

POLICY GAP 9

SOUTH AFRICAN COAL MINING

Corporate Grievance Mechanisms, Community
Engagement Concerns and Mining Impacts

BENCH MARKS FOUNDATION

2014



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Acknowledgements

This research was commissioned by the Bench Marks Foundation, but we owe great thanks to ActionAid for sponsoring the project. In addition we would like to thank Christian Aid, Diakonia Sweden, Norwegian Church Aid, and Bread for the World and Bread for All for their support of the work of the Bench Marks Foundation.

The Bench Marks Foundation also wishes to acknowledge the researcher and the other contributors to this report:

Researcher:

The Lead Researcher of the Bench Marks Foundation, **David van Wyk**, Mudjadji Trading (Pty) Ltd, for his in-depth and relentless investigation into the contentious topic.

Scientific, Editorial and Technical contributors:

- **The Editor in Chief, Prof. Freek Cronjé**, Director at the Bench Marks Centre for CSR, Potchefstroom Campus, NWU, for delivering a final product of this quality.
- **John Capel**, Executive Director at the Bench Marks Foundation, for setting the terms of reference, and for valuable editorial comments and the focus of the study.
- **Ds. Piet Beukes**, Bench Marks Board member, for his contribution to the final report, especially his eye for detail and general comments around structure and final editing.
- **Hassen Lorgat**, at the Bench Marks Foundation, for reviewing the study, making editorial changes and suggesting recommendations to address the coal dilemma in the area, and wider.
- **Dr. Johann van Wyk** at the Bench Marks Centre for CSR, Potchefstroom Campus, NWU, for the substantial part he had played in the finalisation of the document, especially in terms of peer reviewing and critical reading.
- **Ms. Suzanne Reyneke**, at the Bench Marks Centre for CSR, Potchefstroom Campus, NWU, for some initial technical editing.
- **Community monitors**, who assisted with the field work of the project.

This project was funded by

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Foreword

The release of this latest study, Policy Gap 9, in the series of research projects focussing on Corporate Social Responsibility (CSR) in the Southern African mining environment, coincides with the local mining industry suffering from one of the most protracted periods of labour strikes in history. Despite doing one of the most labour intensive and dangerous jobs in the world, mine workers in the country are (20 years into democracy) still not earning a sustainable living wage. The world has also recently celebrated Workers' Day, but for many workers in the mining sector there is nothing to be happy about. Mine workers continue to work and live in a hostile environment with unsafe and dreadful conditions and face permanent risks to their health and lives on a daily basis.

While many local and international commentators, including economic and political analysts have only recently woken up to the turmoil and risks facing the South Africa mining industry, the Bench Marks Foundation has been 'waving red flags and ringing warning bells' for more than a decade now. The Bench Marks Foundation's aim is to change corporate behaviour towards responsible business conduct that benefits communities and enhances the overall wellbeing of those most negatively impacted upon. To do our studies we use as our basis, the Principles for Global Corporate Responsibility - Bench Marks for Measuring Business Performance. The global Bench Marks Principles have been formulated by a number of faith-based organisations and non-governmental organisations from around the globe on what civil society considers responsible business behaviour to be.

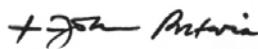
Among other concerns, the Bench Marks calls for a new relationship between corporations, communities and ecosystems; equal participation of stakeholders and those most affected by the activities of corporations in the decision-making processes of companies; preservation and protection of the environment for present and future generations; respect for the dignity of every person and human rights policies based on the Universal Declaration of Human Rights. These issues are important to us because we know that upholding them are essential to the protection of the environment and the sustainability of nearby communities including the elimination of risks such as social and labour unrest that threaten the safety and livelihoods of workers and communities. While most of the labour unrest for now remains focussed around the platinum and gold sectors, many of the underlying problems that have contributed to the challenges currently facing those sectors are also to be found throughout other important sectors as well.

One such industry facing extreme social and environmental risk is the South African coal mining sector – which is the focus of the current document. As with the previous reports in the Policy Gap series, the Bench Marks Foundation uses the current document not only as a means of reporting on the issues surrounding coal mining impacts, but also as a way of alerting the world of significant risks that not only threatens the economic well-being of the mining industry, but also the well-being of the wider community. Coal mining is associated with a number of health and environmental hazards. Coal mining impacts causes long-term threats such as climate change and environmental disasters such as ground, air and water pollution in sensitive catchment areas, which jeopardise water and food security. The living conditions of communities residing near coal mines are appalling and result from the poor performance on social responsibility by the mining companies and the lack of support for human rights.

This report provides an overview of such serious negative impacts of coal mining in South Africa and primarily focuses on the central basin in Mpumalanga. In particular, the report highlights the shortcomings in the policies coal mining companies currently implement to engage with the near-mine communities. As a main concern emanating from the report, it is clear that South Africa is faced with a crisis of representation. Communities and workers increasingly feel the need to resort to violence in their protests. Global best practice guidelines on corporate responsibility and human rights are not implemented as they should be by an industry that currently creates its wealth off of dirty and non-renewable energy resources to the detriment of the environment and the misery of surrounding communities. The use and supply of coal-fired energy generation in already environmentally vulnerable areas cannot be justified as a long term solution, as the risks will ultimately outweigh the short term illusion of a 'cheaper' power source.

The status quo is definitely not sustainable and serious interventions are needed to stop the seemingly uncontrolled plundering and exploitation of the resources and living environments which existing communities and future generations depend on to make a decent living. It is therefore our hope that this report would help give impetus to the necessary role players in the industry and in government to start implementing strict regulatory steps that would guide the enforcement of more social and environmental responsibility in the coal sector.

Rt Rev Dr Jo Seoka



Chairperson

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Executive Director

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Acronyms and Abbreviations

BECSA	Billiton Energy Coal South Africa
BMF	Bench Marks Foundation
CH ₄	Methane
CO	Carbon Monoxide
CSR	Corporate Social Responsibility
DMR	Department of Mineral Resources
DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
EMPR	Environmental Management Programme
ESC	Economic, Social and Cultural
GHG	Greenhouse Gas
HC	Hydrocarbons
ICMM	International Council on Mining and Minerals
IDP	Integrated Development Plan
IFC	International Finance Corporation
IMF	International Monetary Fund
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
MBGL	Metres Below Ground Level
MMSD	Mining, Minerals and Sustainable Development Project
MPRDA	Minerals and Petroleum Resources Development Act
Mt	Million Tonnes
MTPA	Million Tonnes Per Annum
N ₂ O	Nitrous Oxide
NGO	Non-Governmental Organisation
NMVOC	Non-Methane Volatile Organic Compounds
NO _x	Oxides of Nitrogen
OECD	Organisation for Economic Cooperation and Development
Pb	Lead
PM	Particulate Matter
ROM	Run of Mine
SEAT	Socio-Economic Assessment Toolbox
SO ₂	Sulphur Dioxide
UN	United Nations
WHO	World Health Organization

Executive Summary

South Africa's economy is highly fossil fuel dependent, with the main source (91%) of electricity being coal. Apart from the heavy domestic reliance on coal as a source of energy, South Africa is a significant participant in global coal markets. The majority of South Africa's reserves and mines are in the Central Basin, which includes the Witbank (eMalahleni), Highveld and Ermelo coalfields. South Africa's economically recoverable coal reserves are estimated at between 15 and 55 billion tonnes and coal production in the Central Basin is likely to peak in the next decade. Against this background, the purpose of this report is to expound some of the main concerns related to the impacts of coal mining operations in the Central Basin and how community engagement and grievance mechanisms are applied in the area.

The report focuses on communities near mines in the Nkangala District including Witbank (eMalahleni) and Middelburg (Steve Tshwete), and on two mining corporations Anglo American Corporation and BHP Billiton, using the following terms of reference (TOR):

- Provide a general and brief historic overview of the selected coal mining companies near mine communities;
- Further assess the impacts of coal mining activities on the communities near mines;
- Assess the ways in which the coal mining company is engaging with the communities nearby mines;
- Evaluate grievance mechanisms in place; and
- Benchmark the findings from the ground with relevant international standards and best practices.

Mainly **two basic research procedures** were used for the project, namely: the **historical procedure (literature study)**, which was used to conceptualise and contextualise all facets of the research, for example, the 'history' and current debates surrounding coal in South Africa; and the **survey procedure** which was used to gather the empirical information. Data collection methods included focus groups, researcher observations and interviews. The essence of the study and its findings will subsequently be presented:

INTERNATIONAL STANDARDS AND BEST PRACTICES

One of the key judgments derived from the literature review is that all mining in South Africa should be informed by global best practice, which in turn should be guided by the UN Guiding Principles on Business and Human Rights from 2011. These principles have been incorporated into a series of international standards and frameworks. In addition the four leading international standards, namely the **OECD guidelines** for multinational enterprises, **UN Global Compact**, **IFC (International Finance Cooperation) Performance Standards** (World Bank) and the **Bench Marks Principles for Global**

Responsibility- Bench Marks Foundation, guide corporations towards best practice. These should inform responsible business conduct and setting of required performance standards.

The report therefore looks at what should form the basis for global best practice in mining. For instance, the responsibility of companies in protecting human rights is a universal standard, existing over and above national laws, and applicable independently of States' abilities or willingness to fulfil their own human rights obligations. In particular, when it comes to *causing* or *contributing* to adverse impacts on human rights, companies are required to prevent and mitigate potential risks and engage actively in remediation in case an adverse impact has occurred.

However, because global frameworks and compacts are voluntary and do not constitute enforceable international and national law, adherence to these frameworks become symbolic and ritualistic as there are no sanctions or penalties for non-adherence. The worst that could happen to a corporation is bad publicity, which might influence shareholder behaviour. Consequently, the Bench Marks Foundation has found that corporations increase their advertising spend to counter negative publicity rather than deal with the environmental and human rights issues concerned.

LEGISLATIVE OVERVIEW

Besides international best practice guidelines, local legislation (including laws developed to guide corporate behaviour within the mining sector) are also formulated in line with universal human rights standards. The **South African Constitution** is the highest applicable law in South Africa, to which all other laws must adhere. The constitution guarantees a number of the rights this report highlights as not being respected, for example the right to adequate housing (Section 26), right to water and health (Section 27), right to property (Section 25), as well as the right to an environment which is not hazardous to health or well-being (Section 24). According to the Constitution, the South African state has the responsibility for ensuring these rights.

The **Minerals and Petroleum Resources Development Act (MPRDA)** entered into force in 2002 and is the central piece of legislation regulating the mining industry in South Africa. The law guides how the prospecting, quarrying and production of minerals in South Africa takes place. In order for a company to be awarded mineral rights, a so-called "social and labour plan" must be developed in which the company describes how it will contribute to community development in the region where mining will take place. These plans have been criticised by several sources. However, due to lack of transparency – the companies often do not disclose the content – it is impossible for concerned stakeholders to determine whether or not the company complies with its commitments. A Minerals and Petroleum Resources Development Act (MPRDA) Amendment Bill has been cleared by the National Council of Provinces (NCOP) on 27 March 2014, and waits to be signed into law by President Jacob Zuma. The document was first approved by the National Portfolio Committee on Mineral Resources on March 6, after which Parliament approved the Bill on March 12. The Bill has been controversial and created concerns about the State's involvement in projects and the declaration by the Minerals Minister of certain minerals as 'strategic' (Kolver, 2014).

The original MPRDA has been widely criticised for not adequately dealing with the rights of communities affected by mining and of who bears the highest costs in terms of violations of their Human Rights. The Act also does not place sufficient responsibility with the mining companies who are

the only ones who ultimately benefit from mining activities. The new Bill has, however, not improved on these shortcomings despite significant effort from various civil society and legal groups to try and convince government to add specific clauses which would ensure the protection of the rights of communities and the environment. Aside from numerous concerns raised regarding the content of the MPRDA Amendment Bill, many stakeholders have complained about a flawed consultation process in the development of the Bill and that the processing of the legislation took place in a rushed manner with disregard for the input and participation of communities and their representatives. As a result, various civil society, political and legal groups have requested the President to refer the Bill back to Parliament and are planning to challenge to the MPRDA in the Constitutional Court.

In accordance with the MPRDA, a specific charter, the **Mining Charter**, was developed to ensure that historically disadvantaged South Africans benefit from the exploitation of mineral resources. The first Mining Charter, adopted in 2002 and updated in 2010, regulates a number of areas connected to sustainable development within the mining industry. The mining companies should also consult the local communities and analyse their needs prior to initiating development projects. Regarding workers' housing, the goal is that the worker hostels should be converted to family housing by 2014 at the latest and that all employees should be given the option to purchase their own homes. **It is a tragedy that mining development in South Africa post 1994, under a universally elected democratic government, has achieved (with the assistance of the mining industry, the Mining Charter, the ubiquitous living out allowance, and the undue political influence of mining corporations over government) exactly the kind of urban slums in the form of squatter camps in the vicinity of every mine that researchers and industry experts have been warning about for decades.**

FINDINGS AND ANALYSIS

After examining the relevant international and local best practice guidelines and legislation, the report proceeds to discuss the grievance mechanisms of the two corporations under review. It also raises stakeholder engagement concerns. The first company reported on is Anglo American Corporation.

Anglo Coal — Grievance Mechanisms

Anglo introduced a standardised process across its operations for identifying and managing its impact on communities, and for addressing complaints and grievances. The tool is referred to as the "Socio-Economic Assessment Toolbox" (SEAT). The SEAT process consists of seven steps and is supposed to be implemented by all Anglo operations every three years. It covers the entire life of the mine. The mechanism has a number of entry points through which grievances can be lodged including a phone hotline, email and regular mail service; it now has a Facebook page as well. Staff representatives, union representatives, elected community members, local government officials, and civil society organisations may also lodge grievances. At least one of these avenues has to be free of charge and there must be an opportunity to remain anonymous if preferred by the complainant. It is obligatory for all complaints to be recorded on Anglo's online system. The complaint is then categorised into Minor, Moderate or Serious. The complaint process is concluded with a final investigation report, is entered in the company's operations risk register and the lessons learned are disseminated throughout the corporation. The company reports on complaints in its annual sustainability reports and reports to society.

Specific issues regarding the complaints mechanism in the Anglo American case might be a little early to judge, given that (although the mechanism has been in place for a number of years already) measuring the effectiveness of the group-wide mechanism on the basis of key performance indicators has just started in 2011. There are complaint mechanisms in place for all of Anglo American's operations, but no disputes have been reported so far.

It would also seem that most disputes so far deal with employee/employer grievances rather than wider community grievances as the company indicates that the majority of grievances pertained to rather low-level issues ("housekeeping stuff") and did not relate to serious rights violations. The company itself acknowledges, however, that the potentially affected people are not yet well aware of the complaint mechanisms and do not make use of it regularly. The Bench Marks Foundation has previously found, in the Policy Gap for example, that the often-good intentions of head office does not necessarily translate into good practice on the ground at operations. Anglo, therefore has to make sure that all operations use the very new model for grievance procedures (included in SEAT Version 3), which duly takes account of the UN Guiding Principles on Business and Human Rights.

This problem is aggravated by the fact that there is a massive lack of confidence in the company among nearby mine communities in South Africa in general and in the communities, non-governmental organisations and community based organisations surveyed here in particular. This is due to the corporate misbehaviour in the past, as well as to the prevailing power imbalance between Anglo American Corporation and those affected from its operations. **The Bench Marks Foundation has found this to be the case year after year, and recommends that an independent fund be created, to which all mining corporations contribute and from which communities could draw in order to obtain legal, geological, environmental, sociological and anthropological expertise in an advisory capacity when consulting and negotiating with mining corporations.** While the Bench Marks Foundation welcomes the existence of the formal complaint mechanism in this instance, **we recommend that there be an independent central complaints mechanism dealing with all community versus mining complaints. Such a mechanism should not be associated with any one mining corporation, and should be funded by government and contributions of all mining corporations invested in the country.**

Anglo Coal — Community Engagement Concerns

The relevant processes regarding consultation involve the calling of meetings with affected and impacted parties. Given the high concentration of a large number of mines in a very small area around the Kendal Power Station **communities must be suffering from 'consultation fatigue'**, particularly in that there is no legal obligation on mining companies to address any of the issues raised by communities or individuals during such meetings. Apart from the imbalance of knowledge about the impact of mining that exists between the corporate and community participants in these meetings, the meetings are largely symbolic and serve to assuage to consciences of Mineral Resources and other government department officials when mining and water licences are issued. Anglo Coal conducted numerous comprehensive/exhaustive public and interest group consultations during 2006 and again in 2010 and 2011 as part of its environmental impact assessment (EIA) process towards obtaining its mining licence for the New Largo mine.

However, there is a major discrepancy between this first process towards completing its EIA requirements and its public meetings towards application for a water licence from the Department of Water Affairs. Many mines in Emalahleni seem to obtain mining licences well in advance of water use licences. In the case of Anglo Coal its consultation process towards obtaining a water use license only took place in 2011, a full five years after its EIA consultation process. Anglo Coal explains this by referring to a change in the relevant legislation that required it to do a second round of environmental consultations. Mine construction by means of the first box cut was to take place in November 2012, and Anglo Coal has already secured the contract from Eskom to supply Kusile power plant, which replaces the old Wilge power plant. This contract suggests that Eskom and Anglo Coal considers the issuing of mining licences, approval of EIAs and Environmental Management plans as well as a water use licence as mere formalities.

The implications of this discrepancy are:

- That the Consultation processes with communities are merely symbolic formalities to demonstrate compliance with legal requirements, and that the operation is a foregone conclusion regardless of these processes;
- That Eskom, Anglo Coal and the institutions financing these operations are pre-empting the issuing of licences by the Department of Mineral Resources, the Department of Water Affairs, and the Department of Environmental Affairs;
- That the Department of Mineral Resources (DMR) is in fact undermining the regulatory authority of the Department of Water Affairs. It makes no sense to run public meetings for water licenses after mine construction is already at an advanced stage, because the construction can simply not be reversed; and
- That the banks that financed the mining operation did not do proper due diligence to see that the project they are financing is in fact complying with legislative and regulatory requirements before releasing funding for the project. Nedbank is reportedly financing Anglo American's "New Largo coalmine project", which is an R11.6 billion project involving the construction of an open-cast mine with a capacity to produce 14 to 15 million tons of thermal coal a year.

Participants had to register for the public meeting, which suggests that the meeting was not entirely open and that some sort of screening took place. The notice was written in English, Afrikaans and Zulu.

While Anglo Coal's consultative process towards its EIA application was exhaustive, the responses by consultants to the issues raised by affected individuals and communities were not always satisfactorily answered. The consultations took place prior to a full EIA being developed and were done as part of the process of developing the EIA. This means that neither the consultants nor the individuals and communities consulted, had a clear picture of what the eventual environmental and social impact would be. The Bench Marks Foundation also notes that a mine's impact on the environment and communities differs throughout the life of mine and beyond which implies that the consultation process should be continuous.

Some further concerns about the community consultation process as identified by this report relate to: the dates on which consultations were held; the dates and the manner in which the consultations

were advertised; as well as the languages used in the adverts. These issues clearly point towards a complete imbalance of knowledge and power between the community members and the consultants.

Anglo American Corporation is a huge bureaucracy and the good intentions of head office in London are often diluted when it comes to on-the-ground operations where productivity and cost containment are often the primary concern of local management. Often management at a local level have scant regard for the anthropology and cosmological/world view of often-traditional communities.

Moreover, people in communities express concerns that those people charged with engaging with communities and responding to complaints go through the process in a mechanistic manner without showing real concern for the issues raised by communities. For instance, communities serially complain about cracked housing on the coalfields and at other Anglo operations, especially in situations of open cast mining and blasting. The corporation's response is always that poor architecture is at fault. Communities serially complain about dust from blasting and open cast mining, to no avail. Communities regularly complain about a lack of consultation across the life of operations and disrespect for communities in such consultations. **Issues of political collusion to circumvent social, environmental and other obligations have been repeatedly raised by the Bench Marks Foundation over a period of six years. Yet Anglo American Corporation plc in all its divisions from platinum to coal continue to harvest board representatives and BEE shareholders from senior figures of the ruling party.** Consultation meetings are half-hearted, there are no action lists from the meetings and often there is no feedback. **Anglo American Corporation has an over reliance on consultancies to engage with communities on its behalf. Communities perceive these consultancies as lacking in information, decision-making power, and an understanding of either mining, the impact of mining or of the local conditions.**

The second company investigated by this study is BHP Billiton.

BHP Billiton — Grievance Mechanisms

BHP Billiton has a grievance process very similar to that of Anglo American Corporation. The BHP Business Code of Conduct, like SEAT of Anglo, is a one size fits all kind of document. It does not take into account regional, national, provincial and local variations, not just in operations but also in terms of culture, politics, economics and environmental issues.

Whereas Anglo's SEAT Community Toolkit has been in existence since 2004, the BHP Billiton Business Code of Conduct seems to have only been published in May 2013. Clearly it is too early to tell if the grievance procedure indicated therein will be effective or not.

The grievance mechanism seems to be more employer/employee than community oriented. It seems mostly to be related to workplace and space issues. There is also an implied threat that if an 'issue' or grievance raised is not considered 'genuine' by the corporation, punitive steps may be taken against the person raising the grievance. The implied threat here is most certainly intimidatory.

BHP Billiton — Community Engagement Concerns

BHP Billiton's engagement with communities near mines in Australia is qualitatively different from what they are in South Africa. In Australia BHP Billiton reports per community in separate reports at its Mt Arthur Coal: "Community Matters, Sustainable Communities Project Gives Locals a Say" (Masterson, 2011), the Dendrobium Community Enhancement Program Trust (DCEPT, 2011), and BHP Billiton Community Workshops Report August – September 2010 for the Caroon community (BHP Billiton, 2010). In South Africa, it produces one global report regarding interactions with communities. What is clear from these reports is that BHP Billiton directly and continuously engages with these communities in Australia. No doubt, it is a requirement of the excellent Australian Mining Code, which requires that Australian mining corporations apply the very strict and laudable clauses of this document when they invest outside Australia as well. However, in South Africa, the BHP Billiton engagement with communities cannot be described as anything other than philanthropic and much of the criticism directed at Anglo American's coal operations also hold for BHP Billiton.

THE IMPACTS AND EXTERNALISATION OF COSTS OF COAL MINING

The cumulative nature of the impact of so many mines in such a confined space makes it difficult to disaggregate the impact of one operation from all others. In this report, the cumulative impact and externalisation of costs by coal mining is discussed, and where possible individual operations are named. Coal mining is associated with a number of health and environmental hazards. Generally, coal mining stresses the environment during the extraction, beneficiation and transportation of coal to a power station. Human beings are also negatively affected in the coal fuel chain through exposure to harmful pollutants, and injuries and fatalities.

In South Africa, the mining industry has an extremely cavalier attitude towards the closure of mines and the rehabilitation of the environment. The country has approximately 6 000 abandoned mines spilling acid water and heavy metals into the environment. Mines are abandoned despite strict environmental and water legislation and a legal requirement in terms of the Minerals and Petroleum Resources Development Act for mines to set aside funds for effective mine closure. This study will show that abandoned mines represent a major cost externalisation to society, as post closure impact is extensive. There is a tendency for coal majors to sell off mines approaching its end of life to 'juniors' who do not have the resources or capacity to close such mines properly.

The main impacts associated with coal mining include climate change impacts from greenhouse gas (GHG) emissions, human health burdens due to air pollution, fatalities and injuries due to coal mining and transportation, water pollution, and impacts related to land use.

The impacts of coal mining in the study focus area are outlined in this report as follows:

- Coal mining and water impacts in Mpumalanga;
- Coal mining and air pollution (Council concerns about air quality issues; farmer concerns about air quality issues);
- Coal mining and soil pollution;
- Coal mining and human health impacts;
- Impact of coal mining on land subsidence and sinkholes – the case of Coronation informal settlement;

- Coal mining and child labour;
- Impact of coal mining on road transportation and infrastructure (community concerns about mining impact on roads);
- Coal mining and economic concerns in the area (procurement; infrastructure; housing and agriculture); and
- Coal mining and social and cultural concerns in the area.

In response to the research findings, this study presents the following recommendations as necessary steps to be taken by the coal mining industry to ensure the protection of human rights and to bring the sector more in line with global best practice.

RECOMMENDATIONS

Independent Grievance and Arbitration Mechanism:

- Our research has shown that no independent grievance and arbitration mechanism exists in the mining sector to respond effectively and equitably to grievances from outside the workplace and in particular poor mining communities surrounding the mines. This is not a mistake and we believe they have been deliberately kept weak and poorly resourced:
 - The Bench Marks Foundation recommends to the Department of Mineral Resources, Industry and the Chamber of Mines, the establishment of an **independent national grievance and arbitration mechanism** to which mining impacted communities could refer all mine impact-related grievances, within a reasonable period of no longer than 6 months from publication of this report;
 - The Bench Marks Foundation recommends to the Department of Mineral Resources, the Industry and the Chamber of Mines, the establishment of an **independent central fund** on which mine-impacted communities could draw from to appoint their own expert law, geological, environmental, social and economic experts so as to offset the imbalance in knowledge and power that exists between mining corporations and communities in the consultation processes.

Renewables and climate change:

- The Bench Marks Foundation calls for the Department of Environmental Affairs and the Department of Water Affairs to **rigorously apply the ‘polluter pays principle’**, in particular to ensure that it is vigorously adhered to and imposed:
 - We call on our government to implement alternatives to coal production with vigour, as coal is intrinsically unhealthy and a cause of ill health to communities, plant life and the environment. As a fossil fuel, it is a known polluter damaging the ozone layer.
 - We call on the government to introduce effective energy and climate laws that will limit the damage to our environment caused by the coal sector. This must be supplemented by the resourcing of its renewable strategy, and the commitment that no jobs will be lost due to this strategy and that jobs will be created for poor communities surrounding the coal mines. In the absence of an independent and effective regulator in the mining sector, we call on the

Public Protector and the SAHRC to be fully empowered jointly to monitor the adherence to environmental impacts on communities.

Health and Environmental Accountability:

- The Bench Marks Foundation recommends that the Department of Environmental Affairs and the Department of Health cumulatively **hold coal-mining corporations accountable for air pollution, emissions and dust particulate impacts on communities** in the coal mining areas of South Africa:
 - The Bench Marks Foundation recommends that the Department of Health take a holistic view on tackling avoidable causes of ill health, especially if it wants to introduce a universal, equitable health system. The proposed National Health Insurance will be overburdened by corporations externalisation of health costs as we have seen from the acid mine drainage and other hidden health impacts on poor communities. We demand that the Department of Health undertake a proper scientific epidemiological study in the coal mining areas of the country to determine the full health impact of mining on the workers inside the workplace and communities near mines in terms of both respiratory and other health problems identified in this study.
 - The ill health caused by air pollution on the part of mining energy corporations violates the right to clean air as enshrined in the constitution, section 24 of the Bill of Rights. In addition, various studies have confirmed that the dependence on coal for black empowerment and our energy needs ignores the devastation to human health coal causes. The combustion of coal in various international studies confirms that it affects the pulmonary development, increases the risks of cancers, stroke and heart attacks as well as chronic lower respiratory diseases. The widespread occurrence of such diseases is not a natural event and must be stopped, and the polluters must pay for making people sick. This is in line with the 'Polluter Pay Principle'. Furthermore, the department of health must do an in-depth health investigation and hold the perpetrators to account. Communities must have recourse to justice as guaranteed

Government Responsibility:

- The Bench Marks Foundation calls on government to **apply government mining, water and environmental laws and regulations more strictly** when mining companies apply for mining licences at a particular mining site and across the entire life of the mine;
- The Bench Marks Foundation recommends that the Department of Water Affairs goes beyond just studying the problem of mine water decant into the water systems of the country and prosecutes those responsible for the pollution of these systems;
- The Bench Marks Foundation calls on government to **take the threat to water and food security posed by coal mining in Mpumalanga more seriously**. The loss of top soil in particular is of grave concern, and noting that South Africa is one of the most water scarce countries in the world, the destruction of groundwater, rivers, dams and water systems through mining needs to be halted forthwith and reversed where possible.
- The Bench Marks Foundation calls on the Department of Mineral Resources and the national Parliament to effect changes in the MPRDA to make it illegal to sell off a mining operation near the end of life of mine so as to avoid the costs of proper mine closure;

- The Bench Marks Foundation recommends to the Department of Mineral Resources that former owners of abandoned mines be tracked down and prosecuted;
- The Bench Marks Foundation calls on government to heavily fine violations of government laws and regulations where mining houses act in defiance of such national laws and regulations, as well as in defiance of international treaties, guidelines and codes of conduct when such mining companies disregard basic and meaningful communication with local communities across the life of mine. Where there is serial noncompliance, licences should be withdrawn;
- The Bench Marks Foundation calls on government to place a moratorium on all current licence negotiations so as to investigate, by means of a commission of inquiry, legal and regulatory compliance in the negotiation processes and to weed out possible corruption. As well as to ensure that mining companies comply with national and international laws, regulations and codes;
- The Bench Marks Foundation calls for voluntary principles to be replaced with statutory and legally binding regulations and obligations as far as mine impacts are concerned. It is clear that voluntary principles have minimal impact.

Financial systems accountability:

- The Bench Marks Foundation have raised concerns about banking and financial institutions failing to do proper due diligence on mining projects despite subscribing to the International Finance Corporation and World Bank Global Guidelines on Responsible Investment;
 - The study shows that the processes followed by NEDBANK in financing the New Largo project subverted the legal process as defined by the MPRDA, and in the process rendered community consultation between mining projects and communities meaningless. We suspect, from what we found in this instance, that banking and financial institutions frequently collude with mining corporations to render the legal process as far as community interests are concerned, meaningless. The Bench Marks Foundation therefore calls on the Department of Minerals Resources and the Treasury to investigate and tighten controls to avoid this from happening in future.

General Industry Responsibilities:

- The Bench Marks Foundation calls for absolute obligatory transparency by mining corporations regarding mine closure funds and plans;
- The Bench Marks Foundation calls on the industry to effect and conduct community consultation, negotiation and participation across the life of mine from greenfields to closure;
- The Bench Marks Foundation calls for the obligatory adoption of the community's informed continuous right to consent, or refuse proposed mining operations and developments;
- The Bench Marks Foundation recommends that mining corporations phase out, over time, the living out allowance and offer employees an array of corporate subsidised housing options. The government, and the mining corporations must be obliged to do proper urban planning along with the social and labour plans and IDPs, in line with the resource, the length of time mining will occur and the fact that communities have been and will be impacted on;
- In the light of the disturbing findings of this study with regards to violations of national and international treaties as to the way mining houses should conduct negotiations with local

communities, the Bench Marks Foundation calls on Anglo Coal / BH Billiton to immediately re-examine their current practices with regard to the ways in which they conduct consultations with surrounding communities.

