9 Focused Authority Meetings

A meeting was held with Mr Garth Batchelor of the MDEDET on 17 November 2010. The purpose of the meeting was to:

- Inform MDEDET about the planned Phola-Kusile Overland Coal Conveyor.
- Obtain clarification on the environmental legal requirements for the conveyor and the environmental authorisation and EIA process to be followed.

A meeting was held with the Department of Water Affairs (DWA) in Bronkhorspruit on 25 November 2010. The purpose of the meeting was to:

- Inform DWA about the planned Phola-Kusile Overland Coal Conveyor.
- Obtain clarification on the environmental legal requirements for the conveyor and the water use license process to be followed.

MDEDET official, Ms Thuli Nkonyana and the Deputy Director Ms Dineo Tswai, visited the project site on the 8th of December 2010. They were afforded the opportunity to visit and view the project site and to discuss the scope of the project and development alternatives with the AA project management team, and the EIA process with Synergistics.

Records of meetings are provided in Appendix A10.

2.5.10 Review of the Draft Scoping Report

The draft scoping report will be made available for public and authority review in February 2010 for 6 weeks (40 calendar day period). All registered I&APs will be notified in writing of the availability of the document for review and will be requested to submit comments (Appendix A6). Electronic copies of the report will be emailed or delivered on CD-ROM to I&APs or sent by means of registered mail and will be available on www.synergistics.co.za. Full details of where the document will be made available for review, will be communicated to all registered IA&Ps.

2.5.11 Scoping Report Finalisation

Following the closure of the draft scoping report review period, modifications will be made to the scoping report. Comments submitted by registered I&APs on the draft scoping report will be included in the final scoping report.

For further participation in the public participation process refer Section 7.5 on page 74.

3. Project Information

3.1 Project Design Criteria

The Phola-Kusile Overland Coal Conveyor will be designed to transport approximately 10.4 million tonnes of coal per year, over the life of Kusile from the Phola Coal Processing Plant to the Kusile Ppwer Station.

Together with the middlings coal from the Phola Coal Processing Plant, approximately one million tonnes of coal from the Vlakfontein Colliery (owned by African Exploration Mining and Finance Corporation (AEMFC)), will be loaded onto the conveyor belt for transportation to Kusile each year (see Figure 1-1). The loading point for AEMFC will be at a point to be mutually agreed on and within the conveyor servitude.

3.2 Project Description

The Phola-Kusile Coal Conveyor will start at the Phola Coal Processing Plant and end at coal stockyards in the vicinity of the Kusile Power Station. From the coal stockyards, there will be feed conveyors into the Kusile Power Station. The conveyor system will be approximately 21 km in length, depending on the final route selection. There will be up to five conveyor flights and a six transfer stations. Lighting will be provided at the transfer points.

The Phola Plant is an existing beneficiation plant located approximately 20 kilometres south-east of Kusile Power Station, between Kendal Power Station, Ogies and Phola. The plant is a joint venture between BHP Billiton (BECSA) and Anglo American. It has capacity to beneficiate 16 million tonnes per annum and receives coal from Klipspruit (BECSA), and Zibulo (Anglo) mines. The primary products from the Phola Plant are exported and it is proposed that the secondary products (or middlings coal) be supplied to Kusile via the Phola-Kusile Coal Conveyor, which would be designed to transport approximately 10.4 million tonnes of coal per year, over the life of the Kusile Power Station (thus 60+ years).

Transfer stations, wetland and stream crossings will be provided with bunded concrete floors (impervious floors designed to contain spillages) and will be linked to local pollution control systems. The conveyor will be approximately 1.35 meters wide and will run at an average speed of approximately 4.2 metres per second. It will be provided with a sheeted metal cover, open on one side. The conveyor belt will be equipped with on-line quality and mass monitoring equipment.

Pedestrian and farmer and/or road crossings will be provided where required. Power will be supplied via an overhead 22 kV power line.

The following photographs of conveyor structures provide an indication of the design of the Phola-Kusile Overland Coal Conveyor. These photographs are for information purposes only – the design of the Phola-Kusile Overland Coal Conveyor will be similar to the conveyors in these photographs but minor design differences and changes are anticipated.

Plate 3-1: Example of typical coal conveyor from the side

Plate 3-2: Example of typical transfer station with pollution control infrastructure

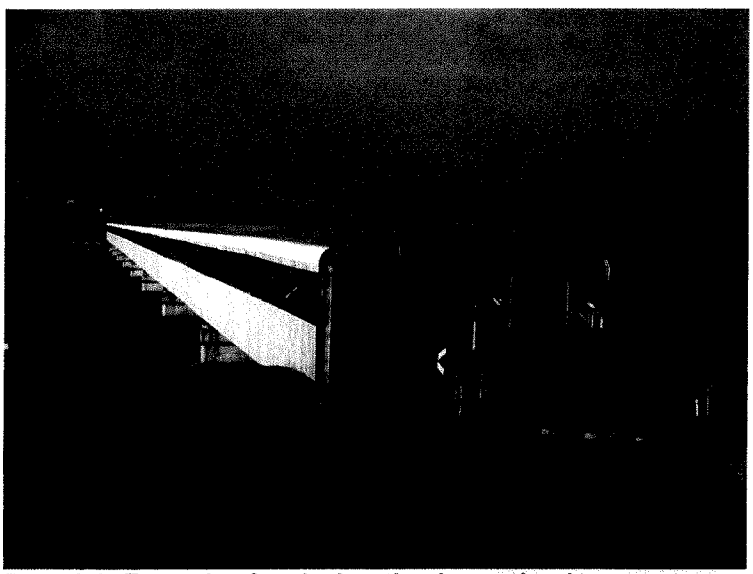

Plate 3-3: Example of typical wetland crossing (conveyor suspended on pillars, covered and with solid floor for collection of coal spills)

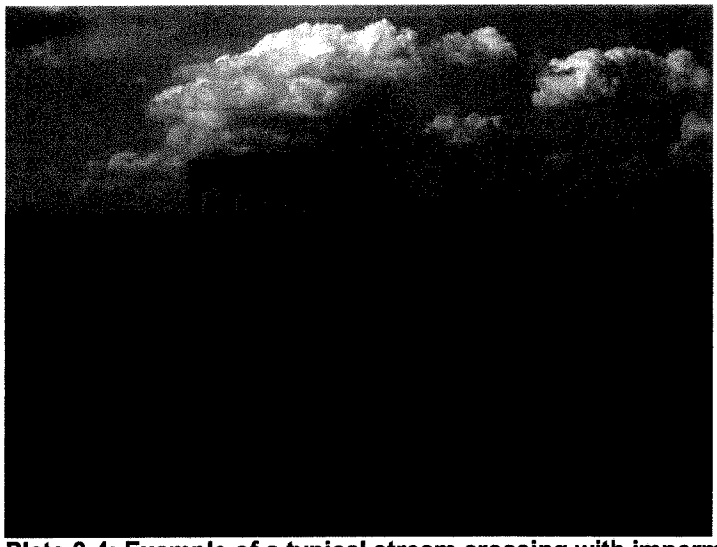

Plate 3-4: Example of a typical stream crossing with impermeable floor

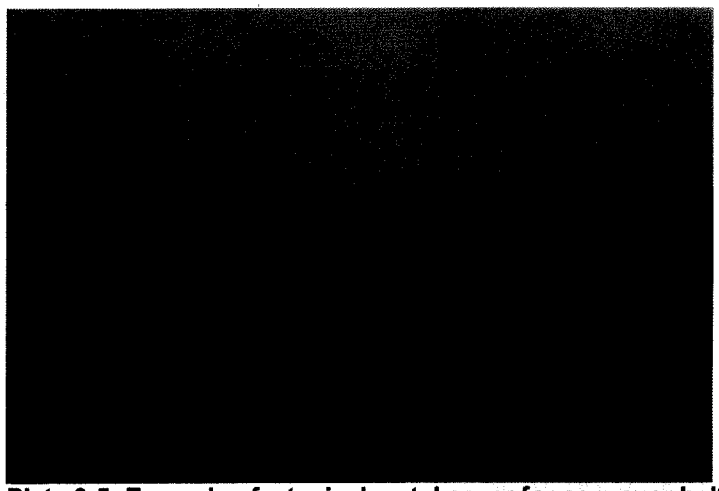

Plate 3-5: Example of a typical metal cover for conveyor belt

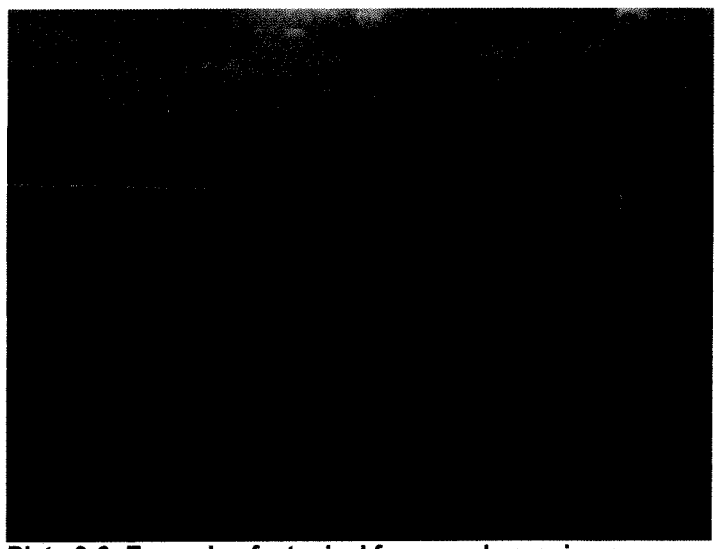

Plate 3-6: Example of a typical farm road crossing over conveyor

3.3 Development Alternatives

3.3.1 Alternatives to the Proposed Phola-Kusile Overland Coal Conveyor

The AAIC project team has investigated road and rail transport options as alternatives to the overland conveyor option to transport coal from the Phola CPP to the Kusile Power Station, but none of the other transport options were regarded as feasible and will therefore not be taken further into the EIA phase of the project.

3.3.1.1 Railway Transport Alternative

Three railway options were investigated (Figure 3-1), namely:

- The new Arbour private siding of 18.3 km in length from the south. Kusile chose to bring in lime from the north of the power station and therefore did not build the southern section of the line which would have been required for this option.
- The new Balmoral private siding of 12.9 km in length. A total rail distance longer than 50 km would be required in order to link with the railway line via Witbank and back to Kusile.
- An independent system would need to cross over the proposed New Largo Colliery and therefore sterilise coal reserves.

AAIC does not regard rail transport a feasible option for further investigation due to prohibitively high costs and the incompatibility with Eskom's requirements and the Kusile load-out facilities as no provision for coal trains has been incorporated into the design of the power station.

3.3.1.2 Road Transport Alternative

AAIC investigated various road transport options (see Figure 3-2 for examples) but road transport was not regarded as a feasible option for further investigation due to the high coal tonnages to be transported over long distances and the high frequency of trucks that will be required. The impacts on the road network, air quality impacts, as well as the technical and safety constraints due to the high frequency of trucks are regarded as fatal flaws to this option.

3.3.1.3 Conveyor Transport Alternative

AAIC regards an overland conveyor system as a feasible and most suitable solution for transportation of coal from the Phola Coal Processing Plant to the Kusile Power Station. This decision took into account the fact that the overland conveyor option will:

- Have significantly less dust impacts than the road transport option.
- Have significantly less disruption on existing roads and road traffic than the road transport option.
- Be economically feasible and cost effective (capital and operating costs).
- Be easier to implement than the other transport options.

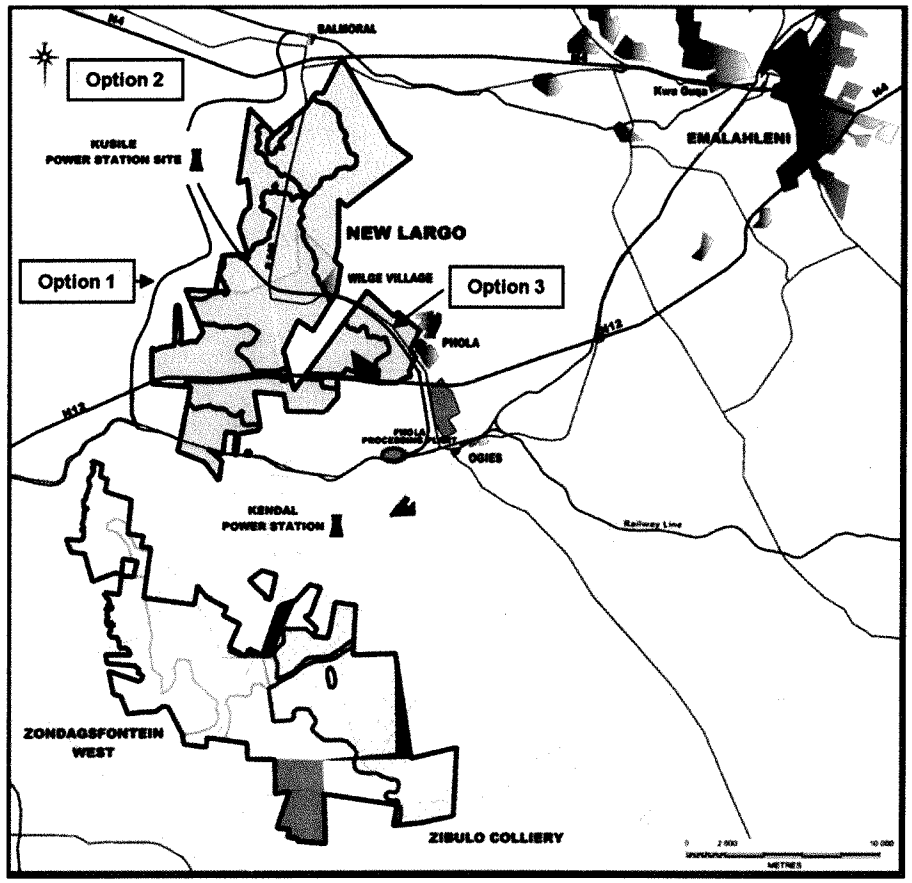

Figure 3-1: Railway transport alternative options

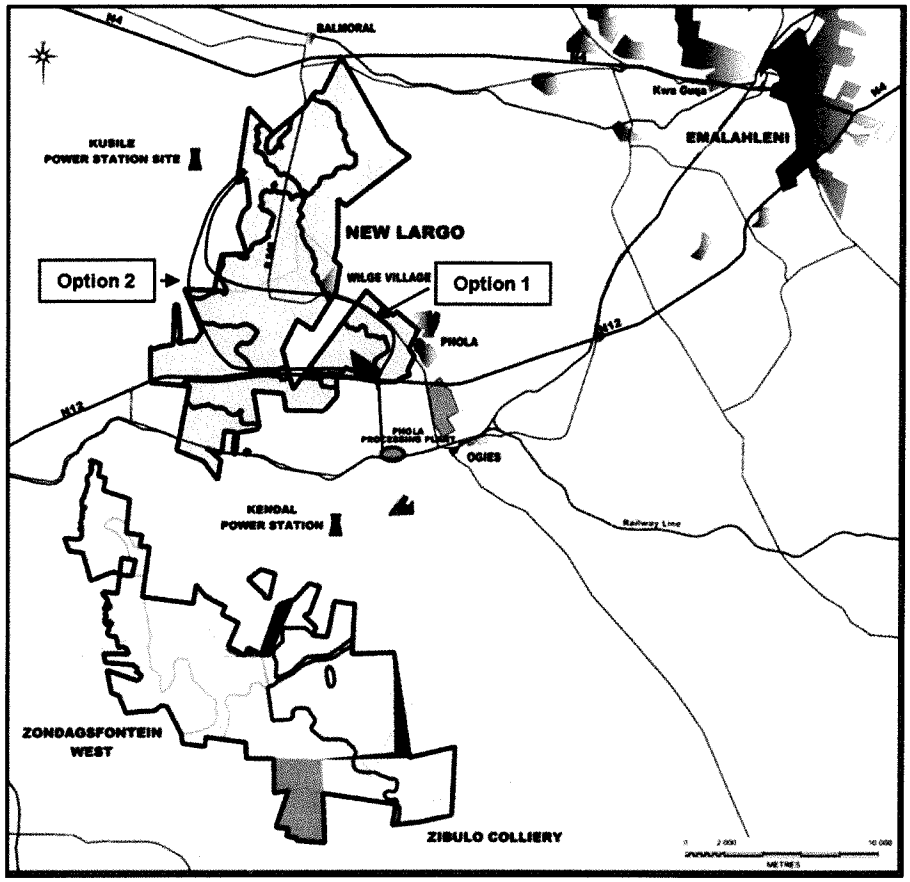

Figure 3-2: Road transport alternative options

3.3.2 No-go Development Alternative

The impacts of this alternative will be fully assessed in the EIA phase. At this scoping phase, AAIC maintains that the no-go development alternative:

- Will jeopardise the supply of a timeous and secure supply of coal to Kusile, especially since other options for transporting coal to Kusile (road and rail) were not found to be feasible.
- Prevent Kusile from being able to provide power to the national electricity grid on schedule.
- Create power shortages in the national grids since there are no short to medium term options to replace Kusile's energy generation capacity on a national level.
- Negative impacts on national economic growth and development.

3.3.3 Development Corridors

Three alternative corridor routes for the conveyor have been identified. The corridor routes are illustrated in **Error! Reference source not found.** and properties potentially affected along each corridor route are listed in Table 4-6 to Table 4-8. All three corridor routes will cross streams associated with valley bottom wetlands. As in the case of the transfer stations, stream crossings will be provided with bunded floors and local pollution control systems to prevent contamination of streams and wetlands. During the EIA phase, the corridor routes will be assessed based on criteria such as:

- Land ownership (maximize alignments on land owned by Anglo Operations Limited).
- Availability of land for the conveyor servitude.
- Public safety and security risks.
- Minimise stream and wetland crossings and alignments in areas prone to flooding.
- Minimise environmental impacts (physical, biodiversity, social and economic).
- Avoid human settlement areas.
- Maximise alignments along existing linear infrastructure and disturbed areas.
- Minimise the total footprint of the area of impact.
- Minimise sterilisation of coal reserves and avoid future opencast mining areas.
- Minimise impacts on existing infrastructure.
- Topography and steep slopes.
- Technical design considerations.
- Economic considerations.
- Ability to include coal from AEMFC.

3.3.3.1 Corridor Route 1 (Blue Route)

Corridor route option 1 takes the Phola-Kusile Coal Conveyor across the southern section of the AAIC New Largo prospecting right area along the N12 highway – thus along an area where coal resources are already sterilised by other east-west running linear infrastructure.

Due to the implications of the conveyor route crossing and thus sterilising the mineral resource area of AEMFC, this route option had to be realigned after the BID was issued.

The route starts at the Phola Coal Processing Plant in the south, running in a northerly direction towards the N12, where-after it will turn west to run parallel to the N12. After the route crosses the N12, the route will turn northwest until it reaches the western perimeter of the AAIC prospecting area. From here it will run in a north-easterly direction until it reaches the stockyard near the Kusile Power Station.

This route crosses land owned by Anglo Operations Limited, Ingwe Surface Holdings, Truter Boerdery, Bronlaw Properties, South African National Roads Agency Limited (SANRAL), Waterfontein Boerdery, Frazer Alexander Coal, Eskom Holdings Ltd and privately owned farms. From south to north it runs across the farms Smaldeel IS, Bankfontein 216 IR, Vlakfontein 569 and Klipfontein 568 JR.

