



# environmental affairs

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

## RISK ASSESSMENT IN TERMS OF REGULATION 8 OF THE WASTE EXCLUSION REGULATIONS

<b>APPLICANT</b>	IZIMBIWA COAL (PTY) LTD: MIDDELBURG TOWNLANDS (OC)
<b>WASTE STREAM OR PORTION OF A WASTE STREAM TO BE EXCLUDED FROM THE DEFINITION OF WASTE</b>	Mine Overburden
<b>BENEFICIAL USE/S</b>	Backfilling into open pit created by opencast mining
<b>WASTE GENERATING FACILITY OR FACILITIES</b>	
<b>PHYSICAL ADDRESS OF FACILITY OR FACILITIES</b>	Kruger dam Road/Keiskama Road, Private Bag x 1838
	Aerorand, Middelburg, 1050
<b>GPS CO-ORDINATES OF WASTE GENERATING FACILITY OR FACILITIES</b>	25°48'33.73" Latitude; 29°24'39.61" Longitude
	25°48'48.46" Latitude; 29°25'19.41" Longitude
	25°49'33.88" Latitude; 29°24'15.91" Longitude
<b>CONTACT PERSON</b>	
<b>NAME</b>	Mark Cunney
<b>ADDRESS</b>	Kruger dam Road/Keiskama Road, Private Bag x 1838

	Aerorand, Middelburg, 1050	
<b>EMAIL ADDRESS</b>	Mark.Cunney@izimbiwacoal.co.za	
<b>TELEPHONE</b>	013 244 8100	
<b>* DETAILED DESCRIPTION OF WASTE GENERATING PROCESS</b>	Unbeneficiated virgin rock material overlying coal deposits removed during mining activities, temporarily stored on surface to be used for rehabilitation ('backfilling').	
<b>PRODUCTION PROCESS FLOW CHART ATTACHED</b>	<b>YES</b> ✓	<b>NO</b>
<b>WASTE CLASSIFICATION</b>	<b>HAZARDOUS</b> ✓	<b>GENERAL</b>
<b>IF WASTE IS HAZARDOUS LIST THE HAZARDS OF THE WASTE</b>	Aluminium and iron exceed 1% cut-off values as per SANS10234.	
<b>*A process flow chart must be attached to the process description</b>		

**The following factors and criteria must be used to assess the impacts of the activities:**

Criteria	
MAGNITUDE (Severity)	DURATION
10 - Very high	5 – Permanent (longer than 10 years)
8 – High	4 - Long-term (5 to 10 years)
6 – Moderate	3 - Medium-term (12 months to 5 years)
4 – Low	2 - Short-term (0 to 12 months)
2 – Minor	1 – Immediate
SCALE	PROBABILITY (Likelihood)
5 – International	5 - Definite
4 – National	4 - Highly probable
3 – Regional	3 - Medium probability
2 – Local	2 - Low probability
1 - Site only	1 – Improbable
0 – None	0 – None

**Magnitude**

Magnitude measures the size of the impact

**Duration**

Duration refers to the lifetime of the impact i.e. how long it will last

**Scale**

The scale refers to the extent of the impact.

**Probability**

The probability refers to the chance of impact to occur. The potential impact could be most likely to occur, unlikely, etc.

Assessment of Significance of impact

Significance rating of the potential impacts illustrates the importance of the impact itself. The size of area affected by pollution may be extremely high but the significance of this effect is dependent on the concentration or level of pollution in that area. In order to determine the significance of impact, the following method was used:

Significance Points (SP) = (Magnitude + Duration + Scale) x Probability

The values of SP are then ranged as follows:

Rating		Description
<b>SP &gt;60</b>	Indicates <b>high</b> environmental significance	An impact which could influence the decision about whether or not to proceed with the activities regardless of any possible mitigation.
<b>SP 30 – 60</b>	Indicates <b>moderate</b> environmental significance	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
<b>SP &lt;30</b>	Indicates <b>low</b> environmental significance	Impacts with little real effect and which will not have an influence on or require modification of the activities.
<b>+</b>	<b>Positive impact</b>	An impact that is likely to result in positive consequences/effects