Responsibility of Civil Society:

- Lastly, the important and continuous role of civil society cannot be overemphasised. The Bench Marks Foundation calls on all community leaders, community monitors, pastors, priests, faith leaders, journalists, photographers and other media partners, academics, activists and entrepreneurs, naturists, school teachers and school children looking at their surroundings, young people burning bright with hope and idealism, and doctors and nurses working with communities and lawyers filled with a vision of a just society, to become more active in holding corporations accountable. Young people and older folks, can also express their concerns on social media such as Facebook and Twitter, and in doing so, help to change the world. While acknowledging that many members of society are only trying to make a living, the Bench Marks Foundation hopes to spread the word and understanding that the future well-being of our country is extremely dependent on the collaborative effort of all stakeholders in society to help make our fragile democracy work.

CONCLUSION

The South African state has existing obligations to respect, protect and fulfil human rights and fundamental freedoms. If the state is managed by a government in which the ruling party has very senior members who have vested interests in mining, it becomes near impossible for government departments to fulfil their legal obligations. The Bench Marks Foundation has said so repeatedly in numerous reports over the years. **The comfortable revolving door between politics and business must be shut.**

The role of mining companies as specialised organs of society performing specialised functions are required to comply with all applicable laws and to respect human rights. Mining companies in South Africa contravene environmental, labour and social laws and norms serially. They are not even afraid to admit that they do so, as many Bench Marks Foundation reports have shown over the years, because they know that there would be no consequences. Operating without water licences, starting open cast operations in close proximity to communities, causing the development of urban slums and squatter camps through the living out allowance, and not controlling dust and smoke emissions are all par for the course. When senior politicians are on the boards of mines and are shareholders, the state becomes toothless. It barks now and then, but it hardly ever bites.

Finally, given the above, the need for rights and obligations to be matched to appropriate and effective remedies when breached, simply does not happen. Communities and workers are left powerless. They cannot expect remediation from the state or from the mining companies. Consequently, communities have lost faith in democracy. **South Africa is faced with a crisis of representation. Communities and workers are increasingly resorting to violence in their protests. The mining corporations on the other hand respond with the militarisation of mine security and using their undue leverage over the state call for the ever more vicious use of the repressive apparatus of the state, against its own citizens. Global best practice guidelines on corporate responsibility are not implemented in a meaningful manner and mining companies fall short in terms of applying the principles on human rights and community engagement as indicated in**

frameworks such as the UN Guiding Principles on Business and Human Rights or the Bench Marks Principles. If urgent steps are not taken to address the valid grievances of mining communities by means of truthful, transparent and equal consensus-seeking community engagement practices, the social, labour and economic crises currently plaguing the industry are set to continue.

1. Introduction

This report starts with an overview of coal mining in South Africa. A short section discusses the methodology used in the compilation of the report, it then proceeds to a discussion of the international frameworks within which coal mining companies operate and which form the basis for not only their corporate social responsibility (CSR) but also the foundation of any grievance mechanisms they have, should such mechanisms in fact be in place. A discussion of the legislative environment within which such corporations operate in South Africa follows. The focus then shifts to a discussion of the operations of Anglo American's coalmines and that of BHP Billiton, this section includes a review of the community engagement strategies and grievance mechanisms of both corporations.

The original terms of reference (TOR) of the study were to:

- Provide a general and brief historic overview of the selected coal mining companies near mine communities;
- further assess the impacts of coal mining activities on the communities near mines;
- assess the ways in which the coal mining company is engaging with the communities near mines;
- evaluate grievance mechanisms mines have in place; and
- benchmark the findings from the ground with relevant international standards and best practices.

It is important to note that the areas of eMalahleni Local Municipality and Steve Tshwete Local Municipality (Witbank and Middelburg), both falling under the Nkangala District Municipality, is intensely mined for coal, with an exceptionally high concentration of coalmines, Eskom power plants and steel and chrome processing plants. The Nkangala IDP (Integrated Development Plan) states with regard to eMalahleni that it "is home to a number of large industrial concerns such as Highveld Steel; and mining companies such as Anglo Coal, Xstrata, BHP Billiton/Ingwe as well as energy generating organisations (The District Manager, 2012, p. 58). eMalahleni is a coal mining area with 22 collieries in an area no more than 40 km in any direction (Ultra Quick Host). There are a number of power stations (such as the Duvha Power Station), as well as a steel mill, Highveld Steel and Vanadium Corporation nearby, which all require coal.

This report therefore speaks to the Nkangala District communities. It is near impossible to select one or two communities as all the communities in these two districts are near mine communities.

2. Overview of Coal Mining in South Africa

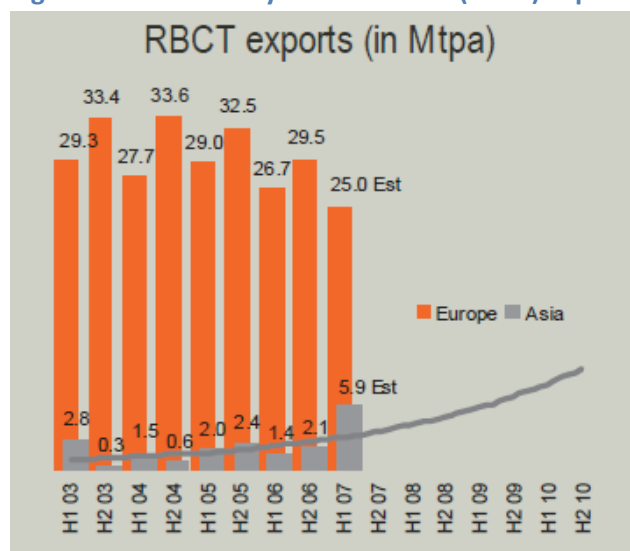
South Africa's economy is highly fossil fuel dependent, with the main source of electricity being coal. It also has large reserves of uranium and small reserves of oil and gas. The second biggest energy carrier is imported crude oil (needed for the supply of liquid fuels for transportation) while moderate amounts of nuclear, gas and hydro contribute to the energy mix. The electricity generation mix is heavily dominated by coal (91%) with nuclear energy from Koeberg in the Western Cape making up an

additional 5%. Open cycle gas turbines (0.1%) and pumped storage and hydro stations (2%) meet residual requirements (CTF Trust Fund Committee, 2013, p. 11).

Apart from the heavy domestic reliance on coal as a source of energy, South Africa is a significant participant in global coal markets. However, it is not the biggest: China, the USA and India are much larger producers and consumers of coal; and Australia, Colombia, Indonesia and Russia are larger exporters. Yet, South Africa's coal industry is noteworthy in a number of respects:

- it is a relatively low cost producer (along with Columbia and Indonesia);
- has the world's largest coal export terminal, and is positioned conveniently between Atlantic and Pacific coal markets; and
- It is a potential swing producer, able to export competitively to either Europe or the East (Eberhard, 2011, p. 5).

Figure 1: Richards Bay Coal Terminal (RBCT) exports in million tonnes per annum (Mtpa)

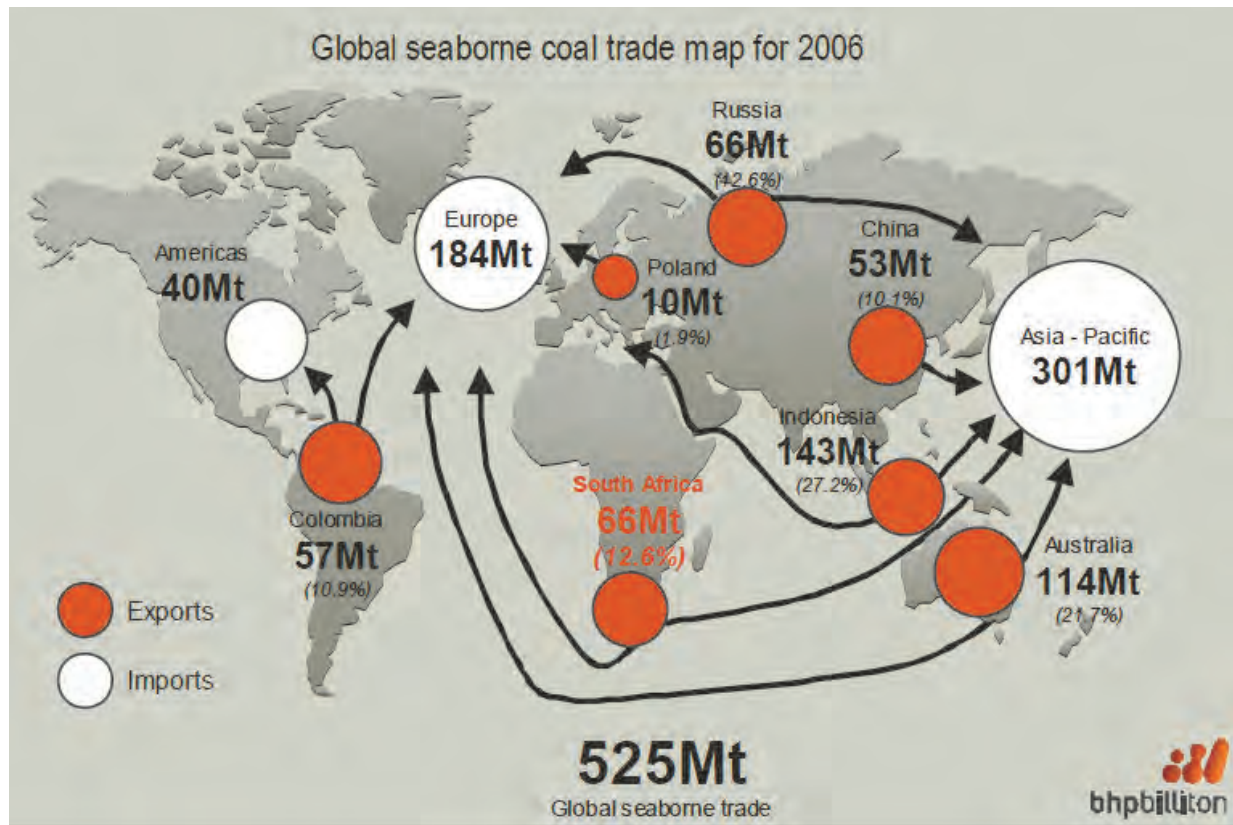


Source: Isaacs (2007)

South Africa produced 310.3 million tonnes ROM thermal coal, of which 245.3 million tonnes was of saleable quality in 2007. Production of total ROM yielded 53% from opencast, 40% from board-and-pillar, 4% from stoping and 3% from long wall mining methods. Production increased marginally (0.2%) in 2007 to 245.3 million tonnes, although the year saw local sales tonnage increasing by 3.2% and export volumes declining by 2.1% to a suboptimal tonnage of 66.7 million tonnes (Steyn, 2009, p. 34).

The monetary value of coal per tonne increased for domestic and exported coal by R106/t and R360/t respectively. The five largest mining groups, Anglo Coal, BHP Billiton, EXXARO, SASOL and Xstrata produced over 80% of the saleable production.

Figure 2: Global Seaborne Coal Trade



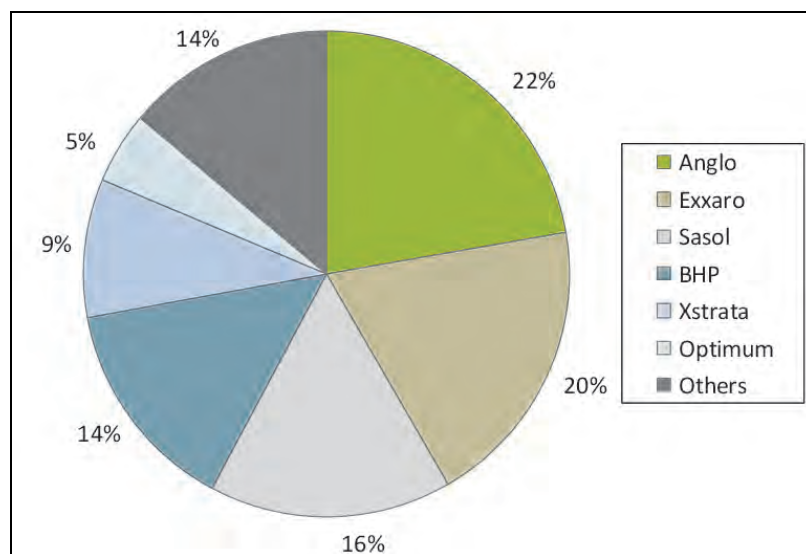
Source: Isaacs (2007)

Furthermore, in 2007, South African coal was exported to 34 countries, of which 84.5% went to the European Community (with the largest off-takers being the United Kingdom, Spain, France, Italy and Germany). Other regions constitute Africa, Middle East, Far East and South America (Steyn, 2009, p. 34).

South Africa's economically recoverable coal reserves are estimated at between 15 and 55 billion tonnes. 96% of reserves are bituminous coal; metallurgical coal accounts for approximately 2% and anthracite another 2%. Production is mainly steam coal of bituminous quality. The majority of South Africa's reserves and mines are in the Central Basin, which includes the Witbank, Highveld and Ermelo coalfields. Coal production in the Central Basin is likely to peak in the next decade. The Waterberg coalfield is the focus of recent exploration efforts and could become a major coal-mining centre in the future, subject to infrastructure and water constraints. Production in this area will double in the next 5 years. Exploration is also taking place in other coalfields in the Limpopo Province, with a focus on coking coal (Eberhard, 2011, p. 7).

Coal seams are relatively thick and close to the surface, which allows for low-cost mining; a quarter of South Africa's bituminous coal is between 15-50 m below the surface and much of the remainder between 50-200m. Half of reserves are in seams 4-6m thick and a further third in 2-4m seams (Patrick Commission, 1975). Approximately half of production comes from opencast mines, and the balance from underground mines (Eberhard, 2011, p. 7).

Figure 3: Market share in Coal production by corporation (2009)



Source: Anglo American (2010)

3. Research Methodology

Two basic **research procedures** were used for the project, namely:

- **Historical procedure**
- **Survey procedure**

The historical procedure (literature study) was used to conceptualise and contextualise all facets of the research, for example, the ‘history’ and current debates surrounding coal in South Africa. Related themes like supply chain management, procurement, cultural and environmental concerns, and other related developmental issues were also highlighted. **Corporate reports, books, scientific journal articles, popular articles, newspapers, reports, annual and sustainability reports of companies, conference proceedings, databases, applicable legislation** (for example the Mineral and Petroleum Resources Development Act – MPRDA and the Mining Charter) as well as **other Internet sources** were used as sources for applying the historical procedure.

To gather the empirical information, the **survey procedure** was used. When working with the ‘more informal sector’ and in communities adjacent to mining companies, especially in Africa, a **qualitative approach** is the better choice for the subject matter in that it enables the respondents to expand on their points of view without being limited by the questions. **Data collection methods** included **focus groups, researcher observations and interviews**. Community concerns were also captured during **several visits** to the area. These concerns were confirmed by the minutes of ‘**consultations**’ held with some members of the communities. These ‘consultative’ meetings were organised by the mining companies.

As the elements of interviews with members of impacted communities (including farmers, and farm workers, township residents, residents of informal settlements) were not fixed beforehand, they were **semi-structured** on the basis of a list of topics related to the project objectives. A degree of flexibility

was allowed to assist the interviewer(s) to probe deeper where more relevant information could be obtained through further questioning. Questions and topics were not necessarily asked in the same order each time as this depended on the way the interview developed. This allowed the person being interviewed a degree of freedom to voice concerns and to participate in directing the flow of the conversation. These **in-depth interviews** and '**consultations**' assisted in clarifying what **themes and topics** were considered to be important and what the major concerns of individuals and communities were regarding coal mining in Mpumalanga.

Focus groups (8 to 12 people) and **interviewees** were selected purposely to take account of gender, race, migrant or local status, age and specific interest groups. To enhance the scientific nature of the study, at least two researchers (interviewers), and a translator where necessary, facilitated each focus group and each personal interview. Different individuals in different areas were also used as **key informants**. Patton, (2002, p.321) describes key informants as "... people who are particularly knowledgeable about the inquiry setting and articulate about their knowledge – people whose insights can prove particularly useful in helping an observer understand what is happening and why". The researchers also spoke extensively to members of **communities impacted by coal mining operations** as well as with different **NGOs** (non-government organisations) to get a 'feel' for the different sentiments on the topic. **Non-participatory observation** was also used to gather information. Different observations (for example to spend a day or two in different areas) gave a valuable insight into the research setting.

It can be argued that the coal mining activities of Anglo Coal and BHP Billiton thus served as **case studies**. According to Yin (1984, p. 23), the case study research method is "...an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used". Usually, and also in this study, case studies are longitudinal in nature. This means that a case or subject is examined over a certain time period. The case studies within this report can serve as 'show cases' to illustrate certain points and even help with the processes of **pattern-matching** and **explanation-building** (Babbie & Mouton, 1998).

The following **ethical considerations** were continuously kept in mind throughout the research process:

- **Voluntary participation** (no participant was forced to participate in the research and participants were free to withdraw from the research at any stage);
- **No harm to participants** (the researchers ensured that no physical or psychological harm was done to the participants as a result of the study);
- **Anonymity and confidentiality** (all information gathered during the study was dealt with confidentially and permission from the participants was obtained for all information to be shared publicly. Permission was also obtained from all individuals who were photographed to allow the use of these photographs where required); and
- **Not deceiving the subjects** (participants were informed concerning the aim, the purpose and the procedures of the study and were not deceived in any way).

Lastly, concerns are continuously raised about the community consultation processes (initiated by the mining companies) that might have affected the collection and truth-value of some relevant data. This

is discussed when the limitations of the grievance mechanisms of the two corporations are dealt with under section 5 below.

4. International Principles and Corporate Grievance Mechanisms

In this section, an overview of the UN Guiding Principles on Business and Human Rights will be given followed by the grievance mechanisms developed by both Anglo American and BHP Billiton derived from the UN Guiding Principles on Business and Human Rights. The discussion on the UN Guiding Principles on Business and Human Rights is derived from a similar synopsis written for a joint study between the Bench Marks Foundation and Swedwatch to investigate the role of mine equipment suppliers from Sweden on the platinum belt in South Africa (*as yet unpublished in English*).

4.1 The UN Guiding Principles on Business and Human Rights

All mining in South Africa should be informed by global best practice, which in turn should be guided by the following UN Guiding Principles on Business and Human Rights from 2011. These principles have been incorporated into a series of international frameworks and standards, among them, ISO 26000 – a leading standard for corporate social responsibility, the OECD Guidelines for Multinational Enterprises, as well as portions of the IFC Performance Standards on Environmental and Social Responsibility (OECD, 2012).

The work of developing the UN Guiding Principles began in 2005 when Professor John Ruggie was appointed by then-Secretary General Kofi Annan, as the Special Representative for Business and Human Rights, with a mandate to develop a set of guiding principles that corporations should follow in respect of human rights according to existing norms. In 2008, Ruggie presented the “Protect, Respect and Remedy” framework based on three pillars: the duty of the State to protect human rights, the responsibility of companies to respect human rights and access to remedy for those affected (Ruggie, 2008).

The responsibility of companies in protecting human rights is a universal standard, existing over and above national laws, and applicable independently of States’ abilities or willingness to fulfil their own human rights obligations (Ruggie, 2008, pp. 3-8 and 13). The framework formulates the concept of “know and show”, meaning that companies have a responsibility to be aware of and report how their operations, at all stages, affect human rights (United Nations, 2013).

The next step in the process was the development of the UN Guiding Principles on Business and Human Rights, which specify the responsibility of companies to respect human rights and aim to function as guidelines for implementing the framework. It is clear from Ruggie’s final report that the principles are not as a new form of international law, but rather as a clarification of existing standards and guidance on how these should be used (Ruggie, 2008, pp. 3-5 and 13-14).

According to the principles, the responsibility of business enterprises should, as a basic requirement, cover the rights expressed in the International Bill of Human Rights. The latter is comprised of the UN Universal Declaration of Human Rights and the most important instruments through which they have

been codified (The International Convention on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights). They should also include the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work, including the Declaration's follow-up mechanism. In addition, there are several standards for human rights that companies need to take into account. These include the protection of particularly vulnerable groups, or international humanitarian law, applied in situations of armed conflict. Depending on the company's operations, context and size, different types of human rights can be at risk in different situations, but the framework makes clear that all human rights should be safeguarded by all companies, irrespective of size or industry (Ruggie, 2008, pp. 13-15).

According to the Guiding Principles, a company can be involved in an adverse impact on human rights in three different ways (*see Fact box below for examples of each*):

- a. It may **cause** the impact through its own activities;
- b. It may **contribute** to the impact through its own activities or business relationships; and
- c. It may be involved because the impact is caused by an entity with which it has a business relationship and is **linked** to its own operations (Ruggie, 2008, pp. 18-19).

When it comes to **causing or contributing** to adverse impacts, companies are required to prevent and mitigate potential risks and engage actively in remediation in case an adverse impact has occurred. If the company, on the other hand, is involved in the adverse impact solely through *linkage* to a business partner (the third variant above), the company is required to try to influence its partner to prevent and mitigate future risks and to stop ongoing adverse impacts. In this case, the company does not however have to provide remediation (Office of the High Commissioner for Human Rights, November 2011, p. 18).

Regarding the identification and management of risks in accordance with the UN Guiding Principles, it is important to point out that this involves risks for individuals whose human rights can be adversely impacted, not financial risks for the company. It is thus not a question of how companies should minimise business risks and injury to the company, but instead how companies live up to their obligations to respect human rights (Office of the High Commissioner, 2011).

The severity of the adverse impact on human rights determines the priority the company must give the issue, no matter what type of connection the company has to the impact. In other words, it is not the company's own risk assessment that should steer which priorities adverse impacts receive, but how serious it is for the person experiencing injury, i.e. the risk to the person and human rights. In assessing what constitutes a severe human rights impact, the scale (how serious the effects are), scope (number of individuals affected) and irremediable character (the possibility to reverse the situation and compensate those affected) should all be taken into account. In other words, an impact which is temporary, affects only a few, and can easily be reversed is not as serious as an impact that permanently affects people, affects a large group of people or is not possible to reverse, e.g. death or permanent damage (Office of the High Commissioner, 2011, pp. 18-19).

Fact box: Examples of the three different forms of involvement in adverse human rights impacts

Examples of when companies **cause** adverse human rights impacts:

- Routine racial or gender discrimination in the workplace at a mining operation;
- Exposure of mine workers to hazardous working conditions without adequate safety equipment; and
- Being the sole or main source of pollution in a community's drinking water supply due to chemical effluents from production/operational processes.

Examples of when a company **contributes** to adverse human rights impacts:

- Changing product requirements for suppliers at the eleventh hour without adjusting production deadlines and prices, thus pushing suppliers to breach labour standards in order to deliver;
- A company which, together with other actors, contributes to air pollution as a result of emissions, even if the company, by itself, pollutes within a legally allowable limit; and
- Providing data about Internet service users to a Government that uses the data to trace and prosecute political dissidents contrary to human rights.

Examples of when negative impacts on or the violation of human rights have a direct **connection** to the company's operations, products or services through the company's business relationships, but where the company itself has not contributed to the negative effect or violation:

- Providing financial loans to an enterprise for business activities that, in breach of agreed standards, result in the eviction of communities; and
- A company supplies equipment, central to its activities, to a business partner that does not respect workers' rights.

(Source: The Corporate Responsibility to Respect Human Rights – An Interpretive Guide)

The UN Principles distance themselves from the concept of 'sphere of influence', which was used earlier to describe the responsibility of companies. A determination of responsibility is not made on how much control or influence a company has on a business partner (that which 'sphere of influence' often refers to), which potentially contributes or causes damage, but instead the severity of the human rights impact should be in focus.

The **leverage** a certain company has in a specific business relationship is practically decisive for how the company acts and is expected to act in the issue. According to the guidelines, leverage means the possibility *to achieve change in the behaviour of the party that causes or contributes to a violation*.

Examples of factors that are considered in an evaluating **leverage** are, among others:

- a. If the company maintains ownership or other control over the partner;
- b. How large a supplier or customer the company is in relationship to the partner;
- c. How decisive the products or services the company provides are for the activities of the partner;

- d. Advantages versus disadvantages for the partner to continue or suspend the business relationship with the company; and
- e. The possibility for the company to engage with other interested parties, such as the State or industry organisations, with the aim of having the partner take action (Office of the High Commissioner, 2011, pp. 46-49).

In those cases in which the company lacks leverage in a business relationship, actions should be taken to *attempt to increase* leverage. The lack of leverage over a business partner, therefore, does not mean that a company avoids responsibility. In the event that the business partner does not take actions to change a situation where people are suffering harm, a company can be forced to evaluate ending the business relationship. In such a case, the company must consider what negative consequences for human rights such an end can result in (Office of the High Commissioner, 2011, pp. 49 - 51).

This is particularly important with regard to the South African mining sector where there is a heavy reliance on labour brokers, sub-contractors and outsourcing; in addition, there is a huge logistical network of suppliers and transporters on the supply side, as well as an enormous network of transporters, processors and manufacturers on the demand side across regions and continents. The questions of where coal goes to, how it gets there, how it is used once it has arrived at its destination all comes into play – add to this the environmental impact of coal, as a dirty source of fossil fuel, should also be considered.

In order to meet their responsibility to respect human rights, business enterprises should:

- a) Develop and maintain a public policy statement on meeting responsibilities for respecting human rights, realise and include this statement in internal policies and processes, as well as through relevant communications and training for staff;
- b) Continually conduct human rights due diligence in order to identify, prevent, mitigate and account for how they address their impacts on human rights; and
- c) Provide processes for remediation of any adverse human rights impacts they cause or to which they contribute (Office of the High Commissioner, 2011, p. 15).

Management of risks should be communicated externally in such a way that stakeholders, especially those that are affected by the operations, can make an assessment as to if the company has managed risks in a sufficient and adequate manner. It is especially important that companies which operate in high-risk contexts such as conflict areas publicly report on how they conduct their human rights due diligence.

According to the Guiding Principles, human rights due diligence is an ongoing process which a company should conduct, taking into account its specific circumstances (such as the industry, country of operations and size of the company), in order to meet its responsibilities in respecting human rights. A company should implement human rights due diligence in order to identify, prevent, mitigate and account for how it addresses adverse human rights impacts. The process should include an assessment of actual and potential impacts on human rights, incorporate learning and acting on the

observations, follow-up on measures taken and communicate which measures have been taken (Office of the High Commissioner for Human Rights, November 2011, p. 4).

Human Rights Due Diligence:

- a) Should cover adverse human rights impacts that the business enterprise may cause or contribute to through its own activities, or which may be directly linked to its operations, products or services by its business relationships;
- b) Will vary in complexity with the size of the business enterprise, the risk of severe human rights impacts, and the nature and context of its operations; and
- c) Should be ongoing, recognising that the human rights risks may change over time as the business enterprise's operations and operating context evolve (Office of the High Commissioner for Human Rights, November 2011, p. 17).

The purpose of corporate grievance mechanisms would then be to realise three principles set out by Ruggie, also referred to by Anglo American in their own literature: The goal of the principles is to recognise and realise the following principles:

- a) States' existing obligations to respect, protect and fulfil human rights and fundamental freedoms;
- b) The role of business enterprises as specialised organs of society performing specialised functions, required to comply with all applicable laws and to respect human rights; and
- c) The need for rights and obligations to be matched to appropriate and effective remedies when breached.

Professor Ruggie has had a major influence on corporate thinking and it is therefore appropriate to summarise his approach as contained in the textbox below:

Effectiveness criteria for non-judicial grievance mechanisms

In order to ensure their effectiveness, non-judicial grievance mechanisms, both State-based and non-State-based, should be:

- (a) Legitimate: enabling trust from the stakeholder groups for whose use they are intended, and being accountable for the fair conduct of grievance processes;
- (b) Accessible: being known to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access;
- (c) Predictable: providing a clear and known procedure with an indicative timeframe for each stage, and clarity on the types of processes and outcomes available and means of monitoring implementation;
- (d) Equitable: seeking to ensure that aggrieved parties have reasonable access to sources of information, advice and expertise necessary to engage in a grievance process on fair, informed and respectful terms;
- (e) Transparent: keeping parties to a grievance informed about its progress, and providing sufficient information about the mechanism's performance to build confidence in its effectiveness and meet any public interest at stake;
- (f) Rights-compatible: ensuring that outcomes and remedies accord with internationally recognised human rights; and
- (g) A source of continuous learning: drawing on relevant measures to identify lessons for improving the mechanism and preventing future grievances and harms.

Operational-level mechanisms should also be:

- (h) Based on engagement and dialogue: consulting the stakeholder groups for whose use they are intended on their design and performance, and focusing on dialogue as the means to address and resolve grievances (Linder, Lukas, & Steinkellner, 2013).

Vandana Shiva provides a major critique of the UN approach, by challenging the United Nations Environmental Program statement that, “in a green economy, growth in income and employment should be driven by private and public investments that reduce carbon emission and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services” (Shiva, 2012, p. 15). Shiva argues that the current global principles and guidelines do not challenge the dominant development model at all, but instead perpetuates it. In the case of certain minerals such as coal, oil and uranium, it could be reasoned that these should not be mined given their environmental and health impacts and concerns for global warming especially as there are alternative sources for clean and green energy. It could also be argued that the continued mining of these minerals in fact obstructs and delays the development of alternative clean energies. The continued mining and use of oil, coal, uranium and other non-renewable sources of energy is in fact encouraged by mechanisms such as carbon trading. Because global frameworks and compacts are voluntary and do not constitute enforceable international and national law, adherence to these frameworks become symbolic and ritualistic as there are no sanctions or penalties for non-adherence. The worst that could happen to a corporation is bad publicity, which might influence shareholder behaviour. Consequently, the Bench Marks Foundation has found that corporations increase their advertising spend to counter negative publicity rather than deal with the environmental and human rights issues concerned.