3.3.3.2 Corridor Route 2 (Red Route)

Corridor route option 2 takes the Phola-Kusile Coal Conveyor around the southern and western perimeter of the AAIC New Largo prospecting rights area, thus avoiding this area completely. It starts at the Phola Coal Processing Plant in the south, running westwards parallel to the R555 where-after it will follow the existing powerline servitude northwards. After the route crosses the N12, it will turn in a north-easterly direction until it reaches the coal stockyard near the Kusile Power Station.

This route runs over land owned by Anglo Operations Limited, Truter Boerdery, Ferret Coal, Homeland Mining and Energy SA, Shanduka Coal (Pty) Ltd, SANRAL, Eskom Holdings Ltd and privately owned farms. From south to north it runs across the farms Bankfontein 216 IR, Heuvelfontein 215 IR, Van Dyksput 214 IR, Dwaalfontein 565 JR and Klipfontein 566 JR.

3.3.3.3 Corridor Route 3 (Purple Route)

The first section of this route is similar to route option 2, thus taking Phola-Kusile Coal Conveyor around the southern and western perimeter of the AAIC New Largo prospecting rights area. It starts at the Phola Coal Processing Plant in the south, running westwards parallel to the R555. After the route crosses the N12, the route will turn in a north-easterly direction until it reaches the coal stockyard near Kusile.

The route runs over land owned by Anglo Operations Limited, Truter Boerdery, Ferret Coal, Homeland Mining and Energy SA, Shanduka Coal (Pty) Ltd, SANRAL, Eskom Holdings Ltd and privately owned farms. From south to north it runs across the farms Bankfontein 216 IR, Heuvelfontein 215 IR, Van Dyksput 214 IR, Dwaalfontein 565 JR and Klipfontein 566 JR.

3.3.4 Preliminary Corridor Centreline Coordinates

The current centreline coordinate points for the three route corridors are provided on Table 3-1. The route alignments will be refined and updated during the EIA phase and these coordinates should therefore be viewed as preliminary.

Table 3-1: GPS Coordinates for route corridor alternatives of the Phola-Kusile Coal Conveyor illustrated on Error! Reference source not found.

Corner / Bend Point	Southern Coordinate	Eastern Coordinate
Conveyor Route 1 (Blue Route), with three route alignment alternatives (see).		
1	25°55.617' S	28°56.982' E
2	25°57.906' S	28°54.510' E
3	26°0.633' S	28°53.106' E
4	26°1.606' S	28°53.059' E
5	26°2.342' S	28°53.903' E
6	26°2.957' S	28°55.279' E

Corner / Bend Point	Southern Coordinate	Eastern Coordinate
7	26°3.059' S	28°56.574' E
8	26°3.442' S	28°57.928' E
9	26°3.542' S	28°59.212' E
10	26°3.400' S	28°59.956' E
Conveyor Route 2 (Red Route)		
1	25°55.618' S	28°56.976' E
2	25°58.300' S	28°54.424' E
3	25°58.616' S	28°53.856' E
4	26°1.236' S	28°53.550' E
5	26°2.126' S	28°54.612' E
6	26°3.135' S	28°56.196' E
7	26°3.442' S	28°57.928' E
8	26°3.398' S	29°0.212' E
Conveyor Route 3 (Purple Route)		
1	25°55.617' S	28°56.982' E
2	25°57.906' S	28°54.510' E
3	26°0.633' S	28°53.106' E
4	26°1.606' S	28°53.059' E
5	26°2.342' S	28°53.903' E
6	26°2.957' S	28°55.279' E
7	26°3.059' S	28°56.574' E
8	26°3.442' S	28°57.928' E
9	26°3.542' S	28°59.212' E
10	26°3.400' S	28°59.956' E

3.4 Servitudes

A 25 m wide servitude will be registered for the conveyor. The servitude will be fenced and gates will be installed at access points and where the servitudes cross fences. A stormwater management system will also be included along the length of the conveyor.

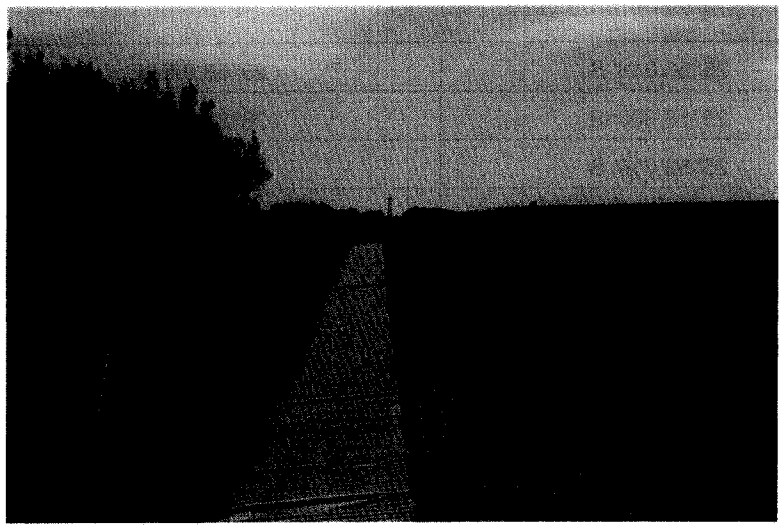

Plate 3-7: Typical example of a fenced servitude and service road

3.5 Service / Maintenance Road

Service / maintenance roads will be provided in the servitude to provide access for maintenance and emergency purposes as well as to act as a fire break.

3.6 Wetland and Stream Crossings

The proposed corridor routes will cross streams associated with valley bottom wetlands, therefore a water use license application is required and will be submitted to the Department of Water Affairs (DWA) for processing. Route corridor option 1 involves ~5 stream crossings associated with valley bottom wetlands in comparison to route corridor options 2 and 3 involving ~10 crossings.

3.7 Rail and Public Road Crossings

The road network around the study area is illustrated in Figure 3-4. Two major public roads with high traffic demands, the N12 and the R545, will be crossed by all three the proposed conveyor corridor routes. For the road over conveyor crossing, the conveyor could either be jacked underneath the N12 or an old disused road over rail bridge could be used for this purpose, if the necessary approvals for using the bridge can be obtained. No railway lines will have to be crossed by any of the route alternatives.

3.8 Other Associated Activities and Project Details

Details of other associated activities such as borrow pits, construction activities and operational maintenance activities, and employment opportunities, etc. will be presented in the EIA report.

3.9 Project Implementation Schedule

The preliminary implementation schedule for the Phola-Kusile Overland Coal Conveyor is provided in Table 7-1 on page 62 and Table 7-2 on page 62. These tables also outline opportunities for consultation and participation over the life of the project.

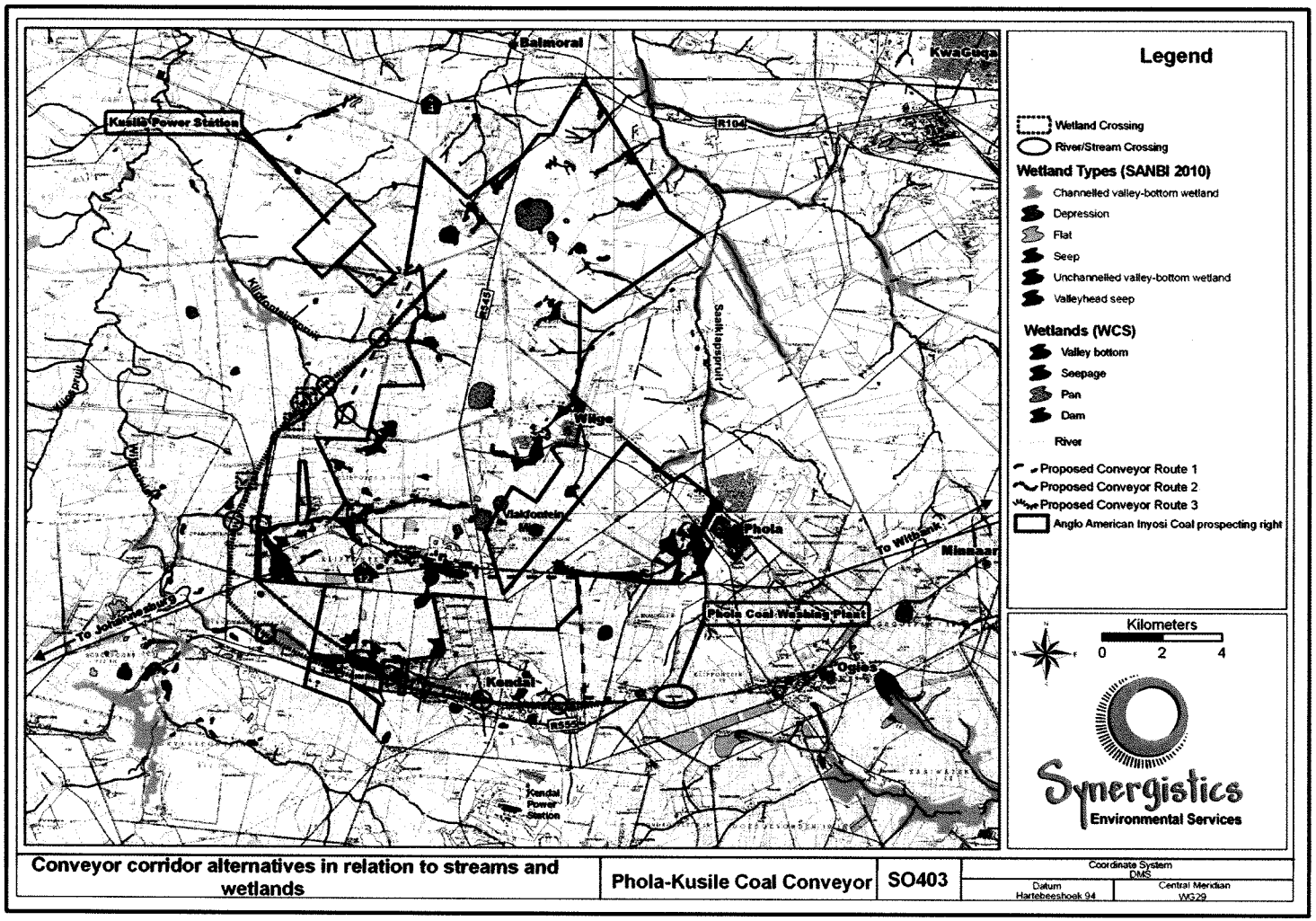

Figure 3-3: Conveyor corridor alternatives in relation to streams and wetlands

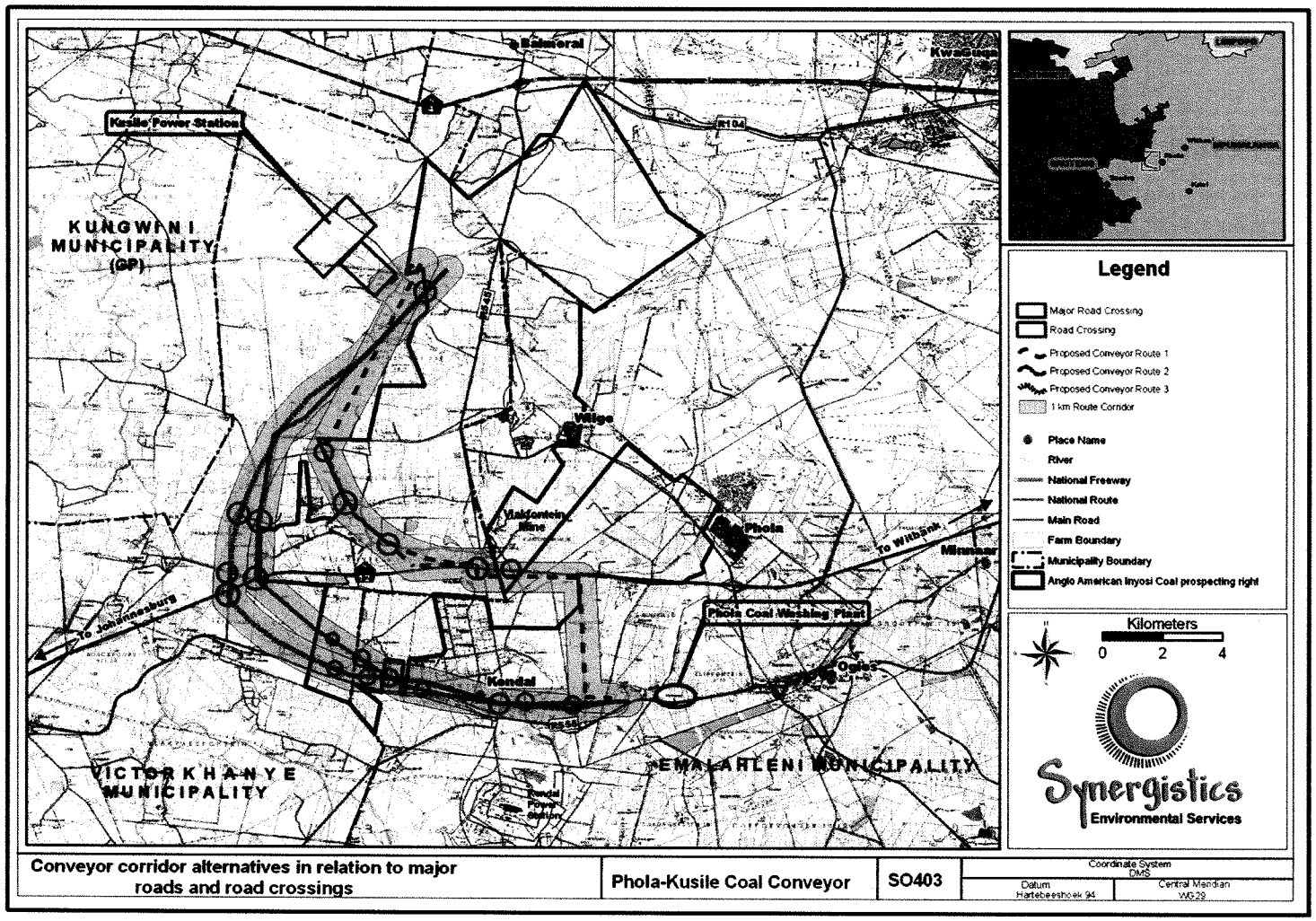

Figure 3-4: Conveyor corridor alternatives in relation to major roads and road crossings

4. Description of the Affected Environment

4.1 Physical Environment

4.1.1 Climate

4.1.1.1 Temperatures

The location of the Eskom monitoring station (Kendal 2) is shown in Figure 4-1. Annual average maximum, minimum and mean temperatures for Kendal 2 are given as 26℃, 10℃ and 16℃, respectively, based on th e 2005-2009 records. Average daily maximum temperatures range from 30℃ in December, January and February to 20℃ in June, with daily minima ranging from 15℃ in January and December to 3℃ in July.

Table 4-1: Annual Temperatures in Degrees Celsius (Kendal weather station, 2005-2009)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Minimum	15	14	12	9	6	4	3	6	10	13	14	15
Mean	21	20	18	15	12	10	10	13	18	19	20	21
Maximum	30	30	27	25	22	20	21	24	29	29	28	30

4.1.1.2 Precipitation

Long-term monthly average rainfall figures for various stations within the Witbank region are given in Table 4-2. Long-term average total annual rainfall is in the range of 730 mm to 750 mm. Rain falls mainly in summer from October to April, with the peak being in January for the region.

Table 4-2: Long-term monthly rainfall figures (mm) for various stations within the Witbank region

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Middelburg (1904-1950)	132	103	88	42	19	7	9	8	22	63	124	118	735
Bethal (1904-1984)	134	94	78	46	19	7	8	10	25	78	128	120	747

4.1.1.3 Wind Patterns

As depicted on the wind roses below, the predominant wind direction within the study area is from the west-north-west. Less frequent winds are from the southern sector. During daytime, there is an increase in winds from the north-westerly sectors while at night time the winds are more dominant from the east. Night time conditions also reflect a decrease in wind speeds and an increase in calm conditions.

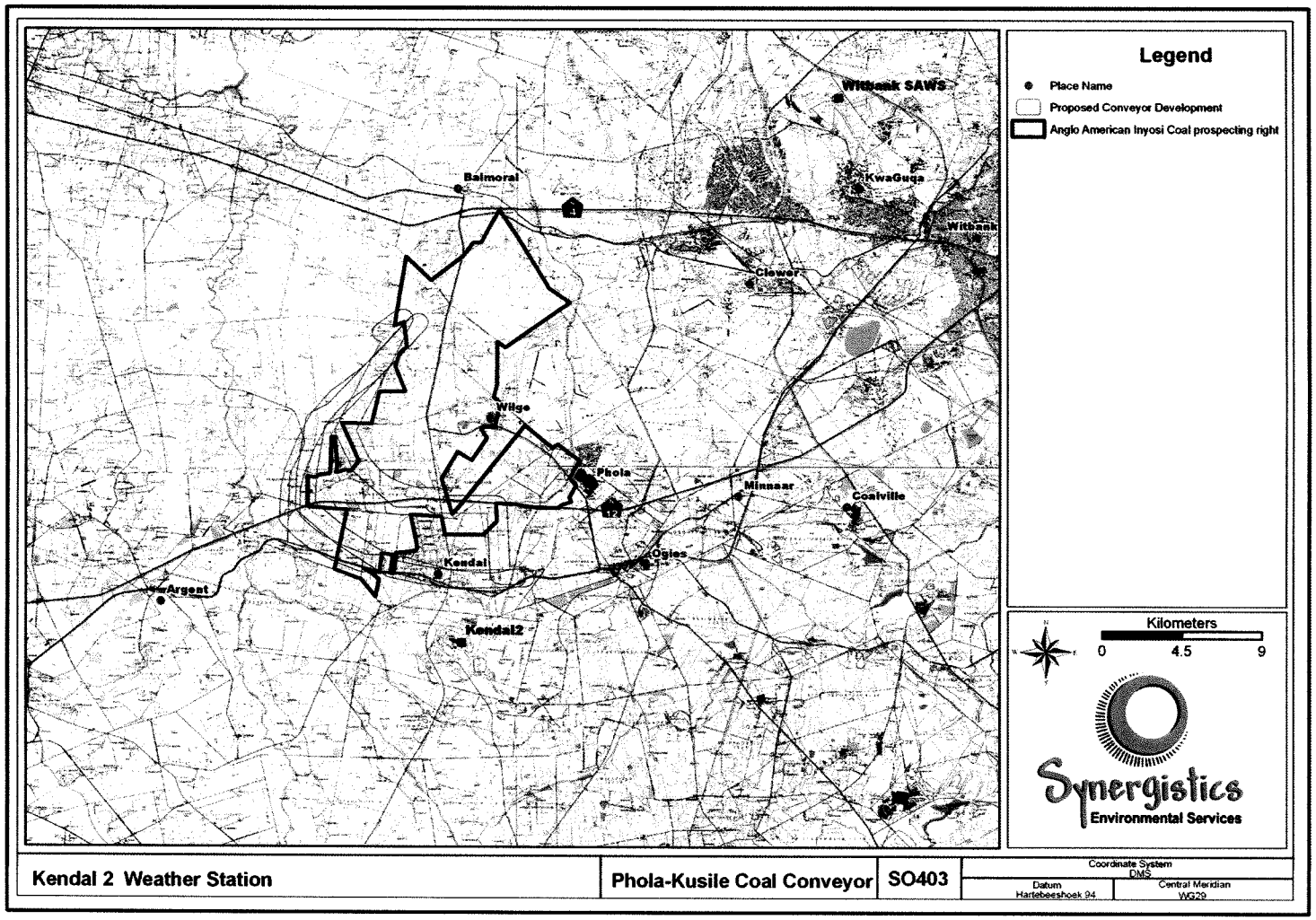

Figure 4-1: Location of the Kendal 2 meteorological data set in relation to the proposed conveyor development.