**RISK ASSESSMENT WITHOUT MITIGATION – MIDDELBURG TOWNLANDS COMPLEX MINE OVERBURDEN**

Activity	Risk description	Environmental Receptors	Assessment of Risk					Significance
			Impact	Probability	Magnitude	Duration	Scale	
Loading	Loading of material onto trucks resulting in pollution	Air	Windblown particles - Localised dust generation and air pollution	3	2	2	1	15
Storage	Accidental spillage onto the environment resulting in pollution	Soil	Soil contamination	2	2	2	1	10
		Surface water	Contamination of surface water	2	2	2	1	10
		Groundwater	Contamination of groundwater	2	2	2	1	10
		Aquatic ecosystem	Reduced aquatic ecosystem productivity	2	2	2	1	10
	Leachate from stockpiled material resulting in pollution	Soil	Soil contamination	4	4	2	1	28
		Surface water	Material carried by run-off deposited in storm water channels and	2	4	3	1	16

Activity	Risk description	Environmental Receptors	Assessment of Risk					Significance
			Impact	Probability	Magnitude	Duration	Scale	
			water body in the vicinity of the storage area					
		Groundwater	Seepage into groundwater and contamination	3	4	3	1	24
		Aquatic ecosystem	Reduced aquatic ecosystem productivity	2	4	3	1	16
Backfilling	Development of poor leachate quality during the operational phases of mining resulting in pollution	Soil	Soil contamination	1	2	2	1	10
		Surface water	Contamination of surface water	1	2	2	1	10
		Groundwater	Contamination of groundwater	1	2	2	1	10
		Aquatic ecosystem	Reduced aquatic ecosystem productivity	1	2	2	1	10
Backfilling	Development of poor leachate quality during the closure phases resulting in pollution	Soil	Soil contamination	3	4	3	1	24
		Surface water	Contamination of surface water	3	4	3	1	24

Activity	Risk description	Environmental Receptors	Assessment of Risk					Significance
			Impact	Probability	Magnitude	Duration	Scale	
		Groundwater	Contamination of groundwater	3	4	3	1	24
		Aquatic ecosystem	Reduced aquatic ecosystem productivity	3	4	3	1	24

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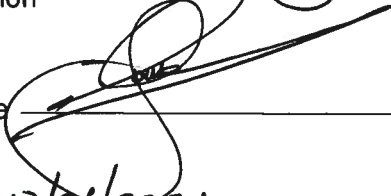
I, Thato Gance hereby declare that I have read the completed the Risk Assessment form and hereby confirm that the information is to the best of my knowledge true and correct.

Furthermore, I declare that I am fully aware of my responsibilities in terms of the Waste Exclusion Regulations, and that failure to comply with these Regulations may constitute an offence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).