4.2 Additional International Frameworks

4.2.1 The International Bill of Rights

Human Rights, as they are described in the International Bill of Human Rights, which is comprised of the UN Universal Declaration of Human Rights (United Nations Information Technology Section, 1998). It is codified through the following instruments: The International Convention of Civil and Political Rights (Office of the High Commissioner on Human Rights, 1976) and the International Covenant on Economic, Social and Cultural (ESC) Rights, are universal, indivisible and equal (Office of The High Commissioner on Human Rights, 1976).

The Economic, Social and Cultural (ESC) rights include, among others, the right to food, water, health, housing, education and livelihood through employment. The UN ESC Covenant is a legally binding treaty between states. Although the Covenant concerns the responsibilities of states as part of international law, companies and other non-state actors, are also responsible for following the Covenant as a part of its internationally accepted standard as a universal norm. One Hundred and Sixty countries have signed the Covenant, obliging them to work towards the realisation of all rights included in the Covenant. Seventy countries have ratified the Covenant (Office of Legal Affairs UN Publications, 1966). Companies are concerned with the ESC rights in several ways; in part, through e.g. paying reasonable wages to their employees and ensuring that their operations do not limit access to food, water or adequate housing in a negative way.

Critics argue that although the UN ESC Covenant is supposed to be legally binding, in recent years there has been a process of commodification of basic rights to housing, food, water, health and education. States often, following the advice of the World Bank and the International Monetary Fund (IMF), have resorted to the privatisation of government services (Williams, 2007, p. 108). This increased reliance on the market as a mechanism to supply rights has led to the exclusion of those unable to pay for such rights.

IMF and World Bank policies and prescriptions have also had a negative impact on the ability of Third World governments to protect the environment. These two organisations “regularly encouraged” governments “...to cut public spending and reduce budget deficits, without consideration of the environment or distributional effects of major price increases for privatised utility services,”... “...underfunded protection for tropical rainforest and reduced environmental subsidies and programmes had hardly been noticed in the short-run. On the other hand, any attempt to cut the subsidies to powerful corporations usually faces fierce resistance from well-organised interest groups” (Fitzroy & Papyrakis, 2010, p. 80).

This has also had an impact on the manner in which corporations deal with their employees in relation to food, water, health and education. Thus in the 1940s through to 1970, Anglo American corporation could claim that it was running a ‘mini-social welfare state’ in South Africa (Bench Marks Foundation, 2012, p. 51). In the current context Anglo American does not provide housing, food, water, health and education if the costs cannot be recovered, and in the case of education it is provided as a charitable act to local communities. Thus, while black Anglo American employees had free access to medical services in the 1940s to the 1970s, all employees are currently on the company’s medical aid, which

“... is a restricted Scheme. Our vision is to address the lifelong healthcare needs of our members. We will achieve this by offering high-quality products and services that are market competitive, cost-effective and customer-focused. Our efforts will be supported through sound financial risk management, administrative efficiency and our members' and employers' active participation” (Anglo Medical Scheme). BHP Billiton’s Medical Aid Scheme was amalgamated with Bonitas Medical Aid (Amalgamation of BHP Billiton SA Medical Scheme and Bonitas Medical Fund, 2008).

4.2.2 UN Global Compact

The Global Compact was introduced in 1999 by the former UN Secretary General Kofi Annan, and is today, with over 6 000 corporate members from 135 countries, the largest international initiative for corporate responsibility and sustainability issues. Corporate members commit themselves to adhering to 10 principles on human rights, the environment, labour conditions and anti-corruption, and to respect these principles in the entire value chain. The Global Compact **is not a legally binding framework**. Companies which have voluntarily committed themselves to participating in the initiative must report on how they consider themselves adhering to the principles and can be expelled if it becomes apparent that they do not report. Both mining companies reviewed in this report are members of the Global Compact. Regarding Anglo Coal, the parent company Anglo American is a member, so is BHP Billiton (Stausberg, 2008).

4.2.3 OECD Guidelines for Multinational Enterprises

The OECD (Organisation for Economic Cooperation and Development) Guidelines for Multinational Enterprises are recommendations to multinational corporations based or operating in one of the OECD countries; South Africa is also a member (Organisation for Economic Cooperation and Development, 2011). The Guidelines include, among other areas, the relationships between business and human rights, the environment and labour. The Guidelines were revised in 2011 following the adoption of the UN Guiding Principles on Business and Human Rights. The Guidelines prescribe, for example, that companies should work in close cooperation with local communities in order to advance sustainable development in connection with their activities. In each OECD country, there is a so-called “National Contact Point” tasked with reviewing how the Guidelines are being followed. The National Contact Points only have a mandate to mediate between concerned parties and provide recommendations; the Guidelines are not legally binding courts (Organisation for Economic Cooperation and Development, 2011).

4.2.4 IFC Performance Standards on Environmental and Social Sustainability

The IFC (International Finance Corporation) is a part of the World Bank and is a development organisation focusing on financing of business projects in developing countries. The sustainability standards of the IFC are built on eight principles which aim to identify and manage risks for negative impacts on human rights and the environment. The IFC requires its clients to use the principles in those projects in which the organisation participates. The eight principles deal with the implementation of risk management systems, management of specific human rights, labour, legal and environmental risks, as well as specific issues such as forced relocations connected with projects (IFC Performance Standards on Environmental and Social Sustainability, 2012). Anglo American is currently

developing a major coalmine in Mpumalanga to supply the Kusile Power Station. The details of this mine are extensively discussed below (see *Section 5.1*). Eskom, the monopoly supplier of electricity in South Africa, is looking to the IFC to fund this project (Groenewald, 2010).

4.2.5 The Bench Marks Principles for Global Corporate Responsibility

The Bench Marks Principles for Global Corporate Responsibility: Bench Marks for Measuring Business Performance (the “Bench Marks”) is one of the most comprehensive sets of social and environmental criteria and business performance indicators available. It offers an ethical standard on which to base decisions about global corporate social responsibility.

The Bench Marks promotes positive CSR consistent with the responsibility to sustain the human community and all creation. The Bench Marks calls for:

- A new relationship between corporations, communities and ecosystems;
- Support for a sustainable system of production and a more equitable system for the distribution of the economic benefits of production and environmental services;
- Participation of stakeholders and those most affected by the activities of corporations in the decision-making processes of companies;
- Preservation and protection of the environment for present and future generations.
- Respect for the dignity of every person, for workers' right to organise a union and bargain collectively and for all core labour rights as defined by the ILO;
- Strong codes of conduct for corporations and suppliers independently monitored by local non-governmental and community organisations;
- Affirmation of indigenous peoples' right to full participation in the business decisions which pertain to their ancestral lands and their way of life;
- Human rights policies based on the Universal Declaration of Human Rights;
- Commitment to the principle of workers' right of access to health care, accessible and affordable medicines, including antiretroviral drugs for the treatment of AIDS; and
- Corporate governance policies that balance the sometimes competing interests of managers, employees, shareholders and communities; and that are based on ethical values, including inclusivity, integrity, honesty, justice and transparency.

The *Bench Marks* is designed to measure the extent to which a company is operating in a way that can be considered, from a faith perspective, to be responsible. Consequently, the *Bench Marks* is not intended as a code of conduct but as a tool for measuring. In some instances the *Bench Marks* draws on existing codes such as those produced by the International Labour Organisation and the United Nations; in others they define new measures. Each section of the *Bench Marks* identifies different stakeholders (people or groups) or issues that might be affected by corporate activity and then considers the various ways in which a company has responsibilities concerning these (Bench Marks Foundation, 2003).

The **Bench Marks Principles for Global Responsibility** was selected as one of the four leading International CSR Codes by Kenning Marchant (*D.Jur.*) from Canada.

4.3 Industry Initiatives

4.3.1 International Council on Mining and Minerals (ICMM)

The global mining industry organisation, ICMM, works for the active contribution of companies within the mining industry to sustainable development. The organisation has existed since 2001 and is a voluntary association. Both the mining companies covered in this report are members of the ICMM (ICMM, 2013). The companies participating in ICMM have committed themselves to adhering to 10 sustainability principles and regularly report on them. The principles confirm that all human rights of all stakeholders must be respected; emphasising the importance of creating good contacts with groups affected by the operations of the companies, for effectively contributing to the development of society, and of regularly and openly consulting with stakeholders (ICMM, 2003).

4.3.2 Extractive Industries Transparency Initiative (EITI)

EITI is an initiative for increased transparency within extractive industries and has been in place since 2002. States, companies and organisations support the EITI and companies that become members bind themselves to clearly reporting income and taxes in the countries in which they operate. South Africa is not a member of EITI, although both mining companies reviewed here are (EITI, 2013).

4.4 The South African Legislative Environment

The mining sector in South Africa is regulated by a number of laws that guide the operations. In the section to follow, the most central laws are presented.

4.4.1 The South African Constitution

The South African Constitution is the highest applicable law in South Africa, to which all other laws must adhere. The current constitution was adopted in 1996 and was developed by the newly elected government after *Apartheid* was abolished in 1994.

The constitution guarantees a number of the rights this report highlights as not being respected, for example the right to adequate housing (Section 26), right to water and health (Section 27), right to property (Section 25), as well as the right to an environment which is not hazardous to health or well-being (Section 24). According to the Constitution, the South African state has the responsibility for ensuring these rights (South African Government Informations Services, 1996).

4.4.2 Mineral and Petroleum Resources Development Act (MPRDA)

The **Mineral and Petroleum Resources Development Act (MPRDA)** entered into force in 2002 and is the central piece of legislation regulating the mining industry in South Africa. The law guides how the prospecting, quarrying and production of minerals in South Africa takes place. The South African state

is responsible for the mineral resources of the country and decides who has the right to exploit these resources (Government Communication and Information Services, 2002).

In order for a company to be awarded mineral rights, a so-called “social and labour plan” must be developed in which the company describes how it will contribute to community development in the region where mining will take place. These plans have been criticised by several sources, however, due to lack of transparency – the companies often do not disclose the content – it is impossible for concerned stakeholders to determine whether or not the company complies with its commitments (Legal Resource Centre, 2013).

A **Minerals and Petroleum Resources Development Act (MPRDA) Amendment Bill** has been cleared by the National Council of Provinces (NCOP) on 27 March 2014, and waits to be signed into law by President Jacob Zuma. The document was first approved by the National Portfolio Committee on Mineral Resources on March 6, after which Parliament approved the Bill on March 12. The Bill has been controversial and created concerns about the State’s involvement in projects and the declaration by the Minerals Minister of certain minerals as ‘strategic’ (Kolver, 2014).

The original MPRDA has been widely criticised for not adequately dealing with the rights of communities affected by mining and who bears the highest costs in terms of violations of their Human Rights. The Act does not place sufficient responsibility with the mining companies who are the only ones who ultimately benefit from mining activities. The MPRDA has, in particular, been criticised for not setting sufficient regulations with regard to the consultations of communities before, during and after mining activities. Another weakness identified by various civil society organisations is that the MPRDA does not sufficiently promote addressing the various socio-economic and development needs of mining communities. The efficiency of Social and Labour Plans (SLPs) in achieving community benefit and redress has also been questioned, particularly when such plans have been prepared by consultants without consultation with communities, and not complied with by mining companies or policed by the DMR.

The new Bill has, however, not improved on these shortcomings, despite significant effort from various civil society and legal groups to try and convince government to add specific clauses which would ensure the protection of the rights of communities and the environment. In particular, the independent, non-profit public-interest law firm, the Legal Resources Centre (LRC), which represents clients such as MACUA (Mining Affected Communities United in Action), LAMOSA (Land Access Movement of South Africa), ARD (Association for Rural Development) and the Alliance for Rural Democracy and its member organisations, raised concerns about the Amendment Bill. It argued that it is leaving mining communities worse off. While community consultation processes have been included into the new Bill, it does not specifically require the consent of the community to proceed with exploration or mining activities. Although a new clause in the Bill gives the Minister power to impose conditions to promote the rights and interests of communities in the event of an application (Granting and Duration of Mining Right) that affects their land; the removal of a clause which requires the ‘participation of the community’, is argued to have a further weakening effect on the protection rights of communities to be consulted (ActionAid, 2013).

Another contentious issue has to do with water use licences (WULs) and specifically the addition of the term “where necessary” to apply for a license for use of water in terms of the applicable legislation. Many community and legal groups thus argue that the addition of the “where necessary” term to the MPRDA has resulted in water uses licences having become discretionary. In this regard, it opens the door for abuse by the applicant or the regional manager by awarding them (in terms of the new Bill) with unwarranted decision-making powers to choose when applications for WULs are necessary and when they are not. Critics of the amendment also argue that the provision is internally contradictory, given that legislation that requires a WUL must of necessity involve the application made for such licences.

Aside from the various concerns raised regarding the content of the MPRDA Amendment Bill, many stakeholders have complained about a flawed consultation process in the development of the Bill and that the processing of the legislation took place in a rushed manner. This resulted in the provincial legislature and the NCOP to not have sufficient time to organise and hold public hearings on the Bill, despite them having been requested to do so by community representatives. When the Minerals and Petroleum Resources Amendment Bill (MPRDA) was first introduced to parliament, community representatives expected that when they told Parliament to include communities, that they would listen to the communities. Instead, communities who went to parliament were treated with disdain. While the Department of Mineral Resources (DMR) separately met with the Mining companies and addressed the concerns of business organisations into the (MPRDA) law; the concerns and recommendations of community members were ignored and left out of the Bill.

As a result, various civil society, political and legal groups have requested the President to refer the Bill back to Parliament because the National Council of Provinces and the Provincial Legislatures failed to take reasonable steps in line with the Constitution to facilitate public involvement when passing the bills. Plans have also been tabled to challenge the MPRDA in the Constitutional Court.

4.4.3 Mining Charter

In accordance with the MPRDA, a specific charter, the Mining Charter, was developed to ensure that historically disadvantaged South Africans benefit from the exploitation of mineral resources. The first Mining Charter, adopted in 2002 and updated in 2010, regulates a number of areas connected to sustainable development within the mining industry. One example is that all multinational corporations which supply products to the mining companies must budget 0.5% of their annual income from the mining companies for development projects for the local communities. The mining companies should also consult the local communities and analyse their needs prior to initiating development projects. Regarding workers’ housing, the goal is that the worker hostels should be converted to family housing by 2014 at the latest and that all employees should be given the option to purchase their own homes (The Chamber of Mines, 2002).

In 1947 Jacobsson wrote about housing black mine workers in the new mines in the Free State: “In housing schemes a first essential would be planning that would prevent the development of slum conditions; the houses should be big enough to accommodate the average number of people in native families and be built on plots of ample size.” (Jacobsson, 1947, p.118). It is a tragedy that mining development in South Africa post 1994, under a universally elected democratic government has

achieved (with the assistance of the mining industry, the Mining Charter, the ubiquitous living out allowance, and the undue political influence of mining corporations over government) exactly the kind of urban slums in the form of squatter camps in the vicinity of every mine that Jacobsson warned about in 1947.

Already in 1947, Sir Ernest Oppenheimer remarked, “I would like to see the native mine labourers properly housed in villages rather than compounds, with adequate provision made for married quarters... I feel sure that our ultimate aim should be to create, within a reasonable time, modern native villages which will attract large natives from all over the Union and from which the mines will ultimately draw a large proportion of their native labour requirements” (Jacobsson, 1947, pp. 115-116). It is now more than sixty years on and the descendant management of Anglo American Corporation are today nowhere nearer to the vision of Sir Ernst Oppenheimer than he was in 1947.

5. Mining companies reviewed

The researchers looked at Anglo Coal’s Klipspruit, Greenside and Landau Operations, and BHP Billiton’s Middelburg and Wolwekrans operations.

Figure 4: Map showing Anglo American’s coal operations



Source: Anglo American (2010)

In addition, the team looked at emerging new mining operations in Kendal/Ogies where Anglo Coal is commencing with the New Largo Mine which will primarily feed the Kusile Power Station and the Lakeside operation of Glencore. From a CSR perspective, the team looked at the environmental and social situation on the Witbank coalfields in general.

The Eskom owned Kendal Power Station lies between the N4 Highway and the town of Ogies west of Witbank. The Duvha Power Station lies south of Witbank, next to the BHP Billiton Middelburg mine. The Kendal power station is surrounded by several collieries in close proximity to it. There is Toronto listed Canadian company Homeland Energy's Kendal Coal, Anglo Coal's New Largo Colliery, Glencoe/Shanduka's Lakeside Colliery, Leeuwfontein and Bankfontein initially owned by Wakefield Investments¹ (now owned by Glencore) (Glencore PLC, 2012) through its subsidiary Shanduka and BHP Billiton's Klipspruit Coalmine. Of the mentioned companies, Anglo Coal, BHP Billiton and Glencore/Shanduka are major coal exporters. Several communities live in very close proximity to these mines including Kendal (agricultural community), Ogies (small town) Phola (Township)² and Wilge.

Given the large number of mines in a very small geographical area, communities and individuals are gravely concerned about the cumulative impact of these mines on their environment, health and safety. Respondents point out that it is not always possible to assign impact responsibility to one particular mining operation if you are surrounded by several operations.

5.1 Anglo American

Anglo American is South Africa's largest coal producer. It is also one of the world's largest diversified mining groups. Its Anglo Coal Division has operations in South Africa, Australia, Canada and South America. It owns and operates eight mines in South Africa. Four are in the Witbank coalfield (Goedehoop, Greenside, Kleinkopje and Landau) and these supply some 20 million tonnes per annum (Mtpa) of predominantly thermal coal, mainly for export markets, but also smaller amounts to local industries. These mines also produce about 1 Mtpa of metallurgical coal for export. In addition, Anglo operates a number of dedicated mines for Eskom. The Kriel and New Denmark (Tutuka) mines in Mpumalanga Province, and the New Vaal (Lethabo) mine at Vereeniging, have cost-plus, long-term

¹ Who is Wakefield Investments? : The Competition Tribunal handed down its reasons for unconditionally approving the merger on 27 June 2007 between Lexshell 668 Investments ('Lexshell') and Wakefield Investment. Wakefield is controlled by the diversified mining group, Metorex Limited, which holds 70% of the equity, the balance being held by its empowerment partner, Umnotho Wesizwe. Lexshell is owned (70%) by Glencore Investments BV a wholly owned subsidiary of Glencore International AG (Glencore), and Shanduka Resources. Lexshell is purchasing the entire equity in Wakefield. Both parties are engaged in the coal mining industry. The Tribunal said, "In all likelihood the merged firm will continue to increase prices at all its collieries, Wakefield and Graspan, post-merger. But this ability to raise price will come about not because the merger gave it the market power to do so, but because of the changes to the structure of the coal industry we have noted. In this merger between two coal firms it is common cause that in the near future, the target firm will be able to charge more for its coal than it does presently. The question for us to determine is whether this pricing opportunity comes about as a result of the merger giving it the market power to do so, as some objectors to this merger contend, or a change in supply conditions in the coal industry, as the merging parties contend. Post-merger, the merged firm will have 36.3% of the thermal coal market. Two objectors to the merger Eskom and Pretoria Portland Cement (PPC) expressed concerns about domestic price escalation. Eskom, in a written submission before the hearing said that the merger would create to an opportunity to further inflate the market" (The Competition Tribunal, 2007).

² The community of Phola Township in Ogies were involved in violent protests against BHP Billiton on 19 February 2010 in which four members of the community and one policeman was injured (SAPA, 2010).

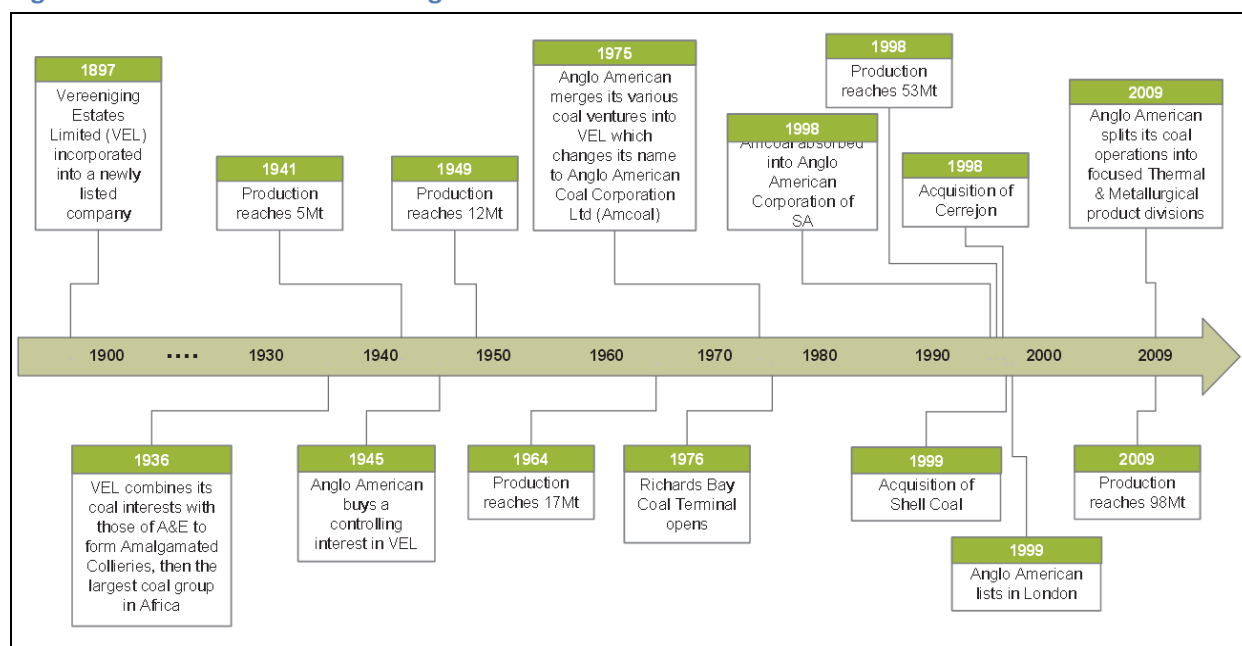
contracts with Eskom, while the Mafube (Arnot) mine, also in Mpumalanga, is 50% owned with Eyesizwe, and has a long-term indexed-price Eskom contract. Anglo's Isibonelo mine supplies a relatively small portion of Sasol's needs on a long term fixed (indexed) price contract (Eberhard, 2011, p. 9).

5.1.1 History of Anglo American's coal operations

In 1928, the Vereeniging Estates Limited (VE) acquired Coronation Collieries West of Witbank together with the assets of the Transvaal and Natal Collieries company. By 1941, the group had produced five million tons of coal and was supplying around one third of South Africa's coal requirements (Vaal Industries and Business Guide, 2013).

In September 1945, Anglo American Corporation of South Africa Limited (AAC) bought a controlling interest in VE. In January 1975, various AAC coal operations companies merged into Vereeniging Estates and the company was renamed Anglo American Coal Corporation Limited (Amcoal) (Vaal Industries and Business Guide, 2013).

Figure 5: Historical overview of Anglo Coal



Source: Anglo American (2010)

Mafube is ramping up production and will eventually produce 5.4 Mtpa. New Anglo projects include Zondagsfontein (6.6 Mtpa), a multi-product mine, jointly undertaken with BHP Billiton, supplying both Eskom and the export market; Mac West (2.7 Mtpa), an extension of the New Vaal colliery; and New Largo which, along with Zondagsfontein, will supply up to 17 Mtpa to Eskom's new 4500MW Kusile power station near Witbank over its 47 year life. In 2007, Anglo Coal announced the creation of Anglo Inyosi Coal, a broad-based economic empowerment (BEE) company valued at approximately US\$ 1 billion. Anglo-America owns 73% of Anglo Inyosi Coal. The new company incorporates several key Anglo Coal assets, namely the Kriel colliery and the Greenfield projects of Elders, Zondagsfontien, New Largo and Heidelberg (Eberhard, 2011, p. 10).

5.1.2 Coal exports from the different operations of Anglo American's coal operations

The table below (*Table 1*) provides an overview of the coal exports from Anglo American in South Africa. Many of the coalmines indicated in Table 1 are opencast mines, there are some shaft mines, but overall coalmines are less labour intensive than gold or platinum mines. Landau, Kleinkopje, and New Largo (in construction) are dragline strip mines, while Greenside and Zibulo are board and pillar mines. Mafube is a doze-over shovel and truck mine (Anglo American, April 2010).

Table 1: Anglo American Export Coal operations in South Africa

Mine	Open cast or Shaft	Coal Field	Share-Holding	Total Attributable Production 2009	Export Mt	Domestic Mt	Life of Mine years
1. Goedehoop	S	Witbank	100%	6.9Mt	6.9	-	10
2. Greenside	S	Witbank	100%	3.8Mt	3.3	0.5	12
3. Kleinkopje	O	Witbank	100%	4.4Mt	2.0	2.4	14
4. Landua	O	Witbank	100%	4.2Mt	3.9	3.9	11
5. Mafube	O	Witbank	50%	2.2Mt	1.2	1	17
6. Zibulo	O	Ogies	73%	0.1Mt	0.0	0.0	
Employees: 14, 446 (Note: only the export mines are listed here, but the employee number is for all Anglo American coal operations)							

Source: Anglo American (2010)

5.1.3 Anglo American's grievance mechanism

It must be noted that Anglo Coal is a subsidiary of Anglo American Corporation. Over the last decade or so, Anglo American Corporation has taken a number of steps aimed at improving its sustainable development and social responsibility performance. It also participates in a number of global initiatives such as the UN Global Compact, the Extractive Industries Transparency Initiative (EITA), the Voluntary principles on Security and Human Rights (Linder *et al.*, 2013, p. 44) and the International Council on Minerals and Metals 10 Principles. Yet, despite all this, the company has repeatedly been reproached for corporate misconduct concerning the environment (Bench Marks Foundation, 2012), impact on local communities (War on Want, 2007), failure to comply with labour rights and standards (SAPA, 2013) and profiting from conflict and associated human rights abuses (War on Want, 2007).

Anglo introduced a standardised process across its operations for identifying and managing its impact on communities, and for addressing complaints and grievances. The tool is referred to as the "Socio-Economic Assessment Toolbox" (SEAT) (Anglo American Corporation, 2012).

The SEAT process consists of seven steps and is supposed to be implemented by all Anglo operations every three years. It covers the entire life of mine. The following quote from Linder *et al.* (2013) sheds more light "Besides tools for stakeholder engagement, conflict management, resettlement planning, engagement with indigenous peoples, training, local development, reporting etc, SEAT equally

includes guidance on establishing and operating human rights based complaints procedures at a project level... Since 2011, all Anglo American exploration and other project sites... have to record and handle complaints... according to the requirements specified..." in SEAT (Linder *et al.*, 2013, p. 45).

The mechanism has a number of entry points through which grievances can be lodged including a phone hotline, email and regular mail service; it now has a Facebook page as well. Staff representatives, union representatives, elected community members, local government officials, and civil society organisations may also lodge grievances. At least one of these avenues has to be free of charge and there must be an opportunity to remain anonymous if preferred by the complainant (Linder *et al.*, 2013, p. 47).

It is obligatory for all complaints to be recorded on Anglo's online system. The complaint is then categorised into Minor, Moderate or Serious according to the following guidelines:

- The actual or potential frequency of a grievance;
- Potential impact of a complaint on the company (its reputation, durability and reversibility); and
- Occurrence of injuries, health impacts or deaths of members of the public, caused by the activities of the operation/company (Linder *et al.*, 2013, p. 49).

The complaint process is concluded with a final investigation report and is entered in the company's operations risk register. The lessons learned are disseminated throughout the corporation (Linder *et al.*, 2013, p. 50). The company recounts complaints in its annual sustainability reports and also gives an account to society.

5.1.4 Stakeholder concerns about Anglo Coal's grievance and consultation processes

The relevant processes regarding consultation involve the calling of meetings with affected and impacted parties. Given the high concentration of a large number of mines in a very small area around the Kendal Power Station, communities must be suffering from 'consultation fatigue', particularly in that there is no legal obligation on mining companies to address any of the issues raised by communities or individuals during such meetings. Apart from the imbalance of knowledge about the impact of mining that exists between the corporate and community, participants in these meetings are largely symbolic and serve to assuage to consciences of Mineral Resources and other government department officials when mining and water licences are issued. Anglo Coal conducted numerous comprehensive/exhaustive public and interest group consultations during 2006 and again in 2010 and 2011 as part of its environmental impact assessment process towards obtaining its mining licence for the New Largo mine.

However, there is a major discrepancy between this first process towards completing its EIA requirements and its public meetings towards application for a water licence from the Department of Water Affairs. Many mines in Emalahleni seem to obtain mining licences well in advance of water use licences. In the case of Anglo Coal, its consultation process towards obtaining a water use license only took place in 2011, a full five years after its EIA consultation process. Anglo Coal explains this by referring to a change in the relevant legislation that required it to do a second round of environmental

consultations. Mine construction by means of the first box cut is to take place in November 2012, and Anglo Coal has already secured the contract from Eskom to supply Kusile power plant, which replaces the old Wilge power plant. This contract suggests that Eskom and Anglo Coal considers the issuing of mining licences, approval of EIAs and Environmental Management plans as well as a water use licence as mere formalities.

The implications of this discrepancy are:

- That the Consultation processes with communities are merely symbolic formalities to demonstrate compliance with legal requirements, and that the operation is a foregone conclusion regardless of these processes;
- That Eskom, Anglo Coal and the institutions financing these operations are pre-empting the issuing of licences by the Department of Mineral Resources, the Department of Water Affairs, and the Department of Environmental Affairs;
- That the DMR is in fact undermining the regulatory authority of the Department of Water Affairs. It makes no sense to run public meetings for water licenses after mine construction is already at an advanced stage, as the construction can simply not be reversed; and
- That the banks that financed the mining operation did not do proper due diligence to see that the project they are financing is in fact complying with legislative and regulatory requirements before releasing funding for the project. Nedbank is reportedly financing Anglo American's "New Largo coalmine project". This is a R11.6bn project involving the construction of an open-cast mine with a capacity to produce 14 to 15 million tons of thermal coal a year (Hazelhurst, 2012).

Nedbank advertises itself as an environmentally concerned banking institution and advertises its 'affinity' for the environment by encouraging customers to open a 'green affinity account', which supports various environmental causes. One wonders if coal mining is one such cause. Anglo Coal used Zitholele Consulting (Lotter, 2011) to conduct a consultative public meeting on its behalf towards its application for a Water Licence. Participants had to register for the public meeting, which suggests that the meeting was not entirely open and that some sort of screening took place. The notice was written in English, Afrikaans and Zulu.