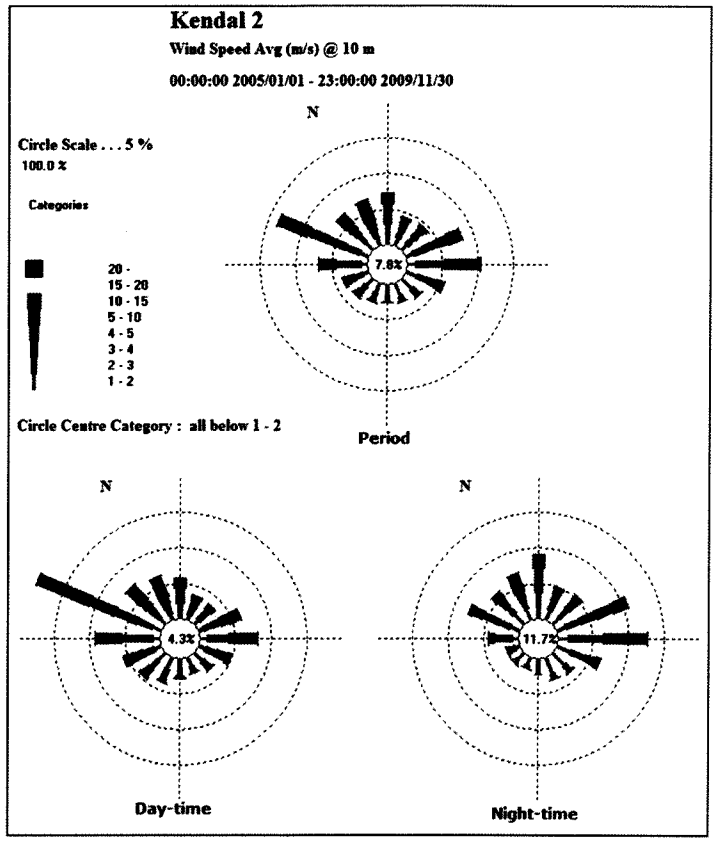

Figure 4-2: Annual average and day/night time wind roses (Kendal 2 weather station)

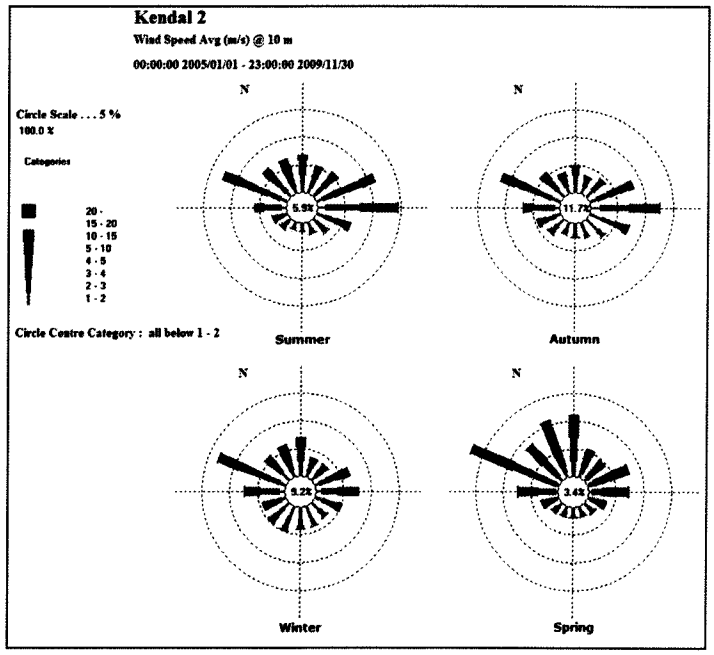

Figure 4-3: Seasonal average wind roses (Kendal 2 weather station)

4.1.2 Topography

The study area comprises of moderately flat to undulating plains with pans. The area is bisected by moderately wide to wide open drainage ways and non perennial streams.

4.1.3 Soils

A number of different soil forms are known to occur across the study area and along the alternative conveyor routes. The materials vary in both physical and chemical composition, based predominantly on the parent materials from which the soils have formed, with additional inputs and complications imprinted by the geomorphology of the area, varying ground roughness, slope and attitude of topography, with the climatic signature of the variable and seasonal changes. It is the complexity of the geomorphological systems that have resulted in a variety of soil forms and families found in the area. The sensitive nature of some of these soils will need to be considered if they are to be disturbed or impacted by the proposed conveyor system.

The variations in soil form are characterized by differences in the texture (grain size), colour, soil structure to some degree, and the effective rooting depths that result from the depth to bedrock and or inhibiting layers that occur. The soils range from deep sandy loams and silt loams with little to no structure, to fine and possibly medium grained sandy clay loams and more structured soils that are associated with the more basic lithologies. Based on available desktop data, coarse textured soils are expected to dominate over the plains and fine textured soils expected to be dominant in the low-lying areas.

The study area has been impacted to some extent by the commercial farming that has been practiced for a number of generations on significantly large sections of the conveyor route alternatives. These impacts will have had some effect on the soil chemistry and to a limited extent on the land forms that have developed.

4.1.4 Geology

The study area falls within the north-eastern part of the Witbank Coalfield and all the conveyor routes intersect coal resources along certain sections of the routes.

The Witbank Coalfield is underlain by pre-Karoo rocks, mainly Bushveld Complex and Pretoria Group volcanics. Glaciation events resulted in the deposition of tillite (Dwyka Formation) on the basement rocks over most of the area. Within the Karoo Sedimentary Sequence, the Ecca Group rest on top of the Dwyka Formation. In the Witbank coalfield the coal-bearing Vryheid Formation occurs at the bottom of the Ecca Group conformably to the underlying Dwyka Formation.

The Dwyka Formation consists of tillite, siltstone and sometimes a thin shale development. The Ecca Group consists predominantly of sandstone, siltstone, shale and coal. The Vryheid Formation in the Ecca Group contains five bituminous coal seams, numbered as No. 1 to No. 5 from bottom to top. The No. 2, No. 4 and No. 5 seams are the most economical coal seams in the Witbank Coalfield.

During the EIA phase, all prospecting and mining right areas will be mapped for consideration during route corridor selection and final route alignment.

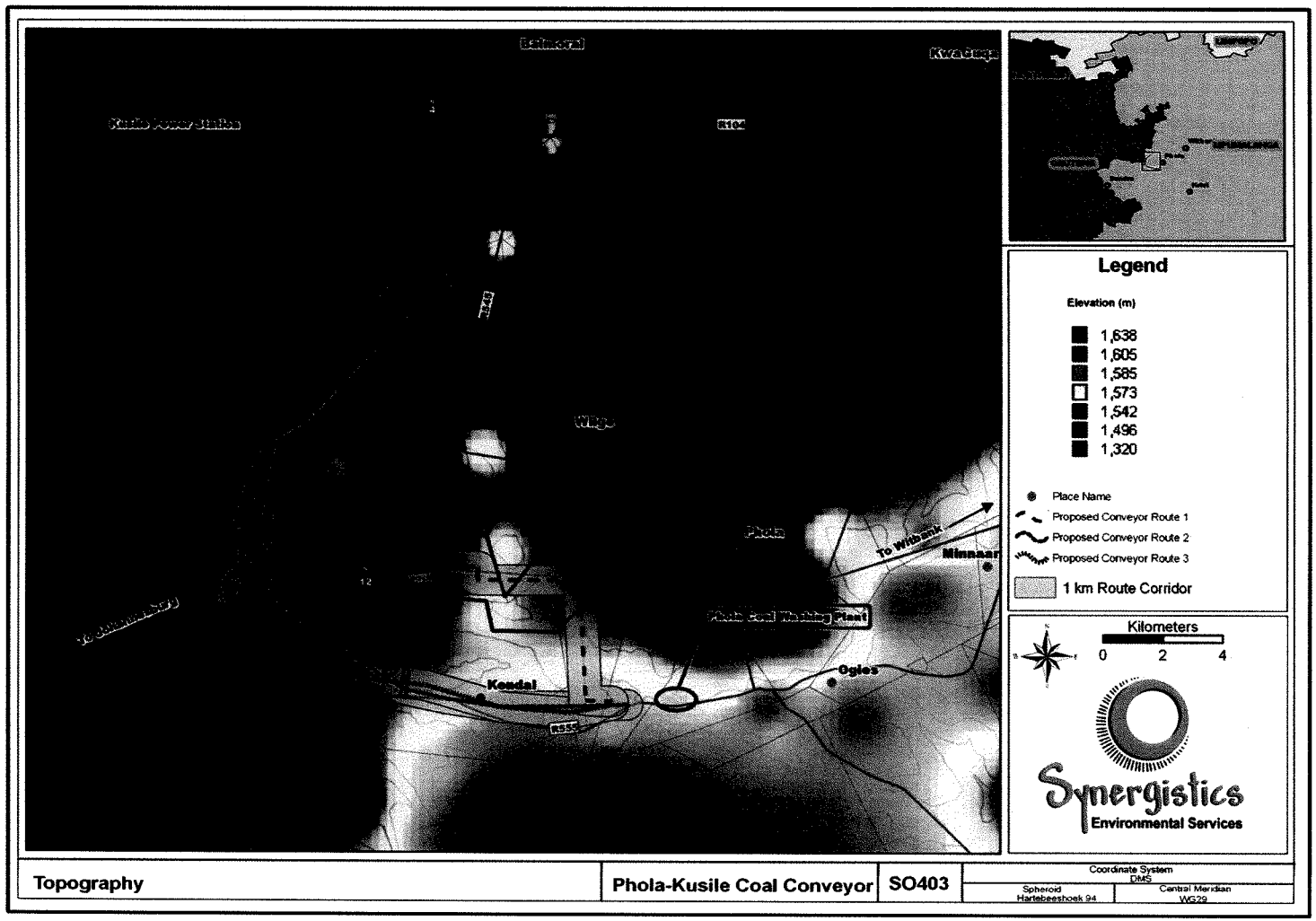

Figure 4-4: Topography

4.1.5 Air Quality

Existing sources of air emissions include the nearby Eskom coal-fired power stations and associated ash disposal facilities, construction activities at Kusile Power Station, industrial developments, blasting and materials transport and handling operations at nearby mines, transportation of coal products, spontaneous combustion associated with old underground coal mining areas and discard (mining waste) disposal facilities, veld fires, vehicle exhaust emissions, household fuel burning and farming (i.e. ploughing) activities.

4.1.6 Surface Water

Surface water is used primarily for agricultural and livestock watering purposes. The study area is situated in the Wilge River catchment area, within quaternary sub-catchments B20F and B20G of the Limpopo-Olifants primary drainage region (taken from Volume 1 of the Surface Water Resources of South Africa - 1990).The study area is situated on a watershed. The western side of the study area drains into the upper Wilge River and its tributaries. The eastern side of the mining area drains into the Saalklapspruit and its tributaries. The Saalklapspruit joins the Wilge River, which in turn drains into the Olifants River. The Olifants River flows to Loskop dam and then through the central part of the Kruger National Park and into Mozambique. It eventually joins the Limpopo River and discharges to the Indian Ocean on the east African coastline.

4.1.7 Groundwater

An assessment of background groundwater quality was conducted in 2006 and will be repeated during the EIA phase. Typical groundwater qualities from the 2006 study are presented below.

Table 4-3: Typical background groundwater quality in the shallow weathered aquifer (2006)

Variable	Minimum	Maximum	Average
pH	5.02	8.79	6.79
EC (*mS/m*)	1.98	54.10	14.55
TDS (*mg/l*)	10.00	364.00	89.97
Ca(*mg/l*)	0.01	71.00	12.38
Mg (*mg/l*)	0.46	16.70	5.80
Na (*mg/l*)	0.57	81.40	9.63
K (*mg/l*)	0.26	11.20	2.47
Si (*mg/l*)	0.00	47.20	7.61
T-Alk(*mg/l*)	3.48	272.00	62.47
Cl(*mg/l*)	0.36	29.00	4.91
SO_4(*mg/l*)	0.01	47.00	5.64
NO_3(*mg/l*)	0.01	5.96	0.95
F (*mg/l*)	0.01	6.55	0.42
Al (*mg/l*)*	0.010	6.600	0.186
Fe (*mg/l*)*	0.010	67.000	2.934
Mn(*mg/l*)*	0.010	1.050	0.074

**Samples acidified before filtration.*

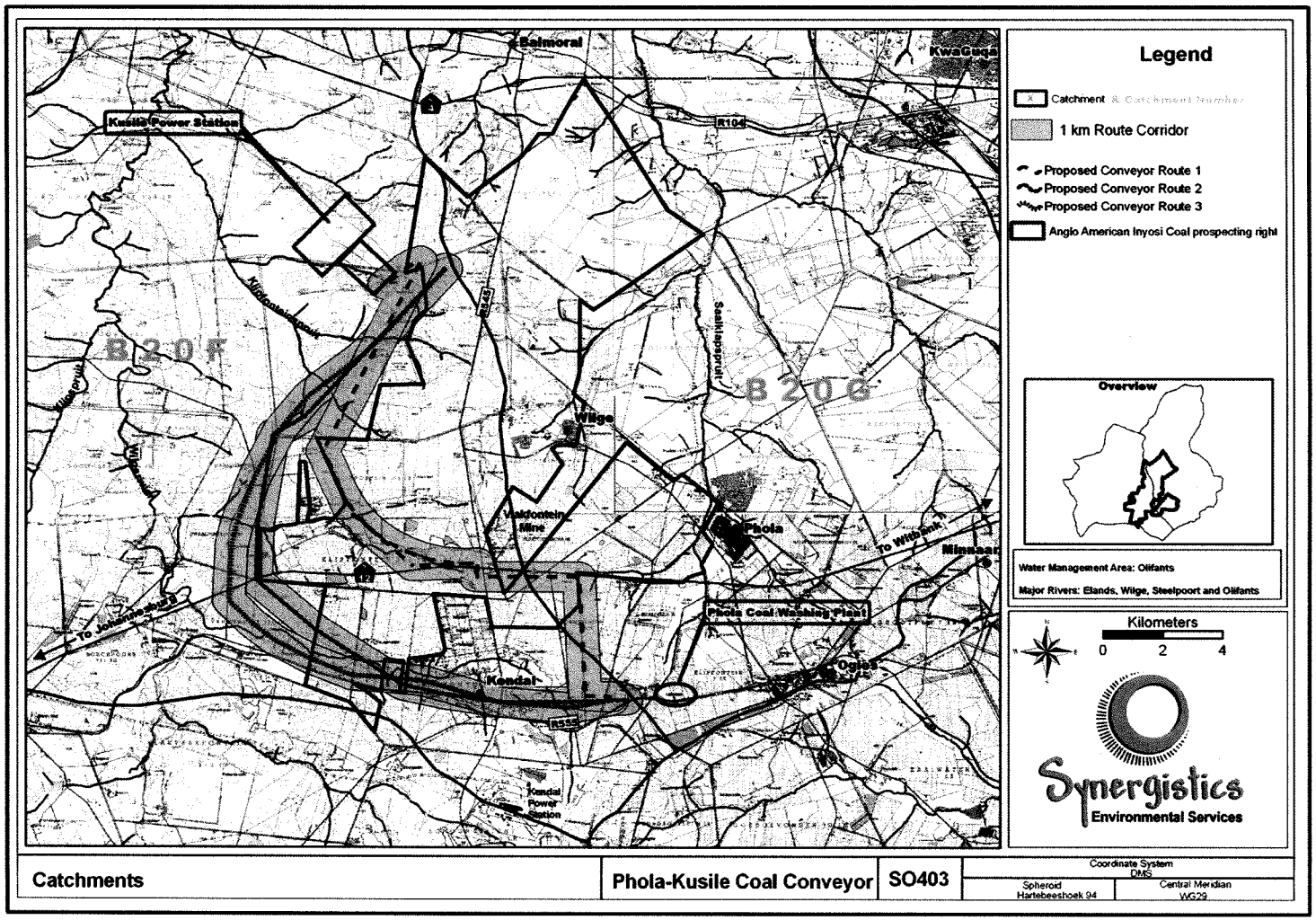

Figure 4-5: Catchments and Rivers

4.1.8 Noise

The study area is generally considered as a rural area in terms of the SANS 10103 criteria for outdoor noise ratings but various noise impacts already exist and it is therefore expected that ambient noise levels will be higher than the typical noise levels for rural areas. Existing noise impacts in the area include the Kusile Power Station (under construction), agricultural activities, existing mining operations and road noise along the N12 highway and other major roads, which are extensively utilised by heavy transport trucks.

Baseline noise measurements will be conducted during the EIA phase to characterise the baseline noise levels and to assess impacts associated with the proposed development.

Table 4-4: Equivalent Continuous Rating Levels for Outdoor Noise (SANS 10103)

Type of District	SANS 10103 Table 2: Equivalent Continuous Rating Levels for Outdoor Noise (dBA)		
	Day/Night	Day	Night
Rural districts	45	45	35
Suburban districts with little road traffic	50	50	40
Urban districts	55	55	45
Urban districts with one or more of the following: workshops, business premises and main roads.	60	60	50
Central business districts	65	65	55
Industrial districts	70	70	60

4.2 Biological Environment

4.2.1 Flora

The study area is located within the grassland biome of South Africa. The grassland biome is one of the most threatened biomes in South Africa, due to agricultural and mining activities. Approximately 60 to 80% of the grassland biome has been irreversibly transformed, while only 2% is formally conserved. In terms of the latest regional vegetation classification, three regional vegetation units occur in the area: Eastern Highveld Grassland, Eastern Temperate Freshwater Wetlands and Rand Highveld Grassland (Mucina & Rutherford 2006) (Figure 4-7).

4.2.1.1 Eastern Highveld Grassland

This vegetation unit is described as occurring on slightly to moderately undulating plains, including some low hills and pan depressions. The vegetation is short dense grassland dominated by the usual Highveld grass composition (Aristida, Digitaria, Eragrostis, Themeda, Tristachya etc.) with small, scattered rocky outcrops with wiry, sour grasses and some woody species (*Acacia caffra, Celtis africana, Diospyroslyciodes subsp lycioides, Parinari capensis, Protea caffra, P. welwitschii* and *Rhus magalismontanum*). Abiotic attributes associated with this vegetation unit are red to yellow sandy soils of the Ba (30%) and Bb (65%) land types found on shale and sandstones on the Madzaringwe Formation (Karoo Supergroup). Land types associated with the Ba and Bb soil patterns are associated with landscapes in which a plinthic catena forms part of the landscape. In these landscapes, soft plinthic soils associated with fluctuating water tables within 1.5 m of the surface of the earth are common.

This vegetation unit is considered to be endangered, its conservation target is 24%. Some 44% is transformed mainly by cultivation, plantations, mines and urbanization and by building of dams. Cultivation may have had a more extensive impact, indicated by land-cover data. No serious alien invasions are reported, but *Acacia mearnsii* can become dominant in disturbed sites. Erosion is very low.

