



# environmental affairs

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

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

<b>APPLICANT</b>	Thabazimbi Iron Ore Mine Proprietary Limited
<b>WASTE STREAM OR PORTION OF A WASTE STREAM TO BE EXCLUDED FROM THE DEFINITION OF WASTE</b>	Plant Discard - Reworking of fines and discard
<b>BENEFICIAL USE/S</b>	Aggregate, cement industry, steel making
<b>WASTE GENERATING FACILITY OR FACILITIES</b>	
<b>PHYSICAL ADDRESS OF FACILITY OR FACILITIES</b>	Thabazimbi Mine
	R510
	Donkerpoort, Thabazimbi
<b>GPS CO-ORDINATES OF WASTE GENERATING FACILITY OR FACILITIES</b>	24°38'42.218"S; 27°22'47.016"E
	24°36'32.522"S; 27°22'29.731"E
<b>CONTACT PERSON</b>	
<b>NAME</b>	Heilet Hattingh (Environmental Co-ordinator)
<b>ADDRESS</b>	Thabazimbi Mine, R510

	Donkerpoort, Thabazimbi	
<b>EMAIL ADDRESS</b>	Heilet.hattingh@arcelormittal.com	
<b>TELEPHONE</b>	087 352 8147	
<b>* DETAILED DESCRIPTION OF WASTE GENERATING PROCESS</b>	<p>TIOM is pursuing the opportunity to process the existing Plant discard dumps and fines deposit with the aim to supply product (high quality iron ore) to ArcelorMittal South Africa ("AMSA"), aggregate to the construction market and low quality iron ore to the cement market. From studies undertaken by TIOM, it was discovered that the existing discard dumps and fines have recoverable iron ore.</p> <p>Refer to production flow chart.</p>	
<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>		
<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
SP >60	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.
SP 30 – 60	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.
SP <30	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>Positive impact</b>	An impact that is likely to result in positive consequences/effects

Table 1: Risk Assessment without Mitigation

Activity	Risk description	Environmental Receptors	Assessment of Risk						Significance
			Impact	Probability	Magnitude	Duration	Scale		
Storage	Accidental spillage into the environment	Soil	Soil contamination	3	2	2	2	1	15
		Surface water	Material carried by run-off deposited in storm water channels and water body in the vicinity of the storage area	2	2	2	2	2	12
	Groundwater	Seepage of contaminated leachate into groundwater	2	2	3	1	1	12	
	Soil	Soil contamination	3	2	2	2	1	15	
	Leachate from stockpiled material during rainfall	Surface water	Material carried by run-off deposited in storm water channels and water body in the	2	2	2	2	2	12

Activity	Risk description	Environmental Receptors	Assessment of Risk						Significance
			Impact	Probability	Magnitude	Duration	Scale		
			vicinity of the storage area						
		Groundwater	Seepage into groundwater and contamination	2		2	3	1	12
	Windblown particles	Air	Localised dust generation and air pollution	3		3	2	1	18
Loading of material onto trucks	Windblown particles	Air	Localised dust generation and air pollution	3		3	2	1	18
		Air	Localised dust generation and air pollution	3		3	2	1	18
		Soil	Soil contamination	3		2	2	1	15
Transportation	Accidental spillage into the environment	Surface water	Dust carried by run-off deposited in storm water channels and water body in the	2		2	2	2	12

Activity	Risk description	Environmental Receptors	Assessment of Risk						Significance
			Impact	Probability	Magnitude	Duration	Scale		
Manufacturing (beneficial use)			vicinity of the storage area						
		Groundwater	Seepage into groundwater and contamination	2	2	3	1	12	
	Windblown particles	Air	Localised dust generation and air pollution	3	2	2	2	18	
	Dust generation due to beneficiation process	Air	Localised dust generation and air pollution	3	2	2	2	18	
		Soil	Soil contamination	3	2	2	2	18	
	Spillage due to beneficiation processes	Surface water	Material carried by run-off deposited in storm water channels and water body in the vicinity of the storage area	2	2	2	2	12	

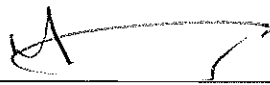
Activity	Risk description	Environmental Receptors	Assessment of Risk					Significance
			Impact	Probability	Magnitude	Duration	Scale	
		Groundwater	Seepage into groundwater and contamination	2	2	3	1	12

I, PAUL FOUCHÉ 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) PAUL ANTHONY PHILIP FOUCHÉ

Designation MANAGER

Signature 

Date 27/05/2020 Place THABAZENGE

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