Photo 1: Nedbank the "Greenbank"



Source: savingwater.co.za (2014)

While Anglo Coal's consultative process towards its EIA application was exhaustive, the responses by consultants to the issues raised by affected individuals and communities were not always satisfactorily answered. The consultations took place prior to a full EIA being developed and were done as part of the process of developing the EIA. This means that neither the consultants nor the individuals and communities consulted had a clear picture of what the eventual environmental and social impact would be. The BMF also notes that mine's impact on the environment and communities in different ways throughout its life and beyond which implies that the consultation process should be continuous.

However, it is important to raise some concerns about the community consultation process:

- a) The dates on which consultations were held.

The end of the year is a very bad time for community consultation given that many members of communities are migrants and return to provinces, districts or countries of origin during this time.

Figure 6: Advertisement for water use licence application - public consultation

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

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

Notice is hereby given, in terms of Section 24(1A) of the National Environmental Management Act, (Act No 107 of 1996) as amended and Government Notice Regulations 543 to 546, published on 16 June 2010, that AAIC submitted an application for environmental authorisation to the Mpumalanga Department of Economic Development, Environment and Tourism and that a scoping and environmental impact assessment will be undertaken for the proposed construction of the overland coal conveyor.

Coal will be transported to Eskom's Kusile Power Station currently under construction, just south of the N4 Highway between Bronkhorstspuit, and Witbank (Emalahleni) in Mpumalanga Province from the Phola Coal Processing Plant, an existing operation located approximately 20 kilometres south-east of Kusile Power Station, between Kendal Power Station, Ogies, and Phola.

The proposed corridor routes will cross stream channels 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).

PUBLIC COMMENT ENCOURAGED

Interested and Affected Parties (I&APs) are invited to participate by providing comments and raising any issues of concern that they may have.


You are invited to register as an Interested and affected party and to attend any of the two public meetings

Wednesday, 24 November 2010 at 17:30	El Toto conference facility
Thursday, 25 November 2010 at 10:00	El Toto conference facility

El Toto is situated next to the KwaZulu-Natal Road, approximately 2 km south of the N12, as you drive in the direction of the Kendal Power Station.

To register as an I&AP, and to receive a copy of the Background Information Document, please contact:

Anelie Lötter / Patswa Mngokoyi
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 patswam@zitholele.co.za



This assessment is being conducted on behalf of AAIC

- b) The dates and the manner in which the consultations were advertised.

The consultancy doing the work on behalf of Anglo Coal advertised the consultation meetings in a number of local newspapers, and posted on fences and walls in the area involved. There is no evidence of radio or television adverts.

Table 2: List of newspapers that carried public consultation advertisements

Publication	Insertion Date
Middelburg Herald	12 November 2010
Springs Advertiser	17 November 2010
Corridor Gazette	18 November 2010
Mpumalanga News	18 November 2010
Streeknuus	19 November 2010
Ekasi News	19 November 2010
Witbank News	19 November 2010
Middelburg Observer	19 November 2010
Ridge Times	19 November 2010
The Echo	19 November 2010


It should be noted that the meetings took place within less than 14 days of being advertised. Using only newspapers and fence-posted adverts means that semi-literate and illiterate communities were not properly informed.

- c) The languages used in the adverts. BMF researchers could only find evidence of consultation billets and adverts in English, Afrikaans and Zulu. The area has Pedi, Zulu, Swati and Portuguese speakers among the black population. Many are able to speak and listen to English, Afrikaans and Zulu but would be unable to read these three languages.
- d) In 2011, a second set of consultative meetings took place. Again they were strategically placed on the calendar for April and May. What this indicates is a process that was not yet finalised by mid- 2011, yet contracts had been signed with major funders and an off take agreement was in place with Eskom, meaning that regardless of the ‘consultations’, the process was irreversible.
- e) A meeting for the “proposed Khanyisa Power Station” in Zulu took place on 21 November 2011 at 14:00am at Matimba Community Hall, EMalahleni. This meeting is instructive as to the nature of such consultative meetings. It was facilitated by Aurecon (Aurecon, 2011):
 - Only forty-three people participated possibly because of the limitations in which these meetings are advertised.
 - Only four people asked any questions.
 - Only five questions were asked.
 - The questions asked indicate a complete lack of understanding of the environmental, economic, cultural and social impacts of coal mining.

Clearly, there was a complete imbalance of knowledge and power between the community members and the consultants.³

³ See Draft EIR Phase - Public Meeting: Zulu [Anglo American Thermal Coal– Proposed Khanyisa Power Station] Held on 21 November 2011 at 14:00 am, Matimba Community Hall, eMalahleni: [http://aurecon.webfoundryza.com/assets/files/khanyisa/eir/Volume1/ANNEXURE%20E.3%20Meetings Part%2012.pdf](http://aurecon.webfoundryza.com/assets/files/khanyisa/eir/Volume1/ANNEXURE%20E.3%20Meetings%20Part%2012.pdf)

Figure 7: EIA and EMP assessment public meeting advertisement



Zitholele Consulting (Pty) Ltd
 Reg. No. 2000/00392/07
 P.O. Box 5002 Halfway House 1685
 South Africa
 Thandani Park, Matsika Close
 Halfway Gardens, Midrand
 Tel: 011-207-2060
 Fax: 086-676-9950
 Email: mail@zitholele.co.za

16 March 2011

Dear Stakeholder:

NEW LARGO COLLIERY

**ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PROGRAMME,
 INTEGRATED WATER USE LICENSE AND WASTE MANAGEMENT LICENSE (17/23N-41)**

Anglo American through its subsidiary Anglo American Inyosi Coal (AAIC) is proposing to develop a new open cast coal mine, the New Largo Colliery, to supply coal to the new Kusile Power Station that is currently under construction, just south of the N4 highway between Bronkhorstspuit, and Emalahleni (Witbank) in Mpumalanga Province.

The New Largo coal reserve is located directly east of the Kusile Power Station, 30 kilometres west of Witbank in Emalahleni, 100 km east of Johannesburg and 20 kilometres north-east of Ogies. The majority of the coal reserve lies between the N4 highway in the north and the N12 highway in the south, but a small portion is found to the south of the N12 highway. Kendal Forest Holdings and Kendal Power Station lies to the south, with Wilge village and Phola town to the east of the coal reserves.

The attached background information document provides more information about the project.

Notification of environmental approvals

Notification is hereby given that AAIC is applying for:

- Environmental authorisation from the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) in terms of the National Environmental Management (Act No 107 of 1998) and Government Notice Regulations 543 to 546 (18 June 2010).
- Approval of an environmental management programme, in terms of the Mineral and Petroleum Resources Development Act (No 28 of 2002) by the Department of Mineral Resources.
- Approval of an integrated water use license, in terms of the National Water Act (No 36 of 1998) by the Department of Water Affairs (DWA).
- Approval of a waste management license, in terms of the National Environmental Management Waste Act (No. 59 of 2008) by the Department of Environmental Affairs or MDEDET (if it is confirmed that a license is needed for this mining project).

An environmental impact assessment (EIA) process for open cast mining of the New Largo coal reserve, similar to the currently proposed New Largo Colliery, was initiated in 2006. The process included participation by stakeholders and the development of a stakeholder issues and response report. The project was delayed in 2007 and then postponed.

Since the EIA regulations changed in 2010, a new application for environmental authorisation has been lodged, which means that stakeholders again have the opportunity to participate during a full EIA process. Based on the feedback received to date and investigations conducted since 2006, a Draft Scoping Report has been prepared and will be made available for review.

Draft Scoping Report available for public review from 4 April to 20 May 2011

In accordance with the EIA Regulations, the Draft Scoping Report (DSR) will be submitted to the competent authorities for the environmental impact assessment and the water use license, namely the MDEDET and the DWA respectively. At the same time it will be made available for review by the public, relevant organs of state and other government departments for a period of 40 days.

The public review period will be from **Monday, 4 April to Friday, 20 May 2011**. Thereafter the report will be updated and resubmitted to the registered interested and affected parties and to the competent authorities as the Final Scoping Report. The report will be available for review from **Monday, 4 April 2011** at the following locations:

5.1.5 What are the limitations to Anglo American's SEAT grievance mechanism?

The mechanism looks extremely good on paper, the grievance process is "...very well elaborated and clearly structured, with defined timelines and responsibilities," (Linder *et al.*, 2013, p. 58) However it has not been very effective in practice. Communities serially complain about cracked housing on the coalfields and at other Anglo operations, especially in situations of open cast mining and blasting. The corporation's response is always that poor architecture is at fault. Communities serially complain about dust from blasting and open cast mining, to no avail. Communities regularly complain about a lack of consultation across the life of operations and disrespect for communities in such consultations. The Department of Water Affairs complains about the impact of coal mining on water and operators

operating without water licences. The public in general complain about the abandoning of mines, or unprofitable mines being sold off, rather than the company closing these mines properly. Issues of political collusion to circumvent social, environmental and other obligations have been repeatedly raised by the Bench Marks Foundation over a period of six years. Yet Anglo American Corporation plc in all its divisions from platinum to coal, continue to harvest board representatives and BEE shareholders from senior figures of the ruling party (Bench Marks Foundation, 2012, pp. 49 - 50).

Anglo has only started “Measuring the effectiveness of the group-wide mechanism on the basis of key performance indicators since 2011. And although all Anglo operations have complaint mechanisms in place, no disputes have been reported so far” (Linder *et al.*, 2013, p. 57). Therefore, with regard to specific issues regarding the complaints mechanism in the Anglo American case, it might be a little early to judge its effectiveness.

It would also seem that most disputes so far deal with employee/employer grievances rather than wider community grievances as “According to Anglo, the majority of grievances pertained to rather low-level issues (“housekeeping stuff”) and did not touch upon serious rights violations” (ibid.p.57). The company itself acknowledges, however, that the potentially affected people are not yet well aware of the complaint mechanisms and do not make use of it regularly. The Bench Marks Foundation has previously found, in the Policy Gap 6 for example, that the often-good intentions of head offices do not necessarily translate into good practice on the ground at operations. Anglo, therefore, has to make sure that all operations use the very new model for grievance procedures (included in SEAT Version 3), which duly takes account of the Ruggie framework.

This problem is aggravated by the fact that there is a massive lack of confidence in the company among near-mine communities in South Africa in general and in the communities, non-governmental organisations and community based organisations surveyed here in particular. This is due to the corporate misbehaviour in the past, as well as to the prevailing power imbalance between Anglo American Corporation and those affected from its operations. The Bench Marks Foundation has found this to be the case year after year, and recommends that an independent fund be created, to which all mining corporations contribute and from which communities could draw in order to obtain legal, geological, environmental, sociological and anthropological expertise in an advisory capacity when consulting and negotiating with mining corporations. While the Bench Marks Foundation welcomes the existence of the formal complaint mechanism in this instance, we recommend that there be an independent central complaints mechanism dealing with all community versus mining complaints. Such a mechanism should not be associated with any one mining corporation, and should be funded by government and contributions of all mining corporations invested in the country.

The Bench Marks Foundation also found other obstacles to the success of the Anglo Grievance mechanism. Before anything else, Anglo is a huge bureaucracy and as we have already noted the good intentions of head office in London are often very diluted when it comes to on-the-ground operations where productivity and cost containment are often the primary concern of local management. Often management at a local level have scant regard for the anthropology and cosmological/world view of often-traditional communities. At a national level in South Africa, corporations often think that if they buy off a local political or traditional leader all friction will be resolved. There is also need to find a balance between the formal requirements for complaint investigation, and the cultural traditions of

the surrounding communities who tend to resolve conflicts rather immediately on a personal level than by means of independent investigation, which can take weeks to complete. This is made more difficult by the fact that the reliance of mining corporations on migrant labour undermines local traditional authority and custom. Even more modern structures of local government are undermined by the mushrooming of informal settlements as a result of the 'living out allowance' and inward migration into mining areas by people looking for work and economic opportunities in a country that suffers massive structural unemployment.

Moreover, people in communities express concerns that those people charged with engaging with communities and responding to complaints go through the process in a mechanistic manner without showing real concern for the issues raised by communities. This is particularly true for issues such as cracked housing or the health impacts of coal mining on near-mine communities. Communities also complain that mine management do not respect them. Consultation meetings are half-hearted, there are no action lists from the meetings and often there is no feedback. Anglo American Corporation has an over reliance on consultancies to engage with communities on its behalf. Communities perceive these consultancies as lacking in information, decision-making power, and an understanding of either mining, the impact of mining or of the local conditions.

The issues we raise here are clearly expressed in stakeholder concerns raised under the heading; ***Impact and Externalisation of costs of Coal Mining (see section 6 below).***

5.2 BHP BILLITON

BHP Billiton operates as Billiton Energy Coal South Africa (BECSA). BHP Billiton is one of the world's largest producers and marketers of export thermal coal. It has coal mining operations in Australia, New Mexico in the USA and South Africa. It also has coal-exporting interests in Colombia and Indonesia. BHP Billiton Energy Coal South Africa (BECSA) is its largest coal operation, producing 45 Mt in 2008 from four collieries. In 2009, this figure dropped to 31.7 Mt after the sale of Optimum. BHP Billiton used to be one of the largest coal producers in South Africa, but now ranks fourth after Anglo, Exxaro and Sasol (Eberhard, 2011, p. 12).

BECSA's coal contract for Eskom's Duvha power station is a fixed price, guaranteed volume contract whereas with Kendal it is a cost plus arrangement. The Douglas mine is currently being closed down. New projects include the 16 Mtpa Phola Coal Processing Plant in a 50/50 joint venture with Anglo Coal. The plant, processing 8 Mtpa of coal from each of the joint venture partners, will be located in the Klipspruit area and is being constructed by Anglo Coal. Another is the Douglas-Middelburg Optimisation (DMO) Project, with an expected capital investment of US \$975 million. BHP sold its Optimum Mine in 2008, along with a 6.5 Mtpa export entitlement at Richards Bay, in a black economic empowerment deal. BHP Billiton retains a 17.95 Mtpa export entitlement (Eberhard, 2011, p. 13).

5.2.1 BHP Billiton Middelburg Mine

The **Middelburg mine** is majority owned by BHP Billiton Energy Coal South Africa, a subsidiary of BHP Billiton. The open cut mine is located approximately 20 kilometres south of Middelburg in Mpumalanga Province and produces what the company describes as "...a medium rank bituminous

thermal coal, most of which can be beneficiated for the European or Asian export market." The mine was commissioned in 1982 (Sourcewatch, 2011). BHP Billiton owns 84% of the Middelburg mine in a joint venture with the remaining 16% owned by Xstrata via Tavistock Collieries Plc.⁴

BHP Billiton states, in its 2009 annual report, that "BECSA and Tavistock are the joint holders of three Old Order Mining Rights in the joint venture ratio (84:16) and BECSA is the 100% holder of a fourth Old Order Mining Right. All four Old Order Rights were lodged for conversion in December 2008. BECSA and Tavistock have amended their joint venture agreement such that, upon conversion of the four Old Order Mining Rights, the mining area will be divided into an area wholly owned and operated by Tavistock and an area wholly owned and operated by BECSA as the new Middelburg mine. A number of regulatory approvals are being sought to give effect to this restructure" (Sourcewatch, 2011).

5.2.2 BHP Billiton Klipspruit Mine

The Klipspruit mine is majority owned by BHP Billiton Energy Coal South Africa, a subsidiary of BHP Billiton. The mine is located 30 km west of Witbank in the Ogie District of the Mpumalanga Province. BHP Billiton describes the coal produced at the mine as being "...a medium rank bituminous thermal coal, most of which can be beneficiated for the European or Asian export market" (Sourcewatch, 2011).

BHP Billiton states on its website that the mine "Klipspruit is the first new coalmine to be established by BHP Billiton Energy Coal South Africa in more than 14 years. The Klipspruit Colliery started in October 2003. Coal is transported 34 km to the Rietspruit wash plant where the export coal is beneficiated and loaded onto trains."

In December 2007, BHP Billiton announced that it and Anglo Coal had formed a 50/50 joint venture to construct the Phola Coal Processing Plant on the Klipspruit mine. The \$450 million plant is designed to 16 million tonnes per annum of coal, half from each of the partners. For BHP Billiton the project will facilitate the expansion of the Klipspruit mine to 8 million tonnes per annum and avoid transporting coal to the Rietspruit washery. The Rietspruit washery was closed in early August 2009 (Sourcewatch, 2011).

Export coal is transported to Richards Bay Coal Terminal via Spoornet, a government-business enterprise railway. Based on current reserves Klipspruit has a projected life of 20 years though further exploration work could extend this. Following the establishment of the new processing plant BHP expects that 4 million tonnes per annum of coal from the mine will be exported through the Richards Bay Coal Terminal of which it is part owner (Sourcewatch, 2011).

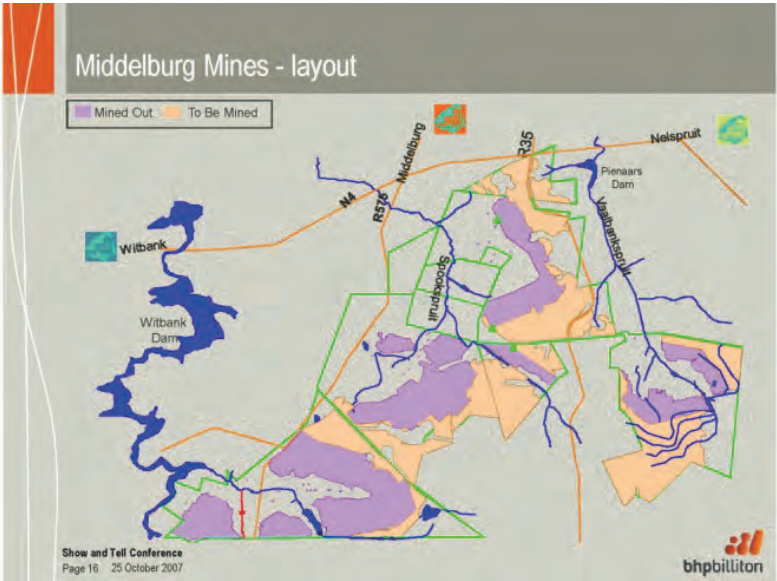
⁴ For additional information about Klipspruit Mine see:
http://www.sourcewatch.org/index.php/Klipspruit_mine#cite_note-AR09-0

Photo 2: Signage near water filled open pit at BHP Billiton near Middelburg



Note: No numbers in section of sign 'Emergency Contact Numbers'. Signage is in English only.

Figure 8: Map showing BHP Billiton's Middelburg Operations



Source: BHP Billiton (2007)

5.2.3 BHP Billiton’s grievance mechanisms

BHP Billiton has a grievance process very similar to that of Anglo American Corporation. The textbox below goes through the grievance process as set out in the BHP Billiton Business Code of Conduct (BHP Billiton, May 2013).

<p>Within your business</p> <p>If you have any queries about the interpretation of the Code or have concerns about how it is being applied, you should immediately raise this with your supervisor or manager. Where this is not possible or it is inappropriate to do so, contact your Human Resources; Health, Safety, Environment and Community (HSEC) or Group Legal representative or a member of senior management. If your concern relates to corruption, antitrust or trade controls, contact your Manager Compliance and Group Legal representative.</p> <p>If you would like to raise a concern anonymously, contact the Business Conduct Advisory Service.</p> <p>BHP Billiton Business Conduct Advisory Service</p> <p>The BHP Billiton Business Conduct Advisory Service is a worldwide service that is designed to facilitate the resolution of business conduct queries and issues.</p> <p>You can contact the Business Conduct Advisory Service by telephone (including international free call from many countries), web form, facsimile or mail. See the inside back cover of the Code for further details.</p>	<p>Reporting issues you are aware of</p> <p>You do not need to be directly affected by a business conduct issue in order to raise it – you should report any concern that you become aware of through your work.</p> <p>While everyone is encouraged to raise a business conduct query or concern, BHP Billiton considers such action done with mischievous or malicious intent to be against <i>Our Charter</i> values – all issues raised should be genuine.</p> <p>Safeguarding against retaliation</p> <p>BHP Billiton prohibits any form of punishment, disciplinary or retaliatory action being taken against anyone for raising or helping to address a genuine business conduct concern. Retaliation is grounds for discipline, including dismissal.</p>
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The BHP Business Code of Conduct, like SEAT of Anglo, is a one size fits all kind of document. It does not take into account regional, national, provincial and local variations, not just in operations but also in terms of culture, politics, economics and environmental issues.

Whereas Anglo's SEAT Community Toolkit has been in existence since 2004, the BHP Billiton Business Code of Conduct seems to have only been published in May 2013. Clearly it is too early to tell if the grievance procedure indicated therein will be effective or not (BHP Billiton, May 2013).

The grievance mechanism seems to be more employer/employee than community oriented. It seems mostly to be related to workplace and space issues. There is also an implied threat that if an 'issue' or grievance raised is not considered 'genuine' by the corporation punitive steps may be taken against the person raising the grievance. The implied threat here is most certainly intimidatory.

Coal mining may be equated to the tobacco industry, everybody knows that smoking is bad and many governments, including the South African government have taken steps to curb smoking. Coal mining and South Africa's over reliance on coal as a source of energy is equally bad, if not worse. Yet no one is considering curbing coal mining. It is rather being grown exponentially. Section 6 below shows just how bad coal mining and coal for energy is for South Africa. Many local communities are opposed to the expansion of the industry, including the construction of new mines. Is there any grievance mechanism that will allow for not only free, prior and informed consent but also the right to refuse? The United Nations knows what the global environmental challenges facing the planet are. It knows that burning fossil is the central problem in climate change rather than legitimising mining and extraction of fossil fuels. The UN should insist on scaling down the mining, extraction and burning of

such fuels. Thirty-nine percent of harmful emissions of carbon dioxide, the main villain in global climate change, come from coal burning to create electricity in the global economy. Changing this power generation to alternative fuels would make an incredible difference (Sherman, Hunt, Nesiba, O'Hara, & Wiens-Tuers, 2008, p. 245). However, the changes needed are very progressive, so they must overcome resistance by profit-making corporations and by vested interests controlling governments. This report shows that mining is a major vested interest controlling government in South Africa. Critically speaking, the Dutch coal dialogue is but one more such attempt to legitimise that which should not be legitimate.

5.3 Conclusions about Anglo American Coal and BHP Billiton's Community Engagement Policies and Strategies and their Grievance Mechanisms

Reviewing the literature published on Anglo American and BHP Billiton's community engagement strategies in South Africa and policies a number of concerns arise. Firstly, as we have seen in the Report, it often happens that the sequence of funding, signing of off-take agreements and mine development occurred before any community engagements with the corporation. In fact, in the case of New Largo funding, off take agreements were signed prior to the Environmental Impact Assessment and the Environmental Management Plans being in place. The Bench Marks Foundation would recommend that the following sequence should take place for a mine to be operational:

- a) Seeking consent of land owners/communities before prospecting starts (FPIC: the principle of free, prior and informed consent). This implies that should the landowners/communities refuse, the project does not go ahead;
- b) Where consent is given for prospecting and the mineral reserve proves viable, the corporation once more seeks the approval of landowners/communities for the development of the mine. Again, the landowners/communities should have the right to refuse. The landowners/community should be informed of the value of the mineral reserve on their land. Compensation should include the surface value of the land the landowners/community will lose. The value of the mineral and compensation to the landowners/communities should also be calculated accordingly;
- c) Environmental and social impact studies should now follow and the landowners/community should be informed of not only the benefits of the project but also the negative impacts and costs to the environment and society of the project, including the long-term impacts and costs. Again, the fully informed permission of the community/landowners should be sought before proceeding.
- d) Only after this point should any bank or financial institution consider a project as bankable and feasible. And only at this point should project finance be sought.

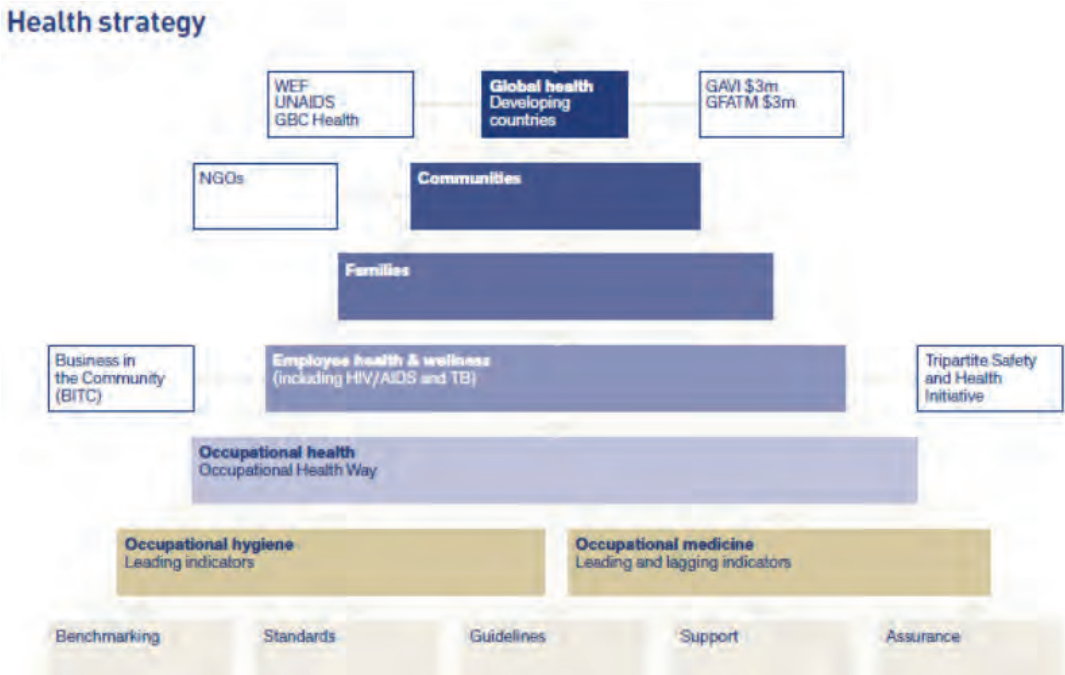
A few issues concern the Bench Marks' researchers about the community engagement processes of both corporations. Of primary concern is that it seems to be driven by philanthropy. In other words the corporation assumes what is best for the land owners/community and society and then implements its projects. Thus, in the Anglo American Sustainability Report for 2011 the corporation deals with three sustainability headings: "Investing in People"; "Creating Value for Society"; and "Minimising our Impact on the Environment" (Anglo American, 2011, p. 01). The invisible elephant in

the room as far as this report is concerned is “minimizing our negative impact on society and communities.”

“Investing in People” for Anglo American refers to workplace health and safety as evidenced by the following statement: “Effective management of occupational health risk protects our people, enhances productivity, and helps maintain our licence to operate and our global reputation; promoting a healthy community and a safe and healthy workforce is beneficial for all of us” (Anglo American, 2011, p. 28).

The second layer from the top in the pyramid below refers to ‘Communities’, and here the people Anglo engage with are NGOs. While NGOs work in communities, they are not a substitute for communities. This is also particularly problematic where NGOs receive funding from corporations such as those NGOs associated with the **International Union for Conservation of Nature (IUCN)** and **Mining, Minerals and Sustainable Development Project (MMSD)** associated NGOs. Corporations need to learn to negotiate and engage with communities directly and honestly. For example, mining corporations must begin to accept that the controversial living out allowance has major community health and safety impacts, and causes a major externalisation of costs to society. It also puts structures of governance and service delivery under tremendous pressure. The mushrooming of squatter camps and backyard dwellings are directly attributable to the living out allowance, the use of labour brokers and to subcontracting.

Figure 9: Map of Anglo American's health Strategy



Source: Anglo American (2011)

To its credit Anglo American has introduced “group-wide, standardised complaints and grievance procedures” in 2010. However, the mechanism operates as a web-based system known as Anglo American’s “Speak Up” web site (Anglo American, 2011, pp. 15-16). The problem with this initiative is that in communities with low levels of literacy, poor education and poor access to education, and

limited access to information technology, it excludes the poorest of the poor and those most impacted on by mining operations.

BHP Billiton's engagement with communities near mines in Australia is qualitatively different from what they are in South Africa. In Australia BHP Billiton reports per community in separate reports at its Mt Arthur Coal "Community Matters, Sustainable Communities Project Gives Locals a Say" (Masterson, 2011), the Dendrobium Community Enhancement Program Trust (DCEPT, 2011) and BHP Billiton Community Workshops Report August – September 2010 for the Caroon community (BHP Billiton, 2010). **Whereas in South Africa, it produces one global report regarding interactions with communities.** What is clear from these reports is that BHP Billiton directly and continuously engages with these communities in Australia. No doubt, it is a requirement of the excellent Australian Mining Code, which requires that Australian mining corporations apply the very strict and laudable clauses of this document when they invest outside Australia as well. However, in South Africa, the BHP Billiton engagement with communities cannot be described as anything other than philanthropic and much of the criticism directed at Anglo American's coal operations also hold for BHP Billiton.

The following section places the need for improved community engagement and grievance procedures in context when exploring some of the main impacts (on communities and the environment) of the coal mining industry in the study focus area.

6. The Impacts and Externalisation Costs of Coal Mining

The cumulative nature of the impact of so many mines in such a confined space makes it difficult to disaggregate the impact of one operation from all others. In the discussions below, the cumulative impact and externalisation of costs by coal mining⁵ is discussed, and where possible individual operations are named.

Coal mining is associated with a number of health and environmental hazards. Generally, coal mining stresses the environment during the extraction, beneficiation and transportation of coal to a power station (Mishra, 2009). Human beings are also negatively affected in the coal fuel chain through exposure to harmful pollutants, injuries and fatalities.

In South Africa, the mining industry has an extremely cavalier attitude towards the closure of mines and the rehabilitation of the environment. The country has approximately 6 000 abandoned mines spilling acid water and heavy metals into the environment. Mines are abandoned despite strict environmental and water legislation and a legal requirement in terms of the Minerals and Petroleum Resources Development Act for mines to set aside funds for effective mine closure. This study will show that abandoned mines represent a major cost externalisation to society, as post-closure impact

⁵ For detailed description of coal mining impacts, see: "Impact and assessments table; opencast mining of coal" - Summary of Environmental Impact Assessment (Section 5) and Mitigation Measures (Section 6), by Council for Geosciences, 2003 (*In* Gauteng Department of Agriculture, Environment and Conservation: Mining and Environmental Impact Guide – 2008).

is extensive. There is a tendency for coal majors to sell off mines approaching end-of-life to ‘juniors’ who do not have the resources or capacity to close such mines properly.⁶

The main impacts associated with coal mining include climate change impacts from greenhouse gas (GHG) emissions, human health burdens due to air pollution, fatalities and injuries due to coal mining and transportation, water pollution, and impacts related to land use (see Table 3 below).