4.2.1.2 Eastern Temperate Freshwater Wetlands

This vegetation is described as occurring on flat landscape or shallow depressions filled with (temporary) water bodies, supporting zoned systems of aquatic and hygrophilous vegetation of temporarily flooded grasslands and ephemeral herblands. Soils are peaty (Champagne form) to vertic (Rensburg form). Wetlands form where flow of water is impeded by impermeable soils and/or by erosion resistant features, such as dolerite intrusions. Surface water inundating may be present at any point while the wetland is saturated and some plant species will be present only under inundated conditions or under permanently saturated conditions. The presence of standing water should not be taken as a sign of permanent wet conditions.

4.2.1.3 Rand Highveld Grassland

This unit is described as forming part of a highly variable landscape with extensive sloping plains and a series of ridges slightly elevated over undulating surrounding plains. The vegetation is species-rich, wiry, sour grassland alternating with low, sour shrub-land on rocky outcrops and steeper slopes.

Biogeographically important taxa occurring in the regional vegetation are *Agapanthus inapertus P.Beauv. ssp. pendulus (L.Bolus) Leight., Eucomis vandermerwei I.Verd., Huernia insigniflora C.A.Maass and Melhania randii Baker f.* The following species are endemic to the regional vegetation unit: *Anacampseros subnuda Poelln. ssp. lubbersii (Bleck) Gerbaulet, Crassula arborescens (Mill.) Willd. ssp. undulatifolia Toelken, Delosperma purpureum, Encephalartos eugene-maraisii I.Verd. ssp. middelburgensis Lavranos & D.L.Goode, Encephalartos lanatus Stapf & Burtt Davy, Frithia humilis, Melanospermum rudolfii Hilliard and Polygala spicata Chodat.*

This unit is also considered endangered; its conservation target is 24%. It is poorly conserved. Almost half has been transformed mostly by cultivation, plantations, urbanization or dam-building. Cultivation may also have had an impact on an additional portion of the surface area of the unit where old lands are currently classified as grasslands in the land-cover classifications. Scattered aliens (most prominently *Acacia mearnsii*) occur in about 7% of this unit. Only about 7% has been subjected to moderate to high erosion levels.

4.2.2 Fauna

The animals observed during previous field assessments are typical of the region in which the study area is located – a combination of ecological characteristics associated with wetlands, grasslands, crop fields and outcrops found in the study area. No Red Data or sensitive animal species were found or any indication of such species observed.

The red data species that are known from the regional databases are considered to have a low or moderate likelihood of occurrence in the study area, lacking some of their habitat requirements within the study area. These include characteristics such as woodland-associated conditions, caves or subterranean habitats. As a result, a large portion of the red data species contingent for the study area is not considered likely inhabitants (49% of species). However, the presence of wetlands and untransformed grasslands has led to the estimations of high (11% of species) and moderate (40% of species) probability of occurrences of red data species within the study area's boundaries.

4.2.3 Ecological Sensitivity

Habitat classifications as defined in the Mpumalanga Conservation Plan (C Plan) are presented in Figure 4-9. Ecological sensitivity, based on the results of ecological surveys conducted in 2006 and 2010 is presented in Figure 4-8. Where required, the ecological specialist will expand the data for any route alternatives located outside the areas previously surveyed.

Important habitats include wetlands and wetland-related habitats (high faunal sensitivity) and untransformed grasslands (moderate sensitivity). These areas are also considered to be important for the conservation of biodiversity in the study area. These areas include ecological conditions that are varied, unique and likely host to restricted (geographically) animal assemblages and communities. The high-lying rocky shrub-land is one ecological system that deserves higher status than based on red data habitat alone. The presence of a much localized plant species, *Frithia humilis*, is an indication of the biological importance of the habitat type in the study area and region. It is likely that the high lying rocky shrub-land will also be host to unique animal assemblages, especially where invertebrates are concerned (one might be a pollinator of *F. humilis*.).

4.2.4 Wetlands

The presence of wetlands in the study area is linked to both perched groundwater and surface water. Three types of natural wetland systems occur within and around the study area:

- Valley bottom wetlands with and without channels;
- Hillslope seepage wetlands; and
- Pans.

Wetlands found in the study area are depicted in Figure 3-3 and Figure 4-10. A schematic diagram of how these systems are positioned in the landscape and the general topography of the study sites is given in Figure 4-6 with the generalised hydrological and other characteristics of the wetlands tabulated in Table 4-5.

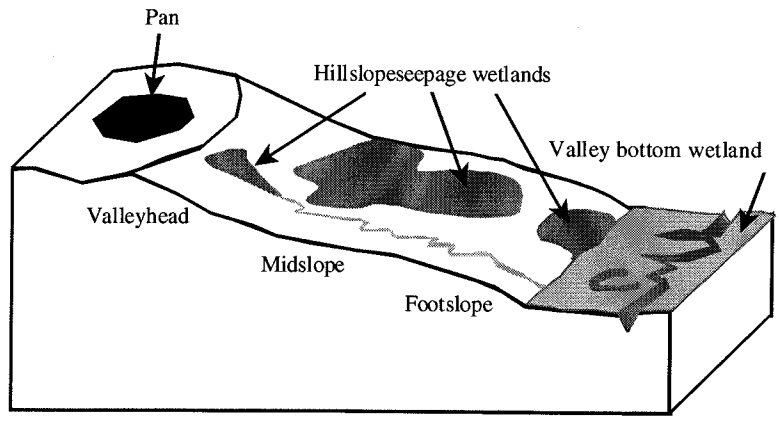

Figure 4-6: Schematic illustration of the types of wetlands and the topographical settings of typical wetlands found in and around the study area

Both seepage and some sections of valley bottom wetlands have been modified to form impoundments to provide access to and to extend the period of availability of water that is moving through the landscape.

The study area straddles a catchment divide form where water flows off to emerge as seepage wetlands where the aquiclude (impermeable area) intercepts the side slopes and where flows concentrate in the valley bottoms. The valley bottom wetlands on the tributaries of the Saalklapspruit are largely channelled implying that the energy associated with the flows is high enough to cause sediment transport. The large *Phragmites* stands in the Saalklapspruit are undoubtedly a reflection of the deposition of sediments emerging from the upstream catchment. In contrast to this the valley bottom wetlands associated with west draining tributaries of the Wilge River are, within the study site, largely naturally unchannelled. There is some evidence of channel development in the systems on the farm Klipfontein where channelling has developed in one of the reaches. The absence of any extensive reed beds in the Wilge River would suggest that the energy associated with flows out of this section of the catchment are high thus transporting sediments to beyond the study area.

The relatively large surface area representing seeps suggests that a considerable portion of the rainfall falling in this area enters the valley bottom systems as diffuse flow, over an extended period of time.

Table 4-5: General characteristics of the wetlands recorded in the study area

RIPARIAN	Valley bottom wetlands	Generally in the steeper headward parts of the streams and in the shallow valleys that drain the slopes.	Relatively narrow grassland areas (generally <60m wide) with or without a channel that drain the steeper upper catchment slopes in the study area.	Receive water from overland flow including runoff from the adjacent slopes and from overtopping of the channel banks during high rainfall events.	Surface flow supported in some cases by interflow.	Variable but predominantly overland, stream flow and evapo-transpiration.
NON-RIPARIAN	Hillslope seepage	Hillslopes	Occur on concave or convex slopes which are characterized by the colluvial (transported by gravity) movement of materials. Generally always associated with deep sands.	Predominantly interflow associated with perched aquifers but may include groundwater.	Interflow and diffuse surface flow.	May be seasonal to permanent, surface flow or interflow and evapo-transpiration.
	Pans	In depressions and basins	A basin shaped area with a closed elevation contour that allows for the non-permanent (seasonal or temporary) accumulation of surface water. An outlet is usually absent.	Runoff from the surrounding catchment area.	In some cases, possibly seepage	Evapo-transpiration and in some instances suspected leakage

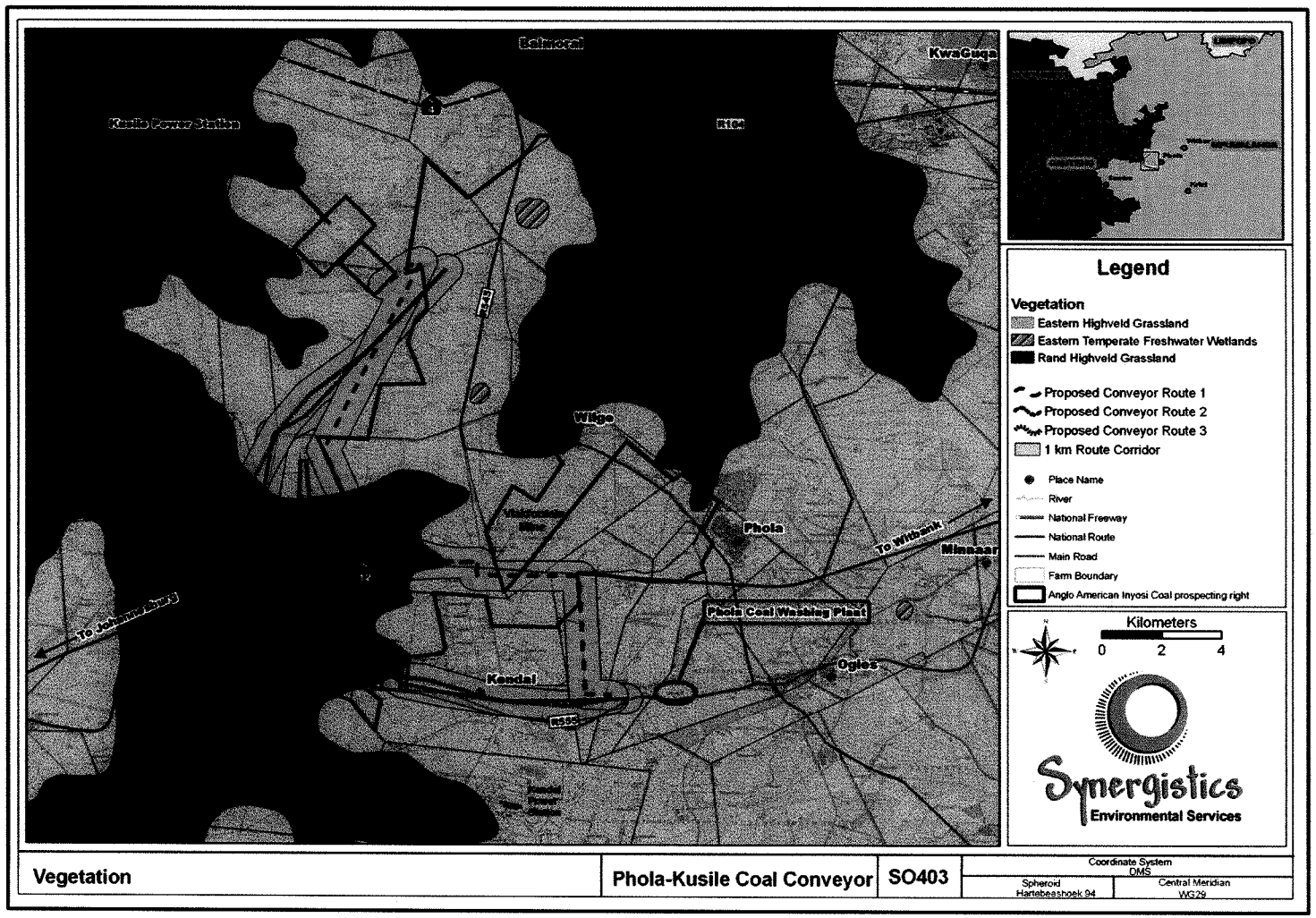

Figure 4-7: Regional Vegetation

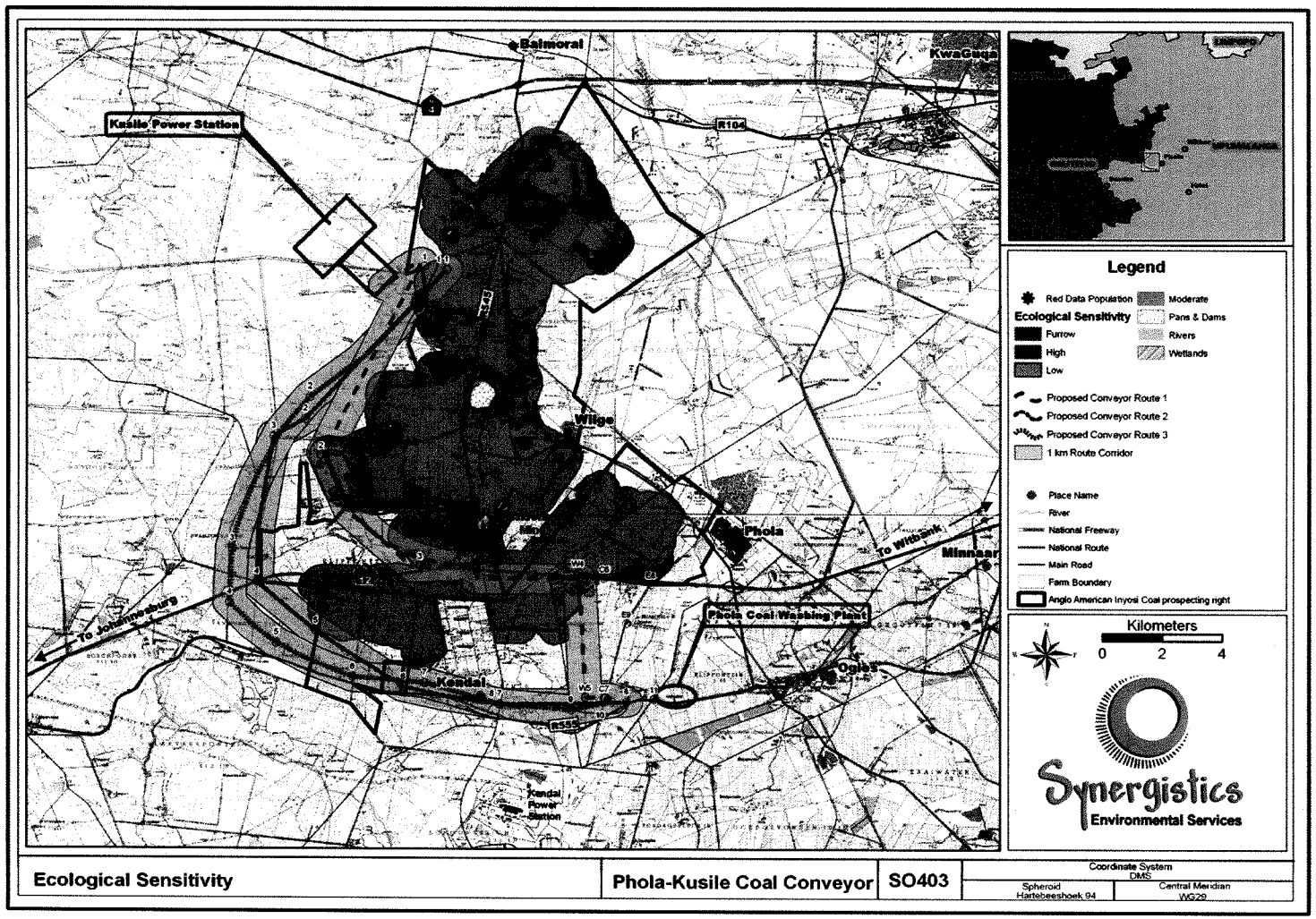

Figure 4-8: Ecological Sensitivity

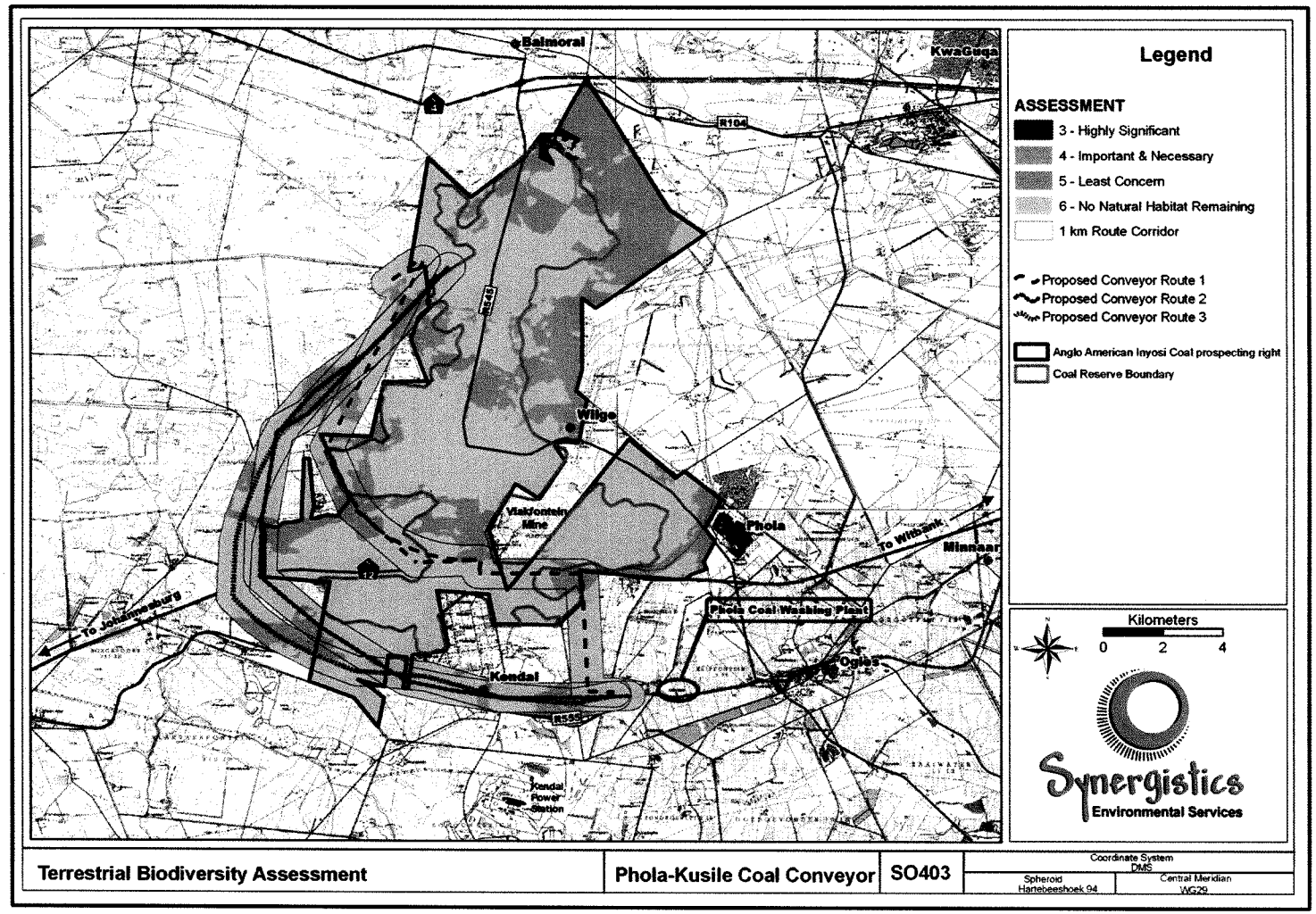

Figure 4-9: Terrestrial Biodiversity Assessment (Mpumalanga Conservation Plan)