Applicant (Full names) Thato Gance

Designation Assistant General Manager

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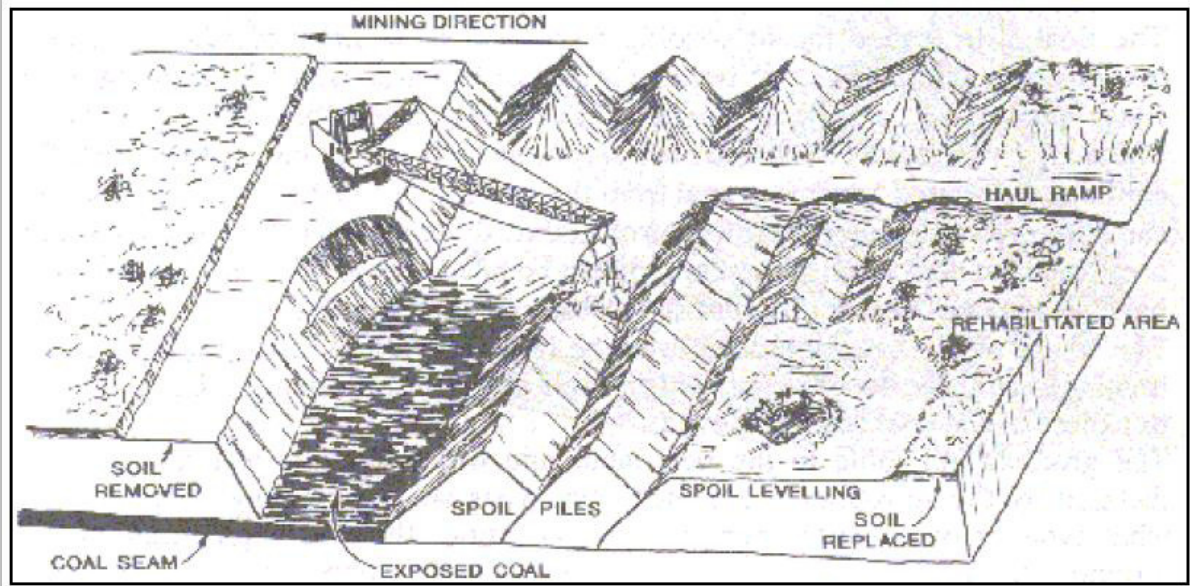
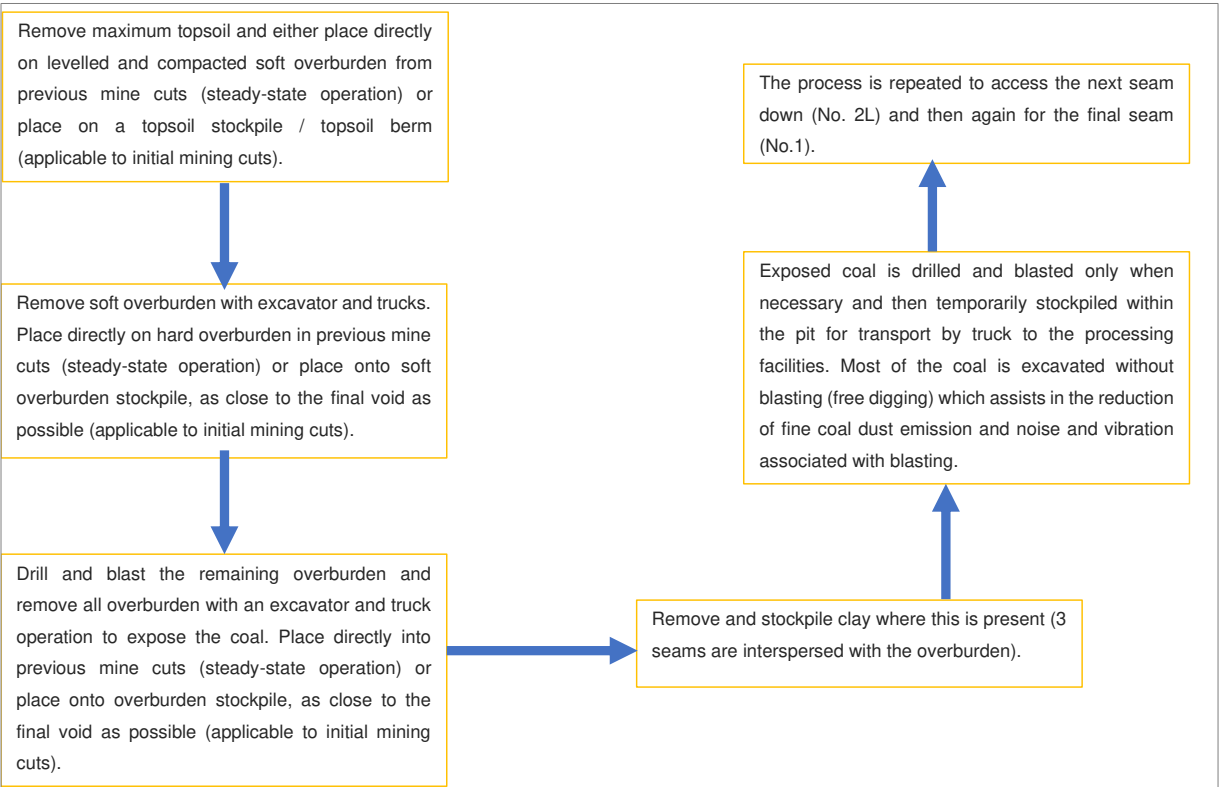
Signature 

Date 12/01/2021 Place Middleburg



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Date Received			
Decision Taken	Authorised		Not Authorised (provide reasons)
Reference Number			



Process Flow illustration of the overburden generation and storage