Table 3: Coal Mining and Coal Transportation Impacts

Activity	Accidents		Air pollution		Green House Gas Emissions	Damage to Roads	Bio Diversity	Water Quality	Soil
	Morbidity	Mortality	Morbidity	Mortality					
Coal Mining	★	★	★	★	★		★	★	★
Beneficiation							★	★	
Coal Transportation	★	★	★	★	★	★	★		

6.1 Coal mining and water in Mpumalanga

6.1.1 Farmers and water⁷

Farmers in the Kendal Ogies area are demanding that the cumulative impact of all the mines in the area on water quality should be clarified.

Farmers are concerned that mine blasting destroys their boreholes. Farmers have to constantly repair the lining of boreholes. Borehole water is affected by the blasting at existing mines and is dirty after every blast. Another farmer complained that that borehole seals were broken after blasting at adjacent mines and the water turned red. Expensive filters had to be fitted to boreholes in the area. Farmers also complain about finding oil residue in their borehole water, suspecting that it is from mine operations. The blasting also cracks the houses of farmers and their farm workers.

Farmers are concerned about the fact that their boreholes are deeper than the mine pits. They fear that seepage from the pit would pollute their boreholes. BMF researchers were given borehole water to taste and the water tasted bad. Farmers are concerned that the full extent of impacts of the mines on water quantity and quality are still to be determined. This includes sulphur, calcium and pH levels.

⁶ For a list from the Chamber of Mines showing “defunct” coalmines on which Anglo Coal is also featured on, see: [http://www.coaltech.co.za/chamber%20databases/coaltech/Com_DocMan.nsf/0/108A380D0C1F8E3842257AD80027CD6B/\\$File/Defunct%20Collieries.pdf](http://www.coaltech.co.za/chamber%20databases/coaltech/Com_DocMan.nsf/0/108A380D0C1F8E3842257AD80027CD6B/$File/Defunct%20Collieries.pdf)

⁷ We do not include the names of informants as they express concerns regarding possible retaliation from the mining corporations or government. However, many of the concerns raised by farmers, workers and community members are also found in the minutes of meetings between consultants working for mining corporations during consultations.

PH levels lower than 6.6 would have a significant impact on the irrigation of maize. Magnesium levels in the ground water will also affect milk production and meat quality. High calcium levels will affect the growth of calves and skull formation. The mines respond by saying that they have put test boreholes in place around pits to measure seepage impact into ground water. What farmers are not told is that these well fields around open pits are often used to drop the water table to ensure that mining operations occur in dry conditions. Farmers are worried that underground water that is discharged above ground will alter the chemicals of the soil in the area.

Photo 3: Lakeside Colliery owned by Glencore in Kendal destroying a wetland



6.1.2 Council concerns about water

The town of Ogies periodically suffers water shortages and boreholes regularly dry up. The community is also concerned about the cumulative impact of all the mines on their tap water quality. The council is also concerned about who should pay for cleaning mine-polluted water noting the escalating cost of producing potable drinking water. The Democratic Alliance laid a case with the Emalahleni Council with the South Africa Human Rights Commission after collecting 4000 signatures to complain about the poor quality of drinking water in the area (South African Human Rights Commission, 2012).

6.1.3 Community and individual water and environmental concerns

Individuals and communities are concerned about the impact of mining on wetlands, streams and rivers. They point out that the mines in the area do not have a good track record concerning the preservation of wetlands. In particular, those who are concerned point out that the Isibonelo wetland offset program, where after a few years Anglo Coal wanted to abandon the project due to non-achievement of goals, speaks volumes for the company's track record for rehabilitation. There also seems to be a problem reclaiming or re-establishing mined pans at their Mafube Colliery. This indicates that communities are becoming more informed, concerned and demanding of coal mining companies and their operations.

Respondents also expressed concern about the impact of mining on local streams and rivers such as the Wilge River.

6.1.4 Department of Water Affairs concerns about water overview

In 2010 the Department of Water Affairs conducted a study in the main coal producing area including: the main town of Emalahleni, suburbs and surrounding settlements of Clewer, Wilge, Blackhill, Greenside, Paxton Prison, Pineridge, Klarinet, Hlalanikahle, Kwa-Guqa, Ferrobank, Ackerville, Schoongesicht, Tushanang, Lynnvill, Emalahleni, Bankenveld, Phola, Duvhapark, Southview, Tasbetpark, Dixon, Reyno Ridge, Benfleur, Del Judor, Die Heuwel, Modelpark, Blancheville, Marelden, Jackaroo Park, Northfield, Hoëveldpark, Ogies, New Largo, Mpondozankomo, Khonzimfundo, Old Coronation, Kromdraai, Empumelelweni, Vosman Sand Pits, Santa Village, Blesboklaagte, Iraq, Naaupoort and Springvalley (Directorate: National Resources Planning, 2010, p. 12).

The department of water Affairs have found that majors such as Anglo and BHP Billiton have little regard for water and environmental legislation and regulations. Thus, the cited Report states that with regard to Emalahleni (Witbank) Dam “[t]here is no recorded licensed abstraction from this dam as found after an assessment of the WARMS data. The amount of water abstracted reaches a value of approximately 47.27 million m³ /annum. The assurance yield is notably exceeded. A large quantity of water is distributed for industrial and mining use. None of these quantities are recorded on WARMS database” (Directorate: National Resources Planning, 2010, p. 7)

Photo 4: Lakeside mine previously owned by Wakefields Investment now 100% owned by Glencore



The mine is deliberately trenching water from opencast operation into a surface stream feeding into a neighbouring farm in close proximity to Kendal Power Station

6.1.5 Mining and ground water

In most cases, the effects of the act of mining on groundwater are localised to the mining area. This is dependent on the rehabilitation procedure of the mine (operational and closure phases), the extent to which blasting takes place, depth below the surface, geology, topography and the size of the catchment in which the mine is located. The effects of mining on groundwater on a given area adjacent to or close to a mining area typically occurs if the area in question is situated downstream and in the same drainage/sub-catchment region of the mine.

Groundwater usually decants into tributaries, streams in the vicinity or area of the mine, and is determined by the geo-hydrological study. Pollution can occur both directly and indirectly. The direct effects manifest if groundwater is located down gradient from a surface mine which drains into surface pits and ponds, or from water that filters through to groundwater during rainfall contaminated by surface pollutants on the mine property.

Blasting may sometimes cause rock fractures to develop between two naturally divided areas, creating connections between underground seams through which polluted water can drain into adjacent unpolluted underground areas. This is an indirect manner.

There are huge potential risks involved in groundwater contamination of areas in the close vicinity of the coalmines. Mine closure applications and EMPRs should indicate the degree to which a mine is rehabilitated and the extent to which the contaminated groundwater is localised.

The main impacts on aquatic ecosystems (mainly from Gold, Uranium and Coal mining) relate to the following:

- Increased Heavy metals in Streams
- Addition of toxic and non-toxic metals
- Acid mine drainage
- Increased Suspended Solids
- Dissolved solids
- Increased hardness
- Increased sulphates
- Increased trace metal concentrations
- Decreased DO (Dissolved Oxygen)
- Decreased pH

The conclusions of the Bench Marks Foundation are supported by a Department of Water Affairs Report published in 2010: "Extensive coal mining operations north and west of Emalahleni (Witbank) have resulted in large areas of subsidence and mine voids related to the historical mining of coal seams. This has resulted in extensive modification of the regional groundwater zone as well as contamination of both the groundwater and Brugspruit due to decant from the flooded mine workings... The natural groundwater flow direction follows the surface topography towards the Olifants River and the structural controls of the geology. Mine subsidence has resulted in a groundwater sink to the north and west of the Emalahleni (Witbank). The depth to groundwater is some 10 to 15mbgl (metres below ground level). A number of point source pollution had occurred in this vicinity from mining infrastructure, waste water treatment works and landfill sites which could potentially impact the groundwater " (Directorate: National Resources Planning, 2010, p. 8).

Photo 5: Residents of MNS informal settlement receiving their weekly supply of water



The Bench Marks Foundation has found that at open cast diamond mines in Botswana, operators surrounded the excavation with well fields in order to drop the water table to ensure that operations occur in dry conditions. In participatory observations at community consultations between coal mining companies and communities in the Belfast area, Bench Marks' researchers found mine-appointed consultants misrepresenting such well fields as water testing points at which the quality of ground water is to be tested to determine mine impact. The well fields were only mentioned after a subsistence farmer complained that his cattle were becoming ill after drinking borehole water after mining commenced at a higher elevation than the land on which his animals grazed. It appears that seepage has contaminated his boreholes. Where the landscape is undulating, ground water surfaces/rises as springs and streams in lower elevations.

During visits to Clewer, Coronation informal settlement and MNS informal settlements, the BMF research team found communities unable to access ground water by means of wells or boreholes due to the impact of mining either dropping the water table or polluting both surface and ground water. The Coronation community has an illegal plastic pipe connection to the local government's water supply, while the MNS community is supplied once per week by means of a water tank truck.

6.1.6 Coal mining and surface water

On visits to Witbank's Klarinet section, the Bench Marks' research team and monitors came across seven poorly constructed, unsecured, and untended 'evaporation pans.' The team did pH tests which returned a reading of 2.5 on a standard hth test kit for Chlorine, pH, Total Alkalinity and Acid Demand. The reading implies acid levels that are too high to sustain biological life in the water, and inconsumable as drinking water for humans or animals. The evaporation pans had no fencing, the warning signs were completely inadequate, and the site had no exclusion zone being completely

accessible to the public. The evaporation pans were not lined, implying that the acid water could freely seep into the ground water impacting on boreholes in the vicinity. The pans flowed freely downstream into the Olifants River.

Photo 6: The 'Acid Evaporation Pans' in Klarinet, Witbank



Reporting on the condition of the surface water available to the public in Emalahleni, the Department of Water affairs raised its concerns about the quality of the water found in the Emalahleni (Witbank) Dam: “There is a concern in the quality of water in the Emalahleni areas as water quality has deteriorated in the period between 1995 and 2005. ***This expressed concern involves the presence of heavy metals including aluminium, cadmium, copper, lead, manganese and zinc found in treated water. The presence of this heavy metal renders the potential to sustain aquatic life.*** In 2005 Arsenic, a potential dangerous element, exceeded the aquatic ecosystem guidelines and needed urgent attention. The fluoride levels exceeded both drinking water guidelines as well as those for aquatic ecosystems. However, this high level of fluoride can be explained through the high level of fluoride found in the immediate natural environment. ***Skeletal fluorosis may occur in humans and aquatic animals. If exposure to intermediate fluoride concentrations occurs over long periods and exposure to fluoride concentrations of greater than 4 000 mg/l occurs, it may cause bone and tooth enamel fluorosis***” (Directorate: National Resources Planning, 2010).

In 2012, the town of Carolina woke up to acid coming out of the taps in their houses (Blane, 2012). The residents took the government to court arguing that residents had a constitutional right to clean drinking water. The residents won the case; however, the ‘polluter pays principle’ went by the wayside as the mines argue that it is impossible to prove which one of the many mining companies is responsible for the impact (Kings, Court orders municipality to provide water in Carolina, 2012).

Plans to mine for coal in the catchment areas of major rivers present a serious threat to South Africa's fresh water resources

Acid pollution caused by coal mining has already destroyed the Wilge River that flows through the Ezemvelo Reserve near Bronkhorstpruit, Mpumalanga, and has caused mass deaths of fish and crocodiles at the Olifants River inlet to Loskop Dam, between Middelburg and Groblersdal. Plans to mine for coal in the catchment areas of major rivers present a serious threat to South Africa's fresh water resources. Acid pollution caused by coal mining has already destroyed the Wilge River that flows through the Ezemvelo Reserve near Bronkhorstpruit, Mpumalanga, and has caused mass deaths of fish and crocodiles at the Olifants River inlet to Loskop Dam, between Middelburg and Groblersdal. Now proposals are on the table to mine in an area northwest of Ermelo, where the Vaal River originates. It is called the Spitzkop Greenfields Project and the prospective mining company is Xstrata, which owns several mines in the Mpumalanga Highveld coal fields.

Professor Terence McCarthy of the school of geosciences at the University of the Witwatersrand has written to Xstrata's consultants, warning that if the project goes ahead, it is likely that within a decade the water quality in the upper Vaal will deteriorate to the point where it will no longer be fit for human consumption. The Grootdraai Dam would then no longer be able to supply water for the Gauteng region.

"I believe that it is in the national interest that the project should not proceed," McCarthy says. He explains in his letter that the proposed mining area encompasses a large portion of the headwaters of the Vaal River, and it is almost certain that the proposed mining will result in serious pollution of this river system.

"We know from past experience on the Olifants River in the Witbank area, where companies like Xstrata and AngloCoal are currently mining, that serious pollution of the river is unavoidable.

"In that case, the miners have managed to use the Witbank dams in conjunction with a controlled release policy to contain the pollution for the moment. This control is only temporary, however, and will be lost when the mines close.

"On the tributaries of the Wilge River such control is not possible and serious pollution has resulted. The salt load in Loskop Dam is steadily rising, with serious ecological consequences," writes McCarthy.

Similar concerns have been expressed about prospective mining on the Drakensberg escarpment near Wakkerstroom in an area that contains the headstreams of four major rivers - the Vaal going west, and the Usuthu, Pongola and Tugela flowing to the Indian Ocean. Delta Mining Consolidated has been granted permits to prospect there for torbanite, a form of coal that is rich in oil. Fears have been expressed that the mining would affect the groundwater table and pollute the rivers. Koos Pretorius, chairman of the Escarpment Environment Protection Group which has been established to fight ecologically destructive mining further north along the escarpment, told the meeting that there were 114 applications for mining in the region. Noting the calamity this spells for the rivers and, ultimately, for the Northern provinces' water supplies, Angus Burns, the co-ordinator of the Enkangala Grassland Project, a conservation group in the region, said: "There is more coal in less sensitive areas outside the escarpment region than we'll ever be able to exploit. Why then mine for it in ecologically precious areas that contain no more than 15 percent of our coal deposits?"

Acid mine drainage results from the exposure of coal and broken rock. Mines treat the water with lime to reduce the acidity. It is kept in reservoirs and released in a controlled manner into rivers when their levels are sufficient to dilute the remaining acidity. The threat to fresh water supplies from mining is in addition to growing alarm at the leakage of sewage into rivers and underground water systems. Concern about the water situation was echoed this week by Dr Morne du Plessis, the chief executive of the Worldwide Fund for Nature (WWF) in South Africa. He said more than 98 percent of our freshwater supply was already accounted for, and that at current rates of supply and consumption, we'd run out of fresh water by 2025.

"Government, civil society and the private sector must work together to build a future in which healthy aquatic ecosystems underpin the sustainable development of South Africa and enhance the quality of life of all its people." Lindiwe Hendricks, the minister of water affairs and forestry, has responded to reports about acid mine drainage, saying the mines were co-operating with the government.

Leon Marshall - February 10 2008 (Marshall, Plans to mine for coal in the catchment areas of major rivers present a serious threat to South Africa's fresh water resources. , 2008)

Opencast mines can affect water quality through dirty mine water discharges, leachate from waste dumps or acid mine drainage. Surface water sources can be disrupted by surface mines through increasing runoff, reducing infiltration which decreases groundwater recharge, and increasing sedimentation due to vegetation removal. Surface mines also disrupt large land surface areas,

displaces people, impacts on local biodiversity and erodes the soil. Underground mining, on the other hand, may cause surface subsidence, which imposes severe damage to engineering structures (Singh, 2008). Abandoned pits also pose a risk of drowning. Subsidence of soil in filled open pits causes a funnel effect catching rainwater and concentrating it in the area of the former pit affecting surface stream direction and ground water through leaching.

To prepare coal for use in power stations and for export, it is cleaned to reduce impurities. This is usually done using wet cleaning methods. This process can reduce the coal's sulphur content, but leaves behind coal slurry (a mixture of water and fine coal) that is disposed of in tailings dams (Wassung, 2010). The tailings dams are vulnerable to breaching and collapsing during heavy precipitation. As a result, they become significant contributors to water contamination and may even pose a threat to the natural environment. Some of the chemicals used and generated in processing coal are known to be carcinogenic and some cause heart and lung damage (Epstein, 2011). When these tailings facilities dry out, the resultant windblown dust become a significant health threat to communities living in proximity to such tailings dams.

A recent Bureau for Food and Agriculture Production report shows that "...pollution in the Middelburg Dam [where BHP Billiton operates] exceeds the quality limits for water for human consumption, and Witbank Dam is heading in the same direction. Moreover, these pollution levels are still on the rise. Coalmine drainage can be detrimental to the aesthetic appearance of streams and rivers and destroy the living organisms that inhabit them. This in turn reduces their self-purification power and makes streams unfit for domestic, industrial or agricultural use, requiring surface waters to be extensively treated (at very high costs) before they are suitable for such uses" (Bureau for Food and Agricultural Production, 2012, p.6). The purification of mine-polluted water shifts the costs of cleaning up pollution onto the South African public making a mockery of the 'polluter pays principle.'

The major coal mining companies around Carolina very quickly jumped to distance themselves from the case of the acid water in the taps of Carolina. Xstrata Coal SA spokesperson, Mr Gugulethu Maqetuka, said the company sold its Mpumalanga assets, including Spitzkop and Tselentis, to the Msobo Group last year. He said, "Before the sale we received approval of integrated water use licences for both mines and we have co-operated with the Department of Water Affairs fully on all water related matters, related to the mines. "Ms Molewa [Minister of Water Affairs], implicated BHP Billiton's Union Colliery, a colliery operated by Xstrata Coal, Northern Coal's Mimosa Mine and a mine operated by Siphetha Coal in the pollution that led to a Pretoria judge this week ordering the Gert Sibanda district municipality to supply Carolina residents with at least 25 litres of drinkable water per person per day by Friday. The community had been without sufficient drinkable water since mid-January" (Coal-Guru, 2012). In attempting to distance themselves, Xstrata has in fact exposed a major common problem in mining in South Africa: Established mining companies, instead of closing mines properly before the mineral approaches depletion, sell their operations off to juniors who often lack the skills and resources to manage the environment and more importantly, to afford to properly close and complete the operation.

6.2 Coal mining and air pollution

Air pollution in coalmines is mainly caused by emissions of particulate matter, coal dust, burning discard dumps, underground fires (Goldblatt, 2002) and methane (CH₄) emissions – a GHG that is released during coal extraction when coal seams are cut (Singh, 2008). Apart from posing a health hazard to the exposed population, the GHGs contribute to global warming. The main operations that produce dust and gases in mines are blasting, drilling, hauling, crushing and transportation. Air pollution is more of a problem in opencast mines than in underground mines, as opencast mines do not only create pollution on the mining premises, but also in the areas surrounding the mines (Singh, 2008). Coal mining is a hazardous activity that is associated with high fatality and mortality rates. Mineworkers may suffer injuries or even die from rock falls, material handling, methane explosions or accidents while transporting coal. Another health-related risk emanates from noise pollution, which as in all mining in South Africa, causes problems such as hearing loss, while air pollution causes problems such as pneumoconiosis or, black lung disease (Goldblatt, 2002).

The risk of black lung disease is greatly increased in areas where tuberculosis is highly prevalent. Countries with the highest incidence and prevalence of black lung are:

- China: 10 million people exposed
- Brazil: 6.6 million people exposed
- Colombia: 1.8 million people exposed
- India: 1.7 million people exposed
- South Africa: 600,000 people exposed (WHITIA, 2012)

Black lung disease can affect both mine workers in shaft and opencast mines and near-mine communities.

Photo 7: Poor air quality near BHP Billiton's Middelburg operations



Photo taken less than 1km from Duvha power station at 10 am on a winter's morning

During visits to several communities near mines with Bench Marks' trained monitors, notably Coronation (abandoned former Anglo Coalmine), the research team came across individuals suffering from black lung disease. Mr Samson Zulu (68 years old) living in Clewer, a contract grader operator on the coalmines all his life, indicated that he had been diagnosed with Tuberculosis, but that his sputum was black every time he coughed. The symptoms he described were typical of someone suffering from black lung disease: coughing, and disabling shortness of breath. According to the MERCK Manual of Medical Information, prevention of black lung disease "...is crucial because there is no cure for black lung. Black lung can be prevented by adequately suppressing coal dust at a work site (Beers, 2003, pp. 266-267). Apart from being exposed to coal dust most of his working life, Mr Zulu lives in a house in Clewer less than 500 meters from a major Anglo Coal opencast mining operation. Mr Zulu's family reports that their property is covered in dust and suffers major tremors, every time there is blasting at the mine.

Photo 8: Community Interview



Residents at the edge of MNS informal settlement residing less than 50 meters from Slater Mine, being interviewed by Mr Chris Molebatsi, a BMF trained monitor. The mine is evident in the background.

The second individual residing in MNS informal settlement also spits black mucous every time she coughs, and is weakened by poor lung function. She has lived all her life in this settlement surrounded by mines. Slater Mine operates less than 50 meters from her house, with dust particulate from both grading and haul trucking severely affecting her household.

Photo 9: Air Pollution in Witbank



According to Green Peace Africa Witbank has the dirtiest air in the world

Source: South African Broadcasting Corporation (2013)

The Department of Environmental Affairs reported in 2011 that, “The total estimated emissions of fine particulate matter (PM₁₀) on the High Veld Priority Area (HPA) are 279 630 tons, of which approximately half is attributed to dust entrainment on opencast mine haul roads... The emission of PM₁₀ from the primary metallurgical industry accounts for 17% of the total emission, with 12% of the total from power generation. By contrast, power generation contributes 73% of the total estimated oxides of nitrogen (NO_x) emission of 978 781 tons per annum and 82% of the total sulphur dioxide (SO₂) emission of 1 622 233 tons per annum” (Chief Directorate Air Quality Management, 2011, p. 10).

According to the Department of Environmental Affairs, industrial sources in total are by far the largest contributor of emissions in the priority area, accounting for 89% of PM₁₀, 90% of NO_x and 99% of SO₂. The Department grouped the major industrial sources for these emissions into the following categories:

- a) Power Generation;
- b) Coal Mining;
- c) Primary Metallurgical Operations;
- d) Secondary Metallurgical Operations;
- e) Brick Manufacturers;
- f) Petrochemical Industry;
- g) Ekurhuleni Industrial Sources (other than the above); and
- h) Mpumalanga Industrial Sources (Other than the above) (Chief Directorate Air Quality Management, 2011, p. 11).

Visual confirmation of the Department’s findings were made by the BMF research team on a number of visits to Witbank, Middelburg and the suburbs, townships and informal villages of Coronation, Klarinet, MNS informal Settlement and Clewer.

Black lung disease, the common name for underground coal worker's pneumoconiosis, has now been linked to workers who take part in surface coal mining, according to an investigation by NPR News and the Centre for Public Integrity (CPI), with additional reporting by the Charleston Gazette.

The illness is the direct consequence of inhaling coal dust, which progressively builds up in the lungs until it can't be removed by the body. This leads to inflammation, fibrosis and, in the worse cases death.

The study shows that diagnosed cases in the last decade have doubled, while the detection of advanced stages of the disease has quadrupled since the 1980s in central Appalachia, which includes the states of Virginia, Kentucky and West Virginia.

NPR and CPI report that increased regulation – and near eradication of the disease – following a 1969 law gave way to systemic exploitation of coal dust measurement by mining companies, and weak enforcement by regulators. Federal data obtained by NPR and CPI indicates that thousands of coal miners were exposed to excessive levels of mine dust despite the strict limits established 40 years ago.

A lawyer quoted by The Courier-Journal in Louisville, Ky., hinted the high percentage of black lung tied to Appalachian surface mines might be linked to the shortage of unionized mines in the region. "Non-union miners are job-scared," the professional told The Courier. "[Black Lung Disease] is a product of non-union workplaces. It's sad, really."

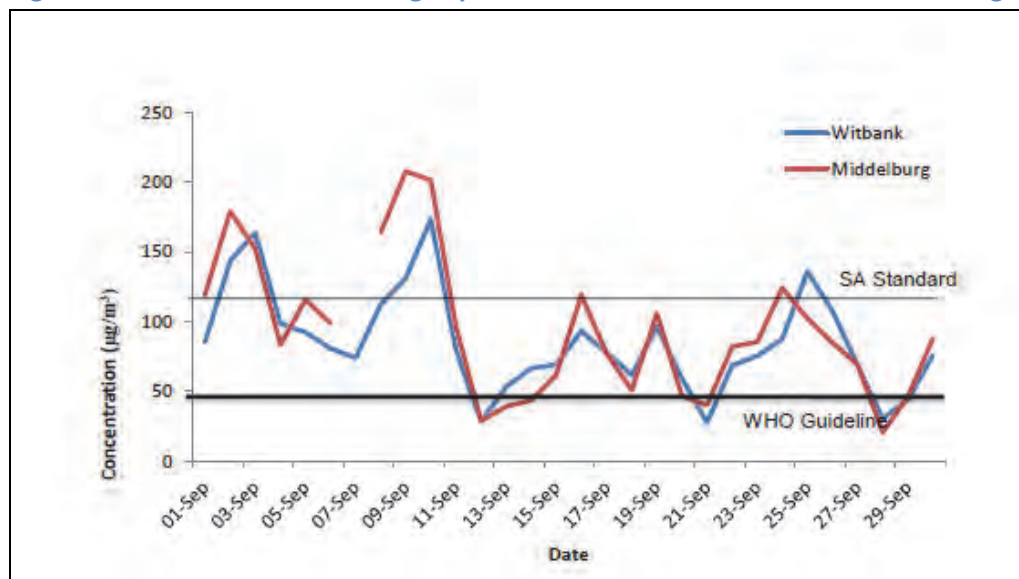
The three states with the most cases of black lung disease also pay the most in Black-lung claims. Based on data published by the U.S. Department of Labour, West Virginia paid \$46 million in black lung claims in 2011; Kentucky, \$34 million and Virginia, \$23 million.

(Jasamie, 2012)

Patricia Nicole Albers (2011, p. 85) did an assessment study of child respiratory health in the Highveld Priority Area, and looked at PM₁₀ distribution over the month of September 2008 showing exceedances of both World Health Organisation (WHO) guidelines and South African Standards for Witbank and Middelburg. It should be noted that the South African Standard is extremely lenient and biased towards polluting industries and therefore undermining of the Constitutional Rights to a clean and safe environment of the residents of both Witbank and Middelburg. The WHO guideline is massively exceeded on an almost daily basis (*see Figure 10 below*). It must be noted that the biggest single contributor to dust pollution in Mpumalanga is mining.

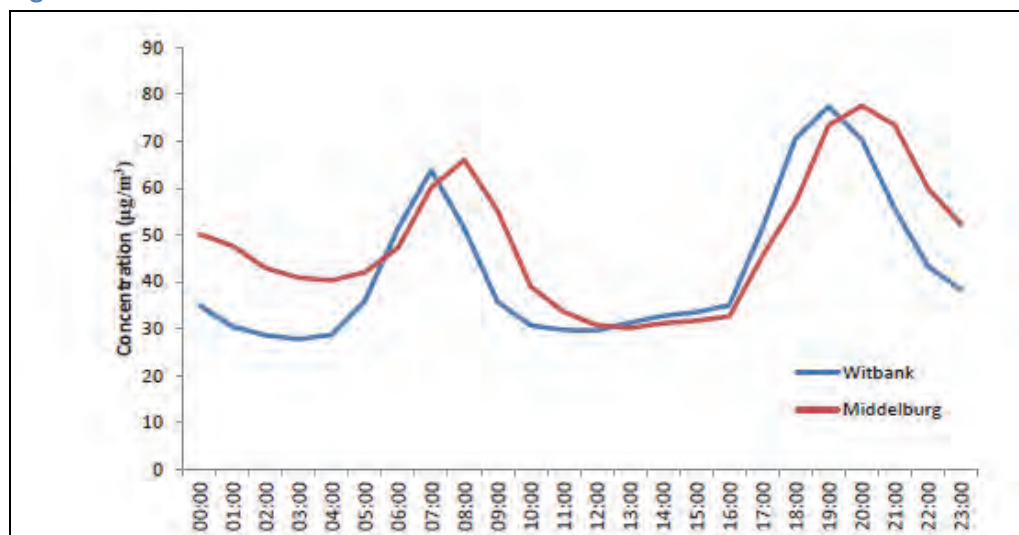
Figure 11 below shows that the greatest daily exposure to toxic dust and smoke in households in Middelburg and Witbank occur between 5:00 and 9:00 and between 16:30 and 21:00. This is typically the periods in which people wake up and prepare to go to work and school (with an associated increase in traffic), with elevated uses of energy and when they return from work (with an associated increase in traffic) in the evening and prepare the evening meal.

Figure 10: PM₁₀ distribution during September 2008 over Witbank and Middelburg



Source: Alberts (2011)

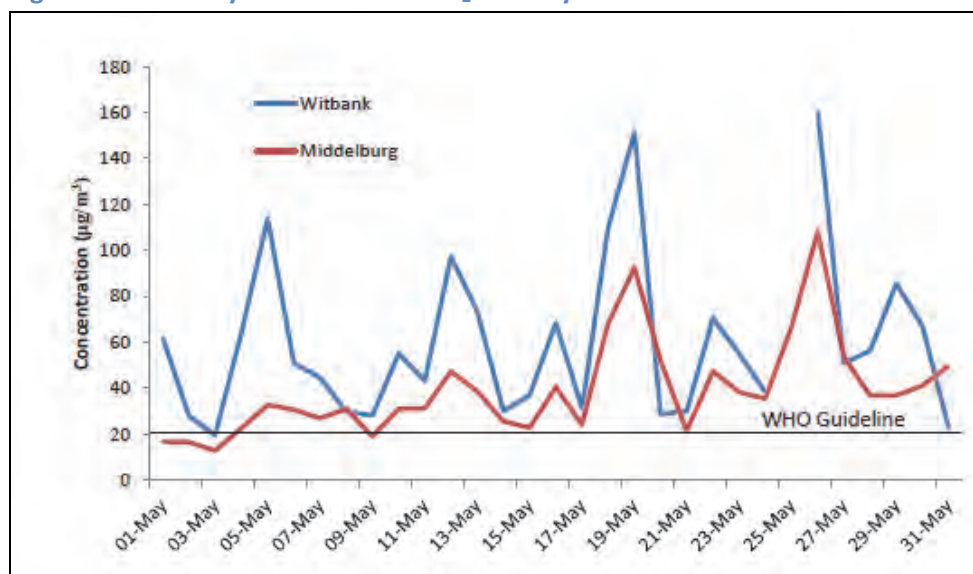
Figure 11: Diurnal distribution of PM₁₀ in both towns



Source: Alberts (2011)

Figure 12 below shows that during the month of May 2009, the Sulphur Dioxide (SO₂) emissions exceeded the WHO guidelines significantly on an almost daily basis. It is hugely problematic that South Africa does not have an SO₂ standard at all (Albers, 2011, p. 90). SO₂ emissions are associated with the burning of fossil fuels both by the high concentration of coal-fired power stations in the area and by households. The graphs also indicate a heavy reliance on fossil fuels for household energy. The irony of the situation is that many people residing in the province with the highest number of coal-fired power stations supplying power to the entire country (8 out of 11 power stations are in Mpumalanga where Witbank and Middelburg are located), have limited or no access to electricity.