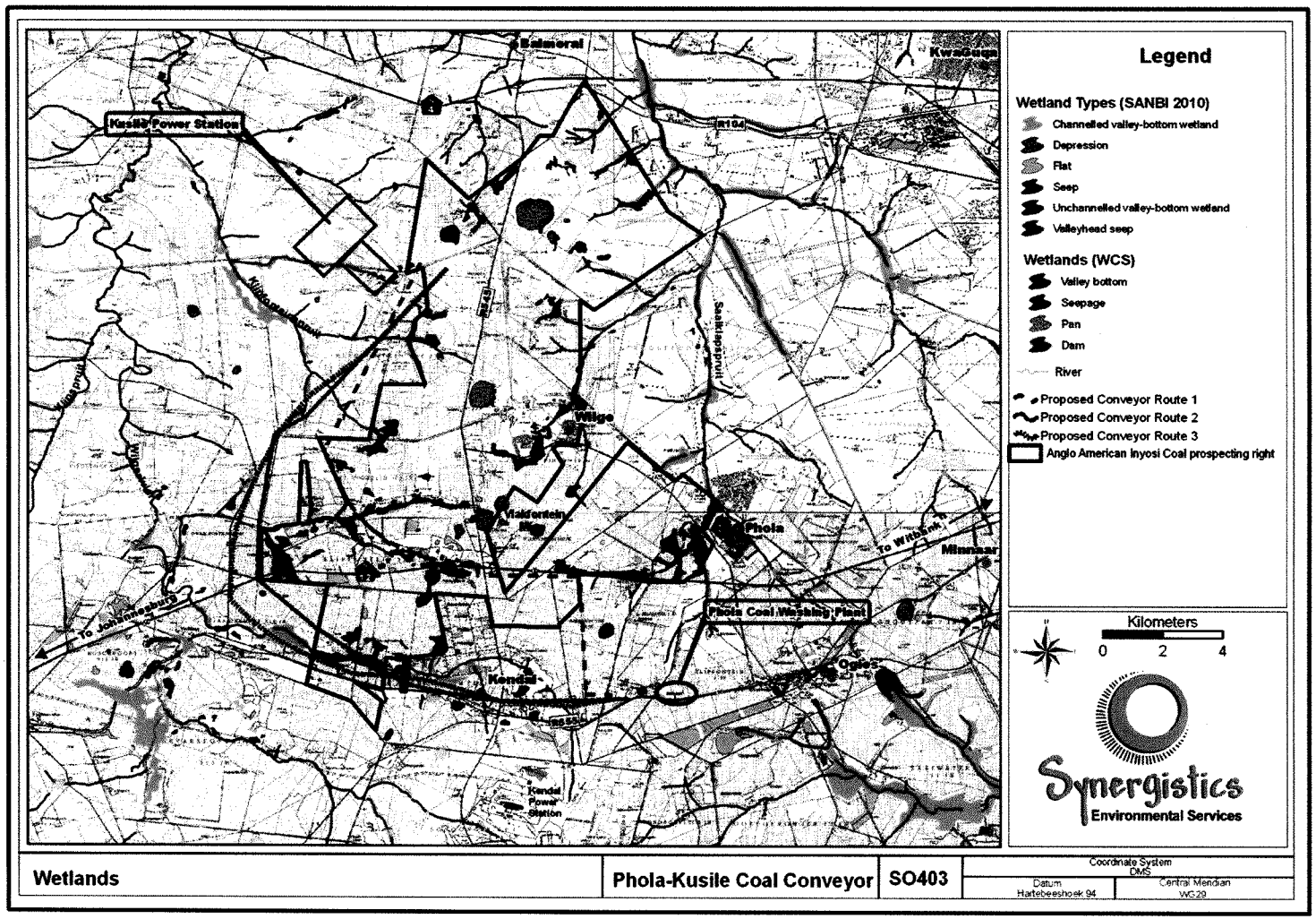

Figure 4-10: Wetlands according to WCS and SANBI 2010

4.3 Land Capability and Land Use

The majority of the land between the Phola Coal Processing Plant and the Kusile Power Station, over which a route for the overland conveyor has to be found, can be considered to be arable land or grazing land. Only small areas can be classified as wilderness land and as wetlands, as illustrated in Figure 4-11. The regional land cover is depicted in Figure 4-12.

4.3.1.1 Arable Land

Land capable of sustaining arable crop production is generally found on deeper (> 750mm) well drained, red (Hutton) and yellow-brown (Clovelly and Griffin) soils on the midslope and upper midslope positions in the landscape. Areas where deeper hydromorphic soil forms (soil that developed in the presence of excess water) are found are also capable of sustaining agricultural crop production (Glencoe, Katspruit, Kroonstad, Rensburg, Westleigh, Pinedene and Avalon), if good management practices are employed. The more structured and shallow hydromorphic soils are not considered to be arable soils.

4.3.1.2 Grazing Land

Grazing land is generally confined to areas with shallower soils. These soils are generally darker in colour and are hydromorphic. They can be moderately to well drained but are not always free draining to a depth of 750 mm. These soils are capable of sustaining palatable plant species on a sustainable basis, especially since only the subsoils (at a depth of 500 mm) are periodically saturated. To be classified as grazing land, there should be no rocks or pedocrete fragments (a type of infertile and compacted soil formed by the concentration of minerals due to terrestrial weathering in the upper soil layers). If present, these would limit the land capability to wilderness land.

4.3.1.3 Wilderness Land

The areas that classify as wilderness land are found associated with the shallower and rockier soils and are not suitable for agriculture or grazing.

4.3.1.4 Wetlands

Wetlands are generally delineated based on a combination of soil types and the presence of hydromorphic vegetation. Wetland soils are defined using hydromorphic soil criteria. The soils are generally dark grey to black in the topsoil horizons with a high transported clay component and show pronounced mottling in the subsoils layers. Wetlands are depicted on Figure 4-10.

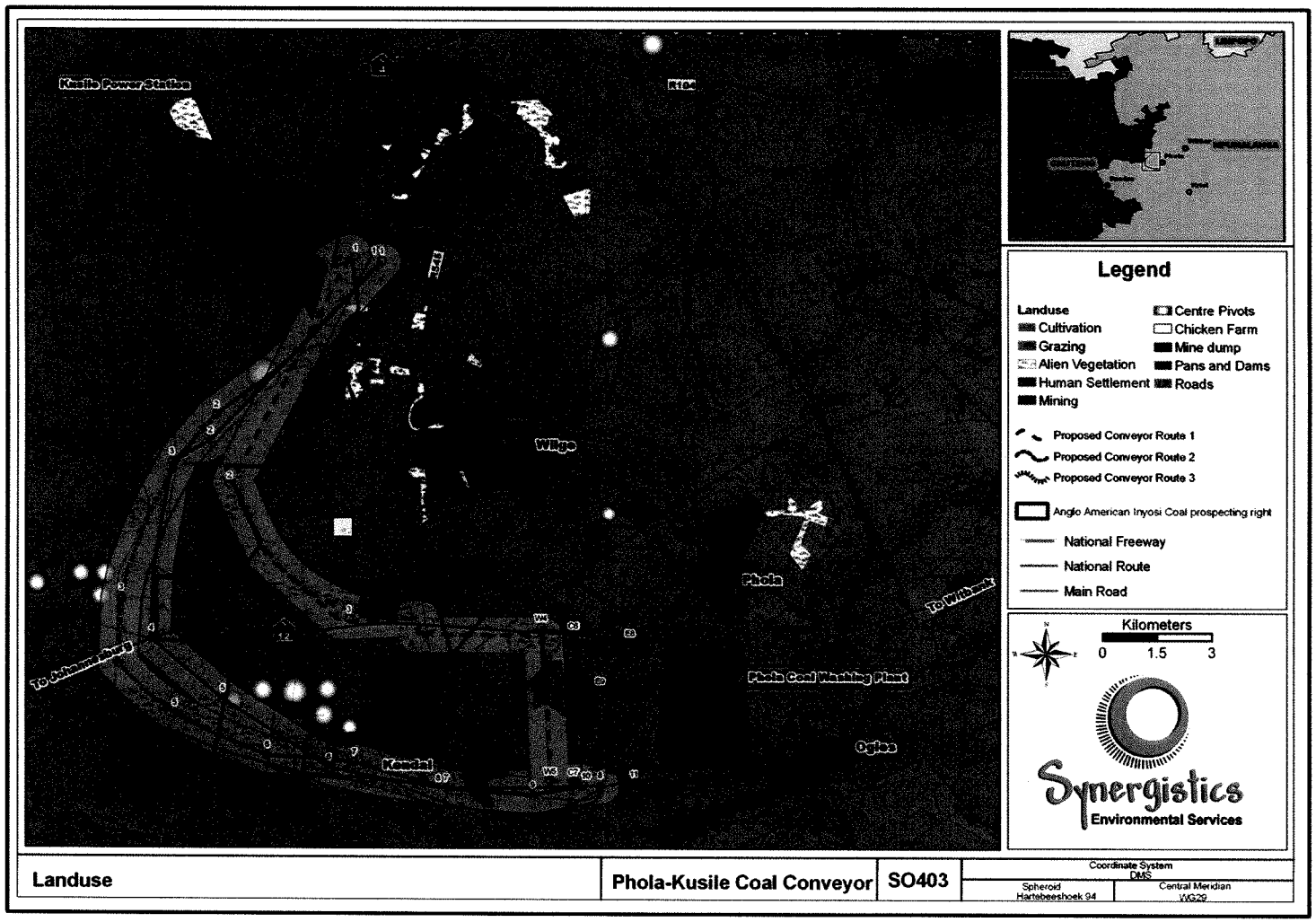

Figure 4-11: Land Capability

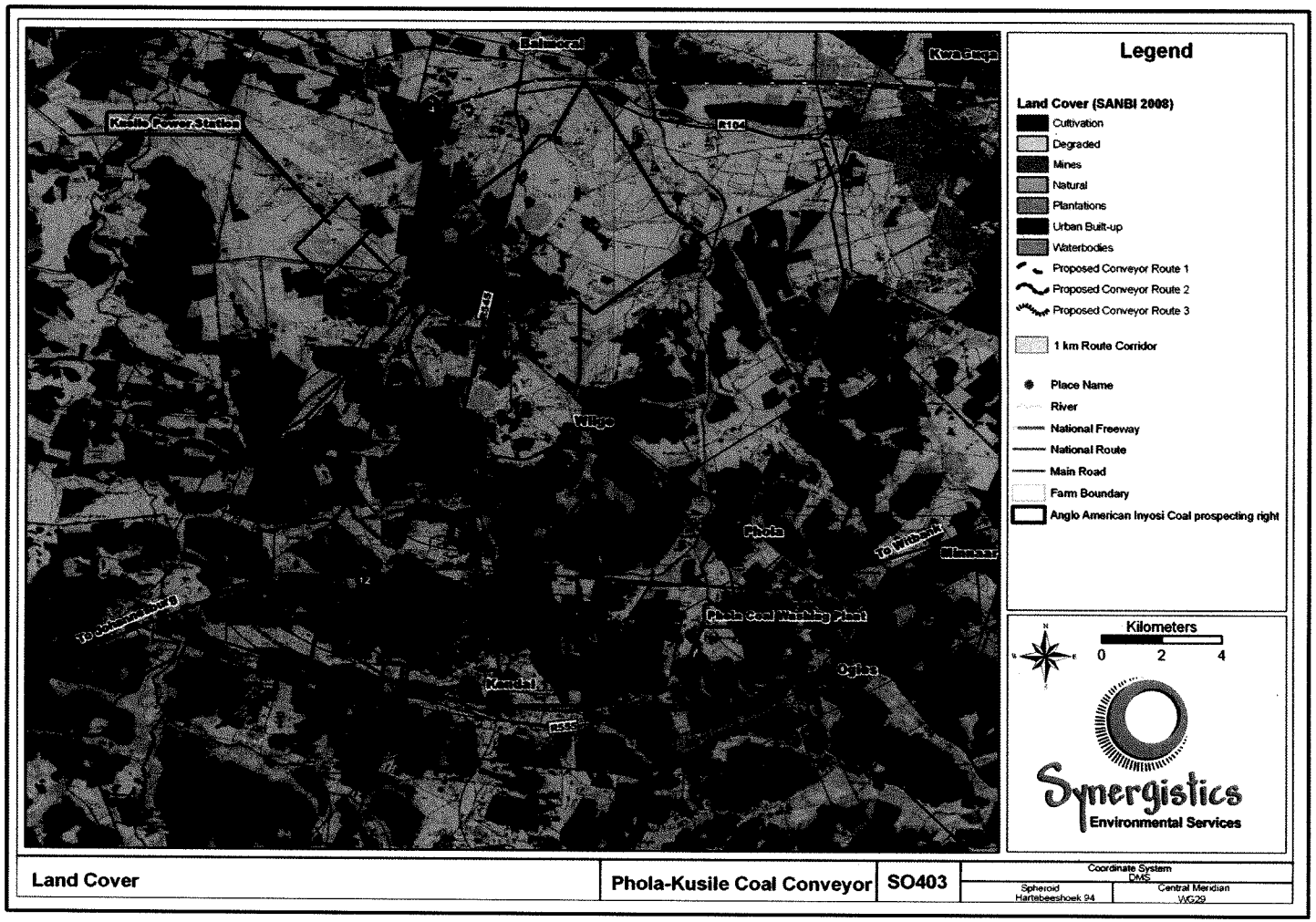

Figure 4-12: Land Cover (SANBI 2008)

4.4 Land Tenure

The properties that are affected by the alternative route corridors are listed in Table 4-6, Table 4-7 and Table 4-8, with details of land ownership. Land ownership is depicted on Figure 4-13.

Table 4-6: Affected Properties and land Ownership Along Alternative Route Corridor 1

Property description		Landowner	Contact Person
Farm	Portion		
Smaldeel IS	Remaining Extent (R/E)	Transnet	
Smaldeel, IS IS	R/E of portion 1	Ingwe Surface holdings	Vikesh Dhanooklal
Smaldeel, IS	R/E	Truter Boerdery Trust	Chrisi Truter
Smaldeel, IS	3	Truter Boerdery Trust	As above
Smaldeel, IS	7	Truter Boerdery	As above
Bankfontein 216 IR	R/E of portion 7	Truter Boerdery	As above
Bankfontein 216 IR	11	Truter Boerdery	As above
Bankfontein 216 IR	10	Truter Boerdery	As above
Bankfontein 216 IR	R/E	Truter Boerdery	As above
Bankfontein 216 IR	6	Ferret Coal (Kendal)	
Bankfontein	R/E of portion 1	Transnet	
Bankfontein	3	Truter Boerdery	Chrisi Truter
Vlakfontein 569	20	Bradlow	Bronlaw Properties Pieter Venter
Vlakfontein 569	23	Bradlow	
Klipfontein 568 JR	13	Anglo Operations Limited (AOL)	Henry Niewoudt
Klipfontein 568 JR	12	AOL	As above
Klipfontein 568 JR	57	SANRAL	Hermans and Roman Property Solutions
Klipfontein 568 JR	38	SANRAL	Hermans and Roman Property Solutions
Klipfontein 568 JR	15	AOL	Henry Niewoudt
Klipfontein 568 JR	16	AOL	As above
Klipfontein 568 JR	R/e of portion 1	AOL	As above
Klipfontein 568 JR	1	AOL	As above
Klipfontein 568 JR	29	Waterfontein Boerdery	Simon Maruti
Klipfontein 568 JR	5	AOL	Henry Niewoudt
Klipfontein 568 JR	36		NP Prinsloo
Klipfontein 568 JR	35	AOL	Henry Niewoudt
Klipfontein 568 JR	R/E of portion 4	AOL	As above
Klipfontein 568 JR	42	AOL	As above
Klipfontein 568 JR	42	Frazer Alexander Coal	
Klipfontein 568 JR	34	PJ B Doman	Mr Doman (Snr) Died Barry Doman(Jnr)
Klipfontein 568 JR	33	V N Tjaart	
Klipfontein 568 JR	32	Truter Boerdery	Chrisi Truter
Klipfontein 566 JR	9	Eskom	Jan De Klerk
Klipfontein 566 JR	30	Eskom Holdings Ltd	See abovementioned contact person
Klipfontein 566 JR	49	Eskom Holdings Ltd	As above
Klipfontein 566 JR	47	Eskom Holdings Ltd	As above
Klipfontein 566 JR	45	Eskom Holdings Ltd	As above
Klipfontein 566 JR	43	Eskom Holdings Ltd	As above
Klipfontein 566 JR	41	Eskom Holdings Ltd	As above
Klipfontein 566 JR	42	Eskom Holdings Ltd	As above

Property description		Landowner	Contact Person
Farm	Portion		
Klipfontein 566 JR	39	Eskom Holdings Ltd	As above
Klipfontein 566 JR	37	Eskom Holdings Ltd	As above
Klipfontein 566 JR	36	Eskom Holdings Ltd	As above
Klipfontein 566 JR	35	Eskom Holdings Ltd	As above
Klipfontein 566 JR	17 (a portion of portion 13)	AOL	Henry Niewoudt
Klipfontein 566 JR	66	AOL	As above
Klipfontein 566 JR	R/E	AOL	As above

Table 4-7: Affected Properties and land Ownership Along Alternative Route Corridor 2

Property description		Landowner	Contact Person
Farm	Portion		
Bankfontein 216 IR	Remaining Extent (R/E)	Truter Boerdery	Chrisi Truter
Bankfontein 216 IR	6	Feret Coal (Kendal)	
Heuvelfontein 215 IR	5	Homeland Mining & Energy SA – Kendal Colliery (previously owned by Ann Elspeth Flemming)	Gavin Silver (General Manager)
Heuvelfontein 215 IR	R/E	Shanduka Coal (Pty) Ltd	
Heuvelfontein 215 IR	42	Shanduka Coal (Pty) Ltd	
Heuvelfontein 215 IR	R/E of portion 41	Shanduka Coal (Pty) Ltd	
Heuvelfontein 215 IR	40	JJRC Familie Trust	Delta Crane and Plant Hire (Pty) Ltd
Heuvelfontein 215 IR	66	JJRC Familie Trust	As above
Heuvelfontein 215 IR	73	Truter Boerdery Trust	Chrisi Truter
Heuvelfontein 215 IR	72	NunesAgostinhos Perreira	Michael Perreira
Heuvelfontein 215 JR	63	Truter Boerdery Agostinho	As above
Heuvelfontein 215 IR	61	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	R/E of portion 58	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	R/E of portion 57	Truter Boerdery Trust	See abovementioned contact person
Heuvelfontein 215 IR	R/E of portion 51	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	36	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	37	Truter Boerdery Trust	As above
Heuvelfontein 215 JR	52	Truter Boerdery	As above
Van Dyksput 214 IR	4	Truter Boerdery	As above
Van Dyksput 214IR	3	Truter Boerdery	As above
Van Dyksput 214 IR	R/E	Truter Boerdery	As above
van Dyksput 214 IR	10	SANRAL	Hermans & Romans Property Solutions
Dwaalfontein 565 JR	3	C H Truter Familie Trust	
Dwaalfontein 565 JR	R/E	A J Truter Familie Trust	
Klipfontein 566 JR	21	Eskom Holdings Ltd	Jan de Klerk
Klipfontein 566 JR	9	Eskom Holdings Ltd	As above
Klipfontein 566 JR	30	Eskom Holdings Ltd	As above
Klipfontein 566 JR	43	Eskom Holdings Ltd	As above
Klipfontein 566 JR	42	Eskom Holding Ltd	As above
Klipfontein 566 JR	17	Anglo Operations Limited (AOL)	Henry Niewoudt
Klipfontein 566 JR	60	AOL	As above
Klipfontein 566 JR	19	Eskom Holdings Ltd	Jan de Klerk

Table 4-8: Affected Properties and land Ownership Along Alternative Route Corridor 3

Property description		Landowner	Contact Person
Farm	Portion		
Bankfontein 216 IR	Remaining Extent (R/E)	Truter Boerdery	Chrisi Truter
Bankfontein 216 IR	6	Feret Coal (Kendal)	
Heuvelfontein 215 IR	5	Homeland Mining & Energy SA – Kendal Colliery (previously owned by Ann Elspeth Flemming)	Gavin Silver (General Manager)
Heuvelfontein 215 IR	R/E	Shanduka Coal (Pty) Ltd	
Heuvelfontein 215 IR	42	Shanduka Coal (Pty) Ltd	
Heuvelfontein 215 IR	R/E of portion 41	Shanduka Coal (Pty) Ltd	
Heuvelfontein 215 IR	40	JJRC Familie Trust	Delta Crane and Plant Hire (Pty) Ltd
Heuvelfontein 215 IR	66	JJRC Familie Trust	As above
Heuvelfontein 215 IR	73	Truter Boerdery Trust	Chrisi Truter
Heuvelfontein 215 IR	72	Nunes Agostinhos Perreira	Michael Perreira
Heuvelfontein 215 JR	63	Truter Boerdery Agostinho	Chrisi Truter
Heuvelfontein 215 IR	61	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	R/E of portion 58	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	R/E of portion 57	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	R/E of portion 51	Truter Boerdery Trust	As above
Heuvelfontein 215 IR	36	Truter Boerdery Trust	As above
Heuvelfontein 215 JR	52	Truter Boerdery	As above
Van Dyksput 214 IR	4	Truter Boerdery	As above
Van Dyksput 214IR	3	Truter Boerdery	As above
Van Dyksput 214 IR	R/E	Truter Boerdery	As above
van Dyksput 214 IR	10	SANRAL	Hermans & Romans Property Solutions
Dwaalfontein 565 JR	3	C H Truter Familie Trust	
Dwaalfontein 565 JR	R/E	A J Truter Familie Trust	
Klipfontein 566 JR	21	Eskom Holdings Ltd	Jan de Klerk
Klipfontein 566 JR	19	Eskom Holdings Ltd	As above
Klipfontein 566 JR	10	Eskom Holdings Ltd	As above
Klipfontein 566 JR	9	Eskom holdings Ltd	As above
Klipfontein 566 JR	30	Eskom Holdings Ltd	As above
Klipfontein 566 JR	43	Eskom Holding Ltd	As above
Klipfontein 566 JR	42	Eskom Holding Ltd	As above
Klipfontein 566 JR	39	Eskom Holding Ltd	As above
Klipfontein 566 JR	17 (a portion of portion 13)	Anglo Operations Limited (AOL)	Henry Niewoudt
Klipfontein 566 JR	60	AOL	As above

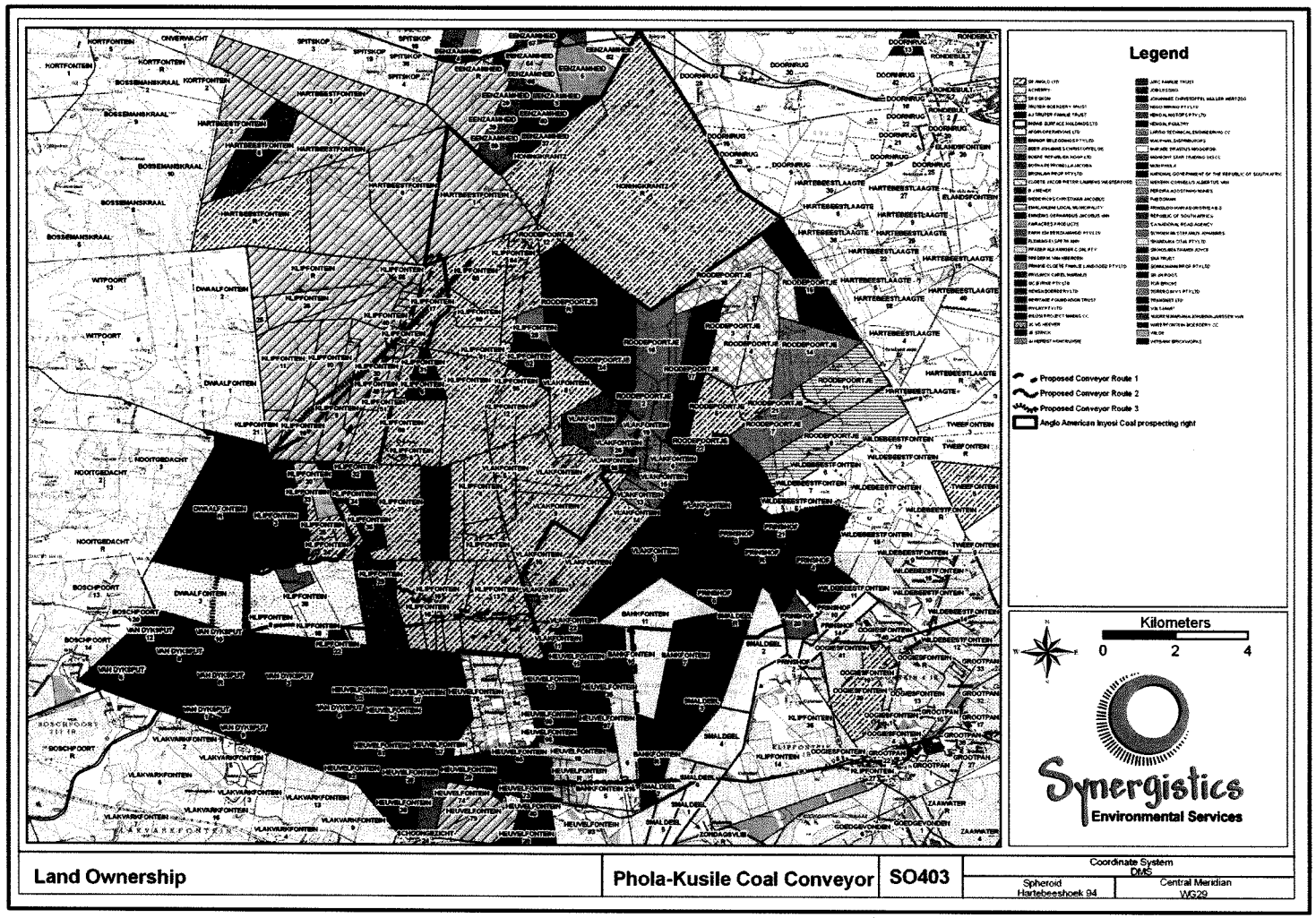

Figure 4-13: Land Ownership

4.5 Cultural and Heritage Resources

The study area is located on the Highveld, an area which did not see much human occupation in pre-colonial times. This had to do with economic strategies, cultural preferences and climate fluctuations. It was only after white settlers entered the area that population numbers increased significantly.

A number of sites within the broader study area have been deemed to have cultural significance. These date mostly from historic times and are categorised as structures (farmsteads/homesteads) and cemeteries/graves. However, none of the sites are deemed to be of such significance that would prevent development in the area.

A general survey of the area in 2006, found some interesting structures (houses and outbuildings). If these fall within a development footprint and if they cannot be rehabilitated and reused, they can be demolished after they have been recorded in full, in which case SAHRA would have to issue a permit for their destruction. Similarly, graves found in the development footprint, will have to be relocated to new cemeteries, after the correct procedure has been followed. This includes, inter alia, notification of intent to remove the graves, consultation with descendants, and permits from the police and provincial authorities.

A number of graves have been observed along some of the conveyor route alternatives. All feasible conveyor route options will be checked for graves and historical houses and outbuildings and other artefacts during the EIA phase.

5. Results of Consultation with Interested and Affected Parties

A list of I&AP issues and concerns are provided in Table 5-1, with the names of the I&AP and the date the issue or concern was raised. Responses to all concerns are provided.

Table 5-1: I&AP Issues and Concerns, with Responses and References to Report Sections where Issues and Concerns are addressed

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
1.	How many conveyor belts will be built? Will there be a standby conveyor belt?	There are three alternative routes being investigated, but only one route will be used and only one conveyor belt (comprising of a number of flights or sections) will be built. A certain amount of coal has to be delivered to Kusile on a daily basis. In the proposed operational planning for the conveyor, AAIC will take into account down time for maintenance. A standby conveyor belt will thus not be constructed.	Mr Arthur Joubert Plot 52, PO Box 15, Kendal, 2225 (24 November 2010).
2.	We prefer the coal to be transported by a conveyor belt, because that means fewer trucks on the road.	Noted.	Mr Arthur Joubert Plot 52, PO Box 15, Kendal, 2225 (24 November 2010)
3.	Will the conveyor belt be monitored regularly?	Yes, it will be serviced and monitored regularly but the exact frequency is not known at this stage.	Mr Daan Duvenage Plot 32, PO Box 132, Kendal, 2225 (24 November 2010)
4.	What will be done regarding dust, because the mines only do dust suppression when an inspection is about to take place. A conveyor belt also makes a lot of noise.	The specialist studies will investigate both issues – dust and noise. The suppression of dust and adhering to acceptable levels of noise will also be written into the Environmental Management Programme (EMP) that must be strictly adhered to during operations. These matters will also be considered in the design of the conveyor. Typically a side panel will be constructed to cover the conveyor on the prevailing wind direction. This will assist in curbing noise and the generation of dust. At each transfer station it is proposed that the coal is sprayed with water to suppress dust.	Mr Daan Duvenage Plot 32, PO Box 132, Kendal, 2225 (24 November 2010)
5.	I have lived in this area for over 20 years and the mining companies always promise everything before the start of a new project, but once it is operational, all the promises are forgotten.	This is one of the reasons for this meeting, to allow stakeholders to voice their concerns and the EIA team will investigate these concerns. All issues and concerns will be included in the EMP and AAIC is legally required to adhere to the EMP once it has been approved.	Mr Daan Duvenage Plot 32, PO Box 132, Kendal, 2225 (24 November 2010)
6.	There are normally problems with conveyor belts where crossovers are built.	This will be thoroughly investigated during the specialist studies. Impacts will be assessed in the EIA and management measures will be incorporated in the EMP, which will become a legal document.	Mr Daan Duvenage Plot 32, PO Box 132, Kendal, 2225 (24 November 2010)

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
7.	Ownership can change after a few years. Who will then look after the conveyor belt?	The EMP must be adhered to during the total lifespan of the conveyor belt and the obligations stated in the EMP would transfer to any new owners if ownership of the conveyor changes . It is also in the interest of the company to maintain the belt or else it will become unprofitable. Responsibility for managing the belt will transfer to a new owner if the ownership changes.	Mr Ben Zwane ANCYL, 195 Mtshali Street, Phola Location, Ogies (24 November 2010)
8.	Anglo American Inyosi Coal must appoint a community liaison officer for this project to keep the communities informed.	There is already an employee from Anglo American interacting with the communities, Mr Mokhine Makgalemele. He will also discuss the conveyor belt with the communities. The communities are welcome to attend any meetings and can participate in this process freely.	Mr Thabiso Gwambe ANCYL, 63 Oylo Section, Phola Location, Ogies (24 November 2010)
9.	What happens if a landowner refuses to have the conveyor belt on his property?	That is one of the reasons why there are three alternative routes to find the route with the least impact on people and the environment, but AAIC will also negotiate with landowners to find the best practical solution.	Mr Arthur Joubert Plot 52, PO Box 15, Kendal, 2225 (24 November 2010)
10.	When will negotiations start with affected landowners?	Anglo American's legal department has started to consult landowners and will continue to do so. The potentially directly affected landowners have received registered notice of the proposed project and the matter will be taken further with them.	Mr Arthur Joubert Plot 52, PO Box 15, Kendal, 2225 (24 November 2010)
11.	We have heard of more mining operations being planned for the area east of the Kusile Power Station. When is this going to happen?	Anglo American would like to open another coal mine (New Largo) in the area, but this will be dealt with in a separate EIA process. All stakeholders will again be invited to attend a similar meeting as tonight when that process kicks off.	Mr Daan Duvenage Plot 32, PO Box 132, Kendal, 2225 (24 November 2010)
12.	Is the planned mine the area lined in black on the map you had in the background information document? Will it be open cast and will it use this conveyor belt?	The area lined in black is the where Anglo American has prospecting rights. This proposed conveyor belt will only transport coal from the Phola Processing Plant and Vlakfontein mine. It will not be used by the proposed mine, New Largo, which will have its own dedicated coal processing plant and conveyor belt to transfer coal to Kusile Power Station.	Mr Arthur Joubert Plot 52, PO Box 15, Kendal, 2225 (24 November 2010)
13.	What is a transfer station?	A transfer station is used where a conveyor system has to change direction. A belt can only run in a straight line and if a change of direction is needed, a transfer station is used where the coal from one belt falls on to another belt to take it further.	Stakeholder at the meeting (24 November 2010)
14.	When asked by the facilitator, stakeholders said they prefer the choice of two meetings, one at night and one in the morning.	Noted.	Stakeholders at the meeting (24 November 2010)
15.	Why does the route of the conveyor belt not follow the R545?	The proposed mine, New Largo, will be situated where the R545 is currently running, should authorisation be granted for that area to be mined. It is proposed that the road will then be moved.	Mr Mike Elliot Kusile Mining,P. O. Box 13643, Leraatsfontein, 1038 (25 November 2010)

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
16.	How has the three alternatives been decided upon and how will the final route be selected?	The following criteria was applied in the section of the three alternative routes: - Land ownership (maximize alignments on land owned by Anglo Operations Limited). - Availability of land for the conveyor servitude. - Public safety and security risks. - Minimise stream and wetland crossings and alignments in areas prone to flooding. - Minimise environmental impacts (physical, biodiversity, social and economic) - Avoid human settlement areas - Maximise alignments along existing linear infrastructure and disturbed areas. - Minimise the total footprint area of impact. - Minimise sterilisation of coal reserves and avoid future opencast mining areas. - Minimise impacts on existing infrastructure. - Topography and steep slopes. - Technical design considerations. - Economic considerations. It is a legal requirement to have alternatives. The specialist studies will show the impact of each of the three routes and the authorising authority will then decide which route should be taken.	Mr Claude Haven, Kusile Mining, P. O. Box 13643, Leraatsfontein, 1038 (25 November 2010)
17.	Why does the maps show that the three alternative routes stop just outside the Kusile Power Station.	It stops on Anglo American property which borders Kusile Power Station. Another, short conveyor belt will be built to transport the coal into the Power Station. This short conveyor forms part of the EIA.	Ms Tinkie Höll, Eskom (25 November 2010)
18.	Use the existing railroad network to transport the coal to Kusile. North of Kusile a line will be built to take limestone to the Power Station. It will be also be more cost effective.	This option was investigated, but the route is too long (almost 50 km), making the operating cost much more expensive than a conveyor belt and the railway line at the north of Kusile also will not have space for an offloading area for coal. All in all, a conveyor belt will be the cheapest option by far.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)
19.	The railway option should not be rejected. You should also look at the environmental costs as well. The railway option could be more expensive, but it could have less of an environmental impact than a conveyor belt.	Noted. More information about the economic implications of the rail option will be made available during the next round of public meetings.	Mr Ken van Rooyen, Shanduka Mining and Homeland Mining and Energy SA (25 November 2010)
20.	How will cattle and other animals cross the conveyor belt if it runs through a farmer's land?	Animal crossings will be built at regular intervals or as many as a landowner needs. Once the route is confirmed AAIC will meet with each landowner individually to determine his/her needs with regards to this matter.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
21.	What about the wildlife? A conveyor belt will prevent animals from moving around. You will need an animal crossing every 200 metres.	Ecologists will be investigating the game and their movement patterns in the area and the impact a conveyor belt could have on all animals.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)
22.	Your fencing next to the servitude of the conveyor belt as well as any parts such as the proposed side panels of the conveyor will be stolen. Theft is a big problem in this area.	Regular security patrols will be done to prevent this from happening.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)
23.	This whole area suffers from veld fires during the dry season and this could have a negative effect on the conveyor belt.	Fire breaks on both sides of the conveyor is proposed to prevent fires. The maintenance road on the one side of the conveyor could also be used as a fire break.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)
24.	All three your alternative routes impact on both Shanduka Mining and Homeland Mining and Energy SA operations. How can we resolve this? Routes 2 and 3, for example, run over an underground mine where regular blasting takes place. How will this affect the conveyor belt?	This is the main purpose of this meeting, to resolve potential problems early in the project. It was agreed that AAIC and the EIA team leader will meet with Mr Van Rooyen outside this meeting to discuss all mutual issues.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)
25.	What impact will the conveyor belt have on the ground water, because some of the coal or the water proposed to wash the coal could end up polluting the water in the area.	Coal will not end up on the ground, because the conveyor belt has been designed to prevent this from happening. The most likely place where coal can end up on the ground is at a transfer station, but all transfer stations will be equipped with pollution control systems to minimise impacts. When a conveyor belt has to cross a stream or water body extra care is taken by fully enclosing the belt to prevent any spillage/pollution.	Mr Dan Swart Plot 37, PO Box 212,Kendal (25 November 2010)
26.	The conveyor belt will cross between one and four of our pipelines, depending on what route will finally be selected. What can be done should maintenance be needed near or under your belt, or a section of a pipeline must be replaced? This can take up to 80 hours. Will you be able to stop the conveyor belt for such a long period of time?	AAIC has had meetings with Transnet and discussions regarding the pipelines. This issue will again be discussed once the final route has been finalised. What AAIC can do is to place a moveable belt section over the pipe or pipes that can be moved aside when Transnet needs to replace a pipe. Interruptions and stoppages for general maintenance have been factored into the operational management of the conveyor belt. The belt will not have to run 24 hours a day for 365 days of the year.	Robert van Bulderen, Transnet Pipelines PO Box 1802, Standerton, 2430 (25 November 2010)
27.	Will there be a big enough stockpile at Kusile Power Station to have such a long stoppage?	Yes, because this conveyor belt will not be the sole supplier of coal to Kusile. The conveyor belt will deliver ~2000 tons per hour. The Kusile coal stockpile will be around 2,364 million tons and the Power Station will need about 50 000 tons per day (quantities to be confirmed during the EIA phase).	Mr Ken van Rooyen, Shanduka Mining and Homeland Mining and Energy SA (25November 2010)
28.	What will be the size of the coal transported on the conveyor belt?	It will be 50 mm and smaller.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
29.	If the transported coal is too fine, it will be blown off the belt, because we have wind gusts of up to 80 km/h in this area. We also have strong rains in this area that will wash the coal off the belt.	The conveyor belt will be protected against the prevailing wind by being enclosed on the western side and will also be protected against rain. The coal will also be watered and the transfer stations will be enclosed. The installation of watering sprayers along the route to prevent the coal from drying out and blowing away will be investigated.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 and Ms TinkieHöll, Eskom (25 November 2010)
30.	It does not make sense to use drinking water on coal to prevent it from blowing away. Enclosed railway trucks will not have this problem. Rather use polluted water pumped from one of the mines for this purpose.	This is a good suggestion and AAIC will investigate using polluted / non-potable water instead of potable water.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)
31.	The proposed routes run over a number of our properties. Will it be possible to negotiate a share on the belt?	If Kusile Mining can secure a contract with Eskom to supply Kusile Power Station and there is capacity on the conveyor belt, then this possibility can be discussed. Negotiations will need to be undertaken directly between Kusile Mining and Eskom.	Mr Mike Elliot Kusile Mining,P. O. Box 13643, Leraatsfontein, 1038 (25November 2010)
32.	The lifespan of Kusile Power Station is around 50 years. What is the lifespan of the conveyor belt and the current coal deposits?	The same. Eskom has done a lot of research and that is the reason why Kusile is being built, due to sufficient coal deposits to its south eastern side.	Robert van Bulderen, Transnet Pipelines PO Box 1802, Standerton, 2430 (25November 2010)
33.	Where are the coal sourced for Kendal Power Station and is there enough coal?	To the east of Kendal. Yes, there are substantial reserves.	Mr Andre Cherry, Landowner PO Box 129, Kendal, 2225 (25 November 2010)
34.	Should you need transportation for the work force on this project, please contact us so that we can negotiate a deal.	Noted.	Mr Master Thugwana, Ogies, Phola Taxi Association PO Box 6357, Tasbet Park, 1040 (25 November 2010)
35.	Investigate the possibility of air pollution caused by the conveyor belt.	This will be investigated during the specialist studies.	Mr Louw Potgieter, Ogies Business Forum PO Box 143, Ogies (25 November 2010)
36.	An aquatic specialist must do a proper study at each of the river crossings.	This will be investigated during the specialist studies.	AC Hoffman, Mpumalanga Tourism and Parks Agency PO Box 1250, Groblersdal, 0470 (25 November 2010)