Figure 12: Monthly distribution of SO₂ for May 2009 for Witbank and Middelburg



Source: Alberts (2011)

Alberts (2011) finds that there is a significant correlation between dust and air pollution in the area and major respiratory problems among the children residing there.

The Bench Marks Foundation is concerned that companies like Sasol and Eskom, among others, are allowed to apply for exemptions and postponements from requirements in the National Environmental Management Air Quality Act (Kings, 2014, p. 7). The act legally protects the right of all South Africans to live in a clean environment. In 2005, when the act was made law, legal provisions for postponement and exemption applications were included. In 2009, South Africa committed at the Copenhagen climate change conference to lower emissions of carbon dioxide by 42% by 2025. In 2010, the minimum standards were passed into law.

6.2.1 Council concerns about air quality issues

Councillors and ordinary members in the area are concerned about the cumulative impact on air quality caused by the existing Kendal power station and the new Kusile power station. They are also concerned about the dust from operations and the emissions from trucks, vehicles and machinery. Councillors and community members note that the increase in smoke and dust in the Kendal and Ogies area is causing increasing respiratory problems and that it is straining the public health infrastructure in the area. Members of the community complain that on windy days dust can travel further than the standard 500m buffer zone and that the management of this dust should be better managed.

6.2.2 Farmer concerns about air quality issues

Several farmers complained that dust could affect the drinking water of their cattle, thus also affecting milk production and quality. They are also concerned that fertility and the ability to reproduce in cattle could decrease because of dust and water pollution.

6.3 Coal mining and soil

In an average year, the BHP Billiton Middelburg mine:

- resulted in the removal of 6 million cubic metres of topsoil;
- used 65.5 million kilograms of explosives;
- resulted in 2.5 million metres of drilling;
- resulted in 125 million cubic metres of overburden removed;
- for an annual run of mine coal production of 23 million tonnes, and
- 339 hectares of disturbed land requiring rehabilitation.

Photo 10: Huge amounts of topsoil is being lost to agriculture as a result of coal mining in Mpumalanga



According to the Maize Trust of South Africa, “based on statistics from AGIS (2011) it was calculated that in the year 2007, Mpumalanga’s cultivation equalled a total of 993 301 hectares. If the current mining areas are overlaid with the latest field crop boundaries, a total of 326 022 ha of farmland will be lost to mining and a further 439 577 hectares are at risk if the prospecting area is also transferred, totalling 765 599 hectares of cultivated land potentially transferred if all the mining activities are taken into account” (Bureau for Food and Agricultural Production, 2012, p. 10). Mpumalanga is at the heart of the so-called maize triangle in South Africa and coal mining is drastically reducing the land available for the growth of maize. Maize is the staple food of the black African majority in the country who also make up the bulk of the poorest of the poor. It is predicted that the loss of land to maize farming caused by coal mining will see a drastic reduction in the production of maize and therefore an escalation of food prices (Bureau for Food and Agricultural Production, 2012).

Photo 11: Notice of expansion of Wolwekrans coalmine (BHP Billiton)



Literacy levels in the area are about 65%, meaning that 35% of the population will not understand the content of this notice in English, never mind in Afrikaans

6.4 Coal mining and human health

Coal mining is a major contributor to acid mine drainage (AMD) in South Africa. Human exposure to acid mine drainage pollutants can occur through ingestion of contaminated water, food or through dermal absorption via water or air. According to Coetzee *et al*, (cited in WWF-SA, 2011:58): “Metals such as aluminium, copper, zinc and arsenic (all related to AMD effects) can concentrate in plant tissue when plants are exposed to elevated concentrations of these metals near mining activities” .If such plants are consumed by animals and humans, the metal concentrations may be carried along in the food chain. Animals that drink contaminated water and/or feed on contaminated plants have been shown to accumulate metals in their tissue or in their milk (Bureau for Food and Agricultural Production, 2012, p. 6).

Coal mining in Mpumalanga also has further health risks for communities as a recent study showed. The effects of mining on local coal mining communities are also sometimes overlooked. A social and labour plan might detail how they will build houses and provide water, but, according to the West Virginia University Health Sciences Centre, 2008 as cited in World Wildlife Fund-SA (2011:58): “Studies have looked at health effects in coal mining communities and found that community members have a 70% greater risk of developing kidney disease and a 64% greater risk of developing chronic obstructive

pulmonary disease (COPD) such as emphysema. They are also 30% more likely to report high blood pressure (hypertension)".

In 2006, it was reported that mercury emissions in South Africa were second only to China, contributing more than 10% of global mercury emissions. This was reportedly mainly from coal combustion (releasing the mercury that occurs naturally in coal) and gold mining. People who have been exposed to mercury exhibit neurotoxic effects. Debilitating diseases like Multiple Sclerosis, Parkinson's disease, and Alzheimer's have all been linked to mercury poisoning. Mercury is particularly problematic in children and developing foetuses (Environment News South Africa, 2006).

6.5 Impact of coal mining on land subsidence and sinkholes – the case of Coronation informal settlement

The BMF research team were shocked at the sinkholes that are occurring all over the decommissioned Coronation mine's Likazi informal settlement community in Mpumalanga. The Coronation mine used to belong to Anglo Coal or (Amcoal); the current ownership of this now abandoned mine is unclear (Vaal Industries and Business Guide, 2013). What is clear is that Anglo Coal never rehabilitated the mining site after closure. The BMF is still trying to determine if Anglo Coal has been issued with a mine closure certificate, or whether it sold the operation just before closure to another mining company with less resources or skills to close the mine properly.

The old mining area was not properly fenced off or guarded, allowing people seeking jobs in Emalahleni to migrate and settle in the dangerous exclusion zone of the former mine (Ljungberg & Wier, 2012, p. 26). The land on which Coronation informal settlers reside in Likazi is extremely dangerous. South Africa's shaft coalmines are extremely shallow and prone to caving into sinkholes especially during the rainy season.

Photo 12: One of the many Coronation Informal settlement sinkholes (Isibhobo) in close proximity to shacks



The shafts also fill up with water and then decant acid mine water into both the ground water and the surface water. The coal waste spontaneously combusts and residents risk being severely burned.

Photo 13: Likazi informal settlement housing in Coronation



A community whose land is pockmarked with sinkholes from an abandoned Anglo Coal operation

6.6 Coal mining and child labour

In the late 19th Century and early 20th Century child labour, particularly of black African children, was common on the coalmines around Witbank, see Photo 14 below.

Photo 14: Early 20th Century picture showing the use of black children as labourers in the coal mines at the time



Source: Witbank News (2006)

Monitors in eMalahleni informed the research team that the coal waste pile on the edge of Likazi informal settlement at Coronation mine was being re-mined by artisanal miners. These mines dig for coal to sell to people in informal settlements who do not have access to electricity, and to obtain coal for their own energy consumption. The standard mode of operation is one adult male with several male children, usually relatives. They tunnel their way under the coal pile and then pass trays loaded with coal in relay fashion to the mouth of the tunnel. Matthew Hlabane, our guide in Likazi, informed the research team that an adult and two boys recently died when the tunnel they had dug under the mine waste collapsed on them. Mines that are not properly closed serve as an invitation to the large numbers of unemployed people in South Africa to engage in uncontrolled and unregulated informal ('illegal') mining. There are increasing numbers of children drawn into this activity. Thus, while the major corporations truthfully deny employing child labour, their history of irresponsibility in terms of mine closure is leading to the re-emergence of child labour on our mines. The mine waste also combusts spontaneously and monitors told us harrowing tales of people, especially children, burning their legs when mine waste collapses while they are walking over it.

Photo 15: Informal mine 'tunnelling' into mine waste, Likazi informal settlement



Photo 16: Mine waste being 're-mined' by the people residing in Likazi informal settlement on the site of Coronation mine



6.7 Impact of coal mining on road transportation and infrastructure

Photo 17: Mine traffic congestion of a public road approaching Kendal Power Station



Coal transportation also produces a number of negative externalities, primarily in the form of air pollution, global warming, accidents, noise, congestion and damage to roadways (Jorgensen, 2010). The establishment of new roads also impacts on local biodiversity.

Photo 18: Accident involving a mine vehicle and bus on N4 near Witbank



Coal transportation leads to both occupational and non-occupational injuries and deaths. Air pollution is a product of fossil fuel combustion in the engines of trucks and trains. The classic air pollutants emitted during transportation include sulphur dioxide (SO_2), nitrogen oxide (NO_x), carbon monoxide (CO), hydrocarbons (HC), non-methane volatile organic compounds (NMVOC), lead (Pb) and particulate matter ($\text{PM}_{2.5}$). These air pollutants cause various health problems, including lung cancer, chronic respiratory disease, lower respiratory illnesses, eye irritation and bronchitis. The GHGs (greenhouse gasses) associated with transportation include carbon dioxide (CO_2), which is the main GHG associated with the transport sector, methane (CH_4), which is emitted in small quantities, and nitrous oxide (N_2O). Furthermore, different noises are caused by engines, car alarms, radios and road contact, to mention but a few. Linked to accidents are injuries, death, material damage and lost productivity (Gaffen, 2000).

Photo 19: The road, R50, that coal haul trucks have destroyed.



Photo 20: Coal haul trucks on the road between Middelburg and BHP Billiton operations



Photo 21: Traffic congestion on a very potholed road as a result of coal haulage



In an interview with a coal truck driver, the Bench Marks Foundation found that he was driving 17 hours non-stop per day. He gets up at 3am and works until 10pm every day. Driver fatigue must therefore be a major contributory factor in road accidents near coalmines.

The roads in the area are shared by the mining companies, farmers and the public. Communities and individuals are concerned by the rapid deterioration of roads because of heavy vehicles servicing the coalmines and the power plants. Respondents cite increased levels of dust, increased numbers of accidents and the destruction of paved roads (potholes). Communities feel that the local and provincial governments are incapable, due to financial constraints, of maintaining the roads in the area. They also complain that they pay the same amount of road tax (as part of the fuel levy) as the

mining companies and their transport subcontractors, yet they do not have the same destructive impact on the roads.

6.8 Coal mining and economic concerns in the area

People in the area complain that the various mines often hold several meetings and promised the Ogies and Phola residents that they would benefit from local employment. However, the mines employ people from Witbank and other areas and hardly any local people are employed. The violent protests early in 2010 were the result of the frustration of local people about the expectations created by mining companies in public meetings and the subsequent failure of these operations to live up to the promises made during consultation processes.

Bench Marks Foundation researchers were bluntly told that the community no longer trusts the mining companies because of their experiences with them.

Communities have discovered that the number of jobs created during construction and operations is very limited. Mining thus aggravates unemployment as land that people who were formerly employed in the agricultural sector, is now turned over to mining. This is particularly so for coal mining which is more capital intensive than other forms of mining.

Photo 22: A severely vandalised picture directing labour brokers to where unemployed people could be picked up in Middelburg



Men in the community complain that mines rely heavily on subcontracting workers who are mostly from other areas. There is no training or employment of locals. Mines look towards local women to make up their Charter targets for women. This creates conflict between local men and women, and between local men and men brought in from outside.

Older people in the Witbank/Middelburg/Kendal/Wilge/Ogies/Phola communities complain that they suffer all the same negative impacts as the rest of the population but that they are completely excluded from any opportunities of employment by the mines.

6.8.1 Procurement

Local traders and business people feel that the mines in the Kendal/Ogies area buy very little from local traders and business people. The only businesses that benefit from mining are trucking and transport, catering for truck drivers, truck stops and rent from backroom dwellers/migrant workers.

6.8.2 Housing

Communities are concerned that the mining companies compensate the owners of houses when relocation takes place rather than the renting occupants. Renting occupants cite the inconvenience and costs of relocating to a new residence beyond the cost of the property to the owner as reasons for demanding compensation. Relocation often takes place when housing gets in the way of where a mine is to be established such as at Wilge and the New Largo Village which was built while the mine was still a shaft mine.

Communities express concern about the impact of the living out allowance which results in backyard shacks and informal settlements being established

6.8.3 Agriculture

Apart from the impact of mining on water and air quality on agriculture production as noted above, farmers complain about:

- The concept of the original landowner being responsible for relocation of his farm labourers, and not the mines;
- The impact of mining on service roads;
- The devaluation of farm land surrounded by mining operations;
- The loss of agricultural land, and ultimately food security to mining;
- The loss of fertile topsoil due to the nature of open cast mining; and
- Increased levels of crime, theft of crops (maize) and livestock, due to an influx of people attracted by mining into the area.

Anglo Coal will be constructing a water treatment plant as part of its New Largo operation. However, some farmers in the area are exporting produce to the European Union. The vegetable farmers downstream from the mines in the Kendal Ogies area are losing European clients due to the bad quality of water used for irrigation. “We need clean water, because the European Union does not want produce to be watered with recycled water.” They are concerned about the non-renewable nature of a mine and who will pay for the resultant pollution such as that experienced from old mines decanting into the water system.

Many of the smaller farms along the supply roads to Kendal and Ogies have converted their land into truck stops and switched from farming to transport operations servicing the many collieries in the area.

6.9 Coal mining and social/cultural concerns in the area

6.9.1 Social and health concerns

Communities and individuals raised the following social/health concerns:

- The capacity of existing public health facilities are not coping with the rapid increase in population attracted by the rapid growth of coal mining and hopes of employment in the area;
- Increases in squatter camps/informal settlements;
- Lack of access to services such as electricity and clean water in squatter camps/informal settlements;
- Increases in respiratory problems due to dust from mining operations;
- Increases in water borne illnesses due to water pollution in the area;
- Increases in alcohol and substance abuse;
- Increases in sexually transmitted disease;
- Increases in HIV/AIDS because of casual and transactional sex between single mineworker migrants and unemployed women in communities; and
- Increases in sex work especially along supply routes to and from mining operations and between mining operations and power stations.

Photo 23: Informal settlement in proximity to Bhp Billiton's Middelburg operations



Photo 24: Informal settlement in proximity to Anglo American's operations near Witbank



Communities are completely uninformed about any disaster management plans developed by any of these mining operations. Every single one of these operations poses serious environmental and social disaster risks. None of the documents under our scrutiny talks about how disasters will be managed. There is no reference on how these mines will respond to, inform or involve the community regarding HIV/Aids, or to a tailings collapse or to unintended toxic spills into local streams and rivers.

6.9.2 Cultural issues

- Communities are concerned about the relocation of graves on land taken over by mining operations; and
- Communities are concerned that relatively young people are dying from diseases like HIV/Aids which are related to increases in the local population and migrant labour. The entire cultural institution of ancestor veneration is subverted by these diseases, “How can I worship my children as my ancestors” an older person asked the research team.

In response to the research findings, this study presents the following recommendations as necessary steps to be taken by the coal mining industry to ensure the protection of human rights and to bring the sector more in line with global best practices.

7. Recommendations and Conclusion

7.1 Recommendations

Independent Grievance and Arbitration Mechanism:

- Our research has shown that no independent grievance and arbitration mechanism exists in the mining sector to respond effectively and equitably to grievances from outside the workplace and in particular to poor mining communities surrounding the mines. This is not a mistake and we believe they have been deliberately kept weak and poorly resourced:

- The Bench Marks Foundation recommends to the Department of Mineral Resources, Industry and the Chamber of Mines, the establishment of an **independent national grievance and arbitration mechanism** to which mining impacted communities could refer all mine impact related grievances, within a reasonable period of no longer than 6 months from publication of this report; and
- The Bench Marks Foundation recommends to the Department of Mineral Resources, the Industry and the Chamber of Mines, the establishment of an **independent central fund** on which mine-impacted communities could draw from to appoint their own expert law, geological, environmental, social and economic experts so as to offset the imbalance in knowledge and power that exists between mining corporations and communities in the consultation processes.

Renewables and Climate change:

- The Bench Marks Foundation calls for the Department of Environmental Affairs and the Department of Water Affairs to **rigorously apply the ‘polluter pays principle’**, in particular to ensure that it is vigorously adhered to and imposed:
 - We call on our government to implement alternatives to coal production with vigour, as coal is intrinsically unhealthy, and a cause of ill health to communities, plant life and the environment. As a fossil fuel, it is a known polluter damaging the ozone layer; and
 - We call on the government to introduce effective energy and climate laws that will limit the damage to our environment caused by the coal sector. This must be supplemented by the resourcing of its renewable strategy, and the commitment that no jobs will be lost due to this strategy and that jobs will be created for poor communities surrounding the coal mines. In the absence of an independent and effective regulator in the mining sector, we call on the Public Protector and the SAHRC to be fully empowered jointly to monitor the adherence to environmental impacts on communities.

Health and Environmental Accountability:

- The Bench Marks Foundation recommends that the Department of Environmental Affairs and the Department of Health cumulatively **hold coal-mining corporations accountable for air pollution, emissions and dust particulate impacts on communities** in the coal mining areas of South Africa:
 - The Bench Marks Foundation recommends that the Department of Health take a holistic view on tackling avoidable causes of ill health, especially if it wants to introduce a universal, equitable health system. The proposed National Health Insurance will be overburdened by corporation’s externalisation of health costs as we have seen from the acid mine drainage and other hidden health impacts on poor communities. We demand that the Department of Health undertake a proper scientific epidemiological study in the coal mining areas of the country to determine the full health impact of mining on the workers inside the workplace and communities near mines in terms of both respiratory and other health problems identified in this study;
 - The ill health caused by air pollution on the part of mining energy corporations violates the right to clean air as enshrined in the constitution, section 24 of the Bill of Rights. In addition, various studies have confirmed that the dependence on coal for black empowerment and our

energy needs ignores the devastation to human health that coal causes. The combustion of coal in various international studies confirms that it affects the pulmonary development, increases the risks of cancers, stroke and heart attacks as well as chronic lower respiratory diseases. The widespread occurrence of such diseases is not a natural event and must be stopped, and the polluters must pay for making people sick. This is in line with the 'Polluter Pay Principle'. Furthermore, the department of health must do an in-depth health investigation and hold the perpetrators to account. Communities must have recourse to justice as guaranteed **in the constitutional**.

Government Responsibility:

- The Bench Marks Foundation calls government to **apply government mining, water and environmental laws and regulations more strictly** when mining companies apply for mining licences at a particular mining site and across the entire life of the mine;
- The Bench Marks Foundation recommends that the Department of Water Affairs goes beyond just studying the problem of mine water decant into the water systems of the country and prosecutes those responsible for the pollution of these systems;
- The Bench Marks Foundation calls on the Government to **take the threat to water and food security posed by coal mining in Mpumalanga more seriously**. The loss of top soil in particular is of grave concern, and noting that South Africa is one of the most water scarce countries in the world, the destruction of groundwater, rivers, dams and water systems through mining needs to be halted forthwith and reversed where possible.
- The Bench Marks Foundation calls on the Department of Mineral Resources and the national Parliament to effect changes in the MPRDA to make it illegal to sell off a mining operation near the end of life of a mine so as to avoid the costs of proper mine closure;
- The Bench Marks Foundation recommends to the Department of Mineral Resources that former owners of abandoned mines be tracked down and prosecuted;
- The Bench Marks Foundation calls on government to heavily fine violations of government laws and regulations where mining houses act in defiance of such national laws and regulations as well as in defiance of international treaties, guidelines and codes of conduct. Especially when such mining companies disregard basic and meaningful communication with local communities across the life of a mine. Where there is serial noncompliance, licences should be withdrawn;
- THE BMF calls on government to place a moratorium on all current licence negotiations so as to investigate, by means of a commission of inquiry, legal and regulatory compliance in the negotiation processes. It must weed out possible corruption and ensure that mining companies comply with national and international laws, regulations and codes; and
- The Bench Marks Foundation calls for voluntary principles to be replaced with statutory and legally binding regulations and obligations as far as mine impacts are concerned. It is clear that voluntary principles have minimal impact.

Financial systems accountability:

- The Bench Marks Foundation have raised concerns about banking and financial institutions failing to do proper due diligence on mining projects, despite subscribing to the International Finance Corporation and World Bank global guidelines on responsible investment;

- The study shows that the processes followed by NEDBANK in financing the New Largo project subverted the legal process as defined by the MPRDA and in the process rendered community consultation between mining projects and communities meaningless. We suspect, from what we found in this instance, that banking and financial institutions frequently collude with mining corporations to render the legal process as far as community interests are concerned, meaningless. The Bench Marks Foundation therefore calls on the Department of Mineral Resources and the Treasury to investigate and tighten controls to avoid this from happening in future.

General Industry Responsibilities:

- The Bench Marks Foundation calls for absolute obligatory transparency by mining corporations regarding mine closure funds and plans;
- The Bench Marks Foundation calls on the industry to effect and conduct community consultation, negotiation and participation across the life of a mine from greenfields to closure;
- The Bench Marks Foundation calls for the obligatory adoption of the community's informed continuous right to consent or right to refuse proposed mining operations and developments;
- The Bench Marks Foundation recommends that mining corporations phase out, over time, the living out allowance and offer employees an array of corporate subsidised housing options. The government, and the mining corporations must be obliged to do proper urban planning along with the social and labour plans and IDPs, in line with the resource, the length of time mining will occur and the fact that communities have been and will be impacted on; and
- In the light of the disturbing findings of this study with regards to violations of national and international treaties as to the way mining houses should conduct negotiations with local communities, the BMF calls on Anglo Coal / BH Billiton to immediately re-examine their current practices with regard to the ways in which they conduct consultations with surrounding communities.

Responsibility of Civil Society:

- Lastly, the important and continuous role of civil society cannot be overemphasised. The Bench Marks Foundation calls on all community leaders, community monitors, pastors, priests, faith leaders, journalists, photographers and other media partners, academics, activists and entrepreneurs, naturists, school teachers and school children looking at their surroundings, young people burning bright with hope, and idealism, and doctors and nurses working with communities and lawyers filled with a vision of a just society, to become more active in holding corporations accountable. Young people and older folks, can express their concerns on social media such as Facebook and Twitter, and therefore help to bring about change; and
- While acknowledging that many members of society are only trying to make a living, the Bench Marks Foundation hopes to spread the word and understanding that the future well-being of our country is extremely dependent on the collaborative effort of all stakeholders in society to help make our fragile democracy work.

7.2 Conclusion

During its visits to the area under review, the BMF found that communities and individuals raised a number of concerns about the impact of mining in terms of their environmental health and security, their social security and their economic wellbeing. The results of this study are perception based and would require a full environmental, economic and social impact study that will allow the BMF to validate or invalidate community concerns. While those interviewed showed a high level of awareness of the issues, there is need for community training in order to build the ability of communities to monitor and respond to impacts and potential disasters as well as to engage on key issues in the life of mines even beyond closure.

As a way of concluding this study, the following points summarise the reasons why grievance and community engagement mechanisms are, in their current forms, not an effective means of addressing the many problems resulting from mining impacts:

- To return to Ruggie, the South African state has existing obligations to respect, protect and fulfil human rights and fundamental freedoms. If the state is managed by a government, in which the ruling party has very senior members who have vested interests in mining, it becomes near impossible for government departments to fulfil their legal obligations. The Bench Marks Foundation has said so repeatedly in numerous reports over the years. The comfortable revolving door between politics and business must be shut;
- To stay with Ruggie, the role mining companies as specialised organs of society performing specialised functions are required to comply with all applicable laws and to respect human rights. Mining companies in South Africa contravene environmental, labour and social laws and norms serially. As they know that there would be no consequences, they are not even afraid to admit that they do so, as many Bench Marks Foundation reports have shown over the years. Operating without water licences, starting open cast operations in close proximity to communities, causing the development of urban slums and squatter camps through the living out allowance, not controlling dust and smoke emissions are all par for the course. When senior politicians are on the boards of mines and are shareholders, the state becomes toothless. It barks now and then, but it hardly ever bites; and
- Finally, the need for rights and obligations to be matched to appropriate and effective remedies when breached, must happen. Communities and workers are left powerless. They cannot expect remediation from the state or from the mining companies. Consequently, communities have lost faith in democracy. South Africa is faced with a crisis of representation. Communities and workers are increasingly resorting to violence in their protests. The mining corporations on the other hand respond with the militarisation of mine security and use their undue leverage over the state call for the ever more vicious use of the repressive apparatus of the state against its own citizens.

In general it is evident that global best practice guidelines on corporate responsibility are currently not implemented in a meaningful manner and mining companies fall short in terms of applying the principles on human rights and community engagement as indicated in frameworks such as the UN Guiding Principles on Business and Human Rights or the Bench Marks Principles. If urgent steps are

not taken to address the valid grievances of mining communities by means of truthful, transparent and equal consensus-seeking community engagement practices, the social, labour and economic crises currently plaguing the industry are set to continue.

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APPENDIX 1

IMPACT AND ASSESSMENT TABLE; OPENCAST MINING OF COAL

SUMMARY OF ENVIRONMENTAL IMPACT ASSESSMENT (SECTION 5) AND MITIGATION MEASURES (SECTION 6)

Impacts and mitigation shown relative to the Construction (C), Operational (O), Decommissioning (D) and Post-mining (P) phases.

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Environmental description and planning should meet the content requirements stipulated in the regulations for the Scoping Report, Environmental Impact Assessment Report (EIAR), Social and Labour Plan (SLP), Environmental Management Programme (EMP), Monitoring and Performance Assessment, Mine Decommissioning and Closure Plan, Environmental Risk Report (ERR)

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
Geology	<p>Various grades of coal occur associated with carbonaceous shale and sandstone horizons of Karoo aged rocks of South Africa. The coal is used as raw material for the steel industry, coal fired power stations and for domestic heating and cooking.</p> <p>The attitude of the natural layering in the rock and the rock strength characteristics determine the morphology of opencast mining and the development of a benched high wall using drilling and blasting techniques.</p> <p>Steeply dipping strata or intersecting joint patterns, and intrusive dykes or sills. Can impose slope stability problems and require a different approach to bench and high wall design in opencast pit development.</p> <p>The environmental</p>	<p>(C, O, D, P) Excavation of rock and creation of a void with steep gradient or stepped high walls.</p> <p>(C, O, D, P) Dipping attitude of strata and/or intersecting joint patterns can create naturally unstable slope conditions that persist until after closure in un-backfilled mines.</p> <p>(C, O, D) Drilling and blasting patterns and explosive types used depend on strength characteristics of the rock. Air blast shockwave and fly rock potential is linked to rock type and blast whole layout.</p> <p>(C, O, D, P) Cross-cutting or intrusive rocks or faults can create planar brecciated porous zones that conduct groundwater.</p> <p>(C, O, D) Rocks containing high quantities of weatherable minerals</p>	<p>Topography</p> <p>Soils</p> <p>Groundwater</p>	<p>(C, O, D, P) Final use of mining void is determined by the rock structure and permeability.</p> <p>(C, O, D, P) Geotechnical investigations will identify unstable rock conditions, slopes that require support in the short-, medium- and long-term. Geotechnical slope stabilisation methods including concreting (gunnite), rock bolting, wire mesh restraint, bench wrecking to lower high walls, rehabilitative blasting etc. must be investigated and implemented during decommissioning.</p> <p>(C, O, D) Optimal fragmentation blast whole layout and correct explosives will reduce fly rock. No blasting on very overcast days.</p> <p>(C, O, D) Overburden stockpiles must be designed to meet minimum slope stability and safety standards and vegetated with appropriate grasses to reduce erosion and runoff.</p> <p>(D, P) Restore waste rock to pit wherever possible to reduce high wall height and provide</p>	

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
	<p>impacts associated with drilling and blasting opencast pit development are similar for different rock types whether mined in bulk for crushed aggregate or crushed for beneficiation and extraction of mineral phases.</p> <p>Conditions associated with particular rock types may require specific mitigatory actions.</p> <p>The high pyrite content of South African coal leads to acid mine drainage problems in the pit and also stockpiles.</p> <p>Because of the pyrite, coal stockpiles are prone to spontaneous combustion.</p>	<p>are likely to produce thicker soil profiles and deeper weathered overburden that must be stripped and stockpiled.</p> <p>(C, O, D, P) Coarse or fine waste rock dumps and tailings/slimes dams can generate dust, release poor quality leachates, contaminate surface and groundwater</p> <p>(O, D, P) Coal stockpiles can combust spontaneously releasing toxic fumes to the atmosphere.</p>		<p>surface for rehabilitation. Continuous rehabilitation of the pit during operation is preferred.</p> <p>(D, P) Remnant waste rock or overburden stockpiles must be covered with layered covering to exclude infiltrating rainwater and topsoil to ensure permanent vegetation cover.</p> <p>(O, D, P) Stockpiles of coal need regular inspection and monitoring to prevent and/or monitor burning stockpiles.</p>	
Topography	The topographic impact of opencast mining influences pit design, surface water, visual aspects and slope stability	<p>(C) Situation in landscape can impact on wind, runoff, and visual envelope.</p> <p>(C, O, D, P) Opencast pit creates area of lowered topography that can act as a sump for storm water runoff and intersect the groundwater table.</p> <p>(O, D, P) Steep high walls are potentially unstable and failure can impact areas away from the opencast pit rim.</p> <p>(D, P) Optimal post-mining slope stability requires departure from operational bench and high wall design during decommissioning phase</p>	<p>Surface water</p> <p>Noise</p> <p>Dust</p> <p>Visual aspects</p>	<p>(C) Use terrain form to shield opencast pit from developed or sensitive areas. Hilltop sites or ridge crests should be avoided as they impact adjacent catchments and have wider visual impact.</p> <p>(C, O, D, P) Pump rainwater and groundwater that collects in the pit and store for use as process water or for dust suppression.</p> <p>(O, D, P) Reduce height of high walls separating benches to increase stability.</p> <p>(D, P) Maximum 5m high wall remnant with >2 steps separating high walls.</p>	
Soils	Soil cover thickness, texture, horizonation, drainage status vary across and down the	(C) Excavation of topsoil and weathered rock overburden during clearing of opencast pit	Land capability / Land use	(C, O) Compile accurate soil map showing classification, thickness, fertility status. Remove and stockpile 500mm	Mineral and Petroleum Development Resources

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
	<p>slope in response to bedrock type, slope gradient, climate and organic inputs. The topsoil is regarded as the upper 500mm of the soil profile. Apart from supporting vegetation cover the topsoil encourages infiltration of rainwater. The subsoil and weathered rock that constitutes the overburden must be removed and stockpiled for the life of the mine in most opencast mining situations.</p> <p>Topsoil stockpiles tend to degrade during long-term stockpiling and lose the organic components and fertility status.</p>	<p>and bench extensions. (C) Disturbance or burial of soils by access or haul roads, beneficiation plant infrastructure, stockpiles and pollution control dams.</p> <p>(C, O) Degradation of soil characteristics during medium- to long-term stockpiling.</p> <p>(C, O) Chemical and fuel spillages contaminate the soil profile.</p> <p>(C, O) Concentrated storm runoff from the pit surrounds and infrastructure areas is erosive, causing sheet, rill and donga erosion features.</p> <p>(O, D) Salinisation, mineralisation and toxic contamination of soils beneath and surrounding residue deposits and tailings dams</p> <p>(D, P) Inadequate topsoil restoration or creation of un-natural surface topography or slope form which could impact lower or adjacent slopes due to increased runoff velocity.</p> <p>(D, P) Erosion of restored topsoil due to inadequate erosion control measures</p> <p>(D, P) Low productivity of rehabilitated soils due to inadequate soil fertility or high erosion rates.</p>		<p>topsoil in berms or heaps less than 1.5m high and turn soil every six months. Do not use as storm water control feature. Vegetate with diverse grass mix to control erosion.</p> <p>(C, O) Remove and stockpile topsoil from roads, building platforms, stockpile and dam areas prior to construction.</p> <p>(O) Petrochemical spillages to be collected in a drip tray and drum to store excavated spill affected soil for disposal at a registered facility.</p> <p>(C, O) Storm water diversion and erosion control contour berms separate clean and contaminated water systems around the pit and infrastructure areas. Design erosion control and diversion berms, terraces or drains with the runoff for a particular soil type and slope gradient.</p> <p>(O, D) Analyse soils, treat to ameliorate salinity or contamination and dispose of untreatable soil at an approved disposal site.</p> <p>(D, P) Restore overburden to recreate slope form and topsoil with optimal fertilisation based on soil analysis.</p> <p>(D) Scarify roads and stockpile areas to a depth of 500mm and infrastructure areas and restore topsoil cover</p> <p>(D, P) Implement irrigation and soil conservation measures.</p> <p>(P) Integrate disturbed area to most appropriate land use to ensure long-term stability of restored topsoil.</p>	<p>Development Act, 2002 (Act No. 28 of 2002) regulation 56 (1) to (8); soil pollution and erosion control</p> <p>The Conservation of Agricultural Resources Act (Act No 43 of 1983) section 4(1) and regulation 6(1)</p>
Land	The land capability is a	(C, O, D, P) Potential	Land use	(C, O, D, P) Vegetation survey	Red Data Plant

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
Capability	<p>function of the soil thickness and fertility status, slope, drainage, climatic regime and vegetation types which are influenced by prior land use. The limited definitions provided in the Aide Mémoire provide some guidance and land must be classified into Awilderness@ (should be expanded to >virgin=land), wetland, grazing or arable.</p> <p>This relates to the post-mining rehabilitation goals and targets. The land use planning zonation must be considered in urban areas to integrate the mined land and the end use options may change in relation to surrounding land use over time.</p>	<p>loss of Red Data Species</p> <p>(C, O, D) Disturbance of agricultural potential and subdivision of high potential arable land into uneconomic farming units.</p> <p>(O, D, P) Backfilled areas could be too unstable to support post-mining land use objectives compatible with surrounding areas.</p> <p>(O, D, P) Waste disposal sites negatively impact development in surrounding areas.</p>		<p>required if on Red Data Farm or close to a Red Data Farm.</p> <p>(C, O) Focus developments and avoid un-necessary subdivision of land and activities that could be sited on already disturbed land.</p> <p>(C, O, D, P) Integrate available land with activities in adjacent areas and ensure public access to land with unique characteristics or high conservation status.</p> <p>(D, P) Rehabilitation must ensure long-term stability and not compromise post-mining land use objectives.</p>	<p>Policy for EIA (24 Aug 2001)</p> <p>Development Guidelines for Ridges (April 2001)</p> <p>The Conservation of Agricultural Resources Act (Act No 43 of 1983), section 4(1) and 5(1)</p> <p>section 9 (1) and 11(1)</p> <p>sections 15 and 16; regulations 5 and 6</p>
Land Use	<p>Land use zonation of adjacent areas is defined by Integrated Development Plans. Mine development often places pressure on productive agricultural land through development of secondary or support industries. Human and traffic pressures or polluted discharge can threaten adjacent or downstream land designated as conservation areas or habitats favouring protected or rare species.</p>	<p>(C, O, D) Inadequate planning or loose development can subdivide high potential land or habitats into un-viable small areas.</p> <p>(D, P) Unsuccessful rehabilitation can reduce the post-mining land use options.</p>	<p>Land capability</p> <p>Animal life</p> <p>Vegetation</p>	<p>(C, O) Plan to focus developments through multi-use options and avoid splitting land and habitats. Integrate the mining area with regional land use planning objectives where possible.</p> <p>(D, P) Take into account developments in surrounding areas and design post-mining land use options to support and enhance long-term development options.</p>	
Vegetation	<p>Detailed assessment of the pre-mining vegetation status and characterisation relative to well preserved areas of the same habitat is</p>	<p>(C, O, D, P) Loss of Red Data Species</p> <p>(C, O, D) Disturbance of indigenous vegetation types and negative</p>	<p>Animal life</p>	<p>(C, O, D, P) Vegetation survey required if on Red Data Farm or close to Red Data Farm.</p> <p>(C, O, D) Effective pollution control to reduce the spread of</p>	<p>Red Data Plant Policy for EIA (24 Aug 2001)</p> <p>Development Guidelines for Ridges (April</p>

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
	essential for mine development planning options and post-mining land use. Opencast mining and related infrastructure is a permanent destruction and rehabilitation cannot restore all pre-mining habitats. Long-term cumulative impacts can lead to degradation of even well conserved areas.	<p>impacts of dust or polluted runoff beyond the mining area boundaries.</p> <p>(C, O, D) Fragmentation of habitats or isolation of small areas that results in degradation or changes in populations reliant on movement or interchange between habitats or scattered populations.</p> <p>(O, D) Cumulative impact of illegal collecting or land use during long-term or life of mine can degrade areas and reduce the viability of adjacent areas.</p> <p>(O, D) Inadequate control of alien species can result in establishment of populations or seed sources that threaten adjacent areas.</p> <p>(O, D) Restore vegetation structure and composition as close to original composition as possible unless alternative vegetation rehabilitation is defined in EMP.</p> <p>(D, P) Utilisation of rehabilitated ground must be compatible with carrying capacity or soil conditions.</p>		<p>impacts.</p> <p>(C, O) Consolidate development areas and develop multi-use options or infrastructure corridors for roads, pipelines, power and communication links.</p> <p>(O, D, P) Clear invasive alien weeds and plants and re-establish diverse indigenous species during on-going rehabilitation.</p> <p>(D, P) Develop post-mining environments in conjunction with regional development plans. Recreate habitats where possible or structure altered landscapes to be compatible with regional habitat mosaics to resist water and wind erosion of soils.</p> <p>(D, P) Avoid overstocking or irrigation with water that will cause salinisation, mineralisation or acidification of restored soil. Implement soil conservation measures to protect rehabilitated areas and vegetation cover</p>	<p>2001)</p> <p>The Conservation of Agricultural Resources Act (Act No 43 of 1983), sections 15 and 16; regulation 5 (1)</p> <p>The Conservation of Agricultural Resources Act (Act No 43 of 1983) section 4(1) and 5(1)</p> <p>The Conservation of Agricultural Resources Act (Act No 43 of 1983) section 9 (1) and 11(1)</p>
Animal life	Disturbance of populations, subdivision of habitats or ecosystems and isolation of small unviable communities results in cumulative impacts.	<p>(C, O, D, P) Loss of Red Data Species</p> <p>C, O, D) Disturbance of remnant terrestrial wild mammal, avian, amphibian and insect</p>	Vegetation	(C, O, D, P) Potential impact on Red data Species, habitat reduction and fragmentation is not limited to mining-related developments but mine sites are committed to rehabilitation which is not the	Red Data Plant Policy for EIA (24 Aug 2001) Development Guidelines for Ridges (April 2001)

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
		<p>fauna through physical habitat destruction, noise, traffic and movement of people.</p> <p>(C, O, D) Large developments can threaten migration routes or flight paths. Cumulative impact of illegal collecting, road kills or power line related deaths reduce population viability in the long-term. Some mining related habitats also favour species leading to un-natural competition with endemic fauna.</p> <p>(O, D) Potential increase in feral animals and impact on indigenous fauna e.g. cats, rats.</p> <p>(O) Illegal hunting or disturbance.</p> <p>(O) Operation or disturbance during breeding season can precipitate long-term cumulative effect on populations.</p> <p>(P) Potential permanent change in habitats due to inadequate monitoring and degradation of rehabilitated areas due to inadequate maintenance.</p>		<p>case with normal urban or agricultural developments.</p> <p>(O) Control vermin and reduce poaching through staff education and law enforcement</p> <p>(O) Cumulative effects only become critical if there are no other suitable habitats in the adjacent areas. Support conservation efforts in areas of similar habitat to ensure potential sources for restocking.</p> <p>(P) Rehabilitation must restore pre-development indigenous species not only rehabilitate to the pre-mining state. Decide on suitable species on the basis of well-preserved areas not necessarily current species.</p>	
Surface water	Surface water effects of opencast mining and related infrastructure can be characterised as altered or diverted natural drainage lines, reduced natural runoff, concentration of runoff, mixing of clean runoff with contaminated runoff and creation of	(C, O, D, P) Permanent impact on catchment by capturing surface runoff and >beheading= or diverting drainage systems. Cumulative loss of wetlands that are a threatened resource. Degradation of stream channels through long-term	<p>Geology</p> <p>Topography</p> <p>Vegetation</p> <p>Animal life</p> <p>Sensitive landscapes</p>	<p>(O, D, P) Discharge treated water meeting legal standards into watercourse to supplement clean runoff. Remain within catchment discharge parameters determined from pre-mining analysis.</p> <p>(C, O, D) Detailed catchment hydrological modelling is</p>	<p>National Water Act (NWA), 1998 Notice No. 704, Regulations on use of water for mining and related activities (Govt. Gazette, No. 408)</p> <p>Mineral and</p>

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
	<p>large open water bodies.</p> <p>Net losses to surface runoff are increased by creation of large bodies of open water through increased evaporation.</p> <p>Degradation of vegetation in surrounding catchment, creation of large impermeable areas and concentrated runoff in storm water systems leads to highly modified flood responses in small catchments that can threaten channels, habitats and infrastructure downstream.</p> <p>Erosion by concentrated runoff can create long-term instability in natural channels and spread of incision into adjacent areas.</p> <p>Impacts to surface water must be judged against changes to both quality and quantity.</p>	<p>reduced runoff and periodic discharge of very high volumes destabilises the system.</p> <p>(C, O, D) Altered storm water runoff response due to large impervious areas and concentrated runoff in drainage systems.</p> <p><u>Storm water runoff and drainage</u> (C, O, D) Increased erosion, dust generation and potential chemical contaminants reduce surface water quality or result in discharge that exceeds the maximum concentrations permitted by the National Water Act.</p> <p>(C, O, D) Vehicle wash bays and workshop facilities produce petrochemical and solvent contaminated runoff.</p> <p>(C, O, D) Sanitary conveniences, fuel depots or storage facilities of potentially polluting substances can contaminate surface water.</p> <p><u>Tailings and pollution control dams</u> (C, O, D, P) Mineralogical and chemical characteristics of specific rock types, especially the fine crushed product, produce highly reactive material that oxidises readily to produce poor quality leachates from residue stockpiles.</p> <p>(C, O, D, P)</p>		<p>required to define runoff characteristics, model extreme event discharge and design storm water and tailings management facilities.</p> <p>(C, O, D, P) Initiate catchment management to control and reduce erosive runoff containing suspended sediment. Create and maintain clean water drainage systems to isolate contaminated areas and separate clean and dirty water systems so that neither can interact more than once in 50 years.</p> <p>(O, D, P) Create storm water discharge stilling dams or artificial wetlands on drainage lines to absorb extreme runoff events, settle entrained solids, passively treat water and control discharge.</p> <p>(C, O, D) No prospecting, drilling, mining within greater distance of 100m or 1:50 year flood line from watercourse.</p> <p>(C, O, D, P) Geochemical analysis of crushed waste must identify acid rock drainage production potential.</p> <p>(C, O, D, P) Assessment in accordance with EIA, comply with norms and manage in accordance with the EMP. Design tailings dam catchment paddock dams and toe cut-off trench, siltation dam and return water system with adequate capacity, impervious lining or subsurface drainage blanket to ensure efficient functioning. Don't discharge water unless treated to the standard prescribed.</p> <p>(C, O, D, P) Optimise residue stockpile and deposit slope length and gradient to reduce erosional effect of storm</p>	<p>Petroleum Development Resources Development Act, 2002 (Act No. 28 of 2002) regulation 54 (1) and (2); water management and pollution control NWA, 1998; regs 4 (b) (d)</p> <p>Mineral and Petroleum Development Resources Development Act, 2002 (Act No. 28 of 2002) regulation 55 (1) to (6); disposal or waste material</p> <p>regulation 58 (1) to (8); management of residue stockpiles and deposits</p> <p>NWA, 1998, reg 6(b)(d)(e)</p> <p>NWA, 1998; reg 10(a)</p> <p>NWA, 1998; reg 4(c)</p> <p>MPRDA, 2002; regulation 56 (7)</p> <p>The Conservation of Agricultural Resources Act (Act No 43 of 1983) section 6(1)</p>

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
		<p>Contaminated runoff or leachate concentrated in pollution control dams can decant or contaminate through controlled discharge of partially treated water into natural systems.</p> <p>(C, O, D, P) Failure of tailings treatment and storage dams due to inadequate design or exceeding capacity. <u>Beneficiation processes</u> (C, O, D) Coolant water can become contaminated and must be cooled, recycled and discharged.</p> <p><u>Opencast pit sump</u> (O, D, P) Drainage of benches and concentration of rainfall leads to creation of large volume open water bodies in worked out pit and can lead to increased groundwater recharge and potential regional impact of low quality water.</p> <p>(O, D) Pumping of process water from the pit sump can discharge poor quality water exceeding minimum standards.</p>		<p>runoff.</p> <p>(C, O, D, P) Design residue and fine tailings dams to withstand rainfall from a storm event with a 1:100 year return periodicity and maintain 0.8m freeboard. Do not locate within 1:100 year flood line on any watercourse or dam or 100m from a watercourse or borehole.</p> <p>(C, O, D) Ensure coolant water meets standards before discharge into other systems or recycle for other process purposes.</p> <p>(O, D, P) Before dumping waste rock in worked out pit levels that may be submerged ensure that it will not pollute or degrade over time to produce poor quality leachates.</p> <p>(O, D, P) Before irrigating land with accumulated water obtain permission from DWAF to reduce risk of acidification, salinisation or mineralisation of soils</p>	
Ground water	The potential impact of opencast mining and related surface processes and infrastructure is defined by the aquifer potential of the host bedrock and the density of structural discontinuities or zones of preferential groundwater movement. The chemical characteristics of groundwater relate to the mineralogy, grain-	<p><u>Opencast pit</u> (C, O, D) Disturbance of groundwater flow path through physical disruption or saturation of backfilled material along path of opencast pit development. Possible increased recharge along porous groundwater zones due to an increased head of open water collecting in the pit.</p>	Geology	<p>(C, O, D) Limit development to target rocks and reduce exposure of aquifer rocks. Isolate porous or highly transmissive groundwater zones through capping or grouting to prevent clean groundwater ingress or recharge of contaminated water.</p> <p>(C, O, D) Implement environmental management system and reporting structure with codes of practice and staff</p>	

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
	<p>size, natural rock cement, porosity and weathering.</p> <p>In situ the natural rates of chemical reaction that affect groundwater chemistry are reduced by low flow rates or anoxic conditions. However, the same rock crushed at the surface to produce fine material with a significantly higher surface area in an oxidising environment can produce poor quality leachates.</p> <p>Drilling and blasting enhances porosity and can increase weathering rates. Under some circumstances there can be links between different aquifer types that cross-contaminate different groundwater types.</p>	<p>(C, O, D) Impact of chemical spillages, sewage discharge, natural leachates and acid rock drainage on aquifer.</p> <p><u>Residue stockpiles and deposits</u></p> <p>(C, O, D, P) Creation of waste rock residue deposits or stockpiles with infiltration of leachate due to inadequate basal sealing or leakage from sealed pollution control facilities.</p> <p>(C, O, D, P) Failure of residue deposits, stockpiles or pollution control structures can discharge poor quality leachates on soil and infiltration will contaminate the vadose and phreatic groundwater tables.</p>		<p>training to report and address chemical spills.</p> <p>(C, O, D, P) Ensure that site preparation includes sealing of substrate before developing waste rock and tailings facilities. Implement minimum design flood specifications.</p> <p>(C, O, D, P) Rehabilitate, seal, drain and revegetate old waste rock and tailings deposits to meet minimum standards to reduce groundwater recharge below dump. Implement low maintenance passive pollution control facilities or artificial wetlands.</p>	
Air Quality	<p>Dust is generated by drilling and blasting, loading, transport, crushing and waste products dumping and storage. Different sizes of dust represent specific health risks or nuisance threats. Dust can retard vegetation growth and reduce the palatability of vegetation. In urban areas dust represents a health hazard, lowers quality of life through impacts to houses, washing, etc.</p> <p>Fall-out dust generated during opencast mining operations is of >50µm size also known as >nuisance dust=</p> <p>Apart from direct dust generation there is a</p>	<p>(C, O, D) Dust generated on haul roads reduces visibility in opencast pit, representing a safety hazard.</p> <p>(C, O, D) Dust generation from primary and secondary crushing and screening, further beneficiation processes, product and waste transport routes, residue stockpiles or deposits and un-rehabilitated areas.</p> <p>(C, O, D) Production of fine particles and gases from beneficiation processes through smokestacks.</p> <p>(C,O,D) Production of smoke from burning stockpiles.</p>	Soils	<p>(C, O, D) Dust suppression by spraying water or non-contaminating palliative liquids on pit haul roads during drilling and after blasting and loading, spraying haul roads, crusher and screening plan. Implement dust monitoring programme, classify dust fall-out and report to authorities.</p> <p>(C, O, D, P) Prevent dust from transported product by washing vehicles and covering loads. Add chemical binder which will not affect processes where possible.</p> <p>(O, D, P) Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover.</p> <p>(O,D, P) Monitoring of stockpiles on a regular interval</p>	<p>Mineral and Petroleum Development Resources Development Act, 2002 (Act No. 28 of 2002) regulation 50 (1) and (2)</p> <p>Department of Health and Population Development; dust fall-out classification</p>

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
	<p>threat from dust carried into public areas beyond the mining area by vehicles transporting waste materials or product.</p> <p>Spontaneous combustion of stockpiles of coal is common and the resultant smoke can be deleterious to humans and fauna and flora alike.</p>			is required to prevent or monitor spontaneous combustion.	
Noise	Noise at different levels and periodicities is generated by drilling and blasting, large plant and machines during excavation, loading, crushing, power screening and transport. The cumulative effect is to raise the ambient noise levels in the mining area and in some localities there are high noise levels that exceed specified levels and require screening or noise reduction.	(C, O, D) Noise generated by mining, loading, transport and beneficiation.	Topography	(C, O, D) Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB (A) in the mine or must not be more than 7dB (A) above ambient residual noise levels beyond mine boundary or nearest residential community.	<p>Environment Conservation Act 1989 (Regulation R154, Government Notice 13177) Minerals Act 1991 Regulation 4.17.1 SABS 083</p> <p>Mineral and Petroleum Development Resources Development Act, 2002 (Act No. 28 of 2002) regulation 52 (1) to (11); noise control regulation 53 (1) to (2); blast, vibration and shock</p>
Archaeological / Cultural	Extensive opencast mining and crushing operations destroy or cover large areas where there may be archaeological sites, historic buildings, graveyards or cultural sites.	<p>(C, O, D) Progressive development can encroach upon or disturb archaeological sites, cultural heritage sites or graves. Mine upgrading can threaten historical mine buildings or facilities with cultural heritage status.</p> <p>(O) Excavation of sand can change river flow dynamics and result in scour around bridge supports or deposition</p>	<p>Sensitive landscapes</p> <p>I&APs</p>	<p>(C, O, D) Conduct cultural heritage resource assessment through existing databases and a site specific search in areas to be disturbed or sites of known occurrences. Excavation, cataloguing and preservation and relocation may be required and can only be undertaken by qualified persons under the necessary permits.</p> <p>Removal of graves is subject to the age and controlled by</p>	<p>National Environmental Management Act, 1998 (Act No. 107 of 1998), section 4 (iii)</p> <p>National Heritage Resources Act, 1999 (Act No. 25 of 1999) South African Heritage</p>

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
		of sand that diverts the current against buttresses.		different legislation and different departments.	Resources Agency (SAHRA) Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925) Human Tissues Act (Act 65 of 1983) National and Provincial Department of Health
Sensitive landscapes	Depending on the situation of the mine relative to sites of historical or conservation value, urban areas, wetlands or rivers, high potential agricultural land, transport infrastructure, power transmission lines could constitute sensitive environments or be afforded protection under a variety of legislation.	(C, O, D, P) Encroachment or direct impacts of opencast pits occur in infrastructure areas whilst remote impact such as noise, dust, discharge or leachates or cumulative impacts such as loss of wetlands that are a threatened resource reduced breeding success or slow continuous damage to habitat or populations are typical impacts on adjacent areas. Long-term impacts can alter the status of over the life of the mine if impacts are not managed and mitigated.	Vegetation Animal life I&APs	(C, O, D, P) Monitoring of a wide range of impacts and regular implementation of mitigatory measures based on established codes of practice can reduce cumulative impacts. Negotiation with I&APs can identify areas of concern and reduce the perceived sensitivity or address the actual impacts.	
Visual Aspects	Position in landscape position relative to surrounding topography can lead to a wide visual envelope or possibly effective screening from large parts of the surrounding area. The impact can relate to large buildings, colour contrast of disturbed areas against adjacent veld, dust or smoke emission plumes. Apart from visual intrusion the impact can be one of reduced >sense of	(C, O, D) Visual intrusion impact of mining activity on nearby roads, homesteads, settlements, tourist sites.	Topography	(C, O, D, P) Effective use of topography, architectural design and vegetation screens can limit long distance visibility. Residue dumps can be designed to lower the profile and silhouette and reduce colour contrast and dust plumes through rehabilitation. Indirect impacts like smoke contribution to haze and winter smog can be reduced by smokestack designs and particulate separators. Well-vegetated residue stockpiles and end-use rehabilitation scenario	

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
	place=.			adjacent to an urban area can reduce the perceived impact of visual intrusion.	
Socio-economic structure	Coal is the major source of electricity generation and heat in South Africa. Legislation imposes the same rehabilitation requirements on high bulk, low value product industries as precious mineral industries with much higher returns. The high mechanisation of lag mines also results in a significant multiplier effect from the opencast operation with many employed by service industries. Direct negative impacts on communities are the harmful minerals, chemical emissions and poor quality surface and groundwater discharges.	<p>(C, O, D, P) Social and labour issues pertaining to job creation, job security, creation of unsustainable settlements, human resource development strategy.</p> <p>(C, O, D) Increased direct and indirect employment and training opportunities with improved standard of living for local community.</p> <p>(O) Considerable multiplier effects through downstream service industries such as construction, plant hire mechanical repair and suppliers.</p> <p>(C, D, P) Mine closure can have devastating effects on communities that are reliant on mine-based income.</p>	I&APs	<p>(C, O, D, P) Developments must be sustainable and recognise people as an element of the environment. Implement social and labour plan with mining right.</p> <p>(C, O, D) Additional positive socio-economic benefits to communities, particularly in rural areas, can be generated through projects to create new products from waste rock, employ labour intensive rehabilitation practices.</p> <p>(C, D, P) Mine closure must be planned from inception through adequate social planning and infrastructure development that can be maintained by the communities after closure. Opportunities to redirect skills must be sought and alternatives to demolition of mine infrastructure that can be redeveloped must be investigated.</p>	<p>Mineral and Petroleum Development Resources Development Act, 2002 (Act No. 28 of 2002) regulations 26 to 29</p> <p>National Environmental Management Act, 1998 (Act No. 107 of 1998), section 2, 4</p>
Interested and affected parties	Site specific criteria will determine the impact on I&APs and the need for public participation at all stages of the project.	(C, O, D) Communities officials and concerned with limiting negative environmental impacts and maximising benefits.	Socio-economic	<p>(C, O, D) Authorities and I&APs have support of legislation and regulations to ensure compliance with, and enforce implementation of the EMP to ensure successful rehabilitation.</p> <p>Regular monitoring and reporting every 6 months.</p>	<p>National Environmental Management Act, 1998 (Act No. 107 of 1998), section 2, 4</p> <p>National Water Act, 1998 (Act 36 of 1998)</p> <p>Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965)</p> <p>Environment Conservation Act 1989</p> <p>The Conservation of Agricultural Resources Act</p>

ELEMENT OF ENVIRONMENT	CONCEPT OR THEORETICAL BACKGROUND CONSIDERATIONS	IMPACT DESCRIPTION	CROSS-REFERENCE	ACTIONS PROPOSED IN MITIGATION OF IMPACTS (relevant to Part 6 of EMPR)	LEGISLATION
					(Act No 43 of 1983)
Submission of information	Legislated requirements and commitment by proponent in the EMPR or the Scoping Report, Environmental Impact Assessment Report (EIAR), Social and Labour Plan (SLP), Environmental Management Programme (EMP), Monitoring and Performance Assessment, Mine Decommissioning and Closure Plan, Environmental Risk Report (ERR) to provide monitoring of a variety of outputs, discharges and effluents	(O, D, P) Discharges which must meet standards laid down in regulations; e.g. water chemistry, noise, EMPR audit, review of financial provision for rehabilitation	I&APs	<ul style="list-style-type: none"> Annually review financial provision for rehabilitation On-going monitoring of EMPR, performance assessments and report every two years or as directed by Director: Mineral Development <p>National Water Act, 1998</p> <ul style="list-style-type: none"> Report emergency incident regarding water resource ASAP and report corrective measures within 14 days. notify of new mine or new activity, submit a copy of the EMP or cessation or resumption of operations within 14 days Minister may request technical investigation or inspection and report implement compliance monitoring network and submit monitoring information <p>Mineral and Petroleum Resources Development Act, 2002</p> <ul style="list-style-type: none"> compile and submit a performance assessment report on frequency defined in EMP, Minister or biennially application for closure and submission of an environmental risk report monitoring of residue stockpiles and deposits 	<p>Minerals Act, 1991; reg. 5.16.1</p> <p>Regulation 5.18.1 to 5.18.5</p> <p>Notice No. 704, Regulations on use of water for mining and related activities (Govt. Gazette, No. 408)</p> <p>regulation 2(c), 2(d)</p> <p>regulation 1</p> <p>regulation 2(a)</p> <p>regulation 2(b)</p> <p>regulation 12 (1) and (2)</p> <p>reg. 12(5)</p> <p>regulation 41 (1) and (2), monitoring and performance assessments</p> <p>regulation 42, 43</p> <p>46(1), mine closure and environmental risk report</p> <p>regulation 58 (7)(a) and (b); monitoring of residue stockpiles and deposits</p>

Appendix 2:

List of Defunct Coal Mines

([http://www.coaltech.co.za/chamber%20databases/coaltech/Com_DocMan.nsf/0/108A380D0C1F8E3842257AD80027CD6B/\\$File/Defunct%20Collieries.pdf](http://www.coaltech.co.za/chamber%20databases/coaltech/Com_DocMan.nsf/0/108A380D0C1F8E3842257AD80027CD6B/$File/Defunct%20Collieries.pdf))

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
Aangewys Coal Mine (C572)	Aangewys 81 IS	2629 AD Bethal			south of Kriel					
Acme 1 (A124)	Klipfontein 568 JR	2528 DD Balmoral	25 59' 40"	28 57' 10"	south of Balmoral			Possibly Anglo Coal	Underground	
Acme 2 (Dwaalfontein)		2528 DD	25 59' 20"	28 54' 50"	west of New Largo			Unknown		
Albion		2629 AB			Middeldrift 42 IS - south of Douglas		Ingwe			Ingwe plan to mine it
Alfontein Colliery	Klipfontein 568 JR	2528 DD Balmoral			west of New Largo					(No DME Ref. No.)
Alpha	Heuwelfontein 215 IR	2628 BB Kendal			northwest of Ogies. Just north of Khutala Resource area					Old General Mining 1972 (C. Goodale). Possibly mined out. South of Alpha Consolidated Colliery
Alpha Consolidated (D 564)	Vlakfontein 569 JR	2528 DD Balmoral and 2628 BB Kendal			east of New Largo				Underground	Last worked 1964. Used as oil storage facility for Strategic Fuel Fund.
Anglo French	Blaauwkrans 323 JS	2529 CC Witbank					Anglo Coal			Only shaft. Part of Navigation) (Goodale)
Anthracite Syndicate (D292)	Zondagsvlei 9 IS and Smaldeal 1 IS	2628 BB Kendal and 2629 AA Ogies			north of Schoongezicht		Ingwe			Now Part of Khutala Resource area
Arbor Colliery (A110)	Vlakfontein 213 IR	2628 BB Kendal	26 03' 30"	28 53' 25"	west of Ogies. south of Arbor			Unknown	Underground and Opencast	Opencast mine is large in extent. Transvaal and Hamilton Colliery borders Arbor Colliery.
Arnot (old) (also Coronation Arnot)	Springboklaagte 416 IS	2529 DD Wonderfontein			between Middelburg and Belfast		Possibly part of Arnot (Eyesizwe)			Possibly part of Eyesizwe
Bailey		2529 CC Witbank			southwest of Witbank		Anglo Coal			Only a shaft. Portion of Anglo Coal Schoongezicht Landau Colliery.
Balmoral (N/P)	Honingkrans 536 JR	2528 DD Balmoral			north of New Largo					Karoo outlier (Goodale) (See Old Crown and Balmoral Colliery) Small open pit
Balmoral (Onspoed)	Honingkrans 536 JR	2528 DD Balmoral	25 47' 50"	28 57' 30"	north-west of Balmoral		Constantia Coal Enterprises (Last known)		Opencast	
Bankfontein (part of Middelburg Mines)	Brakfontein 350 JS	2529 CD Middelburg			south of Middelburg/ north of Schoongezicht/Bank Colliery		Ingwe			Ingwe is going to mine the old pillars. (There is a new opencast mine with the name of Brakfontein. On the farm Bankfontein 216 IR. Metorex Pty Ltd. Wakefield Investment. Mine M1/1 on Banzi's mining map. Coal Seam