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
37.	We would like the following potential impacts to be addressed in the EIA and EMP: • Air pollution; • Spillages that may occur; • Noise pollution. Mitigation measures to counter these potential impacts must be implemented.	All three these potential impacts will be investigated during the specialist studies.	Ms Pricilla Fenyane, Environmental Health Practitioner, Emalahleni Local Municipality
38.	Would the coal conveyor be designed to align with Eskom's coal stock yard infrastructure?	Yes, There will be a short transfer conveyor at the end of this conveyor which would deliver coal directly into Eskom's yard. Anglo American is working with Eskom on this design.	Ms Goody Ntuli, Eskom
39.	Under which Act will Anglo operate the coal conveyor on Eskom's property – the OSH Act or the Mining Health and Safety Act?	This conveyor will join a short transfer conveyor which will feed coal into Eskom's yard. Both conveyors will be Anglo American's responsibility and will be operated under the OSH Act as this project is not a mining project.	Ms Goody Ntuli, Eskom
40.	From which point of the conveyor servitude would Anglo be allowed to maintain and inspect, and operate the facility to deliver coal to Eskom?	Anglo American is responsible for the operation, maintenance and inspection of the conveyor as well as all infrastructure within the allocated conveyor servitude.	Ms Goody Ntuli, Eskom
41.	What measures should Eskom take with regards to storm water and water seeping from the coal during delivery of coal at Eskom?	Anglo American is responsible for the operation, maintenance and inspection of the conveyor as well as all infrastructure within the allocated conveyor servitude. Once the coal has been delivered into Kusile's stockyard then the pollution control measures stated in Kusile's approved EIA would need to be implemented by Eskom.	Ms Goody Ntuli, Eskom
42.	How should Eskom deal with their working procedures in case of emergency repairs of the conveyor?	The conveyor has been designed to deliver sufficient quantities of coal to the Kusile stockyard to offset the impacts of potential downtime. The contract which is to be finalised between Anglo American and Eskom will address what happens during abnormal emergency situations.	Ms Goody Ntuli, Eskom
43	What measures will be taken to prevent dust from the conveyor?	The Air Quality specialist will be assessing the likely emissions to arise from the conveyor and following this work appropriate mitigation measures, as required, will be formulated to manage dust emissions.	Ms Goody Ntuli, Eskom
44.	Eskom has a certain procedures and conditions that will have to be followed when Eskom pipelines, roads and Tx lines are crossed. These should be observed.	Noted and agreed. Anglo American and Eskom have formed a Joint Project Office whose role it is to discuss issues of mutual concern.	Ms Goody Ntuli, Eskom
45.	It is recommended that all infrastructure in the study area be superimposed on a map to assist with the identification of risks with regards to the construction and operation of the conveyor.	Noted and agreed.	Ms Goody Ntuli, Eskom

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
46.	With regards to the servitude agreement between Eskom and the developer, what are the conditions that should be stipulated in the agreement?	Anglo American and Eskom have formed a Joint Project Office whose role it is to discuss issues of mutual concern. The details of the servitude agreement with Eskom, any all other affected landowners, will be negotiated directly with the party concerned to ensure that a mutually acceptable agreement is reached.	Ms Goody Ntuli, Eskom
47.	An overland conveyor is the best option as road will have too many impacts and Spoornet is unreliable.	Noted.	Mr Louw Potgieter, Ogies Business Forum
48.	In selecting a conveyor route the most important is to avoid human settlement areas and to take the economic impacts into consideration.	Noted.	Mr Louw Potgieter, Ogies Business Forum
49.	Water is a huge problem and Eskom, the government and mining companies should assist in the improved management thereof.	Noted.	Mr Louw Potgieter, Ogies Business Forum
50.	The following components should be assessed in the EIA: • economic development • employment • health • odours • veld fires • public safety • security and crime levels	All these components will be investigated during the specialist studies.	Mr Louw Potgieter, Ogies Business Forum
51.	The Balmoral grave yard has cultural and historical importance and should be considered in the investigations.	Noted and agreed.	Mr Louw Potgieter, Ogies Business Forum

The key comments and issues raised during scoping, to be addressed in the EIA phase, are as follows:

- **Preferred development option - overland coal conveyor**
  The overland coal conveyor is the preferred development alternative. Current dust levels and road safety issues due to coal trucks are major existing issues to people living in the area and the conveyor option is therefore preferred to the road transport option.

- **The railway option should not be discarded**
  A representative from Homeland Mining and Energy SA and Shanduka Coal suggested that the rail option should not be discarded at this stage (public meeting 25 November 2010). AAIC will thus provide more comprehensive information regarding the rail option and why it is not a feasible option. However, a full environmental assessment of the rail option will not be conducted as part of this EIA. A more comprehensive comparison (environmental and economic) of the rail and conveyor options should be provided.

- **Air quality management**
  Dust is already a major concern for people living in the area. Regular monitoring and dust control is therefore important, both during construction and operation.
  Size of coal particles transported on the conveyor should not be too small, to avoid wind blown coal.

- **Inspections and maintenance**
  Regular inspections and maintenance are generally a problem at existing mines. There is a concern that the same lack of inspections and maintenance will occur for this project. This could result in fences or metal sheeting being stolen, which would result in additional safety risks and air quality impacts.

- **Conveyor noise emissions**
  Receptors near the conveyor will be affected due to noise generated by the conveyor.

- **Long-term enforcement, monitoring and implementation of environmental management plan commitments**
  There is a general concern about long-term enforcement of environmental management programme commitments at mines in the area, mitigation measures are often only implemented when external audits of the operations are expected. When there is a change in ownership of the project, the new owners are often not committed to implementing the environmental management programme measures.

  There is a concern that the same lack of long-term enforcement, monitoring and implementation of environmental management plan commitments will occur for this project; if AAIC is no longer the owner, AAIC's environmental management programme commitments will not be implemented by the new owners.

  Individuals that have lived in the area for a long period of time, have witnessed that mines in the area have often not delivered on promises made during the EIA phase and environmental management programme.

- **Disruptions at conveyor-road and conveyor-stream crossings**
  Traffic disruptions should be avoided.
  Aquatic environmental impacts at stream crossings should be investigated.

- **Appointment of community liaison officer will be required**

- **Negotiations will be required with affected landowners and prospecting / mining right holders**

- **Cumulative impacts on existing and all planned future mining areas**
  Impacts on people living in the area are already high. There are concerns about all the proposed projects and that living conditions would further deteriorate.

- **Cattle and farm crossings should be provided along the conveyor route**

- **Wildlife migration routes should be considered**

- **Theft and fencing of the conveyor servitude**
  Theft is a big problem in this area. Fencing as well as any parts of the conveyor such as the metal roof and side panels will be stolen. Once the fence has been stolen, there will be safety risks for people and livestock.

- **Impact of veld fires**

- **Sterilisation of prospecting and mining rights**
  There are concerns with all three route corridors.

- **Impact on groundwater due to coal pollution**

- **Impact on Transnet Pipeline**

- **Security of coal supply to Kusile and Kendal Power Station**
  The coal earmarked for Kusile is currently used at Kendal and other power stations. There are concerns that there will not be sufficient supplies to supply Kusile and the other power stations. Sizing of stockpiles should be sufficient to eliminate stoppages due to shortage of coal supplies.

- **Water supply to conveyor for dust suppression**
  Unnecessary use of drinking water quality water should be prevented.

- **Options for sharing the conveyor belt with mines along the route should be investigated**

6. Environmental Impacts and EIA Tasks

A scoping-level identification of potential environmental impacts (physical, biological, social and economic) associated with the proposed overland coal conveyor are listed in Table 6-1 below, with a framework for further work during the EIA phase. Further details of the scope of work to be undertaken during the EIA phase, including the specialist studies listed below, are provided in Section 7 on page 64.

Table 6-1: Environmental impacts identification and framework for further work during the EIA

IMPACT	IMPACT SOURCE	FRAMEWORK FOR TASKS TO BE UNDERTAKEN DURING THE EIA PHASE
CLIMATE		
• Greenhouse gas emissions.	• Energy use during construction and operation of the conveyor system.	• Compare energy consumption of the different route alternatives.
TOPOGRAPHY		
• Change in the natural topography.	• Cut and fill areas to achieve a feasible vertical alignment for the conveyor system.	• Develop an understanding of potential topographical disturbances and how these disturbances could impact • Mitigation measures to be included in the EMP.
NOISE		
• Increase in ambient noise levels. • Disturbances to sensitive receptors.	• Movement of vehicles, machinery and mechanical equipment during construction. • Moving components of the conveyor belt and material handling and transfer stations during operation.	• Sensitive receptors and impacts to be identified. • Specialist noise assessment to determine the impact of noise on receptors for operations. • Define minimum distances to be achieved between the conveyor and sensitive receptors. • Mitigation measures to be included in the EMP.
AIR QUALITY		
• Increase in dust levels. • Fallout dust nuisances. • Health impacts due to fine particulate emissions. • Air quality impacts on fauna and flora.	• Construction activities. • Entrained dust from maintenance road. • Fine particles blown from transported material during operation. • Materials handling at transfer points.	• Specialist air quality assessment to determine the impact of dust fallout on identified receptors for construction and operations. • Mitigation measures to be included in the EMP.
GEOLOGY AND SOILS		
• Loss of soil as vegetation growth medium. Loss of soil productivity. • Erosion. • Contamination of soils. • Sterilisation of coal resources.	• Earthworks and grading to allow for the establishment of the conveyor and associated infrastructure. • Movement of vehicles and equipment. • Chemical spills during construction and operations.	• Specialist soil assessment to inform wetland delineation and define sensitive areas. • Map coal resources and discuss impacts with the DMR and holders of prospecting and mining rights. • Mitigation measures to be included in the EMP. • EMP to include measures for the storage and handling of chemicals including hydrocarbons (fuels, oils, greases) and other hazardous chemical substances.

IMPACT	IMPACT SOURCE	FRAMEWORK FOR TASKS TO BE UNDERTAKEN DURING THE EIA PHASE
SURFACE WATER		
• Changes in natural surface water flow parameters. • Contamination of surface water resources. • Disruption stream banks and wetlands.	• Conveyor-stream and conveyor-wetland crossings. • Chemical and hydrocarbon spills during construction. • Spillage of coal at conveyor-stream and conveyor-wetland crossings, along the conveyor route and at transfer points. • Erosion and associated sedimentation of surface water resources due to vegetation clearing and construction in and near streams and wetlands.	• Floodlines to be determined. • Final route selection to give cognisance to significant impacts on drainage areas. • Opportunities for reducing impact on drainage lines and natural flows to be identified. • Engineering design of stormwater management structures in accordance with floodline data. • Possible impacts on drainage systems to be identified and appropriate mitigation measures to be recommended. • Protective measures to be put in place. • Mitigation measures to be included in the EMP.
GROUNDWATER		
• Restricted access to boreholes and livestock watering points. • Contamination of groundwater resources.	• Fragmentation of land due to linear conveyor system. • Chemical and hydrocarbon spills during construction. • Spillage of coal during operations.	• Existing boreholes and livestock watering points to be identified. • Protective measures to be put in place. • Mitigation measures to be included in the EMP.
ECOLOGY		
• Disturbance of sites of conservation importance. • Loss of species of conservation importance. • Restriction on animal movement patterns.	• Surface disturbance due to the development of infrastructure. • Site clearance for construction. • Loss of animal lives due to operations (conveyor and road traffic). • Linear infrastructure forms a barrier to animal movement.	• Specialist surveys to determine the impact of infrastructure on the environment for construction and operations. • The selection of the route is to give cognisance to the protection of sensitive sites. • Requirement for the relocation of animals (if relevant) to be identified and such relocations implemented before construction. • Key areas used for the movement of animals to be identified and measures to be put in place to minimise impact on movement. • Permits to be obtained where protected species will need to be removed. • Mitigation measures to be included in EMP.
HERITAGE RESOURCES		
• Disturbance of graves and other heritage sites and artefacts.	• Surface disturbances to allow for the development of linear infrastructure.	• Specialist Heritage Impact Assessment. • Mitigation measures to be included in EMP.
SOCIAL & ECONOMIC ENVIRONMENT		
• Economic benefits and risks.	• Supply of coal to Kusile Power Station. • Job creation and employment. • Use of local service providers. • Facilitation of industrial development.	• Specialist economic impact assessment to determine the impact of the project. • Economic assessment to give cognisance to the local, regional and national benefits of the project as well as potential negative impacts on affected properties and land owners.

IMPACT	IMPACT SOURCE	FRAMEWORK FOR TASKS TO BE UNDERTAKEN DURING THE EIA PHASE
• Increased theft risk and potential for damage to private property during the construction phase. • Increased fire risk and potential for damage to open farmland and residential areas. • Impacts on neighbours and landowners. • Impact on property values. • Impacts on power generation and supply of power to the national electricity grid.	• Requirement for individuals to access land for engineering and scientific research purposes. • Influx of construction workers. • Maintenance of conveyor system during operations. • Fire fighting activities during veld fire break outs. • Cumulative social impacts due to noise, visual impacts, safety risks and security concerns, disruption of movement patterns, etc. • Supply / no supply of coal to Kusile Power Station.	• Specialist social impact assessment to determine the impact of the project. • Specialist economic impact assessment to determine the impact of the project. • Access control along the conveyor route will need to be specifically addressed. Points for road and pedestrian crossings to be determined and agreed upon. • Agreement to be sought with landowners for controlled access to land (required for alignments through properties not owned by Anglo American). • Identify measures to safeguard landowners and property during construction and operation of the conveyor system. • Mitigation measures to be included in EMP.
LAND USE AND LAND CAPABILITY		
• Loss of agricultural land. • Disruption of land uses.	• Conveyor traversing areas with high agricultural potential. Conveyor limiting access to areas with high agricultural potential. • Development of conveyor across farm roads. • Damage to agricultural lands due to the movement of vehicles and equipment. • Fragmentation of land and isolation or damage to infrastructure on affected properties.	• Specialist assessment of agricultural potential. • Identification of affected land uses and access requirements to properties along the conveyor route. Cognisance to be given to the need to allow continued access to areas with high agricultural potential. • Mitigation measures to be included in EMP.
EXISTING SERVICES INFRASTRUCTURE		
• Damage to and disruption of existing services and infrastructure.	• The conveyor system may cross the N12 highway, farm roads, telecommunication infrastructure, pipelines and power line servitudes.	• Approval sought from identified servitude owners. • Appropriate design and construction methods for each crossing to be identified, especially in the case of the N12 highway and the petroleum pipeline.
VISUAL ENVIRONMENT		
• Changes to landscape character, visual appeal and sense of place of the area.	• Presence of construction vehicles, equipment and machinery in the landscape during construction. • Presence of conveyor belt and transfer stations in the landscape during operations. • Visibility of the conveyor at the N12 highway crossing.	• Specialist visual assessment to determine the impact on sensitive receptors. • Recommendations for mitigation to be included in the EMP.

7. Plan of Study for Environmental Impact Assessment

This plan of study for EIA includes a description of EIA process and tasks, specialist studies and consultation to be undertaken during the EIA phase of Phola-Kusile Overland Coal Conveyor environmental studies as well as a proposed impact assessment methodology and impact assessment and rating criteria.

7.1 EIA Process

The EIA assessment process has been developed to ensure that it complies with GNR 543 Sections 26 to 33 and the associated guidelines (see Section 2). The proposed EIA process and public consultation activities are illustrated below, with specific reference to the opportunities for consultation and participation for I&APs, Competent Authorities, and relevant State Departments and Organs of State.

Table 7-1: Simplified EIA Process with Explanation of Opportunities for Consultation and Participation in the EIA Process

EIA Phase		Opportunities for Consultation and Participation		Schedule	
		Competent Authorities (MDEDET and DWA)	I&APs, State Departments and Organs of State		
Project Announcement and Application Phase	Specialist Baseline Studies	Initial telecommunication.	Project notification to affected landowners.	Oct-10	2010
			Advertisements and project notifications to potential interested and affected parties.	Oct-10 to Nov-10	
		Submit NEMA application form to MDEDET. MDEDET acceptance of application.		Nov-10	
		Initial consultation with authorities.		Nov-10 to Dec-10	
Scoping Phase		Focused consultation with MDEDET and DWA.	Initial public meetings. Focused consultation with SANBI.	Nov-10 to Dec-10	
		Draft scoping report to MDEDET and DWA. Meetings with MDEDET and DWA during scoping. Final scoping report to MDEDET and DWA. Review and acceptance of final scoping report (30 days)	Review of draft scoping report (40 days, ±6 weeks). Public meeting and authority meeting during scoping (14 days notice). Review of final scoping report (21 days, ±3 weeks).	Feb-11 to May-11	2011
EIA Phase EMP Development	Specialist Assessments	Meetings with MDEDET and DWA to discuss specialist studies. Submit draft EIA report to MDEDET and DWA. Submit draft IWWMP to DWA. Meetings with MDEDET and DWA during EIA.	Results of specialist assessments and recommendations made available for review Review of draft EIA report (40 days, ±6 weeks) Review of draft IWWMP (40 days, ±6 weeks) Public and authority meeting during EIA phase(14 days notice)	Aug-11 to Feb-12	2012
Authority review and Authorisation Phase		Final EIA report to MDEDET and DWA. SUBMIT IWWMP with IWULA to DWA. MDEDET Acceptance of EIA report (60 days) Environmental Authorisation Granted / Refused (45 days) IWULA approved / rejected by DWA.	Review of final EIA report (21 days, ±3 weeks) Review of Final IWWMP (21 days, ±3 weeks) Notifications to I&APs regarding environmental authorisation (granted or refused).	Mar-12 to Jun-12	
Appeal Phase / Pre-Construction Period		Consultation during processing of appeal.	Consultants to provide guidance regarding the appeal process as and when required.	variable	

Table 7-2: Simplified Project Implementation Programme with Explanation of Opportunities Continued Consultation and Participation

Project Phase	Opportunities for Participation by Competent Authorities, I&APs, State Departments and Organs of State	Schedule	
Planning Phase	EIA and Water Use License Public Participation Process and Authority Consultation Process	Current to July-13	2010 2011 2012
Construction Phase	EMP Implementation Monitoring	Aug-12 to Sep-13	
First Coal Delivered to Kusile	EMP Implementation Monitoring	Oct 2013	2013
Operation of the Phola-Kusile Coal Conveyor	EMP Implementation Monitoring	For the Life of Kusile Power Station	beyond 2070

7.2 Development Alternatives to be Investigated in the EIA Phase

The AAIC project team has investigated road and rail transport options as alternatives to the overland conveyor for transportation of coal from Phola Coal Processing Plant to the Kusile Power Station, but the road and rail options were not regarded as feasible by AAIC and will therefore not be assessed any further in the EIA phase of the project (Section 3.3.1 on page 18).

Three conveyor routes were presented to I&APs in the background information document and at the public meetings. Prospecting and mining right holders along all three routes raised concerns regarding sterilisation of mining resources and development of the conveyor on previously mined areas, particularly corridor route 2 and corridor route 3 where options for mitigating impacts on mining resources are limited (**Error! Reference source not found.**, page 3). However, due to the widespread occurrence of coal in the area, it was not possible to identify alternative route corridors where there will be no coal resources sterilised.

A representative from Homeland Mining, Energy SA and Shanduka Coal suggested that the rail option should not be discarded at this stage (public meeting 25 November 2010). AAIC will thus provide more comprehensive information regarding the rail option and why it is not a feasible option. However, a full EIA will not be conducted as part of this EIA.

The EIA will only assess the three corridors as presented in this scoping report, focusing on optimising the route alignments along the corridors in order to minimise and mitigate impacts on the environment – including impacts on prospecting and mining right holders. In conclusion, the development alternatives to be investigated in the EIA phase will be:

- Corridor Route 1 (Blue Route), with refinements to mitigate impacts.
- Corridor Route 2 (Red Route), with refinements to mitigate impacts.
- Corridor Route 3 (Purple Route), with refinements to mitigate impacts.
- No-go development option.

7.3 Environmental Impact Assessment Methodology

The identification and assessment of environmental impacts is a multi-faceted process, using a combination of quantitative and qualitative descriptions and evaluations. It involves applying scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of, *inter alia*: the purpose and need for the project; views and concerns of interested and affected parties; social and political norms, and general public interest.

The methodology used for assessing impacts associated with the proposed project follows the philosophy of environmental impact assessments, as described in the booklet Impact Significance, Integrated Environmental Management Information Series 5 (DEAT, 2002b). The philosophy is summarised by the following extracts:

- "The impact magnitude [or intensity] and significance should as far as possible be determined by reference to legal requirements, accepted scientific standards or social acceptability. If no legislation or scientific standards are available, the EIA practitioner can evaluate impact magnitude based on clearly described criteria. Except for the exceeding of standards set by law or scientific knowledge, the description of significance is largely judgemental, subjective and variable. However, generic criteria can be used systematically to identify, predict, evaluate and determine the significance of impacts." (DEAT, 2002b).

- "Determining significance [of impacts] is ultimately a judgement call. Judgemental factors can be applied rigorously and consistently by displaying information related to an issue in a standard worksheet format." (Haug et al., 1984 taken from DEAT, 2002b).

7.3.1 Identification and Description of Impacts

For each environmental component (i.e. visual, air quality, health), impacts will be identified and described in terms of: detectability / visibility of the impact, exposure of receptors to the impact, compliance with legislation and standards, other applicable targets, limits or thresholds of concern, the level of change / intrusion imposed, and receptor sensitivity.

The perceived sensitivity of receptors (people and/or receiving environment) will be professionally judged based on available scientific data (fact) and feedback from public participation processes (views, opinions, attitudes, and concerns) as documented in the Public Consultation Documentation and the Impact Rating criteria described in Table 7-3. The following impacts will be described:

7.3.1.1 Existing Impacts (Impacts of Existing Developments)

The proposed coal conveyor is located in an area affected by various historical existing developments including mining, processing, agriculture, residential, major roads and highways and other linear infrastructure as well as the construction of the Kusile Power Station. The current level of environmental degradation (existing impacts) associated with existing developments, including those currently under construction, will be described in the environmental impact report. Defining the current level of degradation associated with existing developments is essential to understand and enable the assessment of cumulative impacts (see Section 7.3.1.4 below).

7.3.1.2 Incremental Impacts (All Conveyor Route Alternatives)

Incremental impacts refers to the impacts of an activity looked at in isolation (impacts of an individual activity), thus not considering the combined, cumulative or synergistic impacts of the activity, or the cumulative impacts of the activity with other activities or the existing impacts. The environmental impact report will describe the incremental impacts of all three conveyor route alternatives.

7.3.1.3 No-go Development Impacts

The no-go development is considered as an alternative in the environmental impact assessment and impacts of not developing the proposed coal conveyor will be discussed in the environmental impact report.

7.3.1.4 Cumulative Impacts

For this project, cumulative impacts will be determined as:

Existing Impacts	**+**	***Incremental Impacts***	**=**	***Cumulative Impacts***
Existing impacts (current level of degradation) associated with existing developments and developments under construction		Impacts of the proposed Phola-Kusile Coal Conveyor		Existing impacts (current level of degradation) associated with existing developments and developments under construction combined with the impacts of the proposed Phola-Kusile Coal Conveyor

Potential future projects such as the proposed New Largo Colliery Project, for which the environmental impacts are currently undefined, cannot be included in this cumulative impact assessment and will have to be assessed in a separate environmental impact assessment process.

7.3.2 Mitigation Measures

The significance of environmental impacts will be rated before and after the implementation of mitigation measures. The impact rating system considers the confidence level that can be placed on the successful implementation of the mitigation.

7.3.3 Rating the Significance of Environmental Impacts and Mitigation Measures

The system used for evaluating impact significance and mitigation failure risks is explained below in Table 7-3.

Table 7-3: Impact Rating Criteria and Assessment Process

Impact Rating Criteria (Abbreviation / Symbol / Short Description)			Explanation of Impact Rating Criteria and Assessment Process
Nature of the Environmental Impact			Brief description of the effect of human actions and activities on the environment, and impacts of the environment on development.
Draft Environmental Management Programme Mitigation Measures			Measures designed to avoid, reduce or remedy potential adverse impacts, and compensate for residual adverse impacts (mitigation measures), and measures designed to expand and augment the effect of potential positive impacts (enhancement measures) for consideration during development of the final environmental management programme.
Project Phase	P	Planning	Activities, impacts and mitigation measures during the planning (or pre-implementation) phase.
	C	Construction	Activities, impacts and mitigation measures applicable to the construction phase, including decommissioning of existing infrastructure.
	O	Operational	Activities, impacts and mitigation measures applicable to the operational phase.
	D	Decommissioning	Activities, impacts and mitigation measures applicable to decommissioning of the project (closure, removal, rehabilitation).
Impact Status		Negative	Impacts with a potential negative / adverse effect.
		Neutral	Neutral, no impact.
		Positive	Impacts with a potential positive / beneficial effect.
I&AP Interest			Widespread concern and/or specific concerns of very high importance. Concerns difficult to be addressed to satisfaction of authorities or concerned parties. Various substantiated appeals against project anticipated / highly likely if issues are not resolved and addressed to the satisfaction of the concerned parties.
		Neg High	Several concerns and/or specific concerns of high importance. Real and substantial appeals against project possible if not addressed.
		Neg Moderate	Limited concerns. All concerns addressed. Unsubstantiated appeals possible.
		Neg Low	Minor concerns.
		Neutral	No interest.
		Not defined	Level of interest has not been tested.
		Pos Low	Very little support for project.
		Pos Moderate	Limited support for project.
			General support. May be associated with high community expectations.
			Widespread support. May be associated with extremely high community expectations.
		Diverse Low	Minor interest. Some support. Some concerns.
		Diverse Moderate	Limited interest. Some support. Some concerns.
		Diverse High	General interest. Some support. Some concerns.
		Diverse Very High	Widespread interest. Some support. Some concerns.
Assessment Confidence		Complete	No information gaps exist. Decision-making can go ahead.
		Adequate	Minor information deficiencies exist but this does not affect decision-making. Decision-making can go ahead.
		Incomplete	Not enough information for decision-making. Current data to be supplemented with further monitoring or research.

Impact Rating Criteria (Abbreviation / Symbol / Short Description)					Explanation of Impact Rating Criteria and Assessment Process
Consequence (C) (Severity + Extent)	Severity (S) (Intensity + Duration + Frequency)	Intensity (Negative Impacts)	1	low	Slight change, disturbance or nuisance. Targets, limits and thresholds of concern never exceeded. Impacts are rapidly and easily reversible. Require no or only minor interventions or clean-up actions if these impacts occur. No complaints expected when the impact takes place.
			2	moderate	Moderate change, disturbance or discomfort. Real but not substantial. Targets, limits and thresholds of concern may occasionally be exceeded. Impacts are reversible but may require some effort, cost and time. Sporadic complaints can be expected when the impact takes place.
			3	high	Prominent change, disturbance or degradation. Real and substantial. May result in illness or injury. Targets, limits and thresholds of concern regularly exceeded. Regular complaints can be expected when the impact takes place.
			4	very high	Severe change, disturbance or degradation. May result in illness, injury or death. Targets, limits and thresholds of concern continually exceeded. Interest group / community mobilisation against project can be expected when the impact takes place. May result in legal action if impact occurs.
		Intensity (I) (Positive Impacts)	1	low	Slight change or improvement. Minor benefits.
			2	moderate	Moderate change or improvement. Real but not substantial benefits.
			3	high	Prominent change or improvement. Real and substantial benefits. General community support.
			4	very high	Considerable and large-scale change or improvement. Real and considerable benefit. Widespread support.
		Duration (D)	Refers to the total length of time (i.e. number of months or years) that the impact would or the impact source or risk will be present.		
			1	low	Short-term. May occur for weeks or a few months and are rapidly reversible.
			2	moderate	Medium-term. May occur for the first few years of the project, during construction, up to three years. Impacts reversible within a three year period.
			3	high	Long-term. May occur throughout the life of the mine, but will cease after operations ceases either because of natural processes or human intervention.
			4	very high	Permanent and irreversible. Residual impacts will remain after decommissioning and closure
		Frequency (F)	Refers to the time intervals and how often (i.e. number of days per year) the impact would manifest over the entire duration of the impact.		
			1	low	Seldom. Impact would be intermitted, limited to a few days a year (occurs 0-10 % of the time).
			2	moderate	Occasional. Impact would occur now and again, not more than ten days a month (occurs 10 to 35% of the time).
			3	high	Often. Impact would be present more than ten days a month (occurs >35% of the time).
			4	very high	Continuous. Impact would occur all the time (occurs 100% of the time).
	Extent / Scale (E)		0	none	None. Impact will not occur anywhere.
			1	low	Site impact. Small area. No sensitive receptors outside servitude / project area affected.
			2	moderate	Local. May affect immediate neighbours, never nearby townships. Small area or small number of sensitive receptors affected.
			3	high	Widespread impact. Large area or large numbers of sensitive receptors affected. May affect nearby townships.
			4	very high	National or international impact. Impacts over a vast area or over vast numbers of receptors.
Probability (P)			0	none	Never (0 % likelihood).
			1	low	Conceivable. Will only happen in exceptional circumstances (<10 % likelihood).
			2	moderate	Plausible. Could happen and has occurred here or elsewhere (11 to 40 % likelihood).
			3	high	Probable (>40-80 % likelihood).
			4	very high	Expected. Highly likely to happen (>80 % likelihood).

Impact Rating Criteria (Abbreviation / Symbol / Short Description)			Explanation of Impact Rating Criteria and Assessment Process
Significance (S) (Consequence + Probability)			Impact significance represents the degree to which the impact may cause irreplaceable loss of a resource
		Neg Very High	Widespread negative effect. Negative impact that is of the highest order. Potential fatal flaw. Unacceptable impact / loss of a resource will occur.
		Neg High	Substantial negative impact.
		Neg Moderate	Negative impact that is real but not substantial.
		Neg Low	Low to negligible negative impact with little real effect.
		Pos Low	Low to insignificant positive impact.
		Pos Moderate	Positive impact that is real but not substantial.
		Pos High	Substantial positive impact.
		Pos Very High	Widespread/substantial beneficial effect. Alternative ways to achieve same benefits not possible.
Precautionary Weighting (Value Judgement)	***(Negative Impacts)***		Used when there is a potential understatement of the significance of a negative impact to increase the significance rating.
		0 none	No weighting required. Significance rating is a true reflection of the potential affect of the impact.
		1 low	There may be a slight understatement of the significance of the impact. Impact significance adapted to be slightly higher.
		2 moderate	There may be a moderate understatement of the significance of the impact. Impact significance adapted to be higher.
		3 high	The impact significance rating is highly understated. Impact significance adapted to be higher.
		4 very high	The impact significance rating is severely understated. Impact significance adapted to be higher.
	(Positive Impacts)		Used when there is a potential overstatement of the significance of a positive impact to reduce the significance rating.
		0 none	No weighting required. Significance rating is a true reflection of the potential affect of the impact.
		1 low	There may be a slight understatement of the significance of the impact. Impact significance adapted to be lower.
		2 moderate	There may be a moderate understatement of the significance of the impact. Impact significance adapted to be lower.
		3 high	The impact significance rating is highly understated. Impact significance adapted to be lower.
		4 very high	The impact significance rating is severely understated. Impact significance adapted to be lower.
Mitigation Failure Risk(FR)			Used to determine the degree to which impacts can be reversed and to calculate residual impacts. The likelihood of mitigation failure rated based on: - research and technology limitations, - long implementation timeframes with associated potential of internal (i.e. personnel changes, project ownership changes, changing financial situation) and outside (i.e. climate change, economic and political instability) influences occurring over time, - financial considerations, - skills and labour availability and potential for human error.
		0 Very Low Risk	Less than 10% likelihood that mitigation measures could fail. Mitigation implemented quickly, mitigation easy to implement, proven technology used, no special labour skills required.
		0.2 Low Risk	10-30% likelihood that mitigation measures could fail.
		0.4 Moderate Risk	>30 to 60% likelihood that mitigation measures could fail.
		0.8 High Risk	>60 to 80% likelihood that mitigation measures could fail.
		1.0 Very High Risk	>80% likelihood that mitigation measures could fail. May need research and new technologies to be developed, and/or may have to take place over many years after closure, and/or may involve exorbitant/prohibitive expenses to implement successfully, and/or may require highly skilled personnel with special training, and/or have a high risk of human error during the execution of the mitigation.

Impact Rating Criteria (Abbreviation / Symbol / Short Description)			Explanation of Impact Rating Criteria and Assessment Process
	Formula	**Example**	**Rating Criteria**
Impact Rating Methodology (used to determine both Unmitigated Impacts and Mitigated Impacts)	I	1.0	Intensity (I)
	D	1.0	Duration (D)
	F	1.0	Frequency (F)
	S=(I+D+F)/3	1.0	Severity (S) = (Intensity + Duration + Frequency) / 3
	E	4.0	Scale (Extent) (E)
	C=(S+E)/2	2.5	Consequence (C) = (Severity + Extent) / 2
	P	3.0	Probability (P). A weighing of 0.5 used for probability to increase the conservancy of the assessment of negative impacts, in line with the precautionary principle.
	S1=(C+P)/2	2.7	Significance (S1) = (Consequence + Probability) / 2
	W	0.5	Precautionary Weighting (W)
	S2=(S+W)	2.9	Significance with Precautionary Weighting (S2) = (S1 + W)
	FR	1	Mitigation failure risk (FR)
	S2 x FR = RR	2.9	Residual Risk (RR). Represents an adapted mitigated impact adapted based on mitigation failure risk. *Mitigated Impact x Mitigation Failure Risk = Residual Risk*
	Formula	**Level**	**Level**
Unmitigated Impact(UI)	Using formula above	4	Impact rated assuming the proposed mitigation measures are not in place (UI)
Mitigated Impact(MI)		2	Impact rated assuming the proposed mitigation measures are fully in place (MI)
Mitigation Potential (MP)	UI-MI=MP	2	Mitigation potential (MP) represents the degree to which impacts can be reversed are calculated as follows: *Unmitigated Impact (UI) – Mitigated Impacts (MI) = Mitigation Potential (MP)*
	Formula	**Level**	**Level**
Impact Rating	<=	-3.6	
	<=	-3.0	
	<=	-2.0	Neg Moderate
	<	0.0	Neg Low
	>	0.0	Pos Low
	>=	2.0	Pos Moderate
	>=	3.0	
	>=	3.6	

7.4 Study Team

Synergistics Environmental Services (Pty) Ltd (Synergistics) has been appointed by Anglo American as the independent environmental consultant to undertake the EIA for the Phola-Kusile Overland Coal Conveyor.

Mari Wolmarans, a director of Synergistics, is an Environmental Assessment Practitioner (EAP) certified by the interim certification board of South Africa. Her qualifications and experience include:

- BL Arch, UP, 1991.
- Environmental Assessment Practitioner (EAP) Certified by the Interim Certification Board (EAPSA).
- Professional member South African Institute of Ecologists & Environmental Scientists (SAIE&ES).
- 15+ years' environmental management and assessment experience, specifically in the mining, processing and infrastructure development sectors.
- Environmental Impact Assessment: Project Management.

The environmental study team members and specialists that will be involved in the environmental impact assessment are listed in Table 7-4. Their roles and responsibilities on the project and their qualifications are provided.

Table 7-4: Study Team

Name and Affiliation	Qualification	Role
Environmental Study Team		
Mari Wolmarans Synergistics Environmental Services	BL Arch, MSAIEE EAPSA	– Environmental Assessment Practitioner – Project Director – EIA report and EMP
Marline Medallie Synergistics Environmental Services	B.Sc Biological Sciences B.Sc (Hons) Botany M.Sc Botany	– Project Coordinator – EIA report and EMP
Bheki Khumalo Synergistics Environmental Services	B.Sc Geology and Applied Geology B.Sc (Hons) Environmental Modelling and Monitoring	– GIS and Mapping
Anelle Lötter Zitholele Consulting	National Diploma in Journalism	– Public Consultation
Marius van Zyl Jones and Wagener	B.Sc Environment Analysis and Management B.Sc (Hons) Biochemistry B.Sc(Hons) Biochemistry and Environmental Management Pr.Sci.Nat	– Hydrological Baseline and Impacts Assessment – Integrated Water Use License Application – Integrated Water and Waste Management Plan
Jaco van den Berg JMA	B.Sc Geology/Geochemistry B.Sc (Hons) Geochemistry M.Sc Geohydrology	– Hydrogeological Impact Assessment
Ian Jones Earth Science Solutions	B.Sc (Geol) Pr.Sci.Nat EAPSA	– Soil Impact Assessment
Tony Rorke BME Blasting Technology	B.Sc Engineering (Mining Geology) M.Sc Geology (Seismology)	– Vibrations and Blasting Specialist Input
Renee von Gruenewaldt Airshed Planning Professionals	BSc Atmospheric Sciences: Meteorology BSc (Hons) Environmental Management and Impact Assessment MSc Meteorology Pri.Sci.Nat	– Air Quality Impact Assessment
Willem de Frey EkoInfo	M.Sc Wildlife Management Pr.Sci.Nat (Botanical & Ecological Science)	– Terrestrial Vegetation Survey – Ecological Impact Assessment