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
										2. GME Witbank.)
Bankfontein & Seale		2529 DA	25 41'	29 36' 30"					Opencast	Three large pits
Bapsfontein		2628 BA	26 05' 10"	28 32' 40"	west of Delmas			Unknown	Opencast	
Beesting							Anglo Coal			See Oogies Navigation Colliery. (Resource area)
Belfast Steenkoolmyn (200/221)	Steynsplaatz 360 IT	2530 CA Belfast								Re-opened
Blackhill Colliery (A88)	Blaauwkrans 323	2529 CC Witbank			southwest of Witbank		Anglo Coal			Portion of Anglo Coal Schoongezicht Landau Colliery.
Blesbok	Blesbokvlakte 24 IS	2529 CD Middelburg			south of Middelburg		Anglo Coal			Part Of Bank
Blesboklaagte										See Tavistock and Uitspan
Blinkpan	Broodsnyersplaats 25 IS	2629 AB Van Dyksdrift					Ingwe			Still mining. Pull last pillars. No resources left
Bordex Mine					approximately 10km east of Hendrina on the Carolina road				Opencast	
Brakfontein (D580)	Brakfontein 264 IR and Dieplaagte 262 IR	2628 BB Kendal			southeast of Delmas On road to Secunda. (Possibly just an adit into the No. 5 Coal Seam		Ingwe			Small resource Ingwe not going to look at it. (Contact person with possibly more information is Terry Fox 011 615 7840).
Brenthurst										No information
Brugspruit										No Information. GME At Witbank thinks that it is possibly northwest of Witbank Water Affairs
Caerkay Colliery	Kafferstad 79 IS	2629 BA Hendrina			11 kilometers south west of Hendrina					Very small.
Castle Colliery (N/P)	Hartebeestfontein 537 JR	2528 DD Balmoral			north of New Largo					See Hartebeestfontein Colliery
Clydesdale (at New Clydsdale)							Eyesizwe			Still mining
Clydesdale (old Witbank)		2529 CC Witbank			At Witbank on Greenside Mining area		Anglo Coal			
Coal Farms Limited	Van Dyks IR	2628 BB Kendal			north east of Delmas/ 3,5 Kilometres north east of Arbor, close to					Visser is of the opinion that it is only a name, a hole in the ground and 30metres of alternated coal and shale. Size from DME maps 150 x 100 metres.
Coniston Colliery (A 137)	Brakfontein 264 IR	2628 BB Kendal			southeast of Delmas, north of Leslie, 23 km south of Arbor. west of Matla					Possibly in karst (Visser) Very small
Coronation	Blesbok 296 JS									

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
Coronation (A 149) (Landau)	At Kromdraai 279 IS and Coronation 280 IS	2529 CC Witbank and Macmaar			west of Witbank		Anglo Coal			The name Coronation changed to Kromdraai, and is now Landau. Also Bank Coronation. The first mine was on the farm Hartbeestspuit 281 JS. Size 5km. X3 km. Coronation 1 and 2 only shafts.
Coronation Colliery (B42)	eastern portion of Driefontein 297 JS	2528 CC Witbank			west of Witbank just north of KwaGuqu, east of Ferrobank					
Crown and Douglas Collieries (C137)	Onspoed 500 JR	2528 DD Balmoral			west of Witbank (Small out layer), Just above Douglas Colliery		Benicon Mining			Also Old Crown Douglas and Balmoral Colliery. Small
Delmas	Hawerklip 265 IR, Brakfontein 264 IR, Dieplaagte 262 IR, Middelburg 266 IR and Enkeldebosch 391 IR	2628BD			south of Delmas		Ingwe			Now belongs to Kuyasa Mining; still mining - Try to sell the Colliery
Douglas Colliery (N/P)	Leeupoort 283 JS and Driefontein 297 JS	2528 CC Witbank			north of T and DB Colliery west of Witbank		Ingwe			Small Size 1,2 x 1,0km
Douglas Colliery (was B 51)	Goedvertrouwd 499 JR	2528 DD Balmoral			north of Balmoral and New Largo		Benicon Mining			
Douglas Colliery ex Witbank	Wolvekrans 17 IS	2529 CD Middelburg			southeast of Witbank		Ingwe			Part of Douglas, Wolwekrans Section
Douglas No. 2	Leeupoort 283 JS						Ingwe			same as Douglas No. 1
Douglas No. 3							Ingwe			same as Douglas No. 1
Douglas No.1 (old shaft)	Driehoek 297 JS & Leeupoort 283 JS				east of Witbank		Ingwe			Part of Douglas
Dwaalfontein										See Acme 2
East Rand Colliery (Speekfontein portion 9)	Speekfontein SS6 JS	2529CD					Ingwe			There is possible still a small mine. (Mined out) See Speekfontein
Eastside							Jensha Mining			
Eensaam	Possibly Eensaamheid 554 JR	2528 DD	25 55' 15"	28 57' 40"	Balmoral area			Unknown	Underground	Underground
Engela	Uitkyk 290 JS	2529 CD Middelburg			west of Middelburg					
Excelsior	Bochpoort 211 IR	2528 BB Kendal			south of Arbor Station					There are two with the same name. This one only a mark on 1:50 000 Topographical Map (DME office Pretoria)
Excelsior	Nooitgedacht SOO JS	2528 CC Witbank			Next to Coronation		Anglo Coal			Coronation Excelsior is part of Anglo Coal Landau resource. Figure 1. Size 1,0 x 1,0 km.

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
Ferrobank	Driehoek 296 JS									
Frigate (Haasfontein)		2629 AB	26 01'	29 21'	west of Hendrina, south of Witbank			Frigate Plant Hire (Last known)	Opencast	
Fortam Colliery	Vogelstruispoort 484 JT (or S84 JT)	2530 CC (BELFAST?)			Belfast - Next to road					
Fortuna Colliery	Rietfontein 72 (Old Number)									They mined the area in 1900 to about 1907
Goodyear Colliery (N/P) 2528 DD Balmoral	Klipfontein 566 JR				west of New Largo					Very Small
Graspan Colliery	Rietfontein 286 JS	2529 CD Middelburg			west of Middelburg 800 metres south of Rietfontein Colliery and the Graspan Colliery as indicated on 1:50 000 Topographical Map					Two Collieries on farm. Size: 100 x 100m
Groenvlei	Groenvlei S5S IT	2530 Belfast?								(only on 1:50 000 topographical map). There is an old Coal mine on the farm Groenvlei 353 IT. Possibly very small
Groves Colliery (N/P)	Klipfontein 586 IS	2528 BB Kendal			Wes of Alpha Cons Colliery					Very small, only a mark on map
Haartbeestfontein	Haartbeestfontein 557 JR	2528 DD BALMORAL					Stuart Coal ?			
Haasfontein	Koornfontein 27 IS	2629 AB Van Dyksdrif			Koornfontein		Anglo Coal			Mined out. See Frigate
Hamilton Colliery (D253)	Vlakfontein 21S IR	2628 BB Kendal			north east of Delmas, south of TC and Sterling					
Hartbeestfontein (N/P)	Hartebeestfontein 557 JR	2528 DD Balmoral			north of New Largo					
Harties Colliery	Klipfontein 586 IS	2528 BB Kendal			Wes of Alpha Cons Colliery					Very Small only mark on map
Heuningkrans (B110)	Honingkrans 556 JR	2528 DD Balmoral	25 55' 15"	28 59' 15"	north of New Largo		Anglo Coal last mineral rights owner		Underground	Heuningkrans Alias Honingkrans and Klipfontein. Underground. Last mined about 20 years ago
Heuningskrans										See Klipfontein/Heuningkrans
Highveld Colliery (D343)	Vaalpan 68 IS	2629 AA Ogies			Between Matla and Kriel		Anglo Coal			Very small
Hillside Colliery (I)	Elandsfontein SO9 JS	2529 CC WITBANK			south of Clewer					Small opencast possibly still mining (Goodale)
Hillside Colliery (II)	Heuwelfontein 21S IR Ptn. 9	2628 BB KENDAL	26 OS' 10"	28 58' 25"			Metorex (Indirectly)		Opencast	possibly mined out
Honingkrans										possibly only an adit - Mine Sand. No locality. See Heuningkrans
Kafferstad Coal mine (D270)	Kafferstad 79 IS	2629 AD Bethal and 2629 BA			11 kilometers south west of Hendrina					Very small. Size 50 x 50 metres

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
		Hendrina								
Kendal or Kendal United (C157)	Heuvelfontein 215 IR	BB Kendal and 2629AA Ogies			west of Ogies, 1,0 km south of Kendal		Ingwe			Possibly two mines. One portion inside Ingwe resource area. Ingwe will mine it. Size 2,0 x 1,5 km
Kleindraai		2529CC								Areas adjacent to Kromdraai. Opencast
Kleinwater	Kleinwater 801 JS	2528 CC WITBANK								No information. See Rondebult
Kleinwater										
Klipbank Koolmyn	Kafferstad 79 IS	2629 BA Hendrina			11 kilometers south west of Hendrina					Very small.
Klipfontein Colliery (A114)	Honingkrans 526 JR	2528 DD Balmoral	25 57' 50"	28 56' 10"	north of New Largo			Previously Stuart Mining. 1988 Effect Bricks	Opencast	(also A and B); there is an A and B; B is north of A and Balmoral. Size 1 x 1 km.
Klipfontein Colliery (A75)	Klipfontein 568 JR and Honingkrans 556 JR	2528 DD	25 54' 20"	28 57' 05"	?west of New Largo		Anglo Coal last mineral rights owner		Underground	See also Heuningskrans and Heuningkrans. Last mined in the 1940's
Klippoortjie (Oil Bunker)	Klippoortjie S21	2629 AA Ogies			south of Ogies					
Kollie Koolmyn	Kleinwater 801 JS	2528 CC Witbank			west of Anglo Coal Coronation (Landau Colliery)					No DME Ref. No
Kraansport		2629 BA Hendrina	26 15'	29 57' 50"	south-west of Hendrina					Rehabilitated. Last mined about 30 years ago
Kriel Colliery (D573)	Onverwacht 70 IS						Anglo Coal		Opencast	Part of Anglo Coal Kriel Mine
Kromdraai (adjacent areas)	Kromdraai279 JS	2529 CC Witbank	25 48' 50"		Witbank - northwest of Witbank		possibly Anglo Coal			Anglo Coal is still mining as Landau Open Cast. Was Coronation 2, became Komdraai. Now Landau Pit.
Landau 3							Anglo Coal			Part of SACE Landau
Landau No. 1	Klipfontein S22 JS, Landau S59 JS	2529 CC Witbank			south of Witbank		Anglo Coal			Under Landau. Future reserves/resources. (Part of SACA Landau). Ceased mining: 1950
Landau No. 2		2529 CC			south of Witbank		Anglo Coal			Part of SACA Landau. Ceased mining: 1950
Leeuwfontein	Leeuwfontein 219 IR	2628BB Kendal			8,0 km south of Kendal					
Maggies Mine	Vaalkrans 29	2629 AB Van Dyksdrift			At Koornfontein mine (Visser) or south of Van Dyksdrift on the river					Mined out (Visser). Mrs. du Plessis of DME office at Witbank promise to sent information.
Mavela Colliery	Goedehoop S15 JS	2529CD Middelburg			Middelburg		Benicon Mining			reapply with DME Witbank to mine
Middelburg Colliery	Rondebosch 40S JS	2529 DC Pan			At Nasaret iust east of Middelburg					
Middelburg Steam Coal and Coke (B42)	Blesbokaagte 296 JS	2529 CC Witbank			west of Witbank		Anglo Coal			Anglo Coal busy with rehabilitation. Ceased mining: pre 1956

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
Minnaar	Grootpan 7 IS	2629 AA Ogies			east of Ogies west of Minnaar Station north of the railway line		Ingwe			(Mined out) Size 1,0 x 0,3 km. On the same farm just south of the railway line 1,5 x 1,5 km mined out area.
Mooifontein										See Ou Kopermyn
Navigation (SACE)	Blaaukrans S25 JS	2529 CC Witbank			north of Greenside south of Clewer		Anglo Coal			Anglo Coal is going to mine in future
New Fortuna Colliery (D24)		2628 DA Balfour			8 km west of Balfour at Fortuna Station					Very small. Size.150 x 400 metres
New Largo B (Winning)		2528DD Balmoral	25 55' 20"	28 58' 15"	south of Balmoral		Anglo Coal last known owner of mineral rights		Underground	Closed in 1960's.
New Largo (Wilge)	Honingkranz 556 JS, Roodepoortje S26 JS, Klipfontein 568 JS Vlakfontein 569 JR	2528 DD Balmoral and 2529 CC Witbank					Anglo Coal			
New Schoongezicht (A150)	Blesbokvlagte 24 IS	2529 CD Middelburg			south of Bank Colliery		Anglo Coal			Anglo Coal Blesbok Mine together with Bankfontein Colliery, Bank Colliery and Blesbok Colliery.
Nichus Coal Mine	Kafferstad 79 IS	2629 AD Bethal			3 km southeast of Steenkoolspruit					
Old Coronation					KliDsDruit catchment					Ceased mining: 1948
Old Douglas 1					KliDsDruit catchment					Ceased mining: 1939
Old Douglas 2					KliDsDruit catchment					Ceased mining: 1945
Old Douglas 3					KliDsDruit catchment					Ceased mining: 1952
Old Crown Douglas and Balmoral Colliery	Goedvertrouwd 499 JR	2528 DD Balmoral								See Balmoral
Old Premier	Nooitgedacht S00 JS	2529 CC WITBANK								
Old Vischkuil	Vischkuil 274 IR				Endicott					Very poor auality about 16 CV
Ongezien Hidrokool Mine	Goedvertrouwd 499 JR	2528DD Balmoral								Poor Quality, not many
Onspoed										See Balmoral (Onspoed)
Ogies Colliery (A78)	Kleinzuikerbosch plaat 5 IS and Goedgevonden 10 IS	2629 AA Ogies			south of Ogies		Anglo Coal			Size 3,5 x 1,5 km. previously belong to Duiker
Oogies Navigation Colliery	Oogiesfontein 4 IS	2629AA Ogies			2,0 km north of Ogies		Anglo Coal			See Beesting
Ou Kopermyn (Mooifontein)		2529 DC	25 52' 05"	29 42' 20"			Frazer Alexander		Opencast	Last mined 1985.
Paardeplaats Koolmyn (N/P)	Paardeplaats S80 IT	2550 CA Belfast			Belfast - Near Belfast					Very small
Patterson Pit		2529 DC	25 50'	29 59'				Unknown		Last mined about 20

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
			55"	50"					Opencast	years ago. Possibly clay not coal.
Perfecto Colliery (N/P)	Klipfontein 568 JR	2528 DD			west of New Largo					Very Small
Phoenix (old) (D313) (Duiker/Total)	Klipplaat 14 IS	2629 AA Ogies			At Phoenix mine		Duiker			Part of Phoenix mine, Duiker will mine
Polmais Colliery	Goedehoop S15 JS Rem. of Ptn. 12 (Ptn. of Ptn. 100 and Ptn. 18 and 19)	2529 CD			south of Middelburg					Still mining (GME Witbank)
Premier Coal Colliery (A27)	Nooitgedaght S00 JS	2529 CC Witbank			west of Witbank					
Prinshof Colliery	Prinshof 2 IS PTN 2, S and 7	2629AA	26 01' 05"	29 01' 55"	At Ogies		Ed Young & Sons Mining		Opencast	Rehabilitation problem (Mined out)
Raleigh (D352)	Eikeboom 476 JS	2529 DC Pan			At Eikeboom Colliery. Near Middelburg, Arendsfontein SDruit.		Ingwe			A small mine on Eikeboom Colliery property. Ingwe have mined around the old mine. Shaft has been closed (Daan Horn).
Rietfontein ex Vaalbank (D495)	Rietfontein 286 JS	2529 CD Middelburg			Middelburg - west of Middelburg, east of the Graspan Colliery as indicated on 1:50 000 topocadastral map.	Middelburg Municipality	Middelburg Municipality			Possibly 38 Mt Good reserve (Visser). GME Witbank indicated that they want to rehabilitate the mine (There is also talks that the Middelburg municipality want to go out on tender). Kumba Resources is not involved as implicated by people in Industry. Size of mine was about 100 x 200m
Rietspruit	Hartbeestfontein S9 IS, Roodepoort 40 IS	2629AA Ogies					Ingwe			Busy closing it. Mined out by opencast
Riverside					south-east of Witbank. Adjacent to Middleburg mine	Scharrighuis en (Surface rights)			Opencast	Metorex might be responsible for rehabilitation
Rondebult Colliery (Kleinwater)	Rondebult S05 JS	2529 Witbank	25 49' 45"	29 05' 50"	Next to Highveld Steel	Opencast section: Unknown Kleinwater: Mr Schoeman (Surface) Underground: Mr du Preez (Surface)	Opencast section: Unknown Kleinwater: R MB (Mineral) Underground: Rondebult Colliery (Mineral)		Underground Opencast	Very small open pit. There are two sites. The rehabilitation on the southern pit was good but they are still busy with the northern pit. There is possible a new company that is interested to taking over. (GME Witbank)
Samuel Koolmyn (A105)	Paarde Plaats S80 IT	2529 DB Languitsig and 2550 CA Belfast			Just west of Belfast; south of Glisa Quarry (Coal and clay)					
Sandstrhele Colliery (N/P)	Dieplaagte 262 IR	2628 BB Kendal			Part of Brakfontein					Very small
Sarie Marais or New Sarie Marais Colliery (B123)	Heuvelfontein	2628 BB Kendal			west of Ogies, 2 km north east of Kendal					Very small
Schoongezicht		2529 CD Middelburg			Middelburg - south of Middelburg / north of Bank		Anglo Coal			Ceased mining: 1952

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
Schoongezicht (old) (A115) (SACE Navigation)	Schoongezicht S08 JS	2529 CC Witbank			west of Witbank		Anglo Coal			Anglo Coal indicated Seams 1 2 and 5. Also Amalgamated Collieries and S A Schoongezicht (DME)
Sondagsvlei (Zondagsvlei)										See Zondagsvlei
Springbok No. 2							Anglo Coal			Anglo Coal still mining
Springbok No. 5							Anglo Coal			Still mining
Station (B97)	Blesboklaagte 296 JS	2529 CC Witbank			Adjacent at the east of Witbank					
Station 1 & 2	Blesbok 296 JS									
Steenkoolspruit							Ingwe			Possibly two. One at Douglas. It is Ingwe and included in their Resource
Steenkoolspruit (D427)					6 km southeast of Wakefield		Anglo Coal			mine at Kriel (Goodale). Size 100 x 100 metres.
Sterling										See Transvaal Colliery
Tavistock	Blesbok 296 JS									Ceased mining: 1949
Tavistock (old)					south of Witbank		Duiker			Part of Tavistock Colliery
Tavistock and Uitspan (A109 and B97)	Blesboklaagte 296 JS and Uitspan on Witbank Municipal area	2529 CC Witbank	25 49' 45"	29 14' 15"	north of Witbank				Underground	Also called Tavistock 2 and Blesboklaagte. Addressed in the 1992 White Paper.
Teutfontein		2529 DC	25 46' 10"	29 58' 05"	east of Middelburg, west of Belfast				Opencast	Consists of a pit and numerous dumps.
Transvaal and Delagoa Bay (T & DB) Colliery (D 353)	Drieboek 297 JS & Schoongezicht S08 JS	2529 CC Witbank			west of Witbank/ north of Schoongezicht by Paxton					Ceased mining: 1953
Transvaal and Natal ex Uiykyk (Spelling according to DME Plans) (A28)	Uitkyk 290 JS				south of Middelburg		Possibly Ingwe			Small about 1,0 x 1,0 km
Transvaal Colliery (TC) and Sterling (C115 and D272)	Vlakovfontein 21S IR	2628 BB Kendal			north east of Delmas, 2 Kilometres south of Arbor					
Transvaal Navigation										
Transvaal Navigation (NB)	Vlaklaagte 45 IS	2629 AB Van Dyksdrif			At TNC		Ingwe			(It is old TNC) Pillars left Important Ingwe not going to look in it again
Tweefontein United	Vlaklaagte SS0 JS	2529 CC Witbank			Adjacent (southwest) to Greenside		Duiker			eastern portion of Tweefontein Collieries division Waterpan Colliery. Size 2,0 x 2,0 km. Duiker will mine the coal.

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit.	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
Uitkyk (AS4)	Uitkyk 290 JS	2529 CD Middelburg			Middelburg - southwest of Middelburg		Ingwe			Old shaft full of water. Small resource that can possibly be mined. Rail line is running through property.
Uitspan	Uitspan 29S	2529 CC	25 50' 50"	29 14' 10"	north of Witbank	Ten Cradock Avenue (Pty) Ltd - surface & mineral rights	Ten Cradock Avenue (Pty) Ltd - surface & mineral rights		Underground	Addressed in the 1992 White Paper.
Uitspan	Blesbok 296 JS									see Tavistock and Uitspan. Ceased mining: 1949
United	Heuvelfontein 515 (DME)	2628 BB Kendal			west of Ogies					
Vaalbank (A28)	Vaalbank 289 JS and Rietfontein 286 JS	2529 CD Middelburg and 2569 DC Pan			Middelburg - south of Middelburg		Ingwe			On Middelburg Mine area, Mined opencast, nothing left. Size about 500 x 800 metres
Van Dyksdrift							Ingwe			
Versters Colliery (N/P)	Klipfontein 566 JR	2528 DD Balmoral			west of New Largo					
Voortrekker Colliery	Elandspruit 291 JS	2529 CD Middelburg			In vicinity of Mooiwater Quarry closes to the southern boundary of the farm west of Middelburg.					
Wakefield and New Wakefield Collieries (D428/9)	Aangewys 81 IS	2629 AD Bethal			south of the town of Kriel					Property size 1,2 x 0,7 Kilometres. Adit in bank close to river. Possibly mine the No 5 Coal Seam.
Waterpan Duiker	Tweefontein 1S IS	2629 AA Ogies			north east of Ogies		Duiker			Very small. On Duikers coal rights area.
Welgedacht	Welgedacht 74 IR	2628 BA and AB					Ingwe			Possibly part of Ingwe
Weltevreden Colliery (A89)	Weltevreden S24 JS	2529 CC Witbank			Adjacent to Greenside		Duiker			eastern portion of Tweefontein Collieries division Waterpan Colliery.
Westside Colliery	Rondevly 208 IR and Dwarsfontein 209 IR	2628BB Kendal	26 02' 50"	28 46' 50"	northwest of Argent		B&E Silica		Opencast	Was Side Minerals (de Korte)
Wildebeestfontein Colliery (B86)	Wildebeestfontein S27 JS	2629 AA Ogies	26 01' 00"	29 05' 40"	north of Ogies				Underground	Underground. Last mined in the 1930's.
Witbank Central										Possibly the same as Witbank Colliery
Witbank Colliery (B97 and B127)	Witbank Municipality area (Klipfontein S22 JS?)	2528 CC Witbank			south of Witbank					Ceased mining: pre 1956
Witbank South	Witbank Municipal Area	2529 CC Witbank			south of Witbank		Ingwe			Pillar. Great potential. Part of Ingwe resources
Witklip (old adit)					southeast of Delmas					DME Witbank indicates that it is possible Ingogo Coal Holdings
Zondagsvlei		2629 AA	26 05' 05"	29 01' 55"	west of Bethal				Opencast	Situated on a slope next to a tributary of the Saaiwaterspruit.

Colliery & DME Ref. No.	Farm	Map ref	Latit.	Longit	Locality / District	Owner - Surface Rights	Owner - Mineral Rights	Operator	Underground Opencast	Remarks
		2629 AA Ogies			Between ogies Navigation Colliery and Wildebeestfontein					Size 200 x 200 metres

Appendix 3:

Draft EIR Phase - Public Meeting: Zulu [Anglo American Thermal Coal– Proposed Khanyisa Power Station] Held on 21 November 2011 at 14:00 am, Matimba Community Hall, eMalahleni

	ATTENDANCE AND MINUTES
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**Draft EIR Phase - Public Meeting: Zulu
[Anglo American Thermal Coal– Proposed Khanyisa Power Station]
Held on 21 November 2011 at 14:00 am, Matimba Community Hall, eMalahleni**

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aurecon	ATTENDANCE AND MINUTES
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No	Name	Tel. No.	Email/ Fax	Organisation
1	Annah Mtsweni	072 206 9485		Clewer (Ward Committee)
2	Bansi Nonceba	078 819 9138		Clewer
3	Pumla Mahlangu	078 356 9945		Clewer
4	Thabile Mtsweni	082 869 0346		Clewer
5	Linah Mgidi			
6	Emma Mabusa	079 747 4186		
7	Johanna Jiyane	073 353 7651		
8	Doris Shawa	072 671 2886		
9	M Makola	078 404 3782		
10	Rosin Moleko	072 359 3638		
11	Julia Nkosi	078 143 0549		
12	Delani Ngcobo	083 902 1441	dngcobo@anglocoal.co.za	AATC - KK
13	Iain Garratt	013 752 7055	Iain.Garratt@aurecongroup.com	Aurecon
14	Andrew Silabela	073 426 2315		Mgewane Leader
15	Elsie Majola	072 373 3597		Masakhane
16	Lizzy Masuku	082 299 9573		Masakhane
17	Betty Tsogeli	079 915 7955		Masakhane
18	J Ncube	083 472 6710	jaydny103@ymon.co.uk	Masakhane
19	M M Tswedipe	072 159 5546		Clewer
20	Mavis Tebane	072 576 8579		Ward 9 Councillor
21	George Mnisi	074 975 2070		KK

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aurecon	ATTENDANCE AND MINUTES
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22	Walter Mpila	078 798 7577		Clewer Ward Committee
23	Amos Mahlangu	083 977 7347		Clewer
24	Rivers Mahlangu			
25	Tina Malau	013 693 0675	Tina.malau@angloamerican.com	Landau Colliery
26	Bongane Nkosi	072 769 9495		Ward 19 Councillor
27	Koos Mahlangu	073 584 6681		Ward 19
28	Willie Mthembu	079 595 6773		Benela
29	Fanie Mabena	083 856 2085		KK Farm
30	Agnes Khumalo	084 628 0809		KK Farm
31	Sarah Mahlangu	078 737 8935		KK Farm
32	Dumizane Mabena	073 489 7333		Benela
33	Moses Mnguni	078 828 4667		Benela
34	Alphios Masangu	078 828 4667		Benela
35	Abram Malebe	083 668 1838		KK
36	Kenneth Mabaso	071 320 4236		KK
37	Elson Nyathi	082 695 6674		KK
38	Mpumi Tiyane	071 525 5033		
39	Yako Thusile	072 040 7722		
40	Maria Mndaweni	082 536 2899		Klipplaat
41	Thabo Mndaweni	072 682 9901		Klipplaat
42	Sbusiso	084 614 4939		Klipplaat
43	Vinni Dlamini	013 752 7055	Vinni.Dlamini@aurecongroup.com	Aurecon

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Minutes of the Draft EIR Meeting:

1.	Opening and Welcome	Iain Garratt (IG) opened the meeting and welcomed everybody present. IG introduced Vinni Dlamini (VD) who was going to do the meeting in Zulu. (the meeting was guided by the attached PowerPoint Presentation, in Addition 2)
2.	The EIA Process	VD went on to explain the EIA and Public Participation Process to the audience.
3.	Technical Presentation	VD continued using the Power Point to explain the technical and specialist methodology and findings of the proposed project to the audience.
4.	Questions	The floor was then opened for questions.
Questions Posed		Responses
Bongani Nkosi 1. Is there going to be a clash in the power supply between this station and Eskom? 2. Can the power not be supplied to the communities around the area of the station?		(IG): There won't be an clash, the power distribution between these two stations will be separated. VD translated the response into Zulu. (IG): Eskom will decide how to use the electricity. The station will produce the power and Eskom will distribute it. He also stated that with the current shortage of power supply from Eskom, Anglo wanted to build this station to ensure constant supply of power for their internal operations. VD translate the response into Zulu. Delani Ngcobo (DN) further explained that with the challenge in supply of power, Anglo wants to add an extra power station to guarantee supply for their operations, Eskom will decide how to use this power. (in Zulu)
Kenneth Mabaso 1. Is this going to be last community meeting for this project? 2. When the project starts, how will this affect us jobwise?		(IG): No. (IG): Stated that one of the recommendations that is being put on the report is that the IPP looks to the skill set in the surrounding communities for labour. He also reminded the community representatives that were at the previous meeting about the suggestion of compiling a database listing the skill set within each

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3.	For the families that are being resettled, how far along is the process?	community to present is to the IPP. VD translated the response into Zulu. (IG): Stated that the Resettlement Action Plan has been initiated and that the specialist on the process has had meetings with the affected families. VD translated the response into Zulu. DN further assured everyone that the process is happening and he has been present at those meetings (in Zulu).
Mavis Tshane 1. How many job opportunities will be available?		(IG): In the range of about 1000 to 1200 jobs. Contractors will have to go through the formal tendering process and submit directly to the IPP.
5.	Closure	Iain Garratt closed the meeting, encouraging any ideas or suggestions and thanked everybody for attending